



# Sound Decisions in Dynamic Times – Forecasts and Simulations Support Modern Corporate Management

Topical survey



## Authors

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This study was prepared by BARC, an independent market analyst firm. This study is available free of charge thanks to the generosity of Jedox.



# Preface Jedox

Dynamic markets demand agile performance management to provide reliable answers to new and unexpected questions that arise in rapidly changing environments. Organizations must continuously adapt their planning and forecasting processes to these changing requirements. This is where manual and primarily financially-oriented planning solutions reach their limits. Dynamic planning requires flexible, collaborative, and company-wide planning processes with continuous simulation and scenario analysis. With this study, Dr. Christian Fuchs and Robert Tischler provide an overview of the current state of planning in organizations and give an outlook on emerging trends. In doing so, one fact becomes extremely clear: the necessity and prudence of integrated continuous planning is beyond question.

Learn how organizations in dynamic markets can achieve meaningful results more quickly through integration and automation in order to be able to react in a timely, informed and value-driven manner.

We are pleased to support this valuable and exciting study and are confident it will be an educational and useful tool to inform your planning, reporting, and analysis.

Dr. Rolf Gegenmantel, Jedox Chief Product Officer  
Freiburg, September 2020

## **The central questions addressed by this study are:**

- How are companies adapting their planning and forecasting activities to the demands of a dynamic environment?
- What measures are being taken to make corporate management more agile and what challenges do companies face?
- How is the role of forecasting and planning changing in a dynamic environment?
- What are the benefits of simulations and scenario analyses in forecasting and corporate planning?



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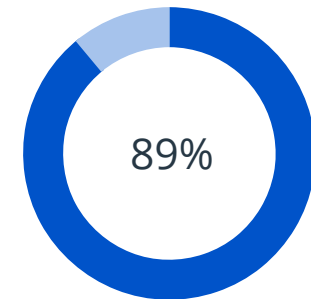
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# Management summary

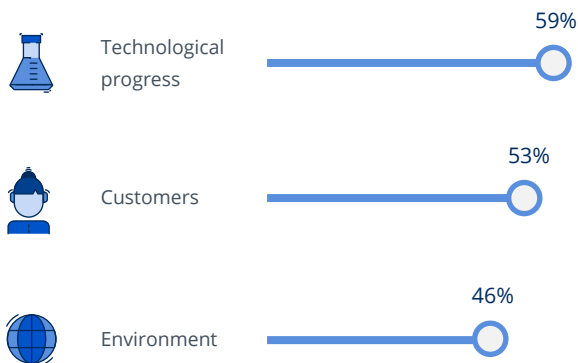


## 01 Static methods and outdated tools fail in a dynamic environment

Markets and competition are constantly becoming more dynamic. 89 percent of companies – regardless of size, region or industry – confirm this from their experience. This results in growing competitive pressure, driven by innovation, complexity and changing social and political conditions. The worldwide COVID 19 pandemic is further aggravating the situation.



...of companies see a (strong) increase in dynamics.



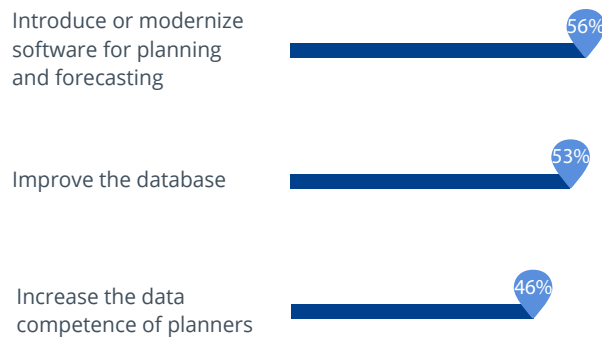
Increasing dynamics demand adjustments to corporate management – as well as planning and forecasting – to meet growing requirements. A dynamic environment requires flexible decision support and short-term updates of targets and forecasts. Companies are experiencing rising pressure to change, primarily because of technological progress (59 percent). Digitalization is a key driver in this respect. However, heightened and individual customer preferences (53 percent), responsibility for the environment (46 percent) and increasing global competition (45 percent) are also driving organizations to adapt. Rising pressure for change is being exerted on companies from all sides. Under these conditions, only truly agile organizations can deliver top performance and thrive in the market

Where is the strongest pressure for change in your company coming from at the moment? (n=274)

# Management summary



## 02 Targeted investments in infrastructure and know-how are the key to modernizing decision support



What investments are needed to implement the measures mentioned before? (n=272)

Decision-makers need up-to-date and high-quality information to cope with increasing dynamics. The efficient provision of information as well as a high degree of adaptability to changing conditions and requirements are essential goals that companies are currently pursuing. In order to remain capable of making good decisions quickly, organizations must update their plans and forecasts frequently and integrate tightly. Many are therefore moving from classic year-end forecasts to rolling forecasts (42 percent) and attempting to increasingly automate forecasts (43 percent).

Forecasts are thus becoming a central management tool, which is why 85 percent of companies regularly create forecasts for the entire company or at least parts of it. Together with simulations and scenario analyses, they provide up-to-date management information for decision-makers. Companies consider the improvement of the software they use (56 percent) to be the most important investment for optimizing planning and forecasting, but it is also necessary to improve the underlying data and enhance data literacy as well as the methodological competence of those responsible for planning.

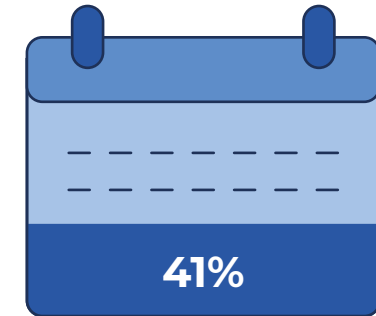


# Management summary

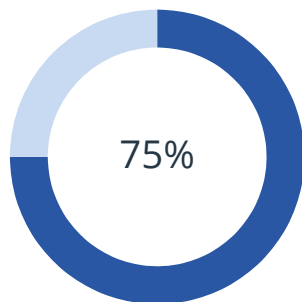


## 03 Forecasts are replacing classical budgeting as the central instrument for corporate management

41 percent of companies update their forecasts and projections at least once a month to take into account changed market signals for corporate management. Without sound software support, this high frequency cannot be handled efficiently and quickly enough to derive insights for decision-makers. Increasing dynamics lead to declining value derived from classical annual planning (budgeting). Therefore, a high degree of automation is needed to update forecasts quickly and efficiently.



...of companies update their forecasts at least once a month.



...of companies confirm that predictive models provide good forecasts in volatile markets.

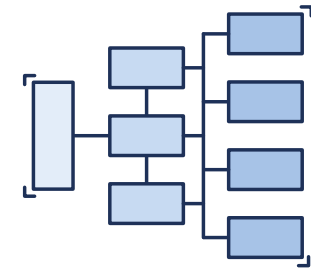
To achieve this, many organizations strive for a more intensive use of predictive algorithms, statistical methods and machine learning (ML) models. As many as 75 percent of companies confirm that predictive models provide good forecasts for them, even in volatile markets, although sometimes for distinct areas only.

# Management summary



## 04 Simulations are the basis for the well-founded analysis and evaluation of alternative actions, opportunities and risks

The potential of simulations in planning and forecasting has long been known. Nevertheless, their use is far from universal and only about half of the companies surveyed regularly use simulations as a basis for decision-making. However, increasing dynamics and the associated uncertainty massively influence the importance of simulations for corporate management. They help to evaluate possible future developments and external effects thoroughly. The simulation of scenarios thus becomes a decisive competitive factor: it enables companies to prepare for future developments in the best possible way and to identify opportunities and risks in a timely manner.



**64%**  
of companies plan  
a more in-depth approach  
to planning and  
corporate management  
in the future...



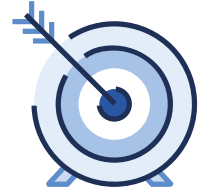
...while  
**24%**  
are already  
expanding their reach.

Modern software for corporate planning supports flexible scenario modeling and offers central data management as well as high-performance computations for simulations and analyses. The pressure of increasing dynamics forces companies to deal with simulations and scenario analyses more intensively. 64 percent are planning a more in-depth approach to planning and corporate management in the future, while 24 percent are already expanding their reach. Simulations are often used for financial planning (59 percent) with considerable potential for future expansion in operational and strategic planning.

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# Action items

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## Increasing dynamics demand adjustments to corporate planning and corporate management



Modern corporate management needs fast and reliable decision support. The use of specialist software is an important step but it must be accompanied by the alignment of forecasting content and processes. **Focus on the essentials:** Decisive developments and the main factors influencing your business must be considered in forecasts instead of long columns of detailed figures.



Those responsible for planning must be able to update forecasts quickly and efficiently. A high degree of integration in planning and greater automation of forecasts are essential for this. Only up-to-date forecasts provide the information, significance and relevance that managers need to make decisions. **Create integrated and driver-based models** so that signals are captured quickly and reliably.

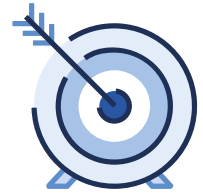


**Use software suitable for business users.** In a dynamic environment, more than ever, companies must be able to quickly adapt not only the content of their plans, forecasts and simulations to new conditions, but also their models. You need skilled employees and tools that can be easily used and adapted by business users in controlling.





# Action items



## Increasing dynamics demand adjustments to corporate planning and corporate management



**Act with foresight:** The dynamics and thus the pressure to change have increased significantly. Expect this trend to accelerate further. Prepare your corporate planning and corporate management for this. This requires a significant reduction in the level of detail in planning and forecasting. Only agile companies that make use of modern methods such as rolling forecasts and sound simulations can achieve superior performance in competitive markets over the long term.



