



Evidence Based Big Data Benchmarking to Improve Business Performance

# BENCHMARK YOUR WAY TO EXCELLENT BUSINESS PERFORMANCE

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# Today's Program

- Big Data Benchmarking : why it is relevant
- Business KPIs
- Benchmarks by industry
- Benchmarks by company size
- Star performers
- Use cases and case studies
- Next steps: benchmarking tool
- Q&A



# DataBench Indicators Framework

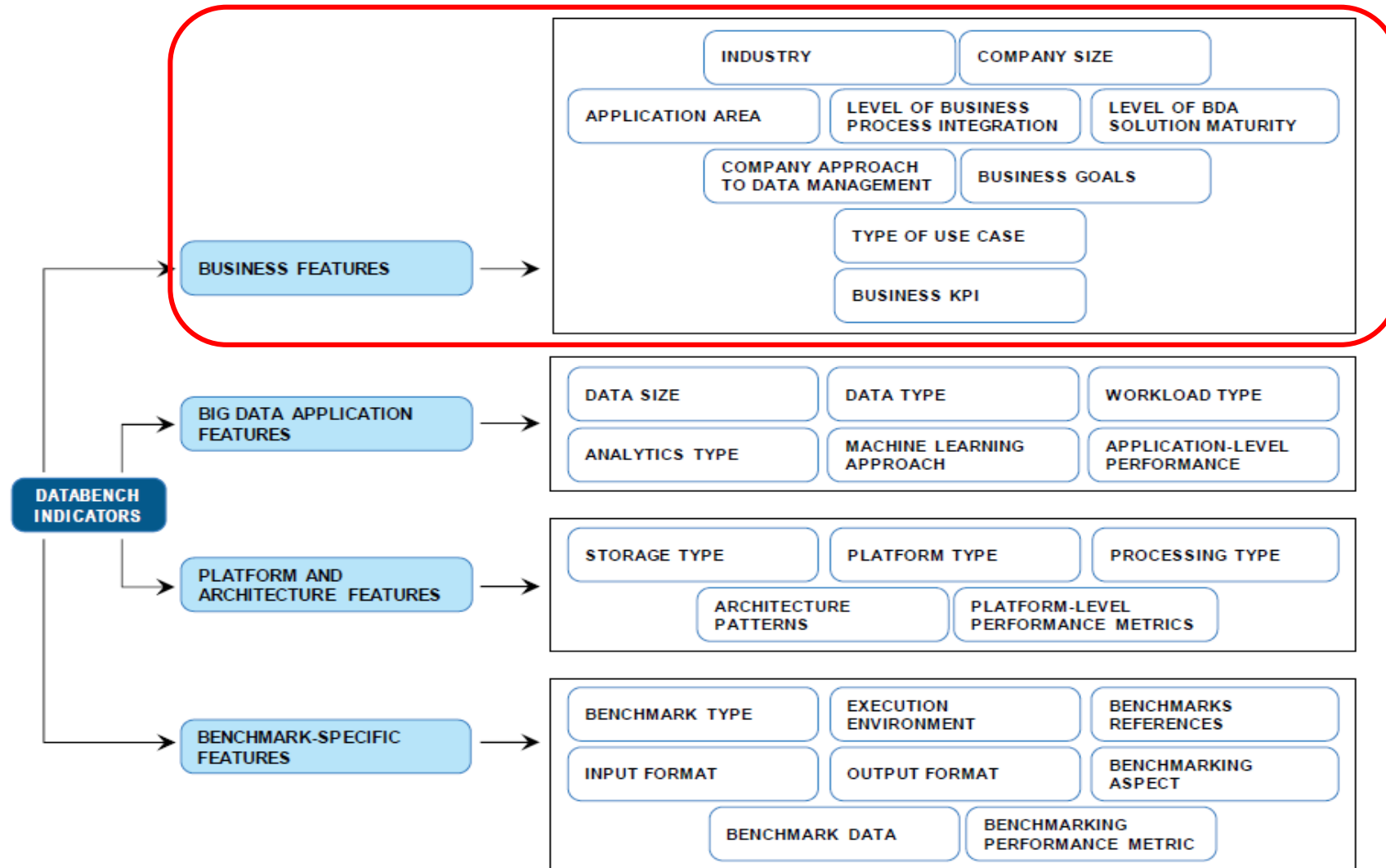


