

# 2023 Finland Business Intelligence (BI) Industrial Report



*A Pan-Finland Industrial Survey Report*

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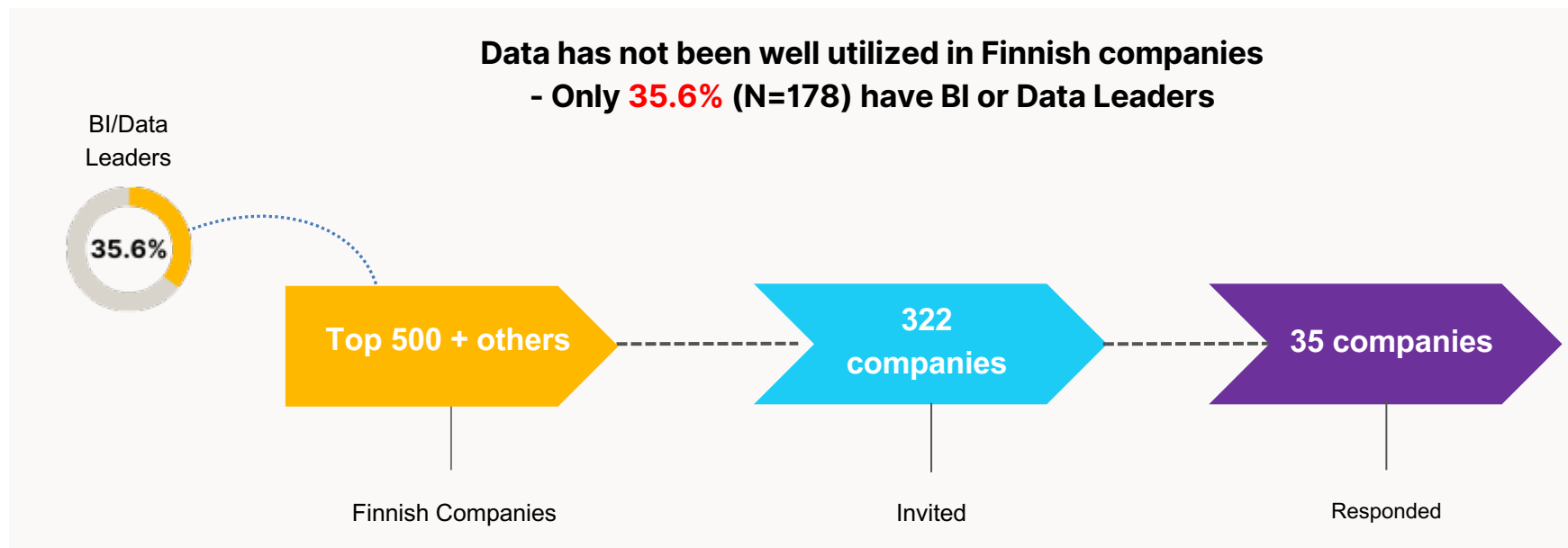
# Overview of Analytics Use

# A Pan-Finland Industrial Survey

## BI as a new driver for business growth!

We investigated 543 Finnish companies, including the **top 500 Finnish** companies regarding revenue in 2022 and **43 other** reputable Finnish companies with identified BI/data leaders in October 2023.\* Of the investigated companies, **279** had BI, data, or IT leaders, and **178** had BI or data leaders.

Of all companies, **35** with BI, data, or IT leaders participated in this study. **48.6%** of the participating companies have 1000+ employees, **42.9%** have 250-1000 employees, and **8.6%** have 50-249 employees. **74%** of the companies have been in business for over 20 years.

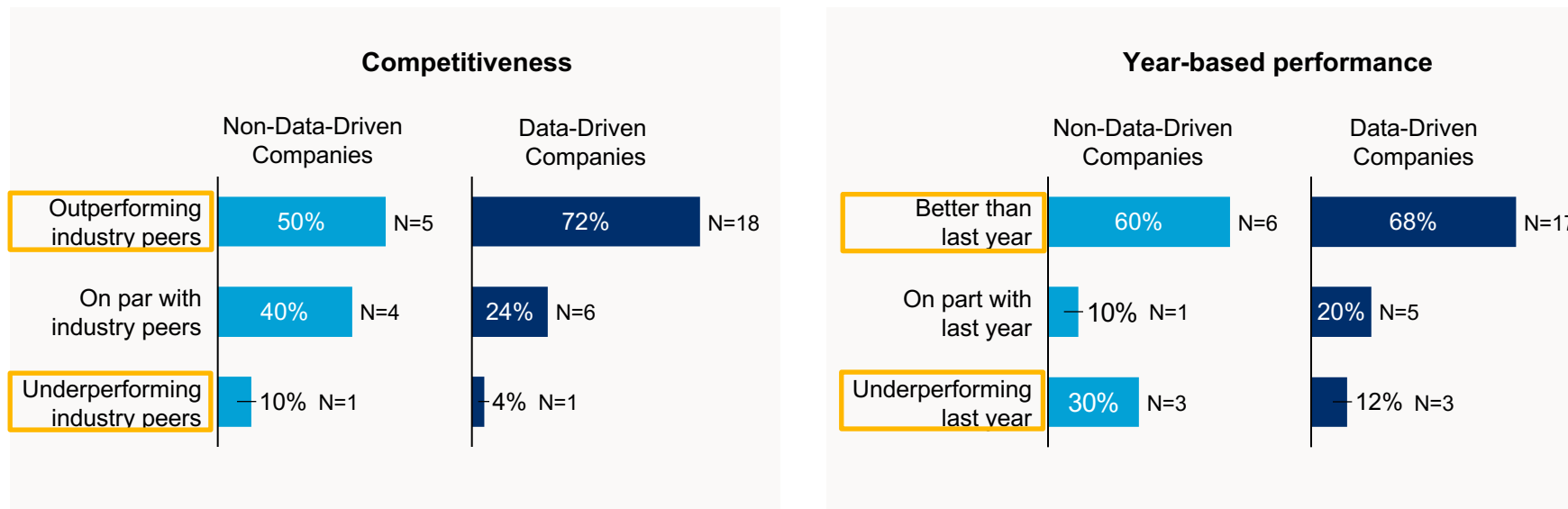


\* The companies were identified through a LinkedIn search based on the available information of BI or Data leaders. Additionally, in cases where LinkedIn did not provide the information, company websites were investigated as an alternative source.

# Being Data-Driven is the Future!

## Data-driven Finnish Companies Associated with Competitiveness and Better Performance

25 of the participating companies (71.4%) identify themselves as data-driven companies. Data-driven Finnish companies are more likely (72%) to outperform industry peers and achieve better business performance (68%) than last year compared to non-data-driven Finnish companies (50% and 60%, respectively). Compared to the data-driven companies, non-data-driven companies (N = 10) are more likely to underperform industry peers (10%) and to perform worse than they did in the previous year (30%).