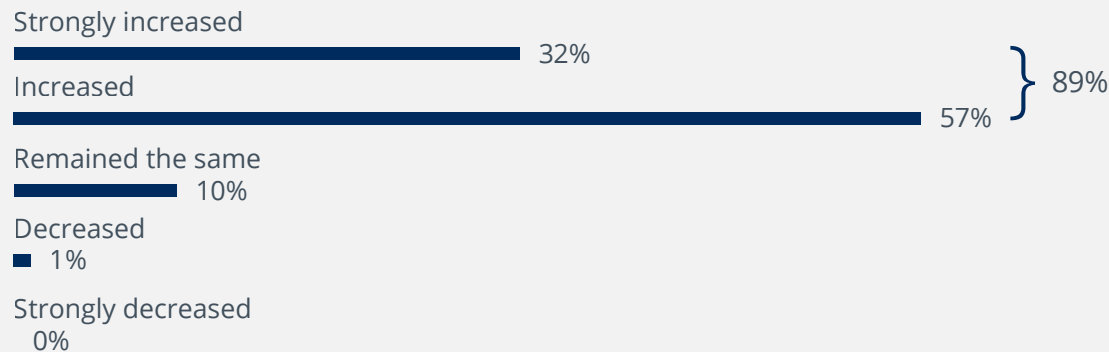
Efficient and fast planning and forecasting increasingly require the automation of processes and activities. Modern software solutions offer helpful support in this respect. However, against the background of increasing dynamics, automation must be evaluated critically. Not everything that can be automated should be automated. Stable and generic areas should be automated as far as possible. Areas that are subject to frequent changes require flexibility that automated processes cannot provide. Therefore, proceed step by step and **continuously optimize the degree of automation.**



# 01 Static methods and outdated tools fail in a dynamic environment



## Continuous change is the only constant in volatile times



How have the dynamics in your business field developed in recent years? (n=274)

The dynamics to which companies are exposed to are developing rapidly, not least due to the global COVID-19 pandemic. Dynamics describes the degree of change and the growing competitive pressure in markets. It is characterized by innovations and changes in the social and political environment. **Highly dynamic markets are complex**, and their development cannot be fully predicted. Market dynamics have been rising for a long time and companies are experiencing the **increasing pressure**. However, the speed with which COVID-19 overturned many things that

were considered safe brought the challenges of dynamics, volatility and complexity painfully back into consciousness.

As expected, 89 percent of the survey participants confirm that the **dynamics** in their business field **has increased or even grown significantly** in recent years. This is generally true for all company sizes and industries, with only a few public sector organizations reporting a constant level of dynamics (23 percent). Due to the sometimes enormous upheavals in the markets, many estab-

lished approaches to corporate management are coming under greater pressure.

The increasing dynamics of the market make it necessary to **adjust corporate management** to keep pace with the competition or even stay ahead. A dynamic environment requires **flexible decision support based on current forecasts**. Most companies are not prepared for this. The results of our survey show which sources are feeding the increasing dynamics and how companies are reacting in order to remain capable of action and innovation.

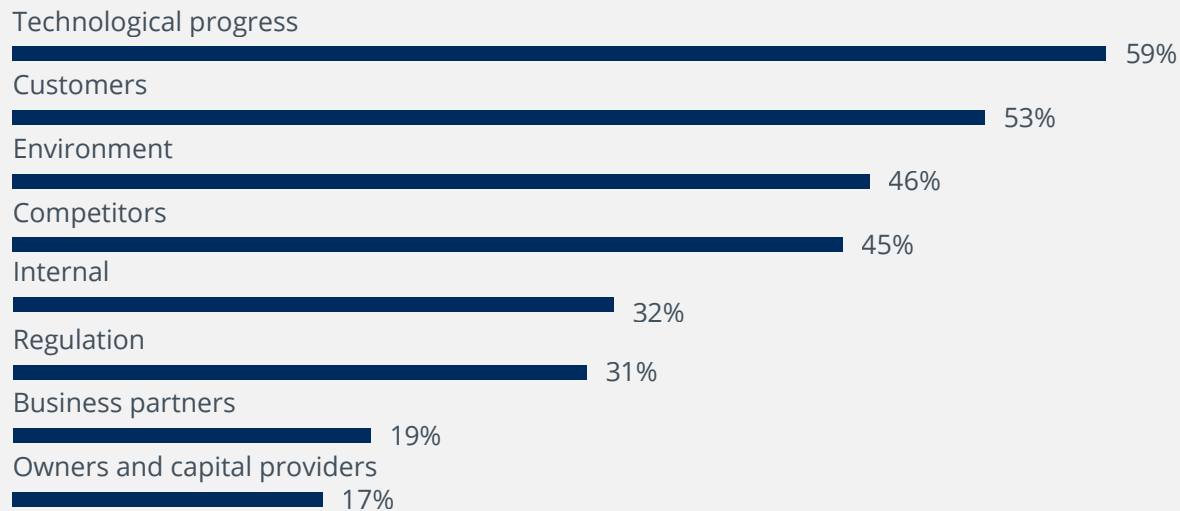
**89%**

of companies confirm a (strong) increase in dynamics.

# 01 Static methods and outdated tools fail in a dynamic environment



## Massive pressure for change through technological progress and customer focus



Where is the strongest pressure for change in your company coming from at the moment? (n=274)

For 59 percent of the companies surveyed, **technological progress** is currently causing the greatest pressure for change. The extensive use of digital technologies in products or production is a key driver in digitalization. But of course, production processes and materials are also constantly changing.

On the product side, technological innovations

are driven by rapidly changing and individual customer preferences (53 percent) and result in ever shorter product life cycles. Large companies on average cite significantly more sources of pressure. For them, **customers** are the strongest driver at 61 percent.

In addition, the wishes of customers are also

forcing companies to take more responsibility for the **environment** (46 percent). Good products alone are no longer enough for many buyers; they want products that do not destroy the environment and demand compliance with ethical standards and regulations.

Globalization and technological innovations naturally bring new **competitors** (45 percent) onto the scene, who redistribute market shares with their offerings – a process known as creative destruction.

**Increasing pressure for change** is being exerted on companies from all sides. Only truly agile organizations can achieve top performance and thrive in the market under such conditions. Accordingly, companies must constantly adapt their corporate management to changing circumstances.



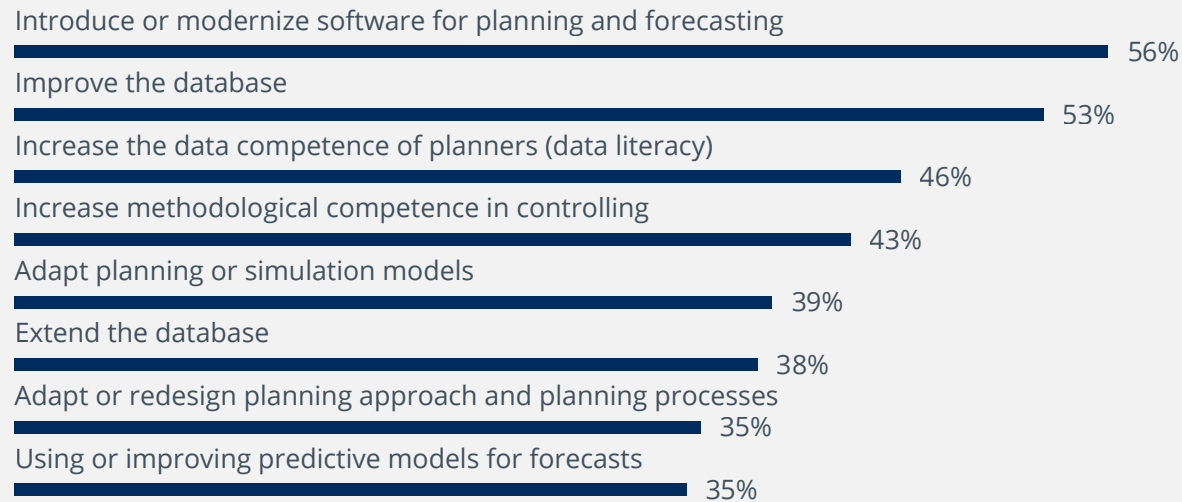
*The increasing dynamics of markets and competition require adjustments to corporate management*



## 02 Targeted investment in infrastructure and know-how are the key to modernizing decision support



### Optimization of planning requires modern technology, data and expertise



What investments are needed to implement the measures mentioned before? (n=272)

The most important investment for optimizing planning and forecasting is the improvement of the technology used. 56 percent of the companies surveyed confirm that the **introduction or modernization of software solutions** is a necessary investment for optimization. Modern software provides comprehensive functions to

support planning and flexible modeling for adaptability – a must in dynamic markets. In addition, **planning and simulation models** must regularly be adapted to new conditions and requirements (39 percent).