Figure 2 – DataBench Business Indicators

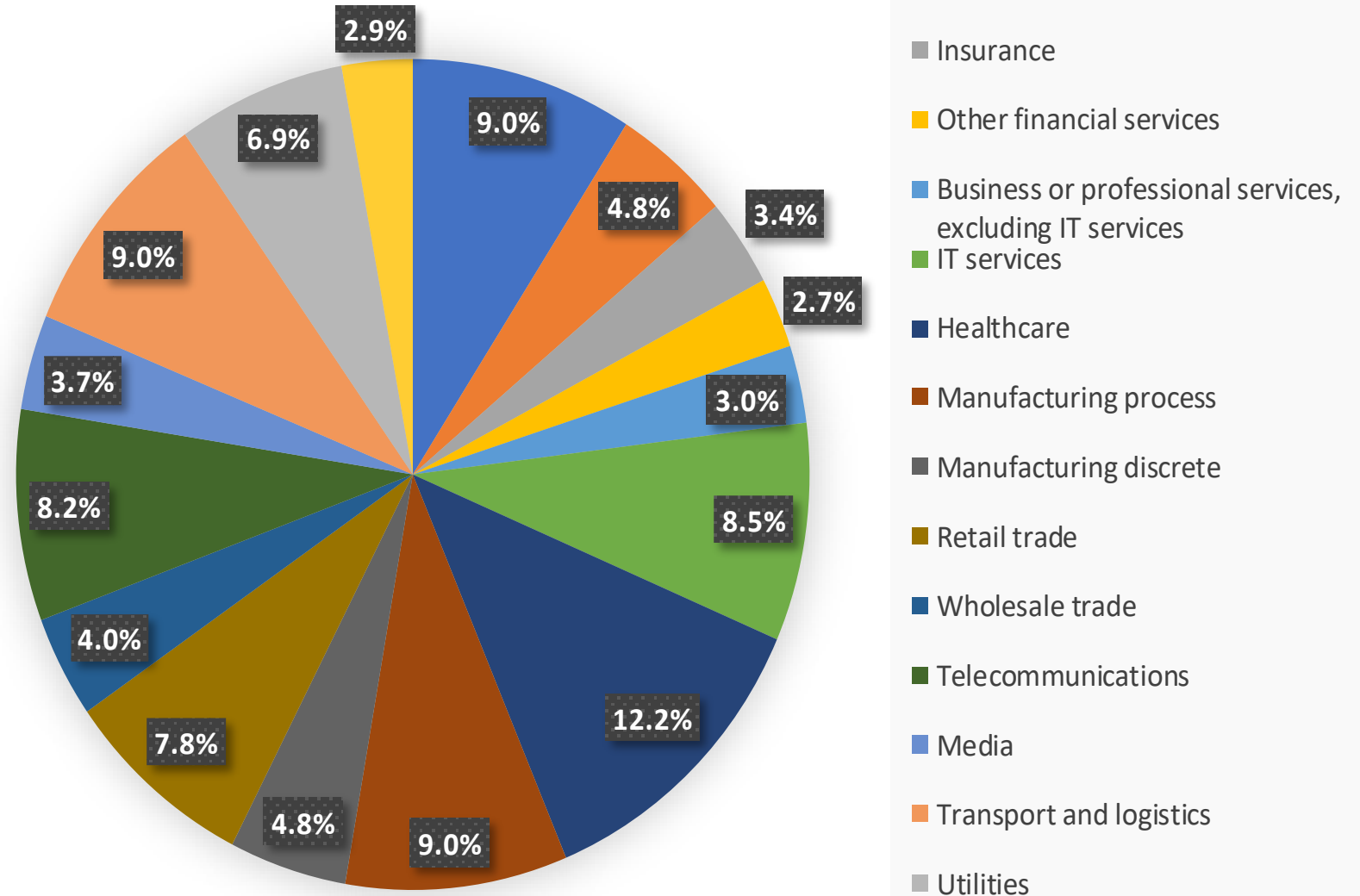
Source: D1.1 – Industry Requirements with benchmark metrics and KPIs (November 2019)

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# Data Sources

- 2018 CATI Survey in 11 EU MS of 700 organizations from 16 industries and 7 company size classes
- 2019 2° wave survey of 30 organizations running Big Data pilots in H2020 ICT projects

