# Predictive Planning and Forecasting on the Rise – Hype or Reality?

## TOPICAL SURVEY

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

# Contents

# Preface: Serviceware

**Why AI-powered predictive planning matters**

When crisis mode becomes the norm, traditional methods and technologies are no longer enough. Companies must renew the shaping of the future in the form of planning and forecasting more frequently and in even shorter cycles. Fewer resources are available for this at the management level and in the specialist departments.

Controlling, with its coordinating function, already has a variety of additional tasks. Quality, accuracy and speed in planning play the main business-critical role, especially in uncertain times.

Artificial Intelligence (AI) and Machine Learning (ML), used correctly, have the potential to bridge the gap between greatly increased planning needs and reduced resource availability. In the process, recurring routine tasks are automated with the help of AI and ML, so that the controlling team can focus on more important tasks and analyses.

However, many controlling departments are still hesitant about the use of artificial intelligence and machine learning - the advantages are too vague, and the costs are estimated to be too high. The advantages of AI/ML-powered predictive planning are obvious.

With the Serviceware Performance AI module, you can:

- Use, adapt, extend, update with new data and train a model once it has been created
- Achieve optimal results with powerful ML models
- Predict different matrices faster, more accurately, and plan more easily
- Make data-driven decisions based on highly accurate and self-learning predictions
- Increase the efficiency of the whole team and free up space for important tasks and analysis
- Avoid human biases of judgment and instead rely on reliable, data-driven AI

This BARC study examines the nature and current level of use of predictive planning and forecasting and addresses the following key questions:

- Where do companies stand in the application of Predictive Planning and Forecasting? What
- developments are visible compared to previous years?
- What are the current challenges? Where do companies fail in the implementation?
- What benefits do companies expect or have achieved?
- For which use cases could Predictive Planning and Forecasting be successfully implemented?

We are pleased to support this impressive study and wish you interesting insights as well as helpful impulses
for your corporate planning.

# Preface: BARC

The use of predictive algorithms and machine learning (ML) in corporate planning, known as predictive planning and forecasting, has been an important development in finance and controlling over recent years. Its aims are to improve planning and forecasting and to increase automation in order to reduce the workload of planners.

While software vendors are massively expanding their functionality in this area, utilization in user companies is only increasing slowly. But why is that?

This BARC study examines the nature and current level of use of predictive planning and forecasting and draws comparisons with the results of past BARC studies.

Core aspects of the study include the investigation of:

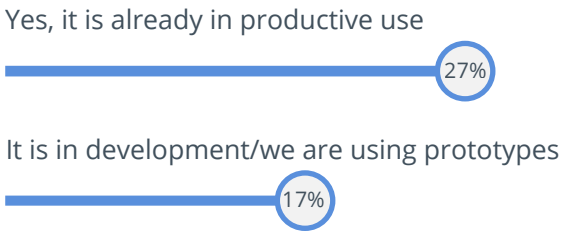
- Potential
- Achieved and planned benefits
- Use cases
- Specific challenges and opportunities of predictive models in planning and forecasting

Does predictive planning and forecasting take corporate planning to the next level in practice and provide the benefits that companies expect? Are the enthusiastic promises of vendors exaggerated? How widely is predictive planning actually used?

Dr. Christian Fuchs and Robert Tischler
Würzburg, September 2022

# Management summary

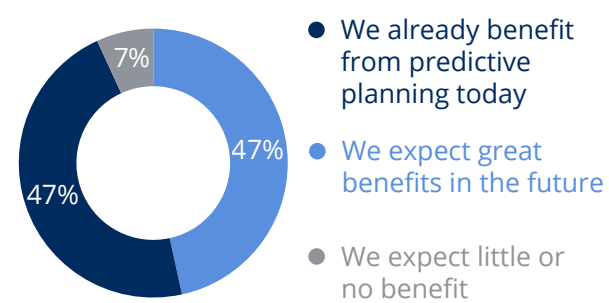
Who hasn't experienced this: A new round of corporate planning means a lot of stress, overtime and repeated, tiring discussions about its relevance. Companies are therefore looking for ways to produce their plans and forecasts in less time, with less effort and with better results, because in a volatile market environment characterized by crises, there can no longer be "business as usual", even in corporate planning. For many organizations, modern technology around machine learning (ML) and the cloud, as well as its growing ease of use, offer a great opportunity for optimization. In the context of corporate planning, predictive planning and forecasting, it is therefore a major trend to use predictive models based on statistical methods and ML for forecasting and thorough analysis. Predictive planning can deliver substantial benefits, especially in accelerating the building of forecasts, simulations and scenarios as well as underpinning decisions in dynamic markets with little effort.