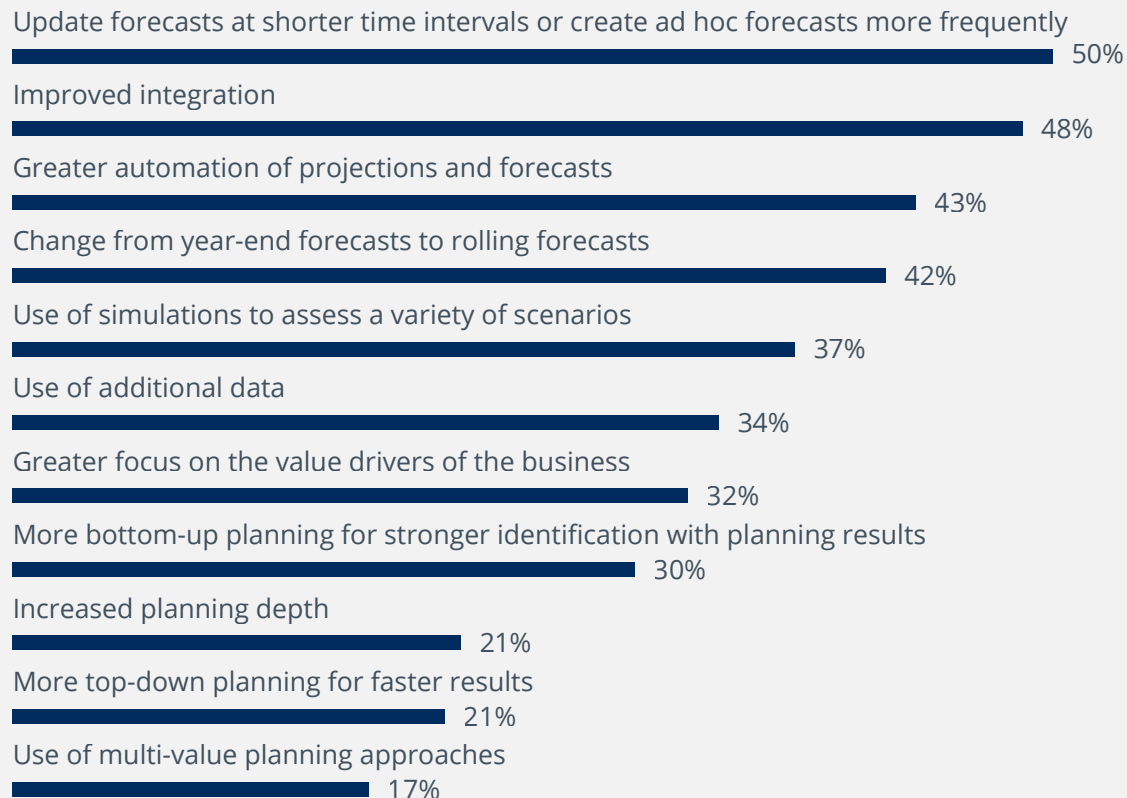
With modern software for planning and forecasting, even large amounts of data can be processed with high performance. This is necessary because companies no longer want to access just a few data sources for better forecasts and simulations. Modern planning requires **comprehensive data** that is highly transparent and of high quality (53 percent) but can also be **extended to include external and unstructured data** (38 percent). This allows important signals from the market to be processed. **Improving the underlying data** for planning and forecasting is particularly important for laggards: it is the most frequently cited investment for optimization (63 percent).

In addition to investment in technology and data, expertise and competence must be enhanced too. On the one hand, the **data literacy** of those responsible for planning must be improved (46 percent) to improve planning and achieve more reliable results. On the other hand, **methodological competence** in controlling must be enhanced (43 percent) to fully exploit the potential of modern approaches such as predictive planning and forecasting, driver-based planning and simulations.

## 02 Targeted investment in infrastructure and know-how are the key to modernizing decision support



### Greater efficiency and effectiveness through acceleration, integration and automation



What measures are necessary to align planning and forecasting with an increasingly dynamic business environment?  
(n=275)

Companies must **update their plans and forecasts** more frequently to withstand increasing dynamics and pressure and remain capable of making sound and timely decisions (50 percent). Half of the organizations surveyed want to improve the already high frequency of updating even further (see chapter 03). Many companies are therefore moving from classic year-end forecasts to rolling forecasts (42 percent), which significantly enhances their value to corporate management. While many of the companies that cope better with market dynamics (leading companies) have already taken this step, this is the most frequently mentioned measure (52 percent), especially for companies that are worse at it (laggards).

The increased **automation of forecasts** (43 percent) is a means to an end – and one which enables efficient, meaningful simulations. This is the measure most frequently cited by leading companies (47 percent) while only 35 percent of laggards agree.

## 02 Targeted investment in infrastructure and know-how are the key to modernizing decision support



### Greater efficiency and effectiveness through acceleration, integration and automation

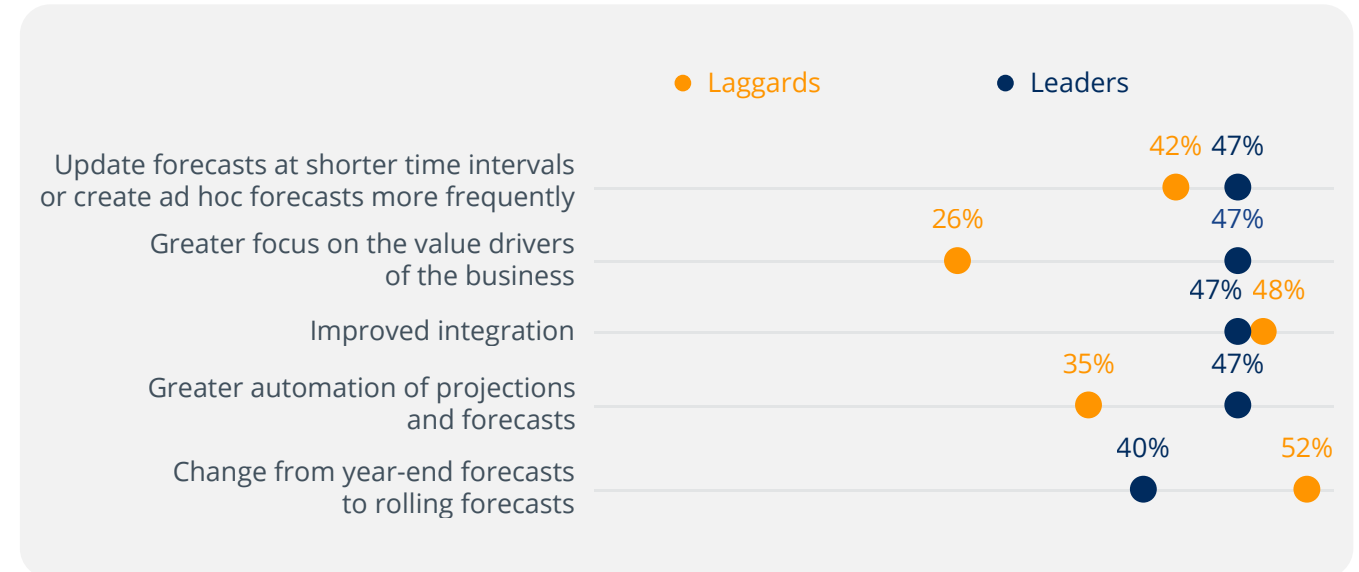
Greater automation must, however, be critically evaluated, especially in the context of dynamics. Yes, automation reduces reaction times and improves the quality of the results produced, but it also inhibits flexibility. Systems with a high degree of automation can fail due to rapidly changing requirements as they are more difficult to adapt than generic solutions. In practice, Excel is often used to work around inflexible systems, a method which does not usually boost quality, efficiency and satisfaction.

The automation of forecasts is an ambitious goal and requires comprehensively **integrated planning models** as its basis (48 percent). For a detailed insight into this topic, the BARC study "Integrated and Predictive – The Future of Corporate Planning" highlights the opportunities and challenges of integrating planning and offers concrete recommendations for implementation. Integration in planning is a complex topic and must be carried out conscientiously at various levels.

In dynamic and complex markets, predictability is generally limited. As a result, companies have to evaluate different ways to reach their goals and prepare for possible future developments. The means of choice for this is **simulations** (37 percent), which we discuss in detail in chapter 04.



*Focus on the essentials – leading companies are **twice as likely** as laggards to want to reduce the level of detail in their planning*

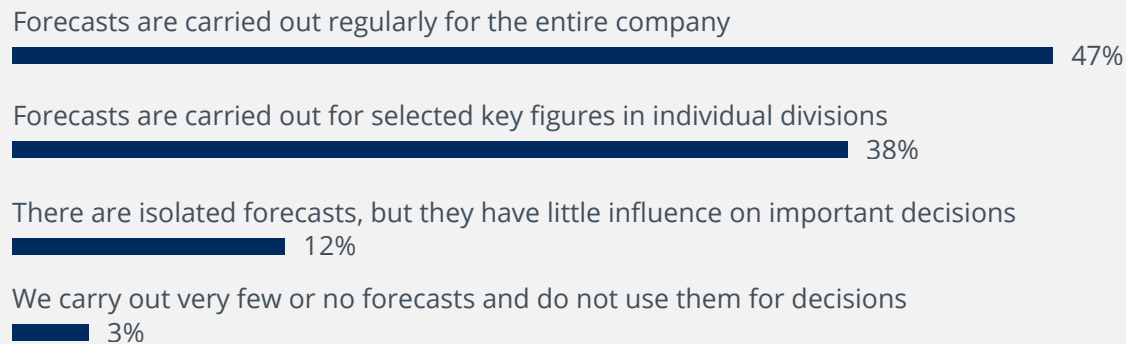


What measures are necessary to align planning and forecasting with an increasingly dynamic business environment? (n=74), by best-in-class

## 02 Targeted investment in infrastructure and know-how are the key to modernizing decision support



### Timely forecasts are indispensable for corporate management in dynamic markets



How important are forecasts for managing your company? (n=261)

The move away from one-time annual planning (budgeting) has long since begun in most companies. Forecasts are now becoming the central control instrument. At 47 percent, almost half of the organizations surveyed carry out **regular forecasts for the entire company**, and a further 38 percent do so at least for **individual divisions**. Only in the public sector are forecasts used less frequently – a fact that can be attributed to the lower pressure to change. As expected, leaders

carry out forecasts more frequently throughout the company (55 percent) and thus have a more up-to-date information base for decision-makers.

Particularly in dynamic markets, efficiently prepared short-term forecasts in combination with simulations often provide **better and more up-to-date management information** than traditional annual planning. BARC assumes that the relevance of **rolling forecasts with auto-**

**mated projections** will continue to grow. Continuous forecasts will thus further reduce the need for classic annual planning. This is also not least because of the need to shelve static annual investment budgets, which hinder innovation and the ability to react quickly in many companies.

Increasing frequency is only possible if forecasts can be created efficiently so that new measures can be considered on an ongoing basis. Forecasts must be **focused** and **automated** where necessary and **comprehensively integrated** in all directions. Only then can they be created quickly and efficiently and still provide reliable, relevant corporate management information.