A small sample size may affect the generalizability of the results

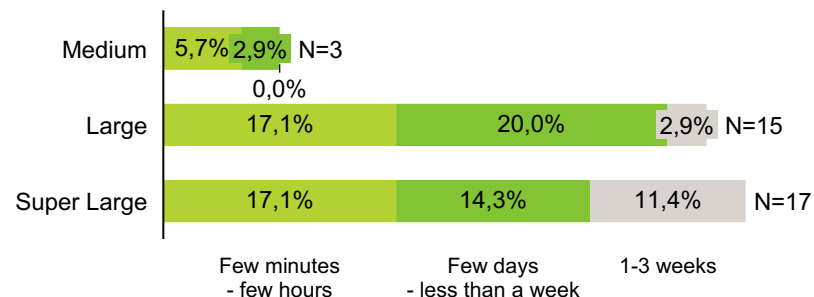
# Analytics for Basic Tasks

The time needed to calculate last month's revenue is used to show the data infrastructure performance.

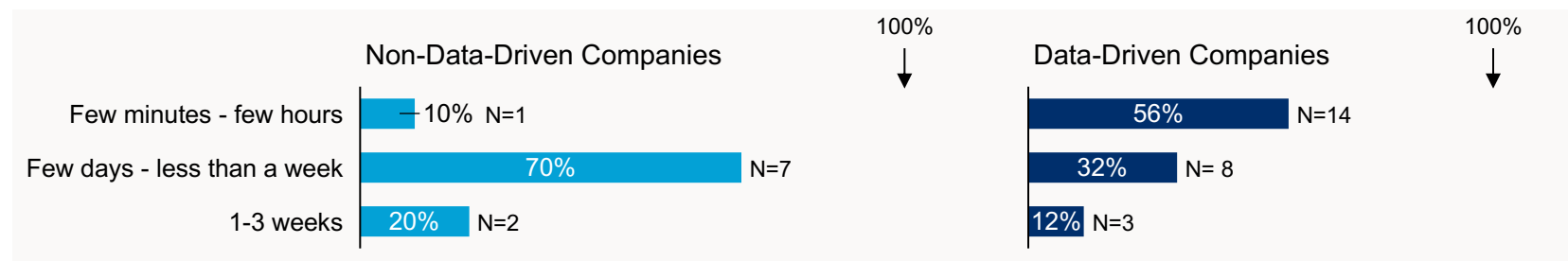
42.9% of the surveyed companies can calculate last month's revenue within a few minutes to a few hours, while another 42.9% would need from a few days to less than a week. However, 14.2% of companies need 1-3 weeks to calculate the revenue.

Companies identifying themselves as data-driven can calculate their revenue faster, i.e., in less than a few hours (56%) than those identifying themselves as non-data-driven (10%).

Company Size and Revenue Calculation Time



Time Needed to Calculate Last Month's Revenue: Data-Driven vs. Non-Data-Driven Companies



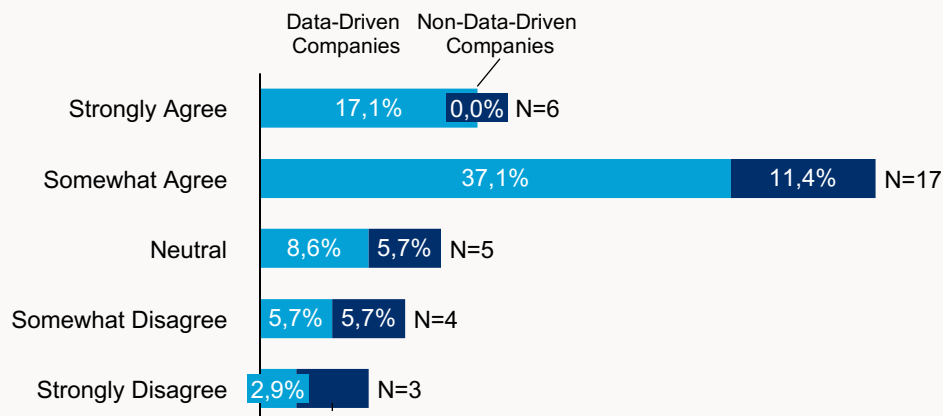
# Employees Interest and Data Literacy

**According to the viewpoints of BI leaders at the surveyed companies, most indicate their employees are interested in data exploration and understand data visualization.**

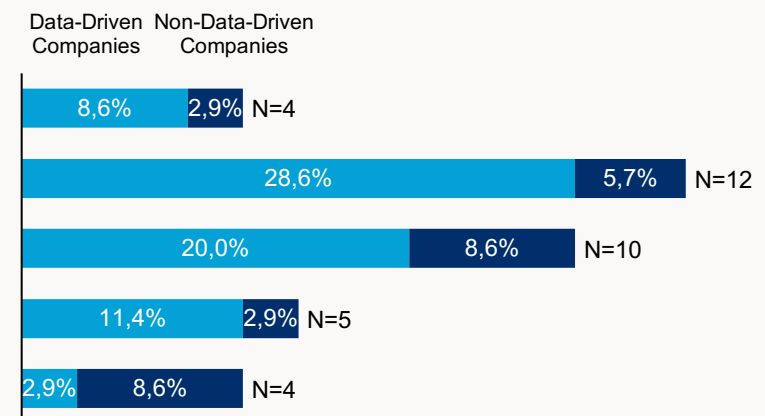
Employees of **65.6%** (N=23) of surveyed Finnish companies are interested in exploring data, and less than half (**45.7%**, N=16) of companies indicate that their employees can understand data visualization.

Additionally, **20%** (N=7) of companies' BI leaders are satisfied with their employees' data literacy, while **43%** (N=15) are neutral. Conversely, **37%** (N=13) of the companies express moderate or strong dissatisfaction with their employees' data literacy.

**Employees Are Interested in Data Exploration**



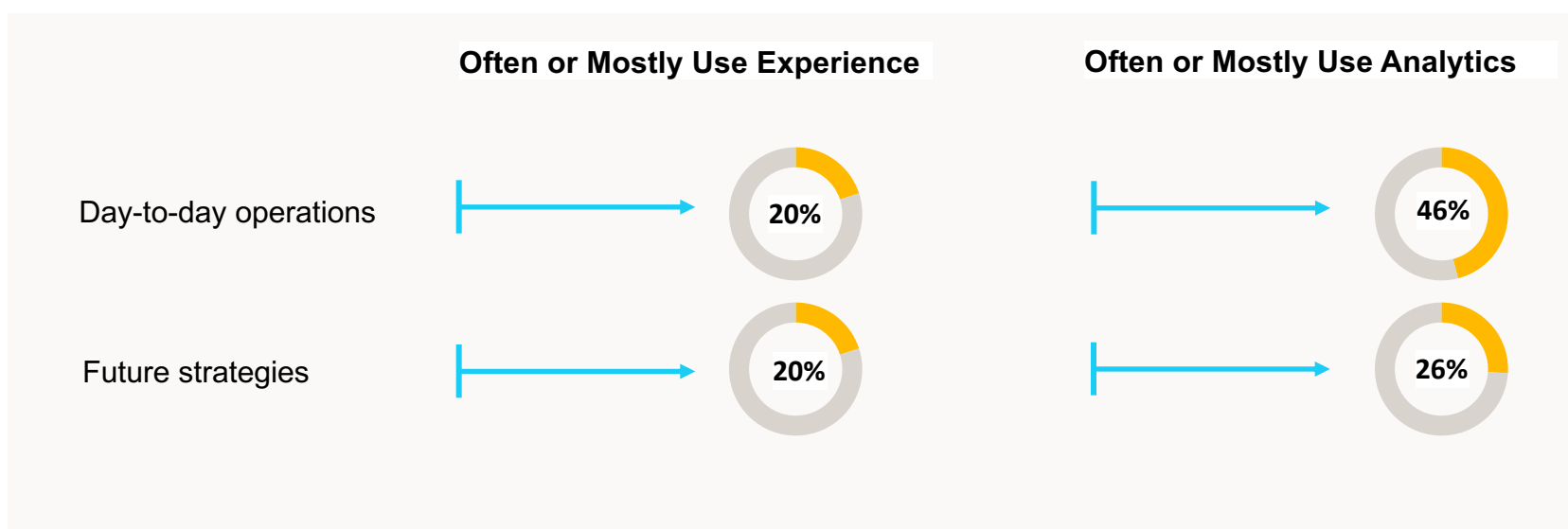
**Employees Understand Data Visualization**



# Utilizing Analytics in Decision-Making

Experience-based decision-making is common in Finnish companies. Companies also utilize analytics, as **46%** and **26%** of the surveyed companies indicated that they often or mostly use analytics for day-to-day operations or for future strategies.