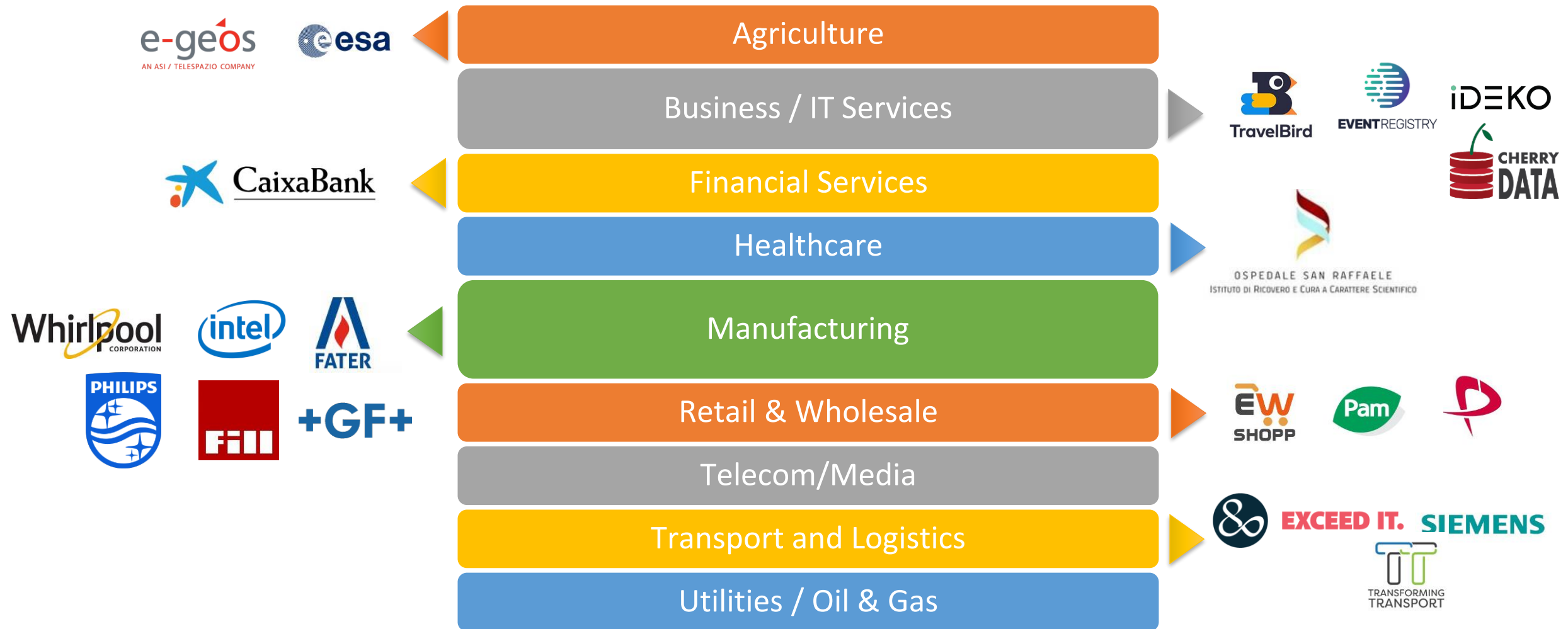
DataBench survey



Source: IDC's European DataBench Survey, October 2019 (N = 730)

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# Business Benchmarks Validation: 18 case studies



Source: D2.4 – Benchmarks of European and Industrial Significance (December 2019)

# Big Data Benchmarking : why it is relevant

DataBench business benchmarks are:

1

Of **industrial significance**, because they apply to the actual and emerging needs of specific industries and specific company-size segments

2

Of **European economic significance**, because they are measured for all the relevant European industries and company-size segments in which Big Data can have the highest impacts

3

**Useful for linking technical and business performance** because they are measure for the main use cases



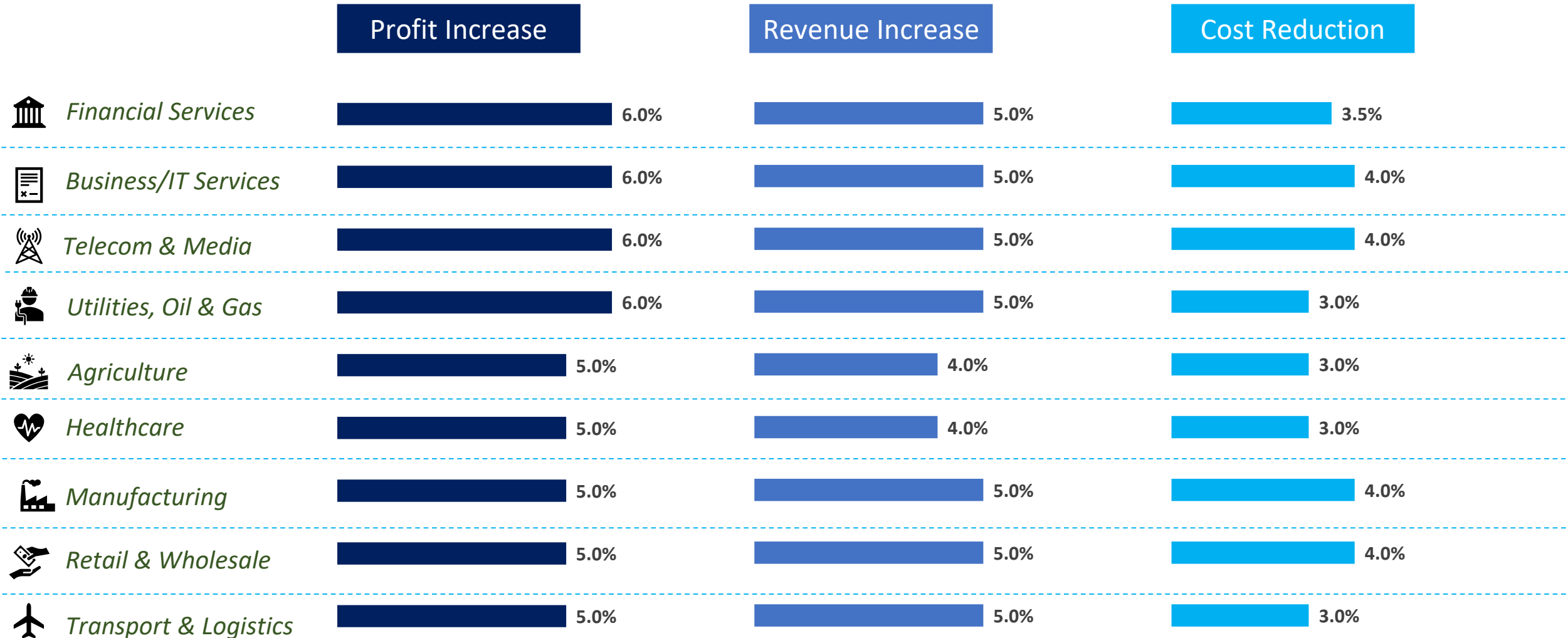
# 8 KPIs to measure Big Data Business Impacts

| KPI                                    | Definition  | Metrics  |
|--|---|--|
| <b>Revenues increase</b>               | Increase in company revenues thanks to the adoption of BDA  | <b>Benchmark:</b> % increase measured as median of the sample  |
| <b>Profit increase</b>                 | Increase in company profit thanks to the adoption of BDA  |  |
| <b>Cost reduction</b>                  | Reduction in process costs thanks to the introduction of BDA  |  |
| <b>Time efficiency</b>                 | Efficient use of time in business processes   | <b>Benchmark:</b> average rating on a scale of 1–5 based on the following ratings: <ul style="list-style-type: none"><li>• Less than 5% improvement = 1</li><li>• 5–9% = 2</li><li>• 10–24% = 3</li><li>• 25–49% = 4</li><li>• 50% or more = 5</li></ul> |
| <b>Product/Service quality</b>         | Product/Service features corresponding to users' implied or stated needs and impacting their satisfaction   |  |
| <b>Customer satisfaction</b>           | A measure of customers' positive or negative feeling about a product or service compared with their expectations  |  |
| <b>New Products/ Services launched</b> | A measure of the number of new products and/or services enabled by data-driven innovation and launched by the company after engaging in the Big Data investment |  |
| <b>Business model innovation</b>       | Novel ways of mediating between companies' product and economic value creation (for example, moving from traditional sales to service subscription models)      |  |