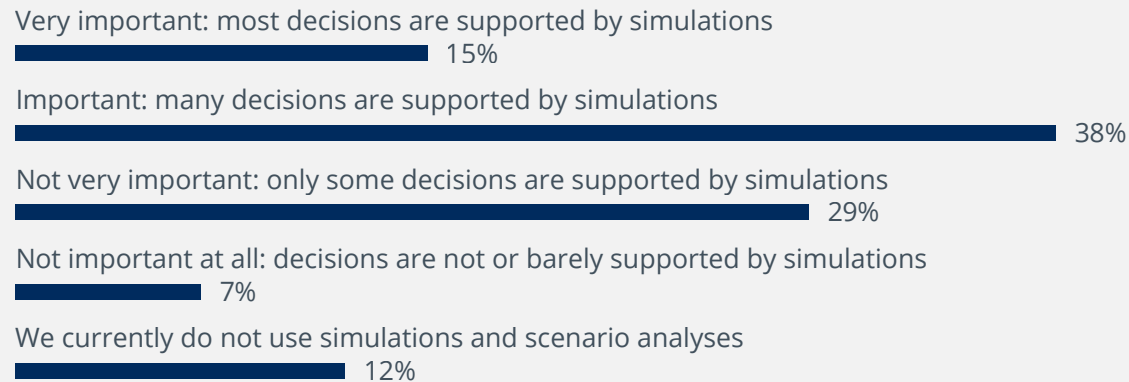
# 85%

of companies prepare forecasts regularly for corporate management.

## 02 Targeted investment in infrastructure and know-how are the key to modernizing decision support



### Modern decision support must use well-founded simulations



How important are simulations and scenario analyses in your company for corporate management and decision support? (n=268)

The potential of **simulations** in planning and forecasting has long been known. Nevertheless, BARC's experience from research and consulting shows that their **use is far from universal**. Simulations allow the analysis of different **scenarios**, based on mathematical business models and variable input values (parameters). The detailed comparison of different scenarios helps to evaluate the influence of changes as well as the resil-

ience of companies and thus provides important insights for corporate management.

The survey results show that the importance of simulations for corporate management has increased massively. Increasing dynamics and the associated uncertainty are major reasons for this. 53 percent of the organizations surveyed **regularly use simulations** to better estimate the impact

of important decisions. This figure is as high as 66 percent for leading companies. Only 12 percent currently **do not use simulations** for corporate management. In many companies, there is therefore a need to start using simulations or to expand their use (see chapter 04).

The dilemma between **better decision support and limited resources available** is more apparent in simulations than in forecasts. For many companies, it is still more important to act in a resource-saving way than to provide decision-makers with more meaningful information. Often, these organizations fail to carry out their planning and forecasts in a **lean and efficient** manner, which allows for better results with less effort.



*The detailed comparison of different scenarios helps to evaluate the influence of changes and the resilience of companies*

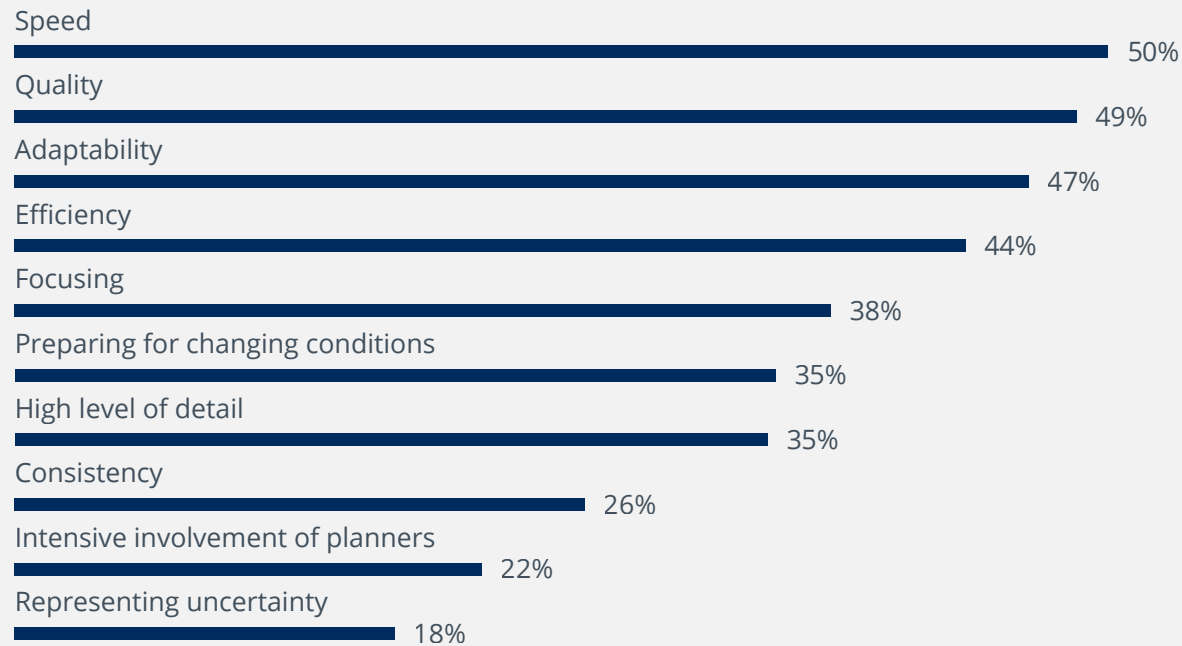




## 02 Targeted investment in infrastructure and know-how are the key to modernizing decision support



### Dynamic times require adaptability and a fast supply of information



Which goals is your company pursuing in planning and forecasting to respond better to dynamics? (n=274)

„Nothing is as old as yesterday's news“ goes the popular saying. In dynamic markets, nothing is more important than up-to-date information for decision-makers (**high speed**). 50 percent of the companies surveyed confirm this as the most

important goal. Organizations need **faster and more frequent forecasts**. This is precisely where the necessary investment in better tools, integration and automation is targeted.

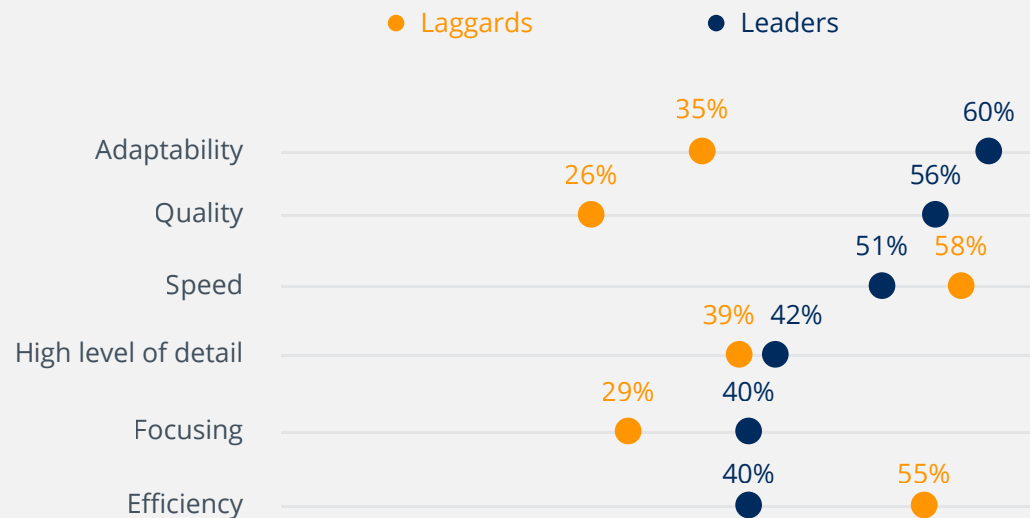
An accelerated supply of information for decision-makers only makes sense if the **quality** is also right (49 percent). Here, integration and automation make a significant contribution to the consistency and transparency of the data supplied. Companies demand a **high degree of adaptability** from their solutions (47 percent) to be able to take into account changing conditions and to incorporate new requirements quickly. Modern solutions with easy-to-use modeling capabilities have a clear advantage: they enable calculations, forecasts and simulations to be adapted directly in business departments.

The **efficient execution** of planning, forecasting and simulations (44 percent) is also seen as an important goal. Despite increasing requirements, the time of those responsible for planning in business departments as well as the planning coordinators in controlling is valuable and limited. More frequent updating of plans and forecasts can therefore only be achieved through more efficient execution.

## 02 Targeted investment in infrastructure and know-how are the key to modernizing decision support



### Dynamic times require adaptability and a fast supply of information



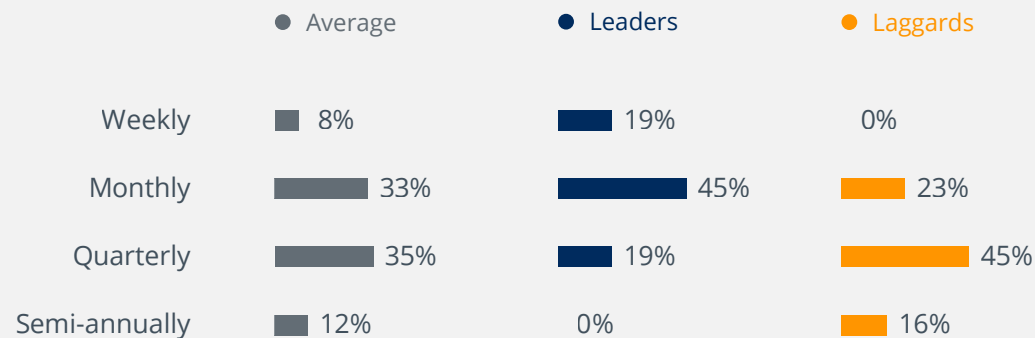
Which goals is your company pursuing in planning and forecasting to respond better to dynamics? (n=74)  
by best-in-class

The comparison of leading companies with laggards shows clear differences: While the top issue for leading companies is **high adaptability** (60 percent), laggards struggle much more often with **efficiency** (55 percent). This shows that individual priorities need to be set to improve decision support in organizations, depending on the respective degree of maturity. The size of the company also has an influence on the prioritization of goals. For example, **high speed** is a more frequently named goal in large companies (56 percent) than in small ones (42 percent). In the former, more people are typically involved in the creation and processing of plans and forecasts, which makes the timely provision of information a major challenge.

