

BIG BELARUS DATA. THE YEAR OF TRUTH FOR BELARUS, BIG DATA AND ANALYTICS



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Data Is The New Oil

- Many leading companies are now data driven:
 - Amazon - books
 - Apple - music
 - Skype - telecom
- Software enables them to collect and analyse data as source of their success
- Data is the oil, software is the drill
- While oil availability is limited, data availability grows exponentially



Internal Business Data Oil

- Modern companies all run on software for their core business processes:
 - Finance
 - HR
 - CRM
 - Sales
 - Production
- All this software stores potentially valuable data for decision making
- Integrating data from different processes for overall insight is the challenge



Analytics Maturity - Start Drilling Your Own Oil

- Know about yourself, before you start to know about others
- Drill in your own business data to generate valuable information from it
- Acquire drilling tools and people to work with the tools
- Set up an information and analytics strategy
- Implement information and analytics processes and centres



The Data Warehouse As The Business Data Engine

- Core Business Data will largely keep coming from databases connected to business applications
- All businesses need to ensure revenue, profitability and process quality in order to survive
- The Data Warehouse is the proven way to collect historical business data and make it available as high quality integrated information to answer business questions



Analytics Maturity - Crawl Before You Run

- People first learn to crawl, then to walk, then to run
- In analytics maturity, first learn to see what happened, then why did it happen, then what may happen:
 - Reporting and scorecarding
 - Dashboarding and OLAP
 - Forecasting and Predictive Analytics
- First look inwards to your structured process data, then deal with larger amounts of more varied customer and market data



Data Science As Business Innovation Driver

- Companies also possess more and more customer data
- This customer data can be analysed for patterns and trends
- Once Data Mining, now Data Science, is how data is analysed for valuable insights
- Open source tools and software languages like R and Python bring Data Science within reach of many
- This may lead to product and process innovation even for smaller companies



Innovative Business Models to Turn Data Into Profit

- Data generated by your business processes can be used as new products or services
- This data goes from a byproduct of the process to the centre of a new product
- The new products can open up new markets and new clients
- These products typically follow one of a couple of basic patterns



Data Driven Product Patterns

- Sell data
- Innovate products through data
- Swap commodity offerings into value-added services
- Create interaction in the value chain
- Create a network of value based on data exchange



Sell Data Example

- Bank analyses account transactions with specific retailers
- Bank anonymises this data
- Bank benchmarks this data with selected competitors
- Bank sells the result to these specific retailers



Product Innovation Example

- Bank offers checking accounts to consumers
- Bank offers household expenses dashboard to their consumers based on their account transactions
- Bank offers this dashboard also to non-customers who can upload data from their own bank
- Bank offers recommendations based on comparisons, such as energy spending compared to similar households



Data Driven Issues To Consider

- These issues may have limited impact on the original process, but big impact on your data driven product:
 - Data quality
 - Data continuity
- Interference with other processes

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The State of Big Data and Analytics in Belarus

- Large software services companies in Belarus with data related professionals largely ignore Belarus market
- Middle and large private Belarus companies are seen as having low budgets and limited interest for analytics
- State controlled Belarus companies are seen as not interested in analytics, business performance management and not thinking value driven

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Overcoming Belarus BI Challenges

- Increase numbers and level of data related and analytics professionals in Belarus
- Reduce knowledge drain of high potentials to other countries
- Use Agile project methods to rapidly implement BI in Belarus state and private companies
- Use innovative methods and tools to decrease development time of data warehouses
- Implement standard and conformed logical data models for core business processes for fast insight in areas like finance, sales and production

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Overcoming Belarus BI Challenges

- Use open source and low cost tooling as backbone of an analytics architecture
 - Database
 - PostgreSQL, MariaDB, MongoDB
 - ETL and data warehouse automation
 - Pentaho, Talend, Quipu
 - BI server, visualisation and OLAP
 - Pentaho, Jaspersoft, Palo
- Improve on existing open source tooling and create new ones from joint Belarus university and enterprise research

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Belarus Data Innovation Opportunities

- Reserve budget for data related research and innovation
- Review current internal business and customer data
- Start data warehouse projects in Belarus companies
- Start exploring innovation based on existing company and customer data
- Start Smart City initiatives in major Belarus cities

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Belarus Data Research Opportunities

- Effectiveness of various visualisation options
- Data virtualisation
- Data Warehouse automation
- Data Lake and Data Warehouse architectures
- Hadoop based Data Warehousing

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Belarus Data Challenge

- Bring Business Intelligence and Data Warehousing to one hundred medium sized Belarus companies per year
- Bring Data Science initiatives to ten larger Belarus companies per year
- Create hundreds of new Data related Belarus jobs per year
- Transform three Belarus companies to data centred companies per year

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