Source: D2.4 – Benchmarks of European and Industrial Significance (December 2019)

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# Quantitative Benchmarks by Industry












Source: D2.4 – Benchmarks of European and Industrial Significance (December 2019)

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\* N.B. Average response



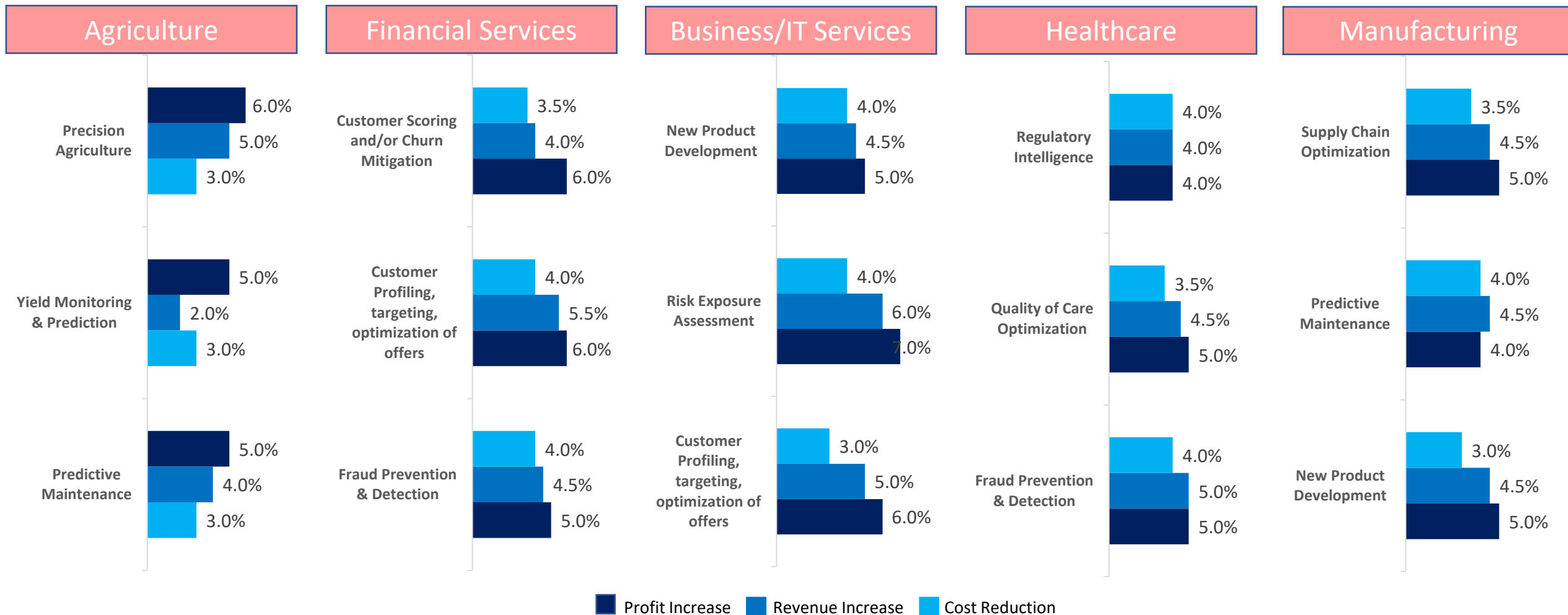
# Qualitative Benchmarks by Industry

|                                   |   |                        |   |                       |  |                    |  |   |    |
|-----------------------------------|--|---|--|--|---|---|---|--|---|
| Median 4<br>25% – 49% Improvement | Time Efficiency<br>Product/Service Quality   | Customer Satisfaction   |  |  | Customer Satisfaction<br>Product/Service Quality                                    | Product/Service Quality   | Customer Satisfaction<br>Product/Service Quality                                    |  | Customer Satisfaction<br>Product/Service Quality<br># of New Product/Service Launched |
| Median 3<br>10% – 24% Improvement | Customer Satisfaction<br>Biz Model Innovation<br># of New Product/Service Launched | Product/Service Quality<br># of New Product/Service Launched<br>Time Efficiency<br>Biz Model Innovation | Biz Model Innovation<br># of New Product/Service Launched<br>Customer Satisfaction<br>Time Efficiency<br>Product/Service Quality | # of New Product/Service Launched<br>Customer Satisfaction<br>Product/Service Quality<br>Time Efficiency | Time Efficiency<br># of New Product/Service Launched<br>Biz Model Innovation        | Customer Satisfaction<br># of New Product/Service Launched<br>Biz Model Innovation<br>Time Efficiency | Time Efficiency<br># of New Product/Service Launched                                | Biz Model Innovation<br># of New Product/Service Launched<br>Customer Satisfaction<br>Time Efficiency<br>Product/Service Quality | Biz Model Innovation<br>Time Efficiency   |
| Median 2<br>5% – 9% Improvement   |  |   |  | Biz Model Innovation   |   |   | Biz Model Innovation  |  |   |
|                                   | Agriculture  | Financial Services  | Healthcare   | Manufacturing  | Business/IT Services  | Retail & Wholesale  | Telecom & Media   | Transportation & Logistics   | Utilities, Oil & Gas  |