## 03 Forecasts are replacing classical budgeting as the central instrument for corporate management



### Sound decisions in dynamic markets require fast and up-to-date forecasts



How regularly are your planning figures updated during the year? (n=73), by best-in-class

Slowly but steadily the **frequency of updating forecasts** in companies is increasing. Today, 41 percent of the organizations surveyed already update their forecasts and projections **at least once a month** to take account of changing signals from their environment for corporate management. In leading companies, the figure is as high as 64 percent, compared with only 23 percent for laggards. Not a single company states that it does

not make any forecasts at all.

Advances in technology have made this development possible and growing demands on corporate management have accelerated it. Without **well-founded software support**, the effort required to create forecasts would invariably be disproportionate to the benefits, or their production would simply take too long to derive insights

for **short-term management decisions**. At the same time, however, processes and content must be adapted, since „more of the same“ only leads to more work, but rarely provides **better insights**.

Currently, an important trend in forecasting is the use of predictive algorithms, statistical methods and machine learning (ML), for **predictive planning and forecasting**. The aim is to generate meaningful and high-quality planning figures with the least possible effort and a fast throughput time. This trend is driven by the top objectives outlined in chapter 02.



Leading companies are **three times more likely** than laggards to create weekly and monthly forecasts



## 03 Forecasts are replacing classical budgeting as the central instrument for corporate management



### Predictive algorithms are the ideal way to automate forecasts



What do you think about the power of predictive models? (n=223)

Despite all the challenges, 22 percent of the companies surveyed (and 33 percent of the leading companies) confirm that predictive models provide **good forecasts for them, even in volatile markets**. 53 percent – and thus the majority of the survey participants – concur that **valid forecasts using predictive algorithms can only be derived in certain areas** with high dynamics. This shows that the machine remains a long way from overtaking humans, especially in dynamic markets. The final decision and evaluation clearly lies with humans, especially when historical data does not provide an adequate basis for future forecasts.

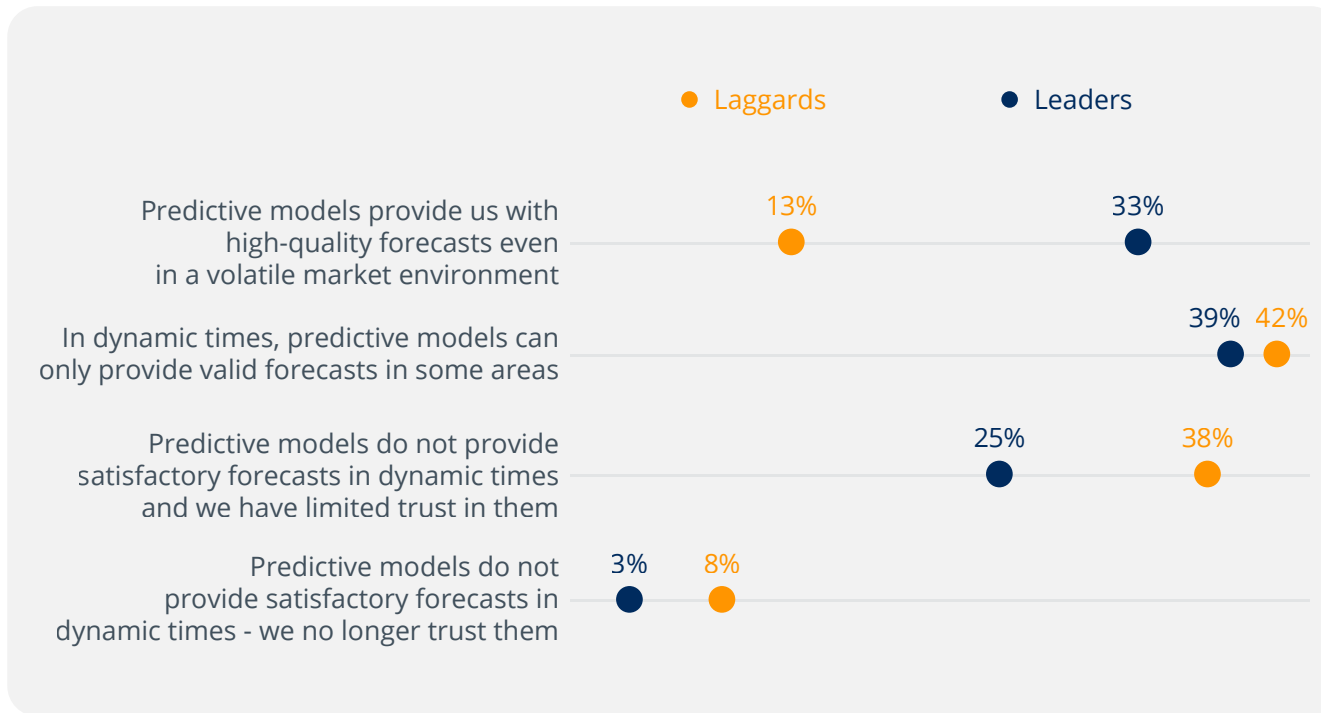
Faster forecasts and reliable simulations increasingly make use of **predictive algorithms** (predictive planning and forecasting). They are the silver bullet for automation and acceleration, but they are **not a panacea**. Therefore, those who place too much expectation on the technology will most likely not generate all the benefits they hope for. For all the potential of machine learning, the data

it relies on always consists of historical data. The „knowledge“ of an „artificial intelligence“ thus consists of historical patterns identified in data and learned from it. Correlations that have not occurred in the past can therefore not be included in the forecasts, which can be an insurmountable challenge, especially in dynamic markets with a high degree of unpredictability.

## 03 Forecasts are replacing classical budgeting as the central instrument for corporate management



### Predictive algorithms are the ideal way to automate forecasts



What do you think about the power of predictive models? (n=60), by best-in-class

That there should be **no “blind” trust in technology** is important news given the challenges in dynamic and complex markets. When using automated projections, it is essential to clarify where

good results can be generated with less effort in order to relieve those responsible for planning from routine activities. Instead of requesting detailed columns of figures from planners every

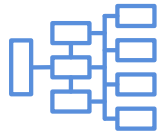
quarter, they should only focus on the most important changes in a timely manner. The basis for an efficient solution is to concentrate on the essentials and to be willing to make changes if necessary. At the same time, a concept is needed for constantly checking the accuracy of automated forecasts and for incorporating additional input from those responsible for planning into the results of the models.



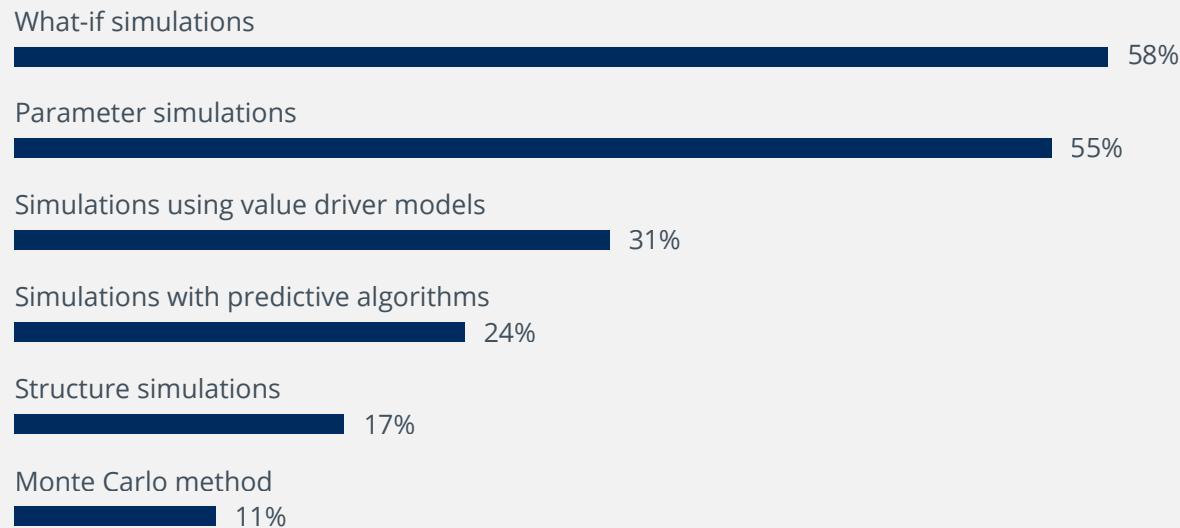
**3x** more leaders than laggards rate the forecast quality of predictive algorithms as very good in volatile markets



## 04 Simulations are the basis for the well-founded analysis and evaluation of action alternatives



### What-if and parameter simulations are the most frequently used methods



Which of the following methods for simulations and scenario analyses do you use? (n=235)

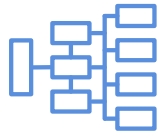
When using simulations, companies analyze and compare different scenarios in a well-founded manner so they can evaluate possible future developments as well as external effects. This allows important information to be obtained for

corporate management as a basis for decisions. Scenarios – both positive and negative – must be enriched with risk assessments and measures to evaluate probabilities and possible action alternatives. **The simulation of scenarios is a deci-**