Do you already use predictive planning? (n=271)

## 01 The proportion of "doers" is increasing, so it's time to get on board

More and more organizations are using predictive planning and forecasting to exploit the potential of ML and predictive technologies in corporate planning. One of the major challenges here is to quickly generate and update meaningful plans with little effort. This also increasingly applies to forecasts and simulations. The survey results show that 27 percent of companies are already using predictive planning productively, and 35 percent of large companies are using it at least to some extent. By comparison, only 4 percent indicated that they supported corporate planning with predictive planning in a BARC study back in 2020.




How would you rate the benefits of predictive planning for your company? (n=73)

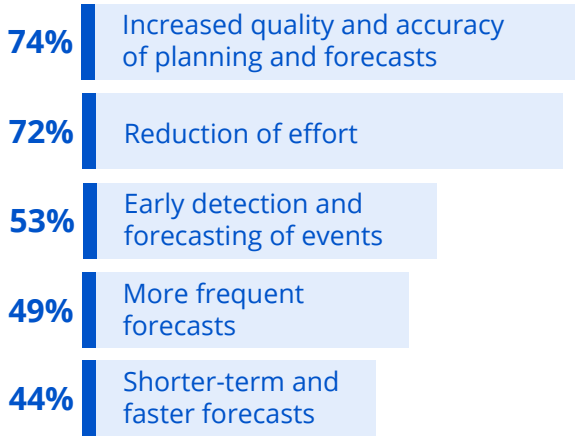
## 02 Almost all who do it benefit from it

Of the companies that are using predictive planning, almost half are already achieving measurable benefits, and just as many expect their investments to lead to significant improvements soon. Among them, there are hardly any companies that do not expect any benefits. Nearly every organization that adopts predictive planning is likely to profit from it. This is a powerful argument to convince decision-makers to use it.

# Management summary

## 03 Concerted measures help more than individual actions

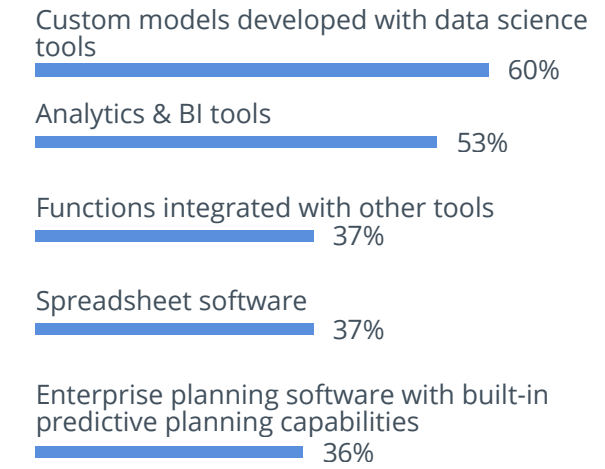
While most companies achieve improvements through investing in predictive planning, those that adopt it as part of a broader transformation are more successful. Well aligned actions deliver more benefits than isolated measures alone. For the majority of organizations surveyed, initiatives to deploy predictive planning are part of a broader business transformation. The data clearly shows that more benefits are achieved when initiatives are embedded in a broader business or finance realignment, as this often encourages synergies and allows more resources to be leveraged.




