Evidence Based Big Data Benchmarking to Improve Business Performance

Data Benchmark as a Service

Introduction: What is in DataBench for you?

27 June 2019, BDV Meet-Up, Riga

Nuria de Lama, ATOS

Agenda

14:30-14:40: Introduction. What is in DataBench for you? (Nuria de Lama, Atos)

- Big Data Benchmarking as a Service

14:40-15:00: DataBench in a nutshell (Richard Stevens, IDC)

- The market: industrial needs

15:00-15:20:Technical Benchmarking Framework (Iván Martínez, Atos)

- The DataBench Toolbox & Use Case
- Are you a Benchmark provider? Are you a technical user? Maybe a business user? In all cases understand how to use the Toolbox through our **demo session.** Product roadmap

15:20-15:35: The Case of Hobbit

- Framework/benchmark/challenges & upcoming Machine Learning/AI support (Hobbit representative)

15:35-16:00: Q&A. Interaction with audience and conclusions

What is benchmarking?

- **Benchmarking as a Tool**

Benchmarking is a process for obtaining a measure – a benchmark. Simply stated, **benchmarks are the "what"**, and **benchmarking is the "how"**. But benchmarking is not a quick or simple process tool. Before undertaking a benchmarking opportunity, it is important to have a thorough **understanding of the company's guidelines**. Some companies have strict guidelines as to what information can be gathered, and whom practitioners can contact to get that information.

- **Benchmarking Versus Competitor Research**

Benchmarking	Competitor Research
Focuses on best practices	Focuses on performance measures
Strives for continuous improvement	Bandage or quick fix
Partnering to share information	Considered corporate spying by some
Needed to maintain a competitive edge	Simply a "nice to have"
Adapting based on customer needs after examination of the best	Attempting to mirror another company/process

Source: ISIXSIGMA

Do you think about the impact on your business before selecting a solution or...
do you select the solution and then assess the impact?

Building a bridge between technical and business benchmarking

DataBench

Main Activities

- Classify the main use cases of BDT by industry

- Compile and assess technical benchmarks

- Perform economic and market analysis to assess industrial needs

- Evaluate business performance in selected use cases

Expected Results

DataBench Framework

Including a complete set of metrics for BDT assessment.

Multiple Analysis

Assessing the European and industrial significance of the BDT

DataBench Toolbox

A tool to connect and evaluate external initiatives.

DataBench Handbook

Providing guidelines to the use of the project's results.

Leading Business Cases by Industry

DataBench

	#1	#2	#3
Finance (exc. insurance)	Fraud prevention and detection	Customer profiling, targeting, and optimization of offers	Portfolio and risk exposure assessment
Accom.	Optimize price strategies	Cross-sell and upsell at point of sale	Store location (either physical or digital)
Manuf.	Analysis of operations-related data	Factory automation, digital factory for lean manufacturing	Analysis of machine or device data
Health	Compliance check and reporting on quality of care	Illness/disease progression	Organization resources utilization and turnover
Telecom	Network analytic and optimization	Network investment planning	Customer scoring and churn mitigation
Media	Customer scoring	Audience analysis	Marketing optimization
Transport	Logistics optimization	Customer analytics and loyalty marketing	Prevent and respond to public security threats
Utilities	Customer behavior and interaction analysis	Field service optimization	Energy consumption analysis
Oil&Gas	Maintenance management	Sensor-based pipeline optimization	Natural resource exploration
Retail/ Wholes.	Optimize price strategies and price management	Increase productivity and efficiency of DCs/warehouses	Customer data security, and privacy (fraud prevention)
Prof. Services	Customer profiling, targeting, and optimization of offers	Ad targeting, analysis, forecasting, and optimization	Predictive maintenance
Govt.	Personalize citizen services	Increase efficiency of internal processes	Prevent and respond to natural disaster
Education	Student recruiting	Back-office process optimization	Course planning and costing

Source: IDC's *European Vertical Markets Survey*, November 2016 (n = 1,872)

Business KPIs & Benchmarks

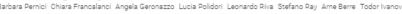| INDUSTRY	USE CASE	BUSINESS KPI	TYPE OF DATA	TECHNICAL BENCHMARKING AREA
Agriculture	Yield monitoring and prediction	Revenue Growth	Image (satellite) data	Limited time to process Very big data Quality of data (missing values, outliers …)
Banking	Fraud prevention and detection	Cost Reduction	Transactional Data	Near real time processing paradigm
Business or Professional Services, excluding IT Services	Automated customer service	Revenue Growth Time Efficiency	Text Data	Natural Language Processing (NLP) quality benchmarking
Energy	Energy consumption analysis and prediction	Cost Reduction	IoT Data	Real time streaming data processing
Healthcare	Quality of care optimization	Product/Service Quality	IoT Data	Real time streaming data processing
Manufacturing	Inventory and service parts optimization	Time Efficiency	IoT Data	Real time streaming data processing
Media	Social media analytics	Customer Satisfaction	Linked Data	Graph-processing platforms benchmarking (linked data).
Retail Trade	Targeting	Revenue Growth	Transactional Data Text Data	IT architectural cost optimization
Transport and Logistics	Connected vehicles optimization	Product/Service Quality	IoT Data	Real time streaming data processing
Utilities	Field service optimization	Cost Reduction	IoT Data	Real time streaming data processing

What is available 4u?

- **Deliverables/reports:**
  - Industry Requirements with benchmark metrics and KPIs
  - Preliminary Benchmarks of European and Industrial Significance
  - DataBench Architecture

- **Interesting publications & White papers**

Position paper
Relating Big Data Business and Technical Performance Indicators
Barbara Pernici Chiara Francalanci Angela Geronazzo Lucia Polidori Leonardo Riva Stefano Ray Arne Berre Todor Ivanov

Position paper
DataBench: Evidence Based Big Data Benchmarking to Improve Business Performance
Todor Ivanov Roberto V. Zicari Tomás Pariente Lobo Nuria de Lama Sanchez Arne Berre Volker Hoffmann Richard Stevens Gabriella Cattaneo Helena Schwenk Cristopher Ostberg-Hansen Cristina Pepato Barbara Chiara Francalanci Angela Geronazzo Lucia Polidori Paolo Giacomazzi Marko Grobelnik James Hodson

Access the DataBench Self-Assessment Tool.

White Paper - DataBench Toolbox Architecture

DataBench Toolbox Architecture

This white paper reports on the current view of the DataBench Toolbox architecture and main functional elements as described in the DataBench deliverable D3.1. The goal of the DataBench Toolbox is to provide a way of reusing existing big data benchmarking efforts under a common framework, providing therefore a way to select, download and homogenize technical and business indicators.

Download the White Paper ▶

DataBench – Benchmarking Big Data

Gabriella Cattaneo & Arne Berre
Tue, Oct 9, 2018

What can DataBench do for you?

- Provide methodologies and tools to help assess and maximise the business benefits of BDT adoption

- Provide criteria for the selection of the most appropriate BDTs solutions

- Provide benchmarks of European and industrial significance

- Provide a questionnaire tool comparing your choices and your KPIs with your peers

What we want from you?

- Expression of interest to become a case study and monitoring your Big Data KPIs

- Answer a survey on your Big Data experiences

Get in touch with us!

✉ info@databench.eu

[Twitter] @DataBench_eu

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[YouTube] DataBench Project

www.databench.eu