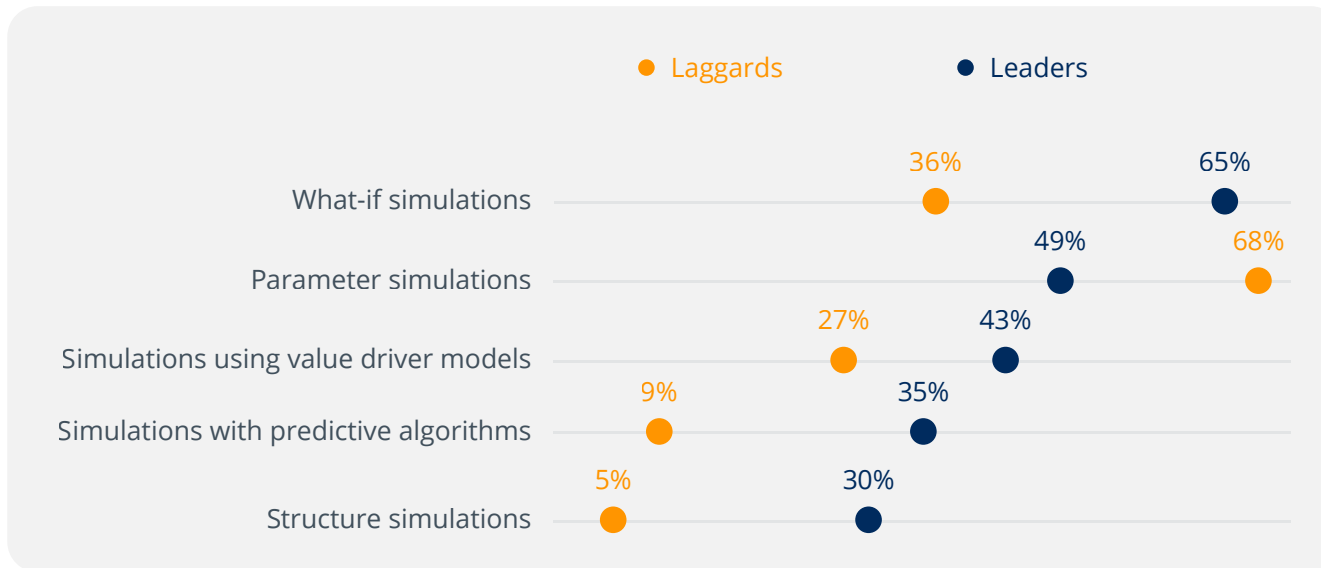
**sive factor in competition** to prepare for future developments in the best possible way and to identify opportunities and risks.

The survey results show that only around half of the companies surveyed regularly use simulations as a basis for decision-making. **What-if simulations** are the most frequently used variant with 58 percent of responses. Especially among leading companies, they are by far the most frequently used method with 65 percent. **Parameter simulations**, in which effects on results variables are analyzed using changed input values such as prices and quantities, are used by 55 percent of the companies surveyed. Laggards use this method to a greater extent (68 percent), while they generally use all other methods much less frequently than leading companies.

## 04 Simulations are the basis for the well-founded analysis and evaluation of action alternatives



### What-if and parameter simulations are the most frequently used methods



Which of the following methods for simulations and scenario analyses do you use? (n=59) , by best-in-class

**Driver-based simulation models** are particularly suitable for transparently demonstrating the effects of changes in key influencing factors or measures in simulations and scenario analyses. However, these are still used comparatively rarely (31 percent), which may be because not all planning models are driver-based.

**Simulations supported by sophisticated predictive algorithms** are rarely used by laggards today (9 percent). It is precisely in this area that BARC expects the greatest development in the future, since companies that do not use simulations intensively today very often want to use **predictive models** (38 percent).

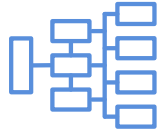
In general, it can be stated that **the use of advanced simulation methods is currently very low** (e.g., Monte Carlo method, 11 percent). In many cases, this reduces the quality of the results but improves the robustness of simulations. The advantage of the more frequently used methods is their broad versatility and quick adaptability due to their simplicity. More complex methods can usually only be adapted by trained experts. In addition, the results cannot always be understood without expert knowledge.



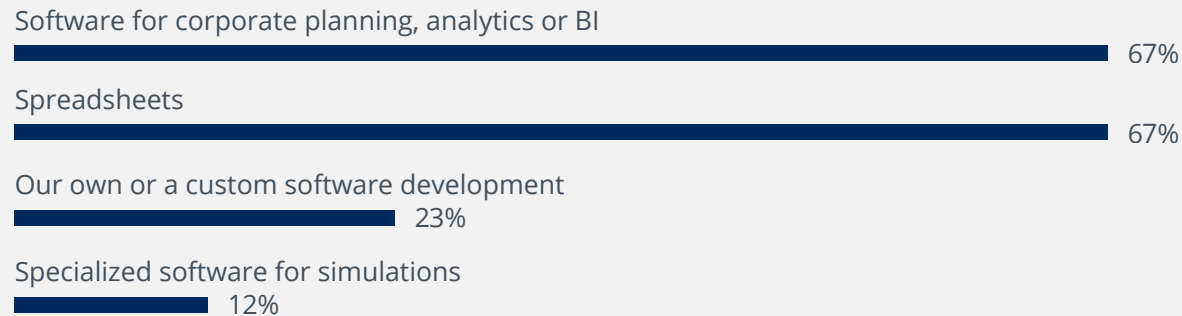
*The simulation of scenarios is a decisive competitive factor for leading companies*



## 04 Simulations are the basis for the well-founded analysis and evaluation of action alternatives



### Sophisticated simulations and scenario analyses require comprehensive software support



Which of the following tools do you use to perform simulations and scenario analyses? (n=235)

Sophisticated simulations and scenario analyses must be supported by modern software tools that allow for the efficient management of the required models and data, can be flexibly adapted and offer sound support functions. Only with these tools can simulations be calculated on-the-fly and quickly analyzed in detail.

Currently, many organizations value the flexibility to create and quickly adapt simulations more than

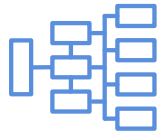
specialist software features. This is probably one of the main reasons for the high proportion of users of **spreadsheets** such as Excel (67 percent). A second reason could be that the tools and models used do not meet the high requirements for flexible creation of simulations and scenarios.

**Specialist planning tools** (also used by 67 percent of respondents) offer comprehensive software functions, but models are often more complicated

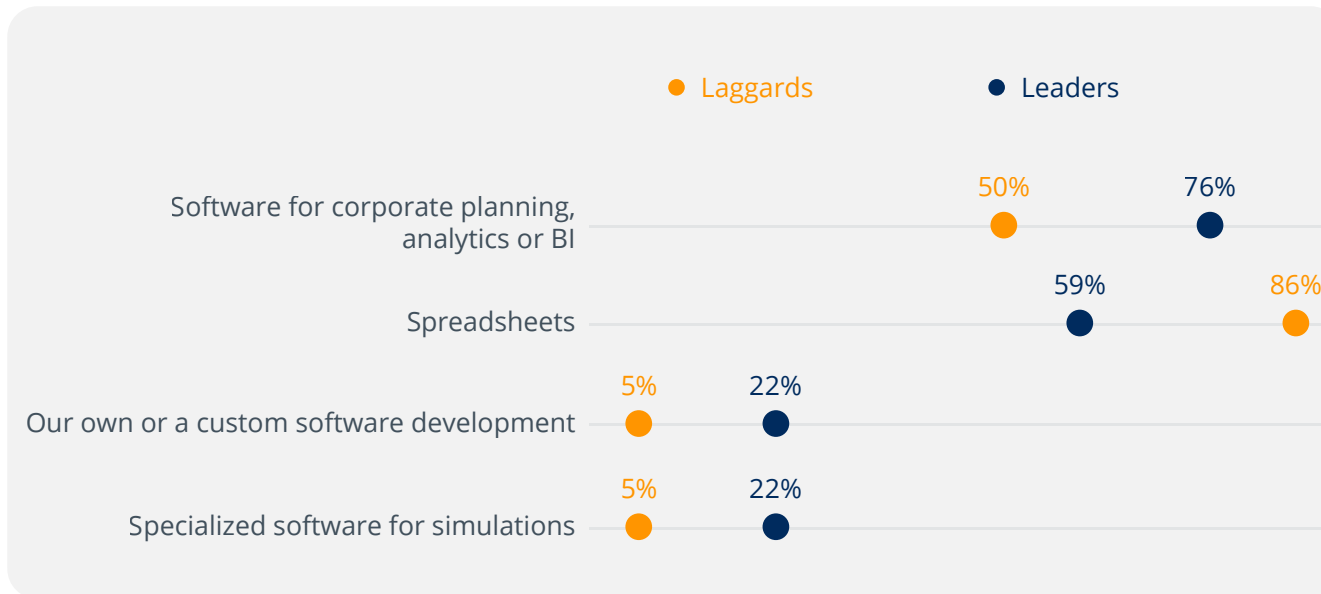
to adapt than in Excel. This is partly due to their major advantages over spreadsheets: Consistent data management with uniform master data and calculations, central modeling and data integration from source systems. In addition, they also offer **advanced functions** such as the calculation of simulations with predictive algorithms and detailed traceability of results. The advantages of professional solutions for simulations are especially appreciated by large companies, 80 percent of which use specialist planning tools for simulations.



## 04 Simulations are the basis for the well-founded analysis and evaluation of action alternatives



### Sophisticated simulations and scenario analyses require comprehensive software support



Which of the following tools do you use to perform simulations and scenario analyses? (n=59), by best-in-class

**Specialist software** (76 percent) is used significantly more often among leading companies than **spreadsheets** (59 percent). Spreadsheets are the clear preference of laggards with 86 percent. Tool use differs notably between these two groups. Nevertheless, in terms of planned investments

(see chapter 02), it is the leading companies that want to modernize their software support more frequently. This underlines the fact that planning, forecasting and simulations are highly valued by these companies and that their software support is constantly being evaluated and modernized.

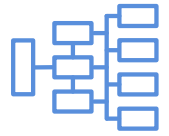
Software tools must be simple and business-user-friendly. At the same time, the models must be geared to the requirements of simulations. The mere use of specialist software is therefore not even half the battle, but rather the first step on the right path. Besides supporting software functions, the simulation models play a decisive role.