What benefits have you achieved by using predictive planning? (n=67)

## 04 Individual models in data science and analytics tools are favored

As the study results show, predictive planning and forecasting is most frequently implemented with data science tools (60 percent overall and 72 percent in larger companies). These tools are suitable for implementing a wide range of use cases that are highly individualized and sophisticated. The fact that companies do not shy away from the effort involved shows the high expectations of the potential for accelerating and optimizing planning and forecasting. Specialized planning solutions, which form the backbone of corporate planning in many organizations, are rarely used for predictive planning. Many of these tools either do not provide the functions required or their often preconfigured functionality does not offer the flexibility needed for the demanding tasks in question.




Which tools do you use for predictive planning? (n=73)

# Management summary


What do you use predictive planning for? vs. What do you want to use predictive planning for? (n=73, n=124)

## 05 Partial automation of forecasts is the most common use case

Most of the companies leveraging predictive planning today are deploying partially automated forecasts. These accelerate the creation of forecasts and relieve planners of repetitive tasks without taking away their responsibility. Machine forecasts extrapolate target figures on the basis of historical data and drivers but offer the possibility of manual revision and adjustments. Employees remain responsible for the figures but can incorporate important modifications into automatically generated forecasts. The fact that 70 percent of the companies surveyed believe this application still has a lot of potential is reflected in their desire to expand it further in the future.

# Action items

Based on the results of the survey and our consulting experience, BARC has formulated the following recommendations to help you align forecasting and planning with predictive planning to current and future requirements:

**Identify promising use cases – beneficial pilot projects are the key to successful deployment**
Use cases that are easy to implement and promise great benefits make perfect pilot project material. Evaluate the benefits for your company and use them to market the projects internally to inspire your project sponsors. Clearly defined use cases and formulated goals help to quantify the benefits and to tackle further use cases with the knowledge gained. Be aware, however, that using predictive planning is not a no-brainer: failure is still possible. Accept this and don't let it discourage you.

**Think beyond traditional financial and results planning – there is often great potential lying dormant, especially in operational areas**
Enhancing financial planning is often the main direction of predictive planning. But promising use cases can also be found in operational sub-plans. Data treasures can also be found in areas such as sales, production and personnel with sufficient historic data to be suitable for machine forecasts. Predictive planning can be particularly helpful when lots of planners are involved and existing processes are very time-consuming and resource-intensive. It is therefore worth considering options to make improvements beyond the core finance area.

# Action items

**Start with your available data and its quality. Which use cases can be implemented from it? Which important key figures can you forecast from it?**

A rational assessment of the possibilities, starting from existing baseline data, is essential to set adequate expectations. The potential of predictive planning is great, but the hopes associated with it are often even greater. This makes it even more important to evaluate its potential objectively. Think from the basis – the available data – to the result and not just the other way around. This avoids disappointment and frustration.

**Make sure your management supports you – predictive planning initiatives only succeed with the necessary resources and appropriate support in place**

Successful and directed initiatives require sound management support. Convince managers of the potential of the approach. Managers need to approve and commit resources, but also understand the benefits and limitations of predictive models. Above all, decision-makers are the ones who sponsor projects but in the end they must trust the results of machine forecasts so that they can be used for the benefit of the company. Trustworthy decisions can only be made if the information they are based on is reliable and its origin is transparent and understood.

**Bring together sufficient and competent resources – support from external resources can massively accelerate your predictive planning project**

Extensive know-how, mastery and skilled resources are the key to targeted predictive planning initiatives. Successful projects require cross-departmental collaboration between business (domain), process and IT experts to find a suitable solution for complex use cases. Invest sufficient time and resources (internal and external) to drive and accelerate your initiatives. Training your employees is of particular importance if you want to be successful with predictive planning in the long term. The use of external resources can accelerate projects to realize powerful solutions faster.