**20%** of the companies still often or mostly rely on experience in day-to-day operations or in their decision-making regarding future strategies.

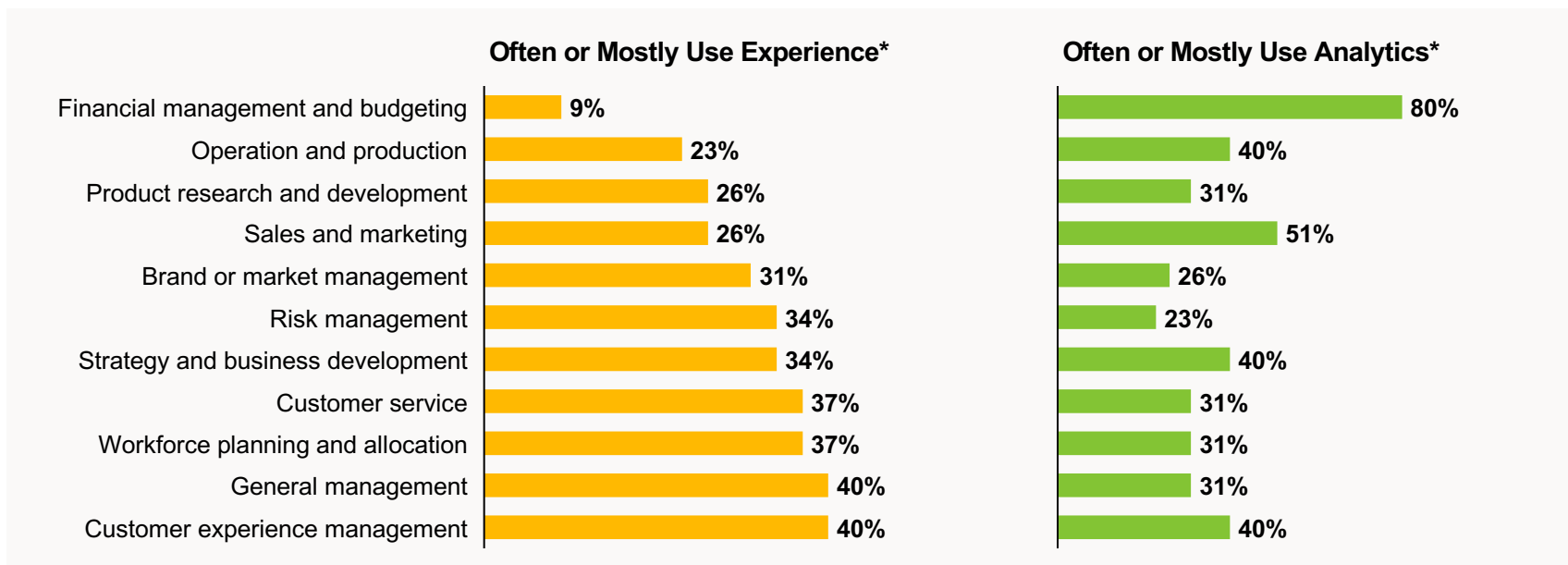




# Prevalence of Experience-Based Decision-Making

**Analytics is primarily used for financial management and budgeting purposes. In other domains, business analytics is applied less frequently to support business operations.**

**80%** of financial management and budgeting and **51%** of sales and marketing are mostly or often driven by analytics, but **40%** of general management and customer experience management are driven by experience-based decision-making.



\*Companies reporting to rely on either experience or analytics are excluded from the graphs.

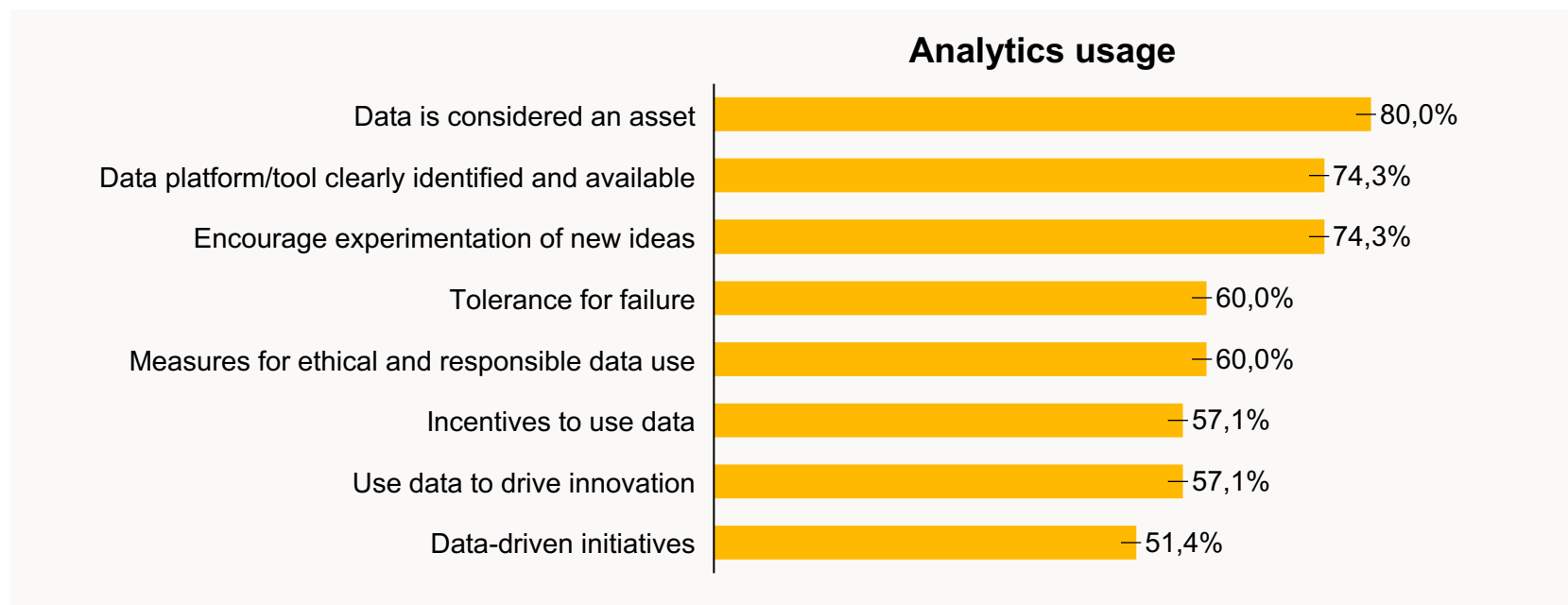
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# Data Culture and BI Structure

# Data as an Important Resource

## Most Finnish companies surveyed considered data as an asset!

**80%** of surveyed companies recognize data as an asset, and **74.3%** have clearly identifiable and available data platforms and tools. Almost half of the surveyed companies (**51.4%**) leverage data for data-driven initiatives and to drive innovations. While **74.3%** encourage experimentation of new ideas, **60.0%** of companies have a tolerance for failure.