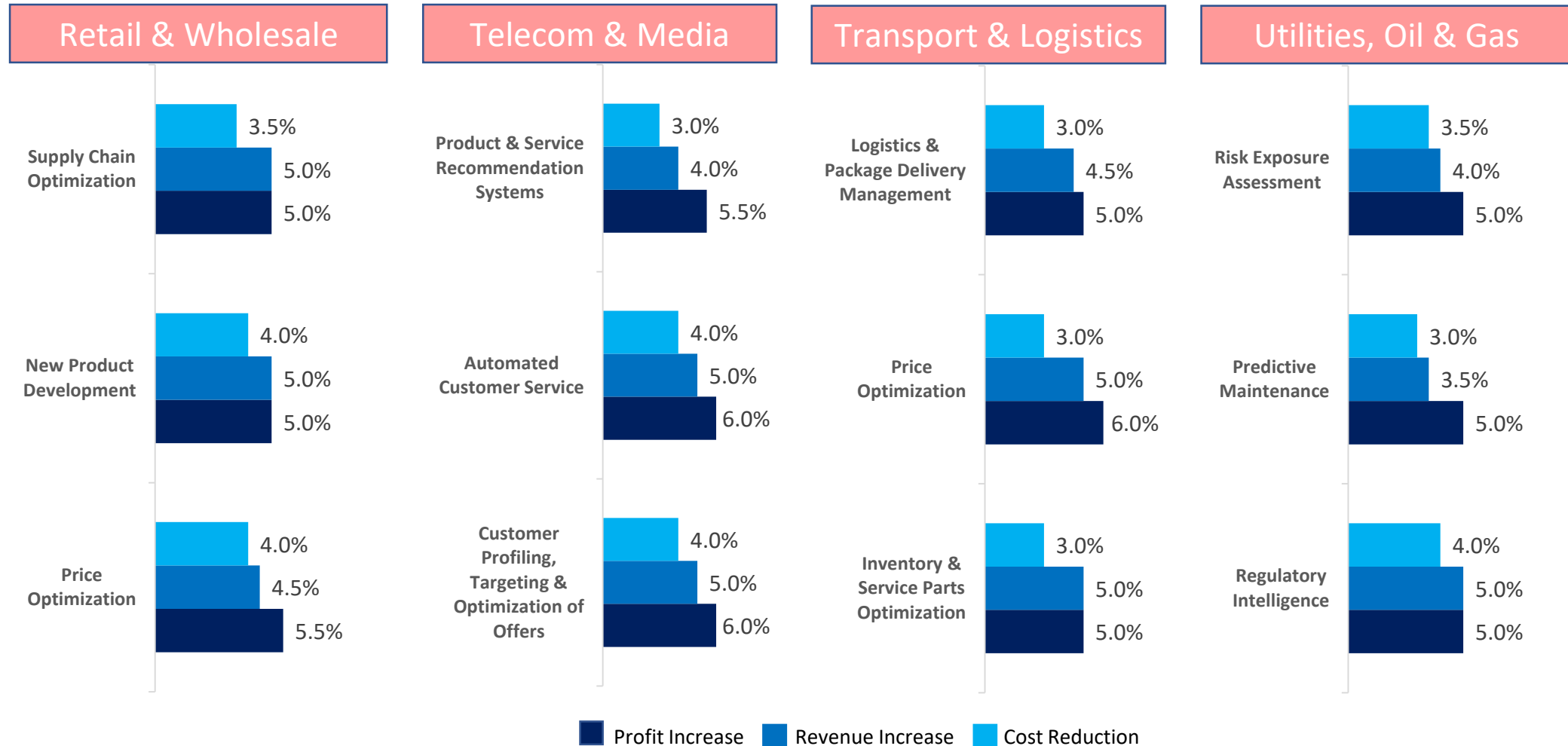
Source: D2.4 – Benchmarks of European and Industrial Significance (December 2019)

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# Top 3 Use Cases Quantitative Benchmarks by Industry (1/2)