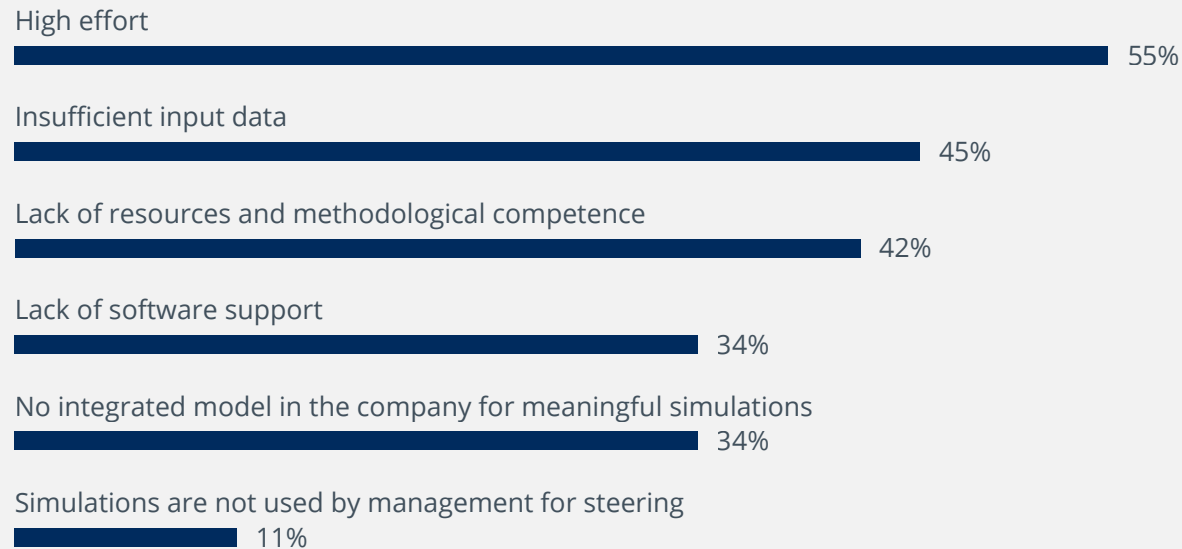
*High-performance and efficient simulations and scenario analyses only work with specialist software support*



## 04 Simulations are the basis for the well-founded analysis and evaluation of action alternatives



### Expressive simulations require integrated models and a sound database



What are your greatest challenges in the field of simulation and scenario analysis? (n=234)

The fact that simulations are not yet part of the standard repertoire for many companies, given the high added value they offer in decision-making, is not least due to the significant challenges they

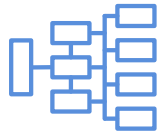
face. The **high effort** required to create and analyze scenarios and to maintain the necessary simulation models poses problems for 55 percent of companies, and for laggards the figure is as high

as 73 percent. The amount of effort required is determined by many parameters and must therefore be addressed from different perspectives.

If companies **lack adequate software support** (34 percent), many activities have to be carried out manually. Here, laggards (45 percent) have a significantly higher level of pressure compared to leading companies (24 percent).

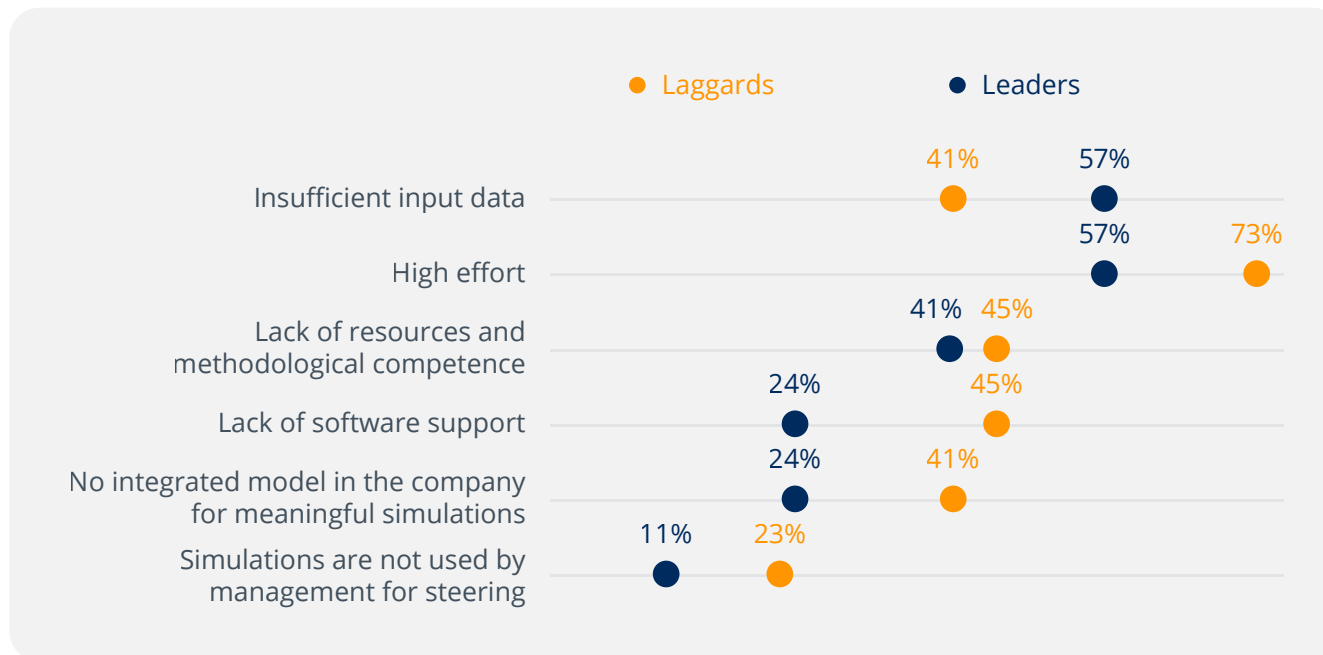
The situation is similar when it comes to companies' **lack of integrated models** (34 percent), which shows that specialist software is needed to create meaningful and comprehensive planning and simulation models. If these models are missing, in the case of comprehensive simulations, results must be transferred manually between individual sub-plans – an often tedious, time-consuming and above all error-prone task.

## 04 Simulations are the basis for the well-founded analysis and evaluation of action alternatives



### Expressive simulations require integrated models and a sound database

Finally, many companies **lack resources** and the corresponding **methodological competence** (42 percent). This point is cited as the biggest hurdle to getting started at all, especially for companies that do not yet use simulations. However, since simulations are an important method to keep up with the increasing dynamics of volatile markets, it is precisely these companies that need to invest and provide resources in order keep up with the competition in the medium term.

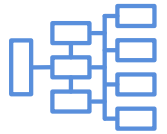


What are your greatest challenges in the field of simulation and scenario analysis? (n=59), by best-in-class

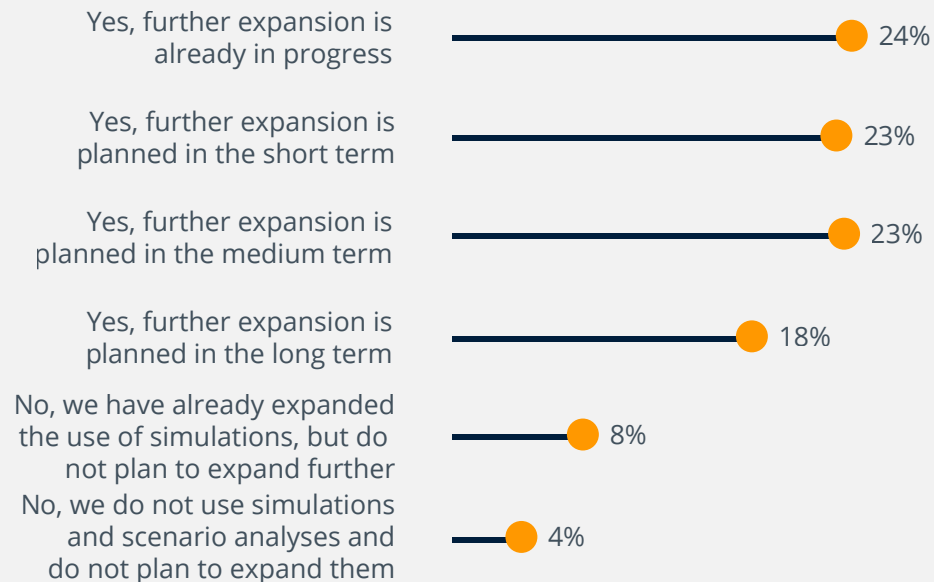
Many companies lack the **required data** for comprehensive simulations (45 percent). Missing or invalid data significantly reduces the informative value of simulations. Where relevant data is

available but cannot be used for simulations, it must first be integrated and processed at great effort.

## 04 Simulations are the basis for the well-founded analysis and evaluation of action alternatives



### Simulations and scenario analyses are an important investment area



Do you plan to further expand the use of simulations and scenario analyses in your company in the future? (n=218)

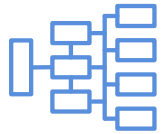
Despite all the hurdles and challenges, many companies feel **the pressure of increasing dynamics** and want to use scenario analyses and simulations more intensively. In 24 percent of

the companies surveyed, **further expansion is already underway**. At 30 percent, the proportion of large companies is significantly higher, which may well be due to the longer implementation

times they require compared to smaller companies. Only 8 percent **have already expanded the use of simulations** and are currently not planning any further investment.