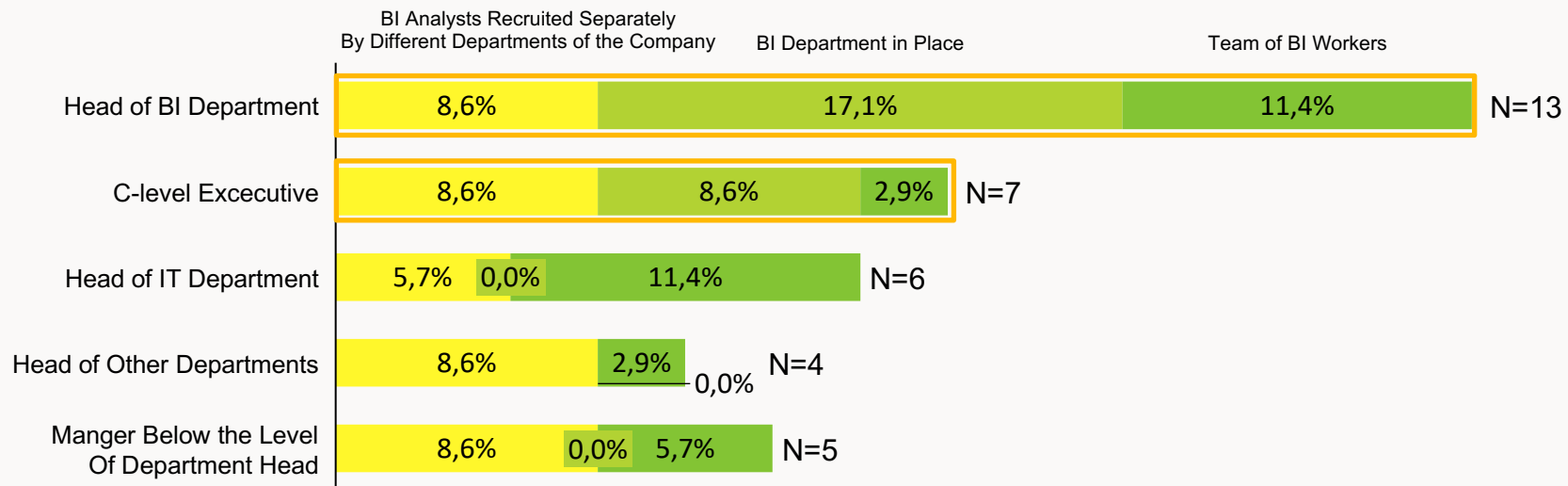


# Organizational Roles of BI Leaders

## Growing emphasis on the importance of BI practices

20% of surveyed companies rely on a C-level executive to lead BI practices, and 37.1% have a specified BI department head. About 43% of companies use the head of IT or other department heads or managers to take the lead in BI practices. When companies don't possess a good data infrastructure, BI practices led by IT, or other departments are good solutions. **However, such solutions may not be beneficial after the data infrastructure has been well-established.**

**Titles of BI Operations Leaders and BI Team Structures**



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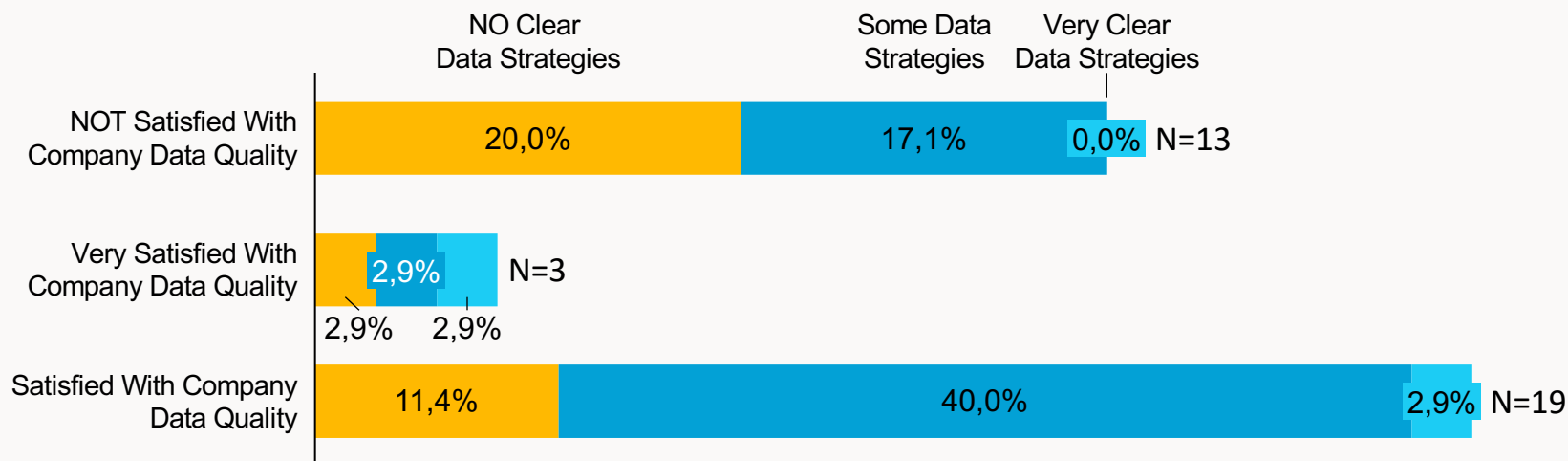
# Data Quality and Data Project

# Data Quality: Satisfaction and Strategy

**Many companies are not satisfied with their data quality. Concurrently, 34.3% of the companies reported lacking clear data quality strategies.**

**20%** of surveyed companies (**N = 7**) are unsatisfied with their data quality and lack clear data quality strategies. On the other hand, companies that have very clear data strategies are either very satisfied or satisfied with the quality of the data.