# Top 3 Use Cases Quantitative Benchmarks by Industry (2/2)



# Retail, a promising increase in profits

## RETAIL (GROCERY)

**BUSINESS KPI: PILOTED IN ONE SHOP: 5% INCREASE OF MARGINS  
(EQUIVALENT TO ROUGHLY €5 MILLION/YEAR)**

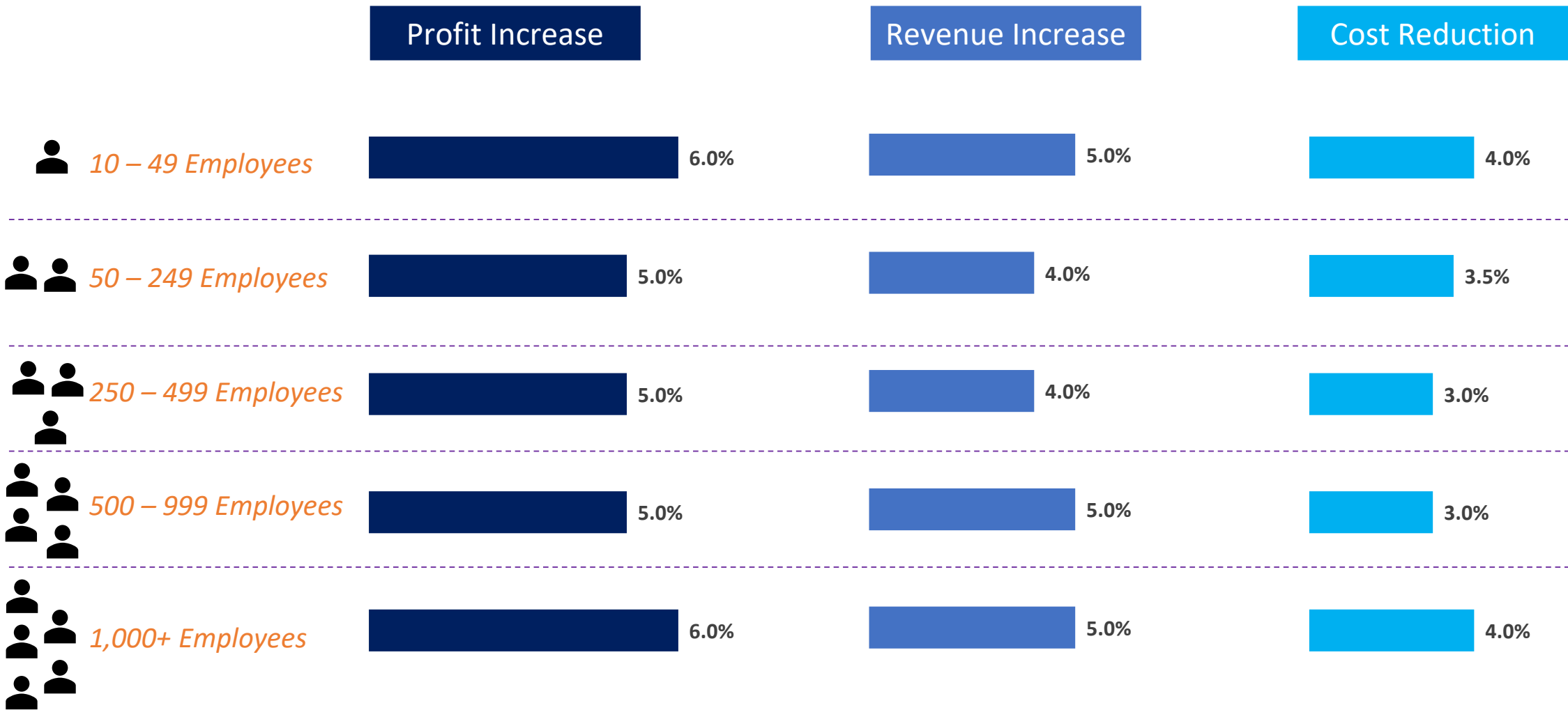
Based on the idea of using machine learning to optimize assortment selection and automated fulfilment at an individual shop level

Complex AI system, including machine learning (sales prediction)

Run on Spark in Amazon cloud, €100 per run, per category, per shop






Full project deployment currently on hold due to IT's lack of economic scalability

# Quantitative Benchmarks by Company Size



Source: D2.4 – Benchmarks of European and Industrial Significance (December 2019)  
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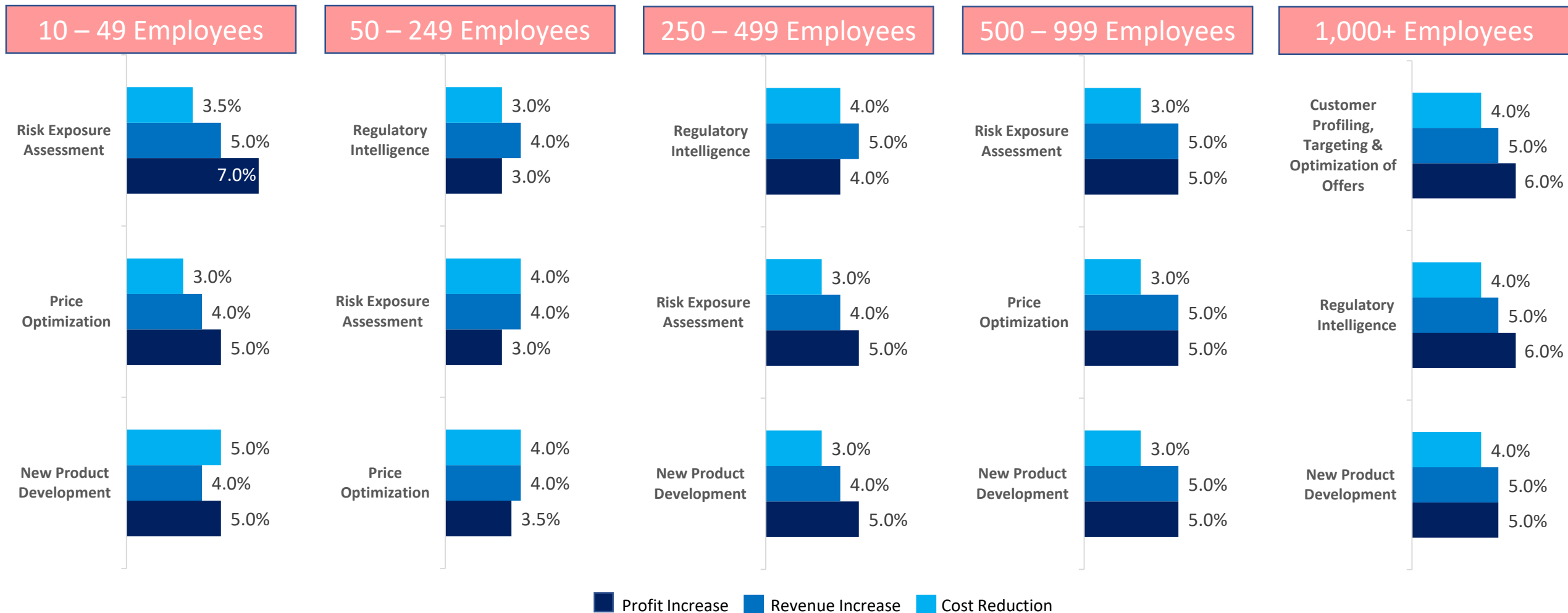
# Qualitative Benchmarks by Company Size DataBench