# Action items



**Evaluate the right technology support for your requirements**

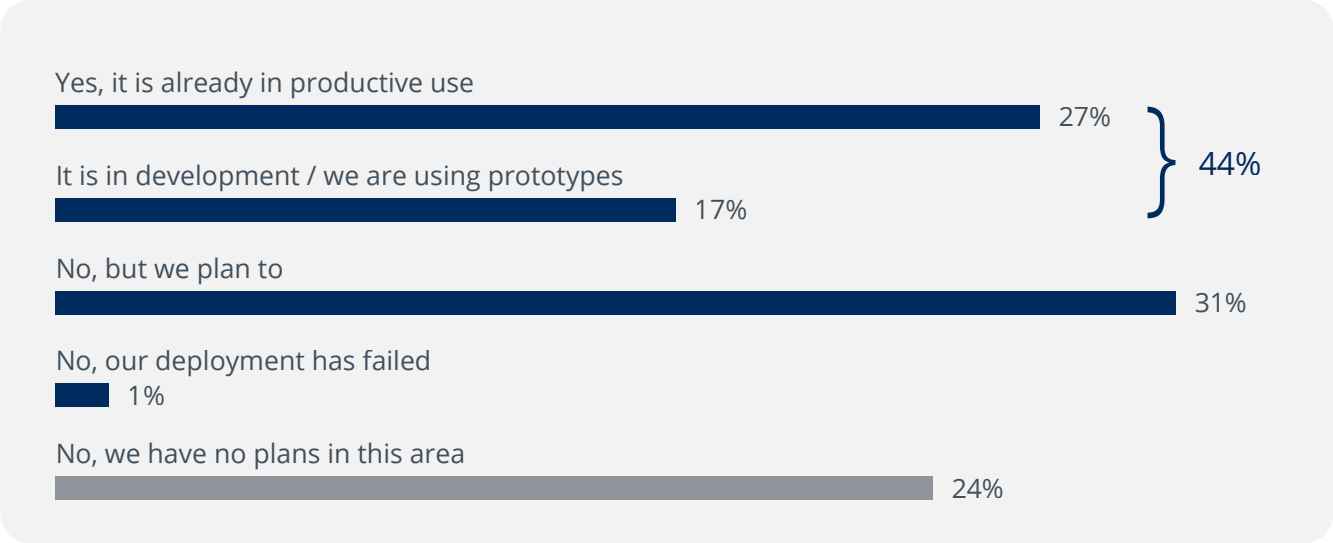
A technological foundation and architecture that meets your requirements is crucial to providing sound support for your most demanding use cases. Check and decide carefully which tool type best covers your requirements. For example, is flexibility or ease of use more important? When selecting software, compare several tools of the type that suits you best. Pay particular attention to how they can be integrated into your existing system landscape and the likelihood of achieving initial successes quickly.

**Many companies are already using and benefiting from predictive planning – don't waste time, jump on the bandwagon!**

The results of this BARC study should encourage you to further promote the use of predictive planning and forecasting in your company. The approach is not a theory disconnected from practice but has already been successfully adopted by numerous organizations. Of the companies that use predictive planning, almost half have already achieved measurable benefits and just as many expect substantial benefits in the future. This fact should be incentive enough to evaluate predictive planning for your own company now.

# 01 Reality - Predictive planning and forecasting on the rise

## One in four companies already uses predictive algorithms and machine learning productively




Do you already use predictive planning? (n=271)

The use of machine learning (ML) and predictive technologies has been a trend in almost all areas of the IT market for some time – from better series suggestions on Netflix to optimized images on smartphones. More and more organizations want to use this potential in corporate planning as well.

The study shows that more than one in four of the companies surveyed is already using predictive planning productively (27 percent). Among leaders (see page 26), every other company is already using predictive planning, which is a significantly higher rate than among laggards (16 percent). 13 percent are planning further expansion and 22 percent of large companies want to further expand their applications. In addition to greater resources, they also have more potential for improvement in a wide range of use cases. 31 percent plan to deploy it in the future, a significant increase from previous BARC studies. In 2020, only 4 percent were productive users and 15 percent were implementing. This combined figure has now more than doubled to 44 percent.

However, predictive planning does not enjoy the same importance in all companies. Just under one in four (24 percent) currently have no concrete plans to use it. European companies are much more reluctant in this respect than those on other continents. Successful implementations are more likely to be found in North America than in Europe. As the study results show, the reasons for not using predictive planning are manifold.