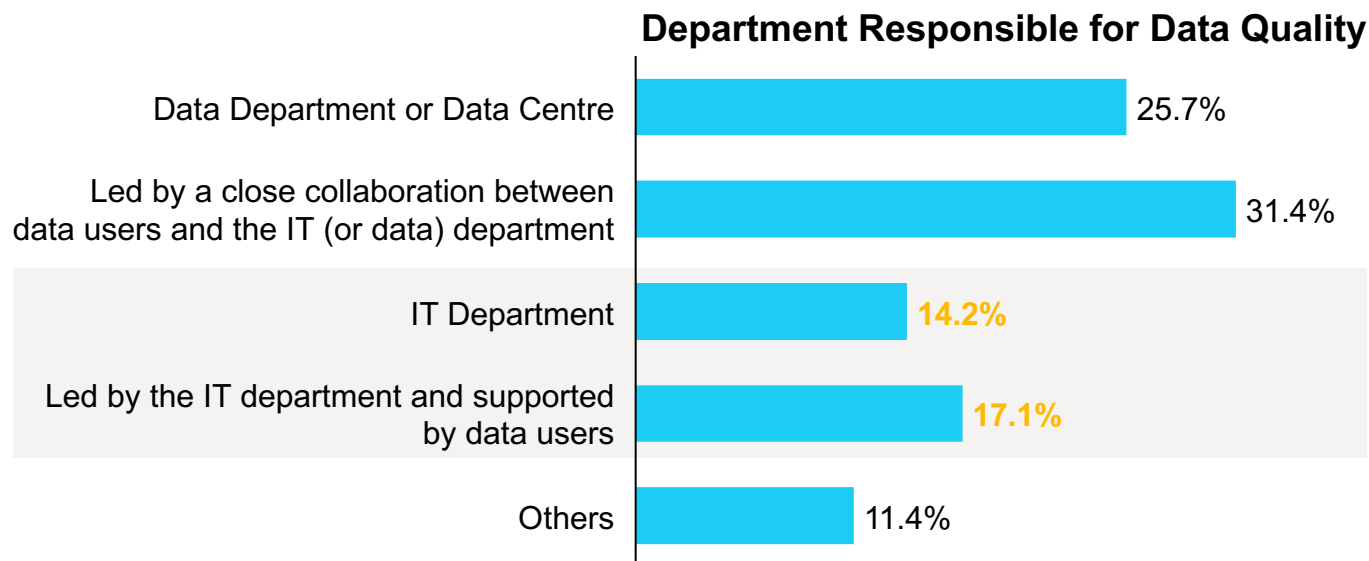
**Data Strategies and Perceptions of Data Quality**



# Responsible Departments for Data Quality

**Among participant companies, there are multiple IT Department-led data quality projects.**

**Data users** should play an important role in enterprise data quality projects. **31.4%** of surveyed companies place data users in a leading role in data quality projects. **25.7%** of companies have data departments or data centers responsible for data quality. **Notice that different reports indicated that data quality led by the IT department alone has a relatively high chance of failure.**



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## KPIs and OKRs



# KPIs as Performance Indicators

**Companies with well-established Key Performance Indicators (KPIs) will likely perform better than last year. Conversely, companies without well-established KPIs are much more likely to perform worse than they did the year before.**

**It is strongly recommended that Finnish companies have well-defined Key Performance Indicators for their business objectives!**

Performance Over Last Year

		Better than last year (2022)	On par with last year	Underperformed compared to last year (2022)
Well-Established KPIs	Strongly or Somewhat Agree	17 companies	4 companies	1 company
	Neutral	4 companies	0 companies	1 company
	Strongly or Somewhat Disagree	2 companies	2 companies	4 companies

# OKRs as Performance Indicators

**Likewise, companies that use Objectives and Key Results (OKRs) for business steering are likely to perform better than during the previous year, and companies not using OKRs are much more likely to underperform their previous year!**

Among the surveyed companies, **95.8%** of companies that use OKRs for business steering performed better than in the previous year or are on par with last year's performance. However, **31.4%** of the participant companies indicated they don't use OKRs for business steering.

Performance Over Last Year

		Better than last year	On par with last year	Underperformed compared to last year
Use OKRs for business steering	Strongly or Somewhat Agree	15 companies	1 companies	1 company
	Neutral	3 companies	4 companies	0 company
	Strongly or Somewhat Disagree	5 companies	1 companies	5 companies

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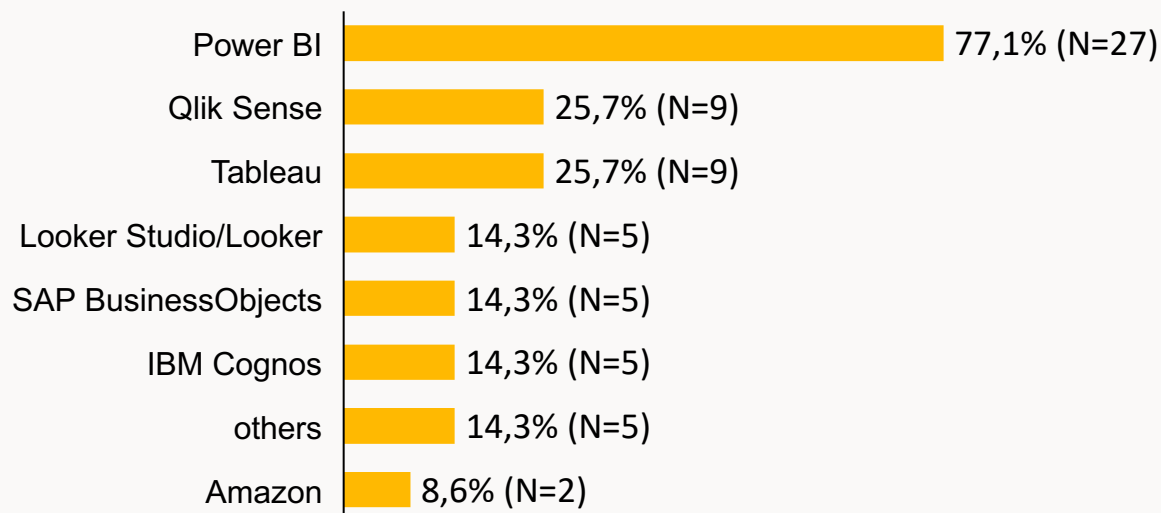
# Self-service BI Tools

# Self-service BI Tools Adoption

**Self-service BI tools are essential for Finnish companies to engage in BI. Some Finnish companies appear to use multiple BI tools simultaneously.**

Finnish companies widely use self-service BI tools. On average, a Finnish company uses **two** different BI tools, with a few companies using even **three** or **four** self-service BI tools. Power BI is the most often used BI tool by Finnish companies, followed by Qlik Sense and Tableau. Other self-service BI tools companies use include WebFocus, Microstrategy, Oracle OBIEE, and TIBCO Spotfire.