|                                   |  |  |   |                    |  |
|-----------------------------------|---|---|--|---|---|
| Median 4<br>25% – 49% Improvement |   |   |  | Product/Service Quality   | Customer Satisfaction<br>Product/Service Quality                                    |
| Median 3<br>10% – 24% Improvement | # of New Product/Service Launched<br>Time Efficiency                              | Time Efficiency<br>Product/Service Quality<br>Customer Satisfaction               | Biz Model Innovation<br># of New Product/Service Launched<br>Customer Satisfaction<br>Product/Service Quality<br>Time Efficiency | Biz Model Innovation<br># of New Product/Service Launched<br>Customer Satisfaction<br>Time Efficiency | # of New Product/Service Launched<br>Time Efficiency<br>Biz Model Innovation        |
| Median 2<br>5% – 9% Improvement   | Product/Service Quality<br>Customer Satisfaction<br>Biz Model Innovation          | # of New Product/Service Launched<br>Biz Model Innovation                         |  |   |   |
|                                   | 10 – 49 Employees   | 50 – 249 Employees  | 250 – 499 Employees  | 500 – 999 Employees   | 1,000+ Employees  |

Source: D2.4 – Benchmarks of European and Industrial Significance (December 2019)

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# Top 3 Use Cases Quantitative Benchmarks by Company Size

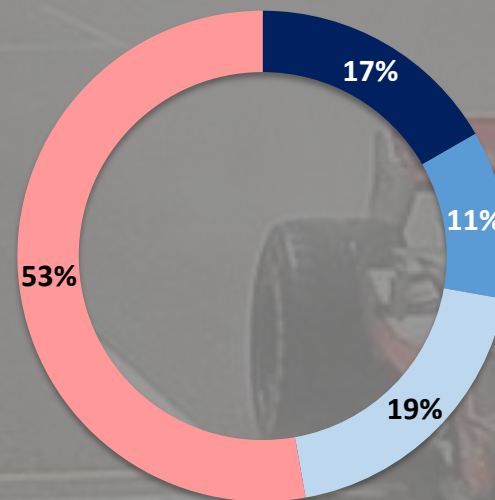




# Star Performers

## Who are they?

- Enterprises currently Using BDA Technologies
- Who achieved High Level of Benefit
- Only 36 cases: 5% of the sample



■ SMEs

■ Large Enterprises

■ Medium-Sized Enterprises

■ Very Large Enterprises

Mainly from the leading industries:

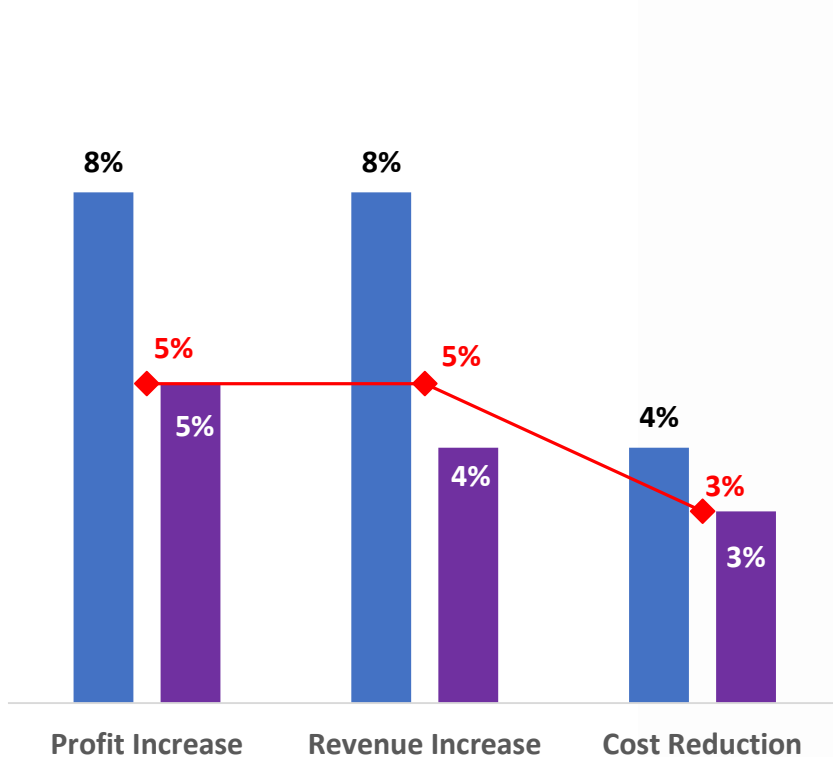
***Retail & Wholesale  
&  
Business/IT Services***

Source: D2.4 – Benchmarks of European and Industrial Significance (December 2019)