It is interesting to note that only 1 percent of implementations has failed. Considering the many challenges, this is a very low figure. Quite obviously, the use of predictive planning is successful and beneficial in almost all cases: an argument for using the approach yourself once you have identified the appropriate use cases.

# Definition: Predictive planning and forecasting

But what is predictive planning and forecasting anyway? How can it help to improve plans, forecasts and simulations as well as their analysis?

Predictive planning refers to the use of analytical models based on statistical methods and machine learning for forecasts and analyses in corporate planning.

It encompasses not only the (partially) automated creation of projections, but also better support for analyses and data preparation.

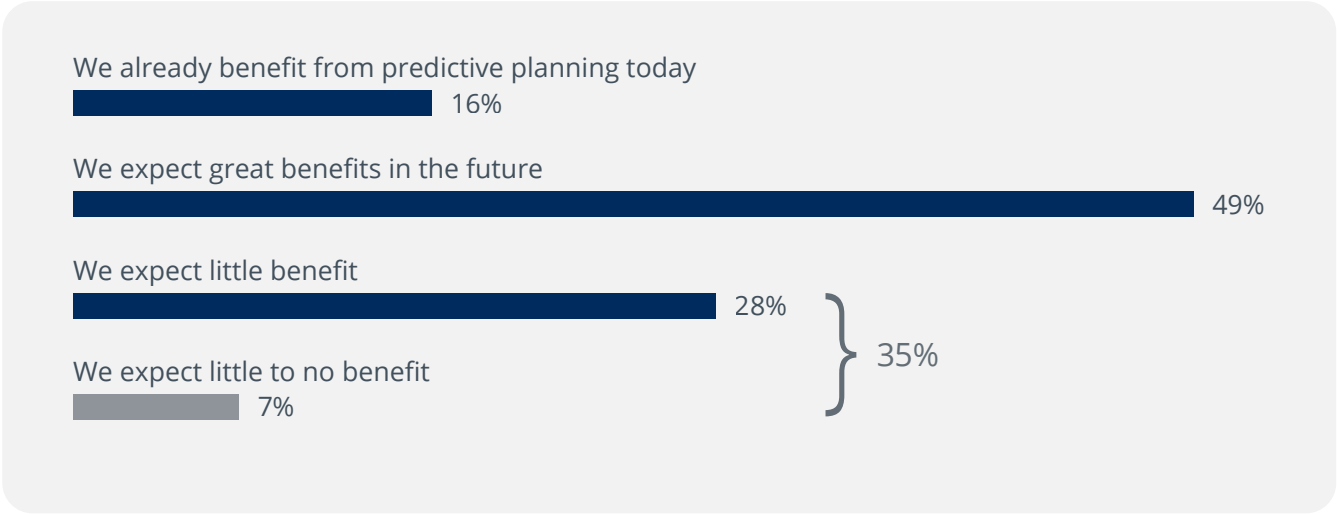
The aim is to increase efficiency through greater automation and thus also accelerate the provision of information for corporate management.

**With predictive planning, you can:**

- **Generate projections** for fully or partially automated forecasts, default values as well as ranges (e.g., for checking plan data with or without consideration of additional influenc -ing factors)
- **Perform simulations** and calculate relevant scenarios with different assumptions combined with drivers and compare results
- **Improve analytics** with in-depth capabilities to find influencers, clusters and outliers (e.g., supported by automated insights and augmented analytics)
- **Improve data preparation** with smart features for cleansing, transforming, modeling and improving data quality

# 01 Reality - Predictive planning and forecasting on the rise

## Two in three companies achieve or expect substantial benefits from predictive planning




How would you rate the benefits of predictive planning for your company? (n=249)

Benefits from predictive planning have already been achieved by 16 percent of the organizations surveyed. Among leaders, this figure is as high as 38 percent. 49 percent of companies expects to benefit greatly in the future. The vast majority of these are currently implementing or already have concrete plans. In these organizations, there are numerous promising use cases that are believed to have potential for improvement through predictive planning.

Of the companies that use predictive planning, just under half (47 percent) are already achieving measurable benefits and the same proportion expect strong improvements from their investments. Among them, hardly any do not expect to profit in any form. Almost every organization that deals with predictive planning gains advantages from it. This is a strong argument to convince decision-makers to take action sooner rather than later.

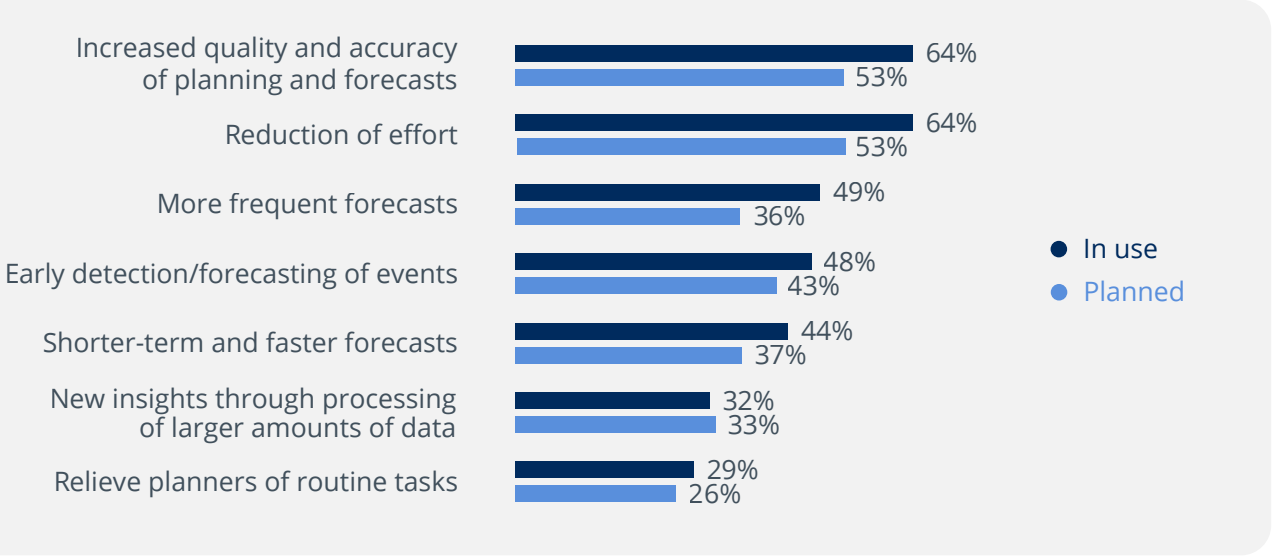
The study results also show that the use of predictive planning is at an early stage in many companies. Expected improvements have not yet materialized for many or are not yet measurable. The areas in which concrete progress is being made are analyzed in detail below.

35 percent expect minor benefits at most. These are largely the companies that have not yet taken any steps towards implementation. In these organizations, there is often a lack of clarity about the potential and associated risks are overestimated. A small minority of 7 percent expect that predictive planning cannot deliver notable improvements for their company. It is true that there are several hurdles to overcome before successful deployment and that substantial advantages are not guaranteed. Key challenges include a lack of suitable use cases and relevant data of sufficient granularity, scope and quality. It is also essential that the distinct aspect of the business in question can be predicted at all based on historical data (and thus by algorithms).

# 01 Reality - Predictive planning and forecasting on the rise

## Predictive planning improves quality, reduces the workload of planners and accelerates processes

The companies surveyed expect improvements in many areas through predictive planning. A comparison of planned and actual benefits shows that the figures are often close. This demonstrates that companies have largely realistic assumptions about the potential of predictive planning and that the desired and actual benefits therefore coincide. A solid understanding of its opportunities and limitations has become established in many companies, which is essential for successful deployment.




What benefits have you achieved by using predictive planning? vs. What benefits do you want to achieve by using predictive planning? (n=73, n=129)

The most common benefits are higher quality and accuracy of planning and forecasting and a reduction in effort (both achieved by 64 percent and planned by 53 percent). Large organizations, where effort is typically very high, want to improve and accelerate their planning processes. Predictive planning helps 69 percent of large organizations reduce planning effort, clearly demonstrating its power. Many organizations are benefiting from better planning results and a reduction in workload for planners to free up time for important analyses and simulations.

While most companies achieve improvements through investing in predictive planning, those that adopt predictive planning as part of a broader transformation are more successful. Concerted actions deliver more benefits than isolated measures. For the majority, initiatives to deploy predictive planning are part of a broader business transformation. Usually, more benefits are achieved when they are embedded in a broader transformation initiative and thus gain greater attention and resources.

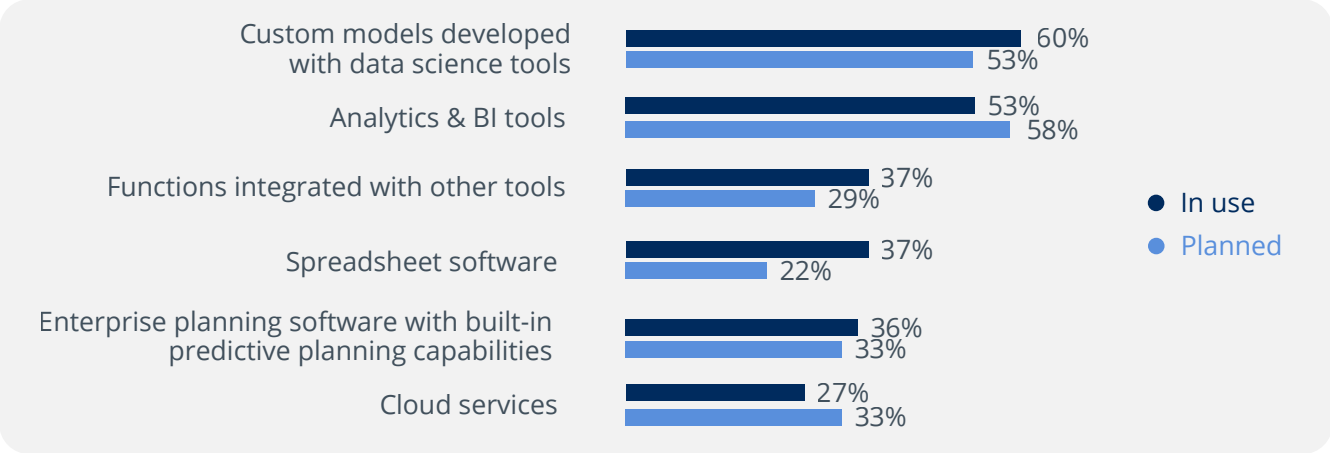
# 02 Wide-ranging applications for predictive planning and forecasting in practice

## Individual models in data science and analytics tools are favored

Today, the majority of companies – especially large organizations – use custom models for predictive planning (60 percent) that were developed with data science tools (e.g., Python, R, Jupyter). This approach enables companies to choose from a huge number of algorithms with the option to tweak them extensively, resulting in a model that is fit for purpose. But it also requires the availability of highly skilled resources to develop these customized models (e.g., data scientists). The latter are rarely available, especially in small and medium-sized companies, which is why these companies usually use other tools. Leaders in particular want to continue to leverage individual models in the future.

Analytics and BI tools also play an important role in predictive planning. In many companies, they deliver the most important figures and data to end users. As such, they also offer access to precisely the data that is relevant for forecasts and projections. In addition, the leading tools in this category have easy-to-use algorithms and good options to connect to custom models. A major challenge in the use of the integrated functions is often that, although forecasted values are easily displayed, they cannot be easily reused in many tools.

Specialized planning solutions, which form the backbone of corporate planning in many organizations, are rarely used for predictive planning. This suggests that many of these tools either do not provide the functions required or that their often preconfigured functions do not grant the flexibility needed. The traceability of results is a key factor in the acceptance and use of predictive planning. Intransparent ("black box") models cause mistrust and lead to forecasts being doubted. Even if created at great expense, this can result in them not being used. Custom developed models offer some advantages here over the algorithms and functions available in specialized planning tools. Many planning vendors therefore offer options to integrate predictive models from other tools or programmed models in R or Python into their own processes.




Which tools do you use for predictive planning? vs. Which tools do you want to use for predictive planning? (n=73, n=125)

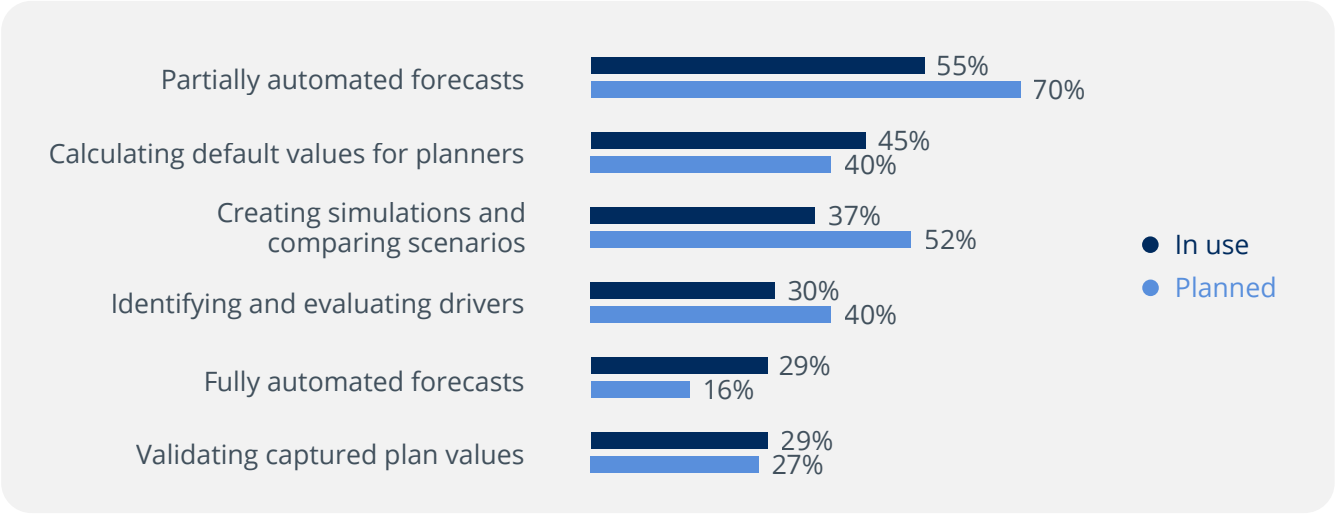
# 02 Wide-ranging applications for predictive planning and forecasting in practice

## Partially automated forecasts are the main area of application for predictive planning

The main areas of application for predictive planning are partially automated forecasts (forecasts with the option of manual adjustment or for specific areas of plans), default values for planners, the creation of simulations as well as their comparison, and the identification and evaluation of drivers (relationships, correlation, influence on target variables).

In the future, many companies expect that it will be more important to rely on up-to-date forecasts instead of elaborate budgeting. Accordingly, the relevance of fast forecasts and automated projections is increasing, especially in dynamic markets. Forecasts need to be prepared quickly and updated continuously when key conditions change. This cannot be achieved without proper automation options and the support of machine forecasts that extrapolate target figures based on historical data and drivers. For this reason, it is logical that predictive planning should be used precisely for that purpose. However, complete automation of forecasts is only realistic for a few. The numerous, unpredictable crisis situations of the recent past have convinced many that even the best algorithm can only forecast things that have been learned from the past. The ability to manually revise forecasts and default values is essential for this. Planners are thus supported, but their responsibility is not taken away.

In addition to the increased relevance of up-to-date forecasts, increasing market dynamics and the resulting uncertainty have massively increased the usefulness of simulations and scenario analyses for corporate management. Many organizations are therefore investing in extending their use. Simulations make it possible to prepare for future developments and to identify opportunities and risks. Comparing scenarios helps to evaluate the impact of changes and measures. It therefore makes sense to aim to expand the use of predictive planning for these tasks (52 percent) to reduce manual effort.




What do you use predictive planning for? vs. What do you want to use predictive planning for? (n=73, n=124)