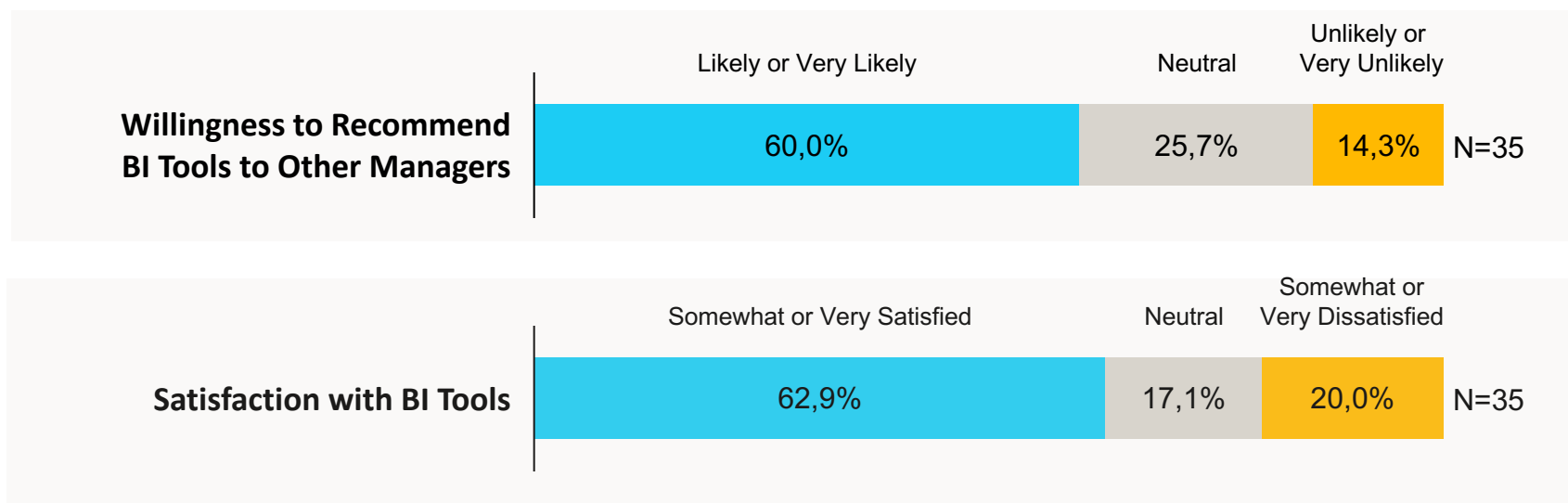
**Self-service BI Tools Usage in 35 Participant Companies**



# Satisfaction with Self-service BI Tools and Recommendations

**Finnish companies are predominantly satisfied with their BI tools. Many companies' BI leaders are willing to recommend their BI tools to companies' managers.**

**62.9%** of Finnish companies are satisfied with their BI tools, yet **20%** express dissatisfaction. **60%** of companies are open to recommending their tools, while **14.3%** hesitate. This suggests room for improvement.



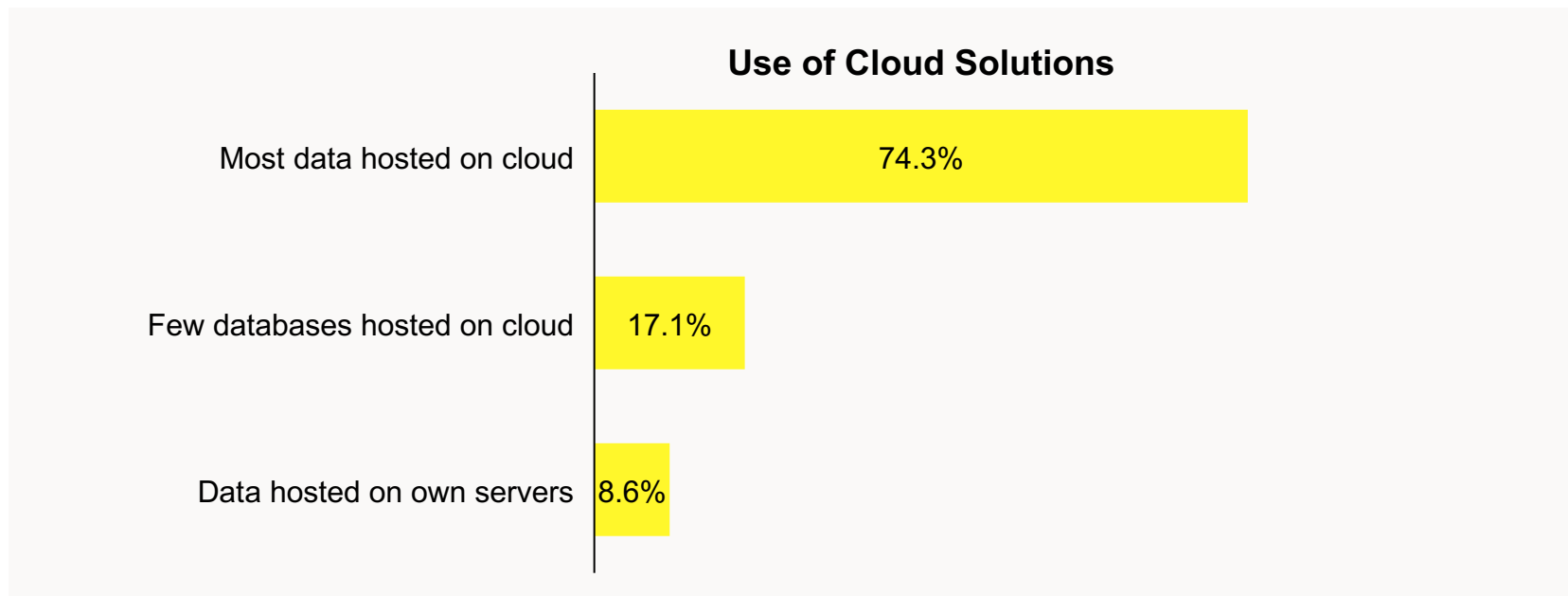
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# Advanced Technologies

# Cloud Technology for Data

**Cloud technology has been used by most Finnish companies surveyed to host their enterprise data.**

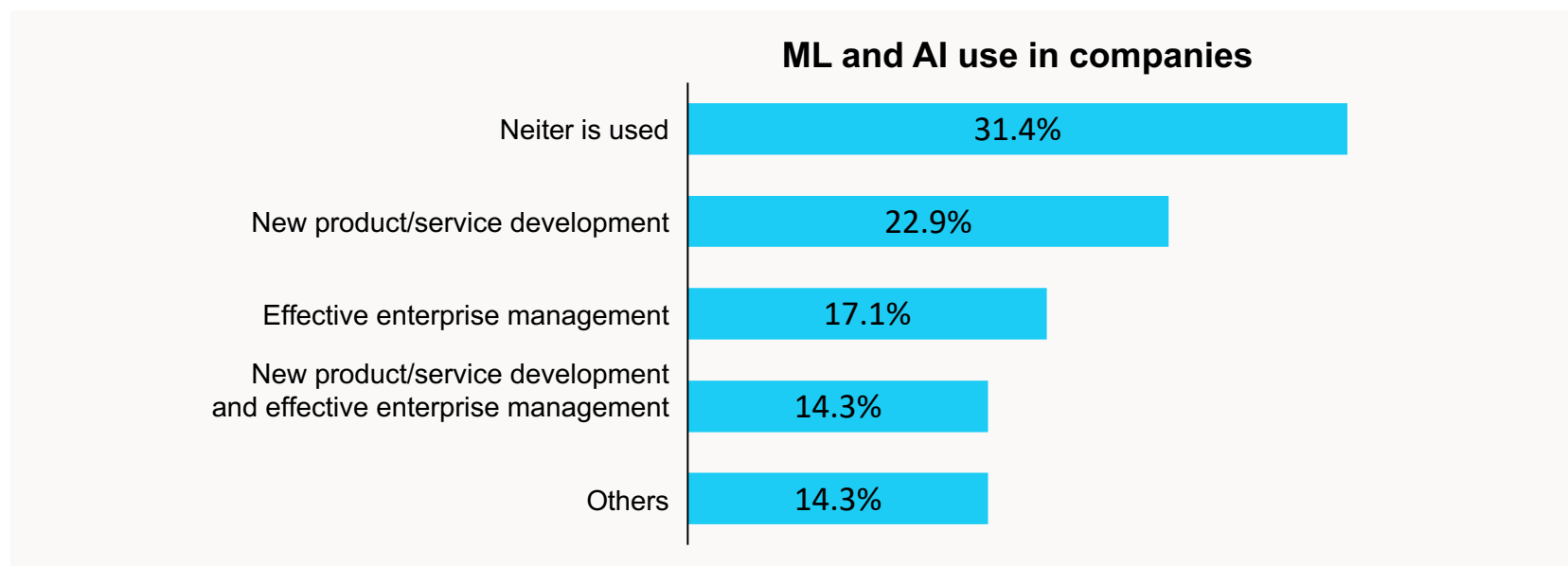
While **74.3%** of surveyed companies host most of their data on the cloud, **17.1%** host a few databases on the cloud. Finally, **8.6%** of the companies hosted most of their data on their servers.