DataBench Project - GA Nr 740673

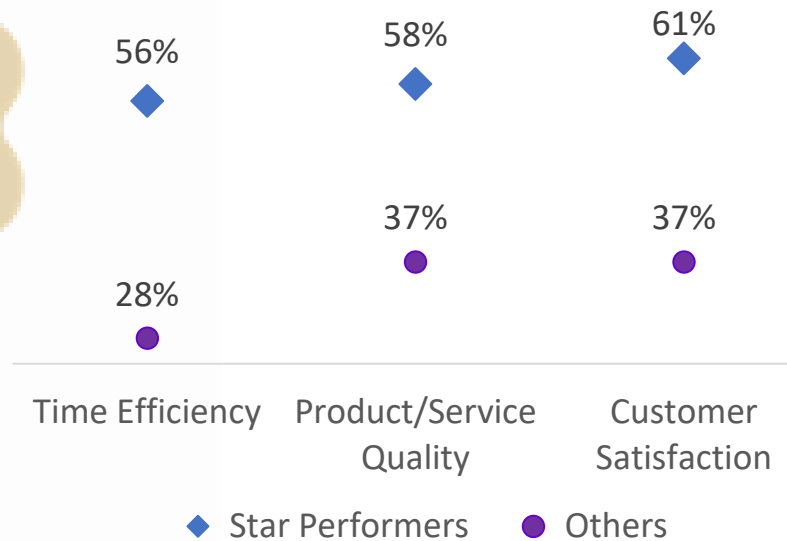
# Star Performers Results

## Quantitative Benchmarks



## Qualitative Benchmarks\*

### Top achievements for 3 KPIs:



*\* N.B: Please note that this chart displays only High level of Improvements (> 25%)*

## SELF ASSESSMENT SURVEY



The **DataBench Self-Assessment Tool** provides organisations using or planning to use **Big Data and Analytics (BDA)** with the opportunity to **benchmark their business performance** against their peers (other companies in the same industry and same company size class).

The DataBench Self-Assessment Tool addresses people who are involved, influence, or are highly knowledgeable about their organisation's approach to, and potential use of, BDA. A deep technical understanding of the use or development of Big Data systems is not required to fill in the **Self-Assessment survey**.

The tool is extremely user-friendly. It will take you 20/25 minutes max. to answer 20 questions.

After the finalisation of the survey, a **summary report** will be generated with an **analysis of your answers**. Your responses will be compared with responses from other organisations in the same industry and of the same company size.

The report will be also available for download in a PDF format.

[Access the DataBench Self-Assessment Tool](#)

Source: DataBench website (screenshot)

You can  
benchmark your  
performance  
through the self-  
assessment survey  
on the DataBench  
website  
[www.databench.eu](http://www.databench.eu)

# You can find the «Benchmarks» report on the DataBench website



| Deliverable No. | Deliverable name   | Abstract                 | Status    |
|-----------------|--|--------------------------|-----------|
| D1.1            | <a href="#">Industry Requirements with benchmark metrics and KPIs</a>                              | <a href="#">Abstract</a> | published |
| D1.3            | <a href="#">Horizontal Benchmarks - Analytics and Processing</a>                                   | <a href="#">Abstract</a> | published |
| D1.4            | <a href="#">Horizontal Benchmarks - Data Management</a>  | <a href="#">Abstract</a> | published |
| D2.2            | <a href="#">Preliminary Benchmarks of European and Industrial Significance</a>                     | <a href="#">Abstract</a> | published |
| D2.3            | <a href="#">Analysis of Actual and Emerging Needs of Industrial Users and Use Case Mapping</a>     | <a href="#">Abstract</a> | published |
| D2.4            | <a href="#">Benchmarks of European and Industrial Significance</a>                                 | <a href="#">Abstract</a> | published |
| D3.1            | <a href="#">DataBench Architecture</a>   | <a href="#">Abstract</a> | published |
| D3.2            | <a href="#">DataBench Toolbox - Alpha including Support for Reusing of Existing Benchmarks</a>     | <a href="#">Abstract</a> | published |
| D3.3            | <a href="#">DataBench Toolbox - Beta including End-to-end-scenario Tool</a>                        | <a href="#">Abstract</a> | published |
| D3.4            | <a href="#">Release Version of DataBench Toolbox including Visualization and Search Components</a> | <a href="#">Abstract</a> |           |

Showing 1 to 10 of 24 entries

Previous

1

2

3

Next

Source: DataBench website (screenshot)

# The self-assessment tool and more benchmarking services will be available on the DataBench Toolbox

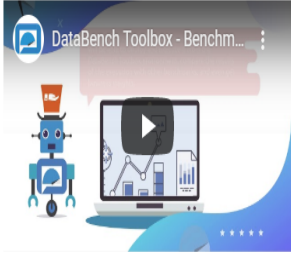
**Report introduction**

The DataBench ToolBox provides a unique environment to search, select and deploy Big Data tools giving the possibility to generate unified technical results metrics and derive business KPIs.


Based on existing efforts in big data benchmarking and enabling inclusion of new benchmarks that could arise in the future, the DataBench Toolbox provides a unique environment to search, select and deploy big data benchmarking tools, giving the possibility to generate unified technical metrics and, most importantly, going the extra mile and derive business KPIs for your organization.

## What can the DataBench Toolbox offer you?


**Benchmark Providers**



**Business users**



**Technical users**



Source: DataBench website (screenshot)

# Questions and Answers



## Contacts

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