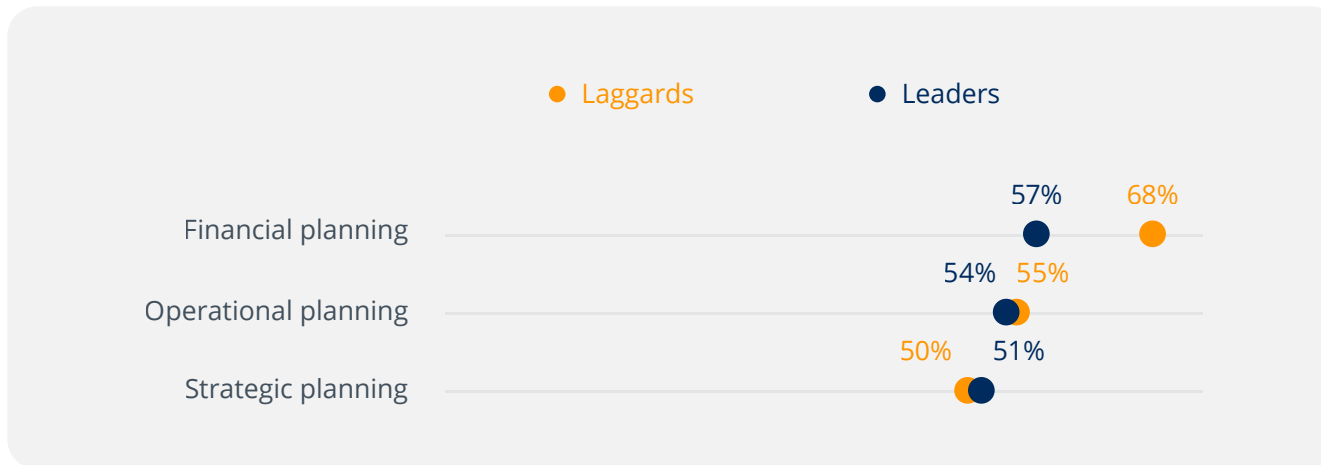
64 percent – and thus the majority of the companies surveyed – **plan to make more extensive use of simulations in the future**. This clearly makes simulations and scenario analyses one of the most important areas of investment for improving corporate planning and forecasting in the coming years.

# 04 Simulations are the basis for the well-founded analysis and evaluation of action alternatives

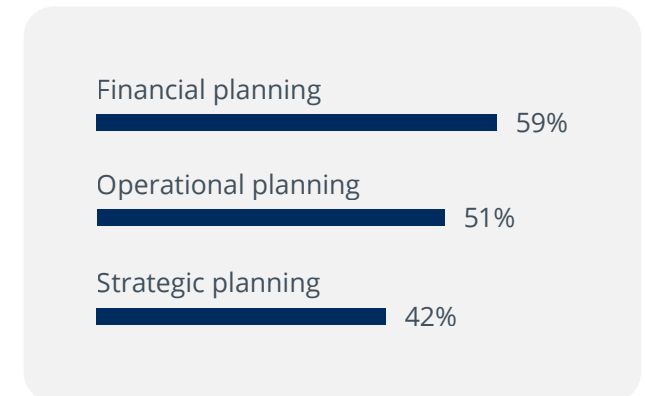


## Simulations and scenario analyses are an important investment area

massively and will certainly continue to rise in the future. Simulations and scenario analyses are therefore becoming increasingly important for holistic corporate management.



In which areas do you use simulations and scenario analyses? (n=59), by best-in-class



In welchen Bereichen nutzen Sie Simulationen und Szenarioanalysen? (n=234)

The use of simulations today is strongly focused on **financial planning**, which is not surprising, since this dominates the planning activities of many organizations. 59 percent of the companies surveyed support their balance sheet, P&L and cash flow planning through the analysis of various scenarios. In the areas of **operational planning** (51 percent) and **strategic planning** (42 percent), the degree of utilization is currently lower so the

potential for further expansion exists. Especially in strategic planning, sophisticated simulations can make a major value contribution. However, due to the many different dependencies and the long time period under consideration, sound support in this area is particularly difficult to realize.

The results of this study show that the **dynamics of the market and competition have increased**



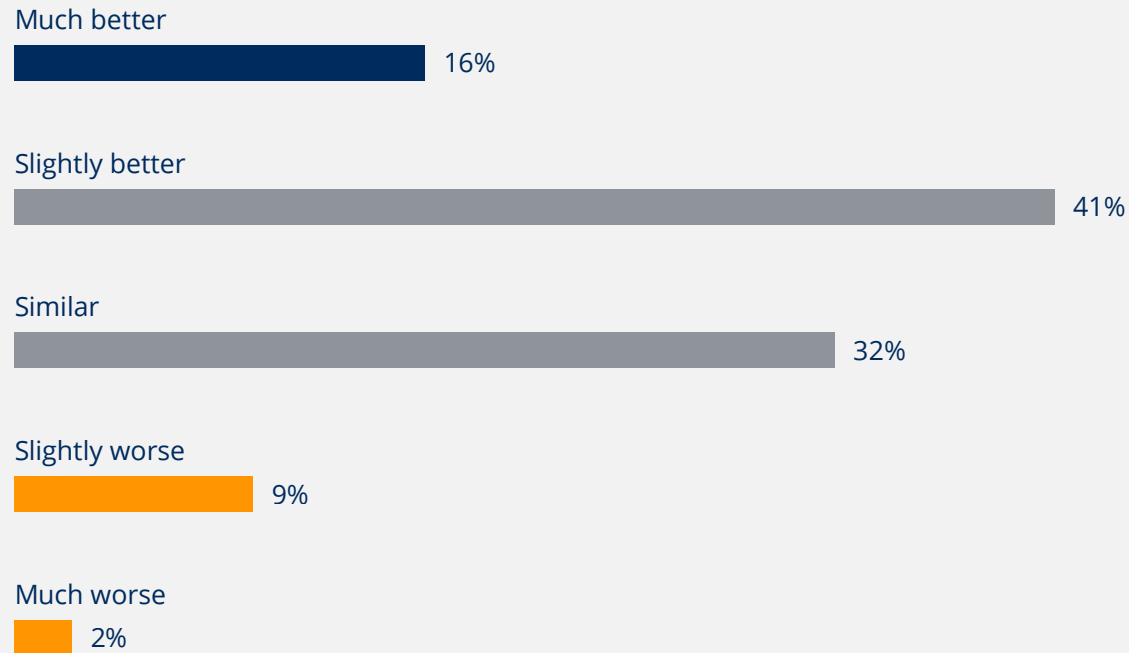
*2/3 of companies plan to further expand the use of simulations and scenario analyses*



# Leader vs. Laggards



We have divided the sample into “leading companies” and “laggard companies” in order to analyze differences in dealing with market dynamics. This differentiation was based on the question “How would you assess the ability of your company to cope with dynamics and change compared to your competitors?”. Companies that stated that they were much better at dealing with change than their competitors are referred to as “leaders” (16 percent), while those that stated that they were somewhat or much worse at dealing with change than their competitors are classified as “laggards” (11 percent).



How would you assess the ability of your company to cope with dynamics and change compared to your competitors?  
(n=269)

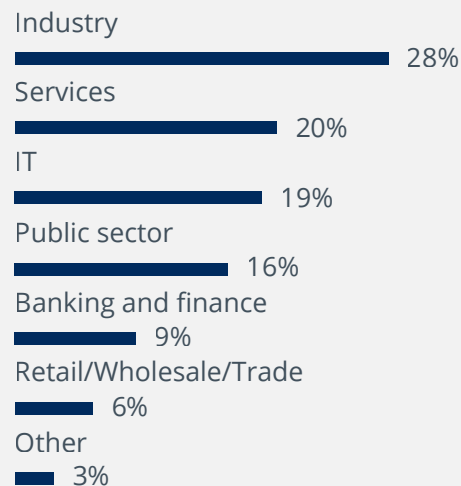
# Demographics



## BROAD SPECTRUM OF INDUSTRIES AND COMPANY SIZES

This study was conducted as a worldwide online survey from May to June 2020. The survey was promoted within the BARC panel, via websites and newsletter distribution lists. A total of 275 people took part, representing a variety of different roles,

### INDUSTRY SECTOR

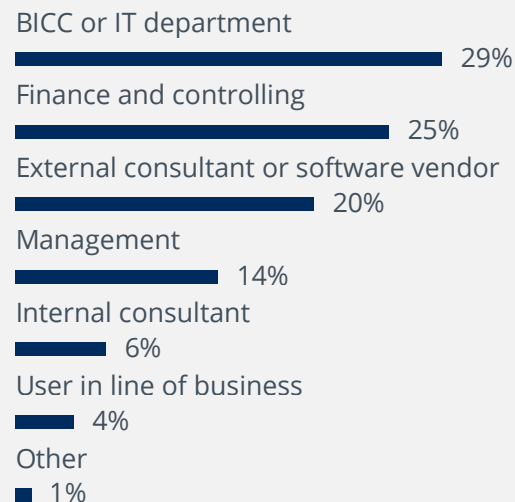


Which of the following best describes your organization's industry sector? (n=275)

industries and company sizes.

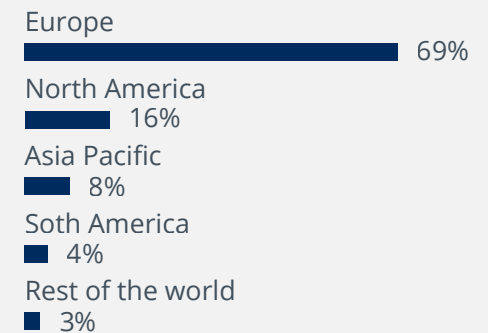
Due to rounding, totals may not add up precisely. The selection of the answer option "I don't know" is taken into account in the sample size stated below each chart. However, for reasons of clarity, these answers are hidden in the majority of the charts.

### ROLE



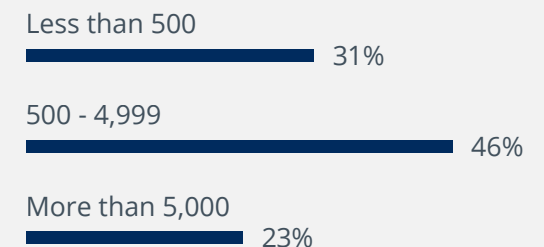
What is your role in the company with regard to corporate planning? (n=275)

### REGION



In which region are you located? (n=275)

### COMPANY SIZE



How many employees does your company have? (n=275)

# BARC – Making Digital Leaders

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