# A Growing Use of Machine Learning (ML) and Artificial Intelligence (AI)

**ML and AI have been mainly used for new product/service development and management purposes among Finnish companies.**

**22.9%** of surveyed companies use ML and AI for new product/service development, while **17.1%** leverage them for enterprise management. Additionally, **14.3%** utilize both. However, **31.4%** have not implemented ML or AI.





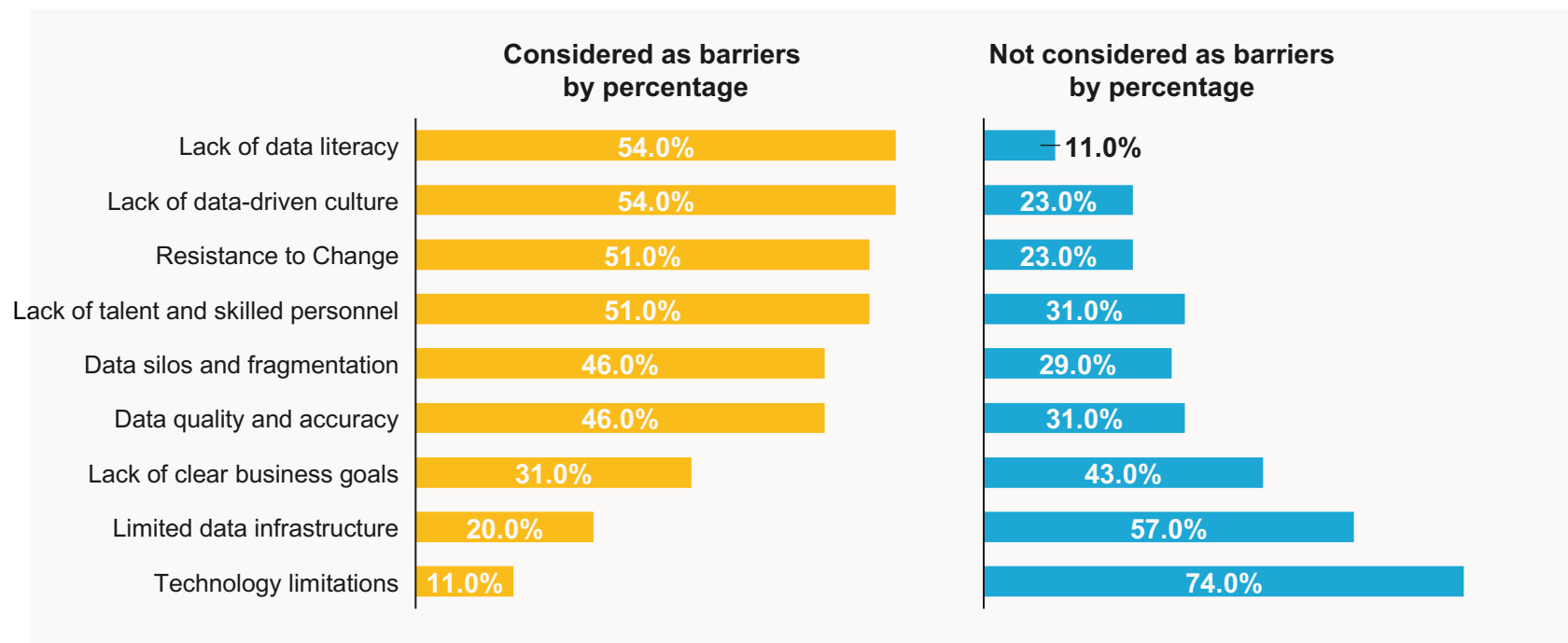
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# Key Barriers

# Key Barriers to Become Data-Driven

**Lack of data literacy, data-driven culture, talent, and skilled personnel, along with resistance to change are the key barriers for Finnish companies to be more data-driven.**

Technology (11%) and data infrastructure (20%) are not widely considered as the main barriers. Instead, factors relevant to people, including data literacy, culture and lack of talent, and resistance to change are considered as the most critical barriers.



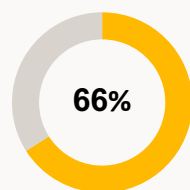
Respondents choosing neutral to the questions are not included in the calculation.

# Primary Obstacles to Become More Data-Driven

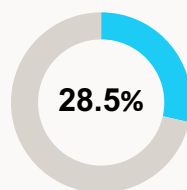
**People and business processes are the primary obstacles hindering data utilization.**

An alarming **66%** of surveyed companies disclose people as the main obstacle to becoming more data-driven, followed by business processes (**28.5%**). However, resistance from employees (**3%**) and technological constraints (**3%**) received only limited votes.

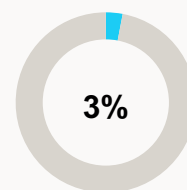
**Primary Obstacles to Become More Data-Driven**



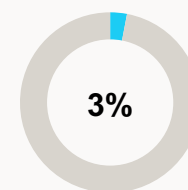
People



Business  
process



Resistance of  
employees



Technology

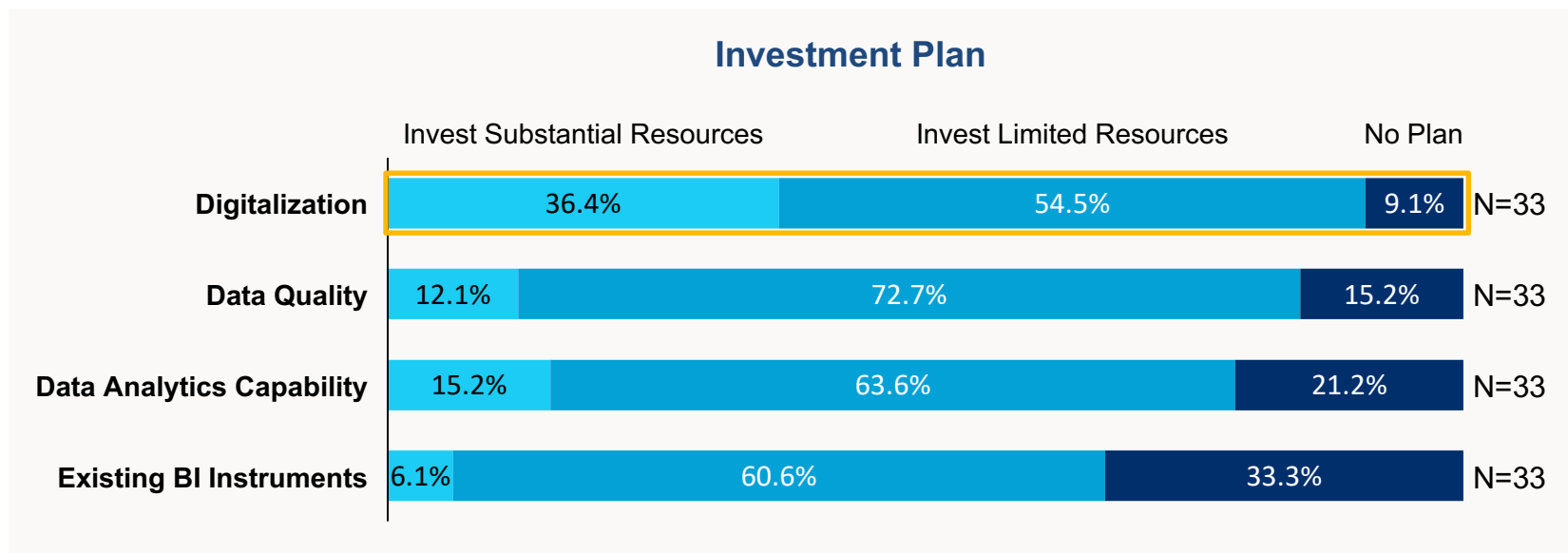
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# Future Plans

# Investment Plan

## Most Finnish companies surveyed plan to further invest in improving their BI-related capacities!

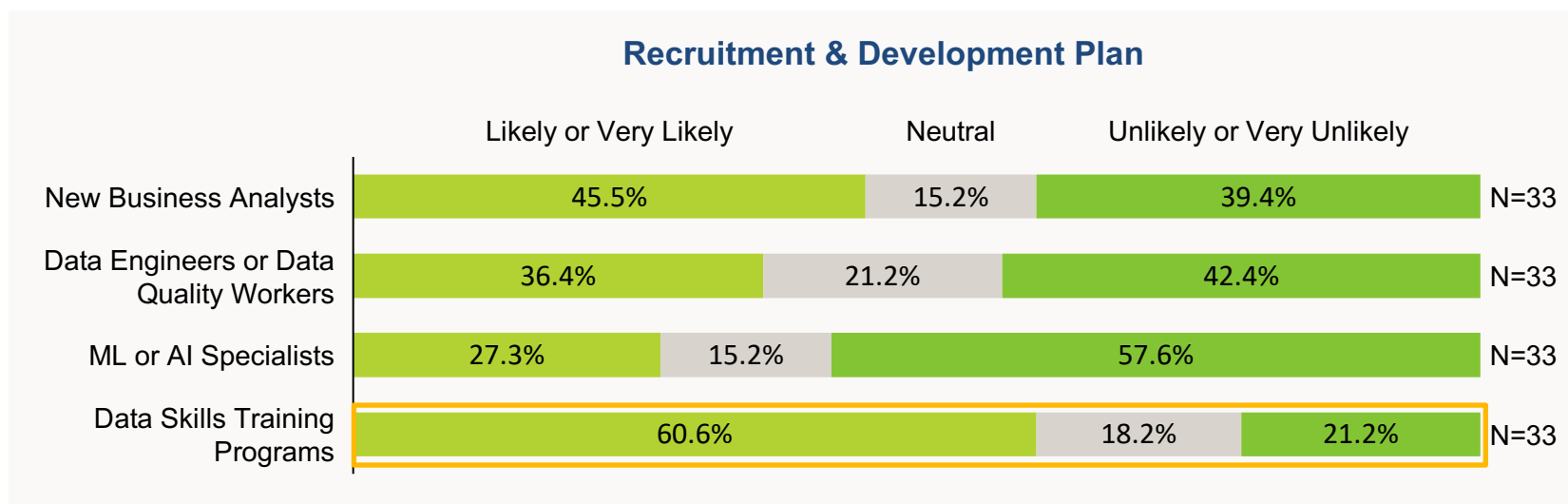
Among the surveyed companies, digitalization received the highest support as an investment area, as **36.4%** of the companies indicated their plans to invest substantial resources in it. **72.7%** of the companies plan to invest in data quality, but only **12.1%** plan to invest substantial resources. Additionally, companies plan to invest in their data analytics capabilities and existing BI instruments. **78.8%** of the companies plan to invest substantial or limited resources in their data analytics capabilities, whereas **66.7%** plan to invest at least limited resources in existing BI instruments.



# Employee Recruitment and Training Plan

**Companies can improve their data and business intelligence capabilities by hiring new talent and training their current employees.**

Regarding the recruitment and training plan for the surveyed companies, in the next 6 months, **60.6%** of companies plan to offer data skills training programs to their employees. **45.4%** of the companies plan to recruit new business analysts, and **27.2%** plan to recruit more ML or AI specialists. Additionally, **27.2%** plan to recruit more data engineers and quality workers. Interestingly, **57.6%** of companies will unlikely recruit ML or AI specialists in the next 6 months.



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# Opinion Article from a Finnish BI Leader



Director of Business Analytics  
and Operations  
WithSecure™

**Robin Wikström**

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# Opinion Article: The Need For Data Literacy & Focus

*Reading through the findings presented in this Industrial Report was in many cases a confirmation of all the opinions you hear from colleagues in this field, both globally and in Finland, namely, that the reality is far from the picture we are fed through other channels. AI is being rolled out all over the world with rapid speed and we hear things such as “data is the new oil” all the time, however, at the same time, we see that many companies are struggling to even implement the basic levels of Business Intelligence & Analytics.*

Most people understand that data is in fact the new oil and being data-driven & embracing new technologies is a mandatory thing for a successful company of the future, at the same time, these same people are the main hinder for rolling out these “new” features inside organizations. In other words, it’s a bit of a pickle to solve. People understand the importance, but themselves lack the understanding or resources available to fully embrace this change, creating a bit of a vacuum where companies are not investing enough into data, reaching a place where the ROI is questionable & where its easy to result to the old ways of

working (such as gut feelings and old techniques).

How do we solve this then? It’s also clear from this report that a lot of companies are trying to improve and fix this situation, which I personally felt was a very positive thing to notice. I believe that we are generally moving towards the right direction, although much slower than I think most people assume. As younger generations enter the workforce and easy to use AI solutions are rolled out, the understanding will be forced on people more and more. At the same time, I believe that many companies will be left behind for good in the coming 5 years,

as the head start of the others would be too large to catch.

With this in mind, I feel that its essential for Finnish companies to asap get the basics in place in regards to data quality & data processes for their core business, while at the same time starting to invest and roll out a proper data-training programs. Programs that are not only one-offs, but constantly ongoing “forever”. Who knows what changes the AI revolution will bring along, but a least we as companies needs to try our best to create a playing field that gives us the best chance to succeed.



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# Project Participating Organizations & Acknowledgement

# Project Participating Organizations

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**Aalto University School of Business**

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**Turku School of Economics, University of Turku**

Senior Lecturer Timo Leino

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**Tampere University**

Assoc. Prof. Hongxiu Li

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**Åbo Akademi University**

Prof. Jozsef Mezei,  
Adjunct Prof. Robin Wikström

# **For a brighter future of Finnish university BI education and enhanced BI practices for Finnish companies!**

We are beyond grateful for the Finnish enterprise data and BI leaders whose expertise and active involvement made this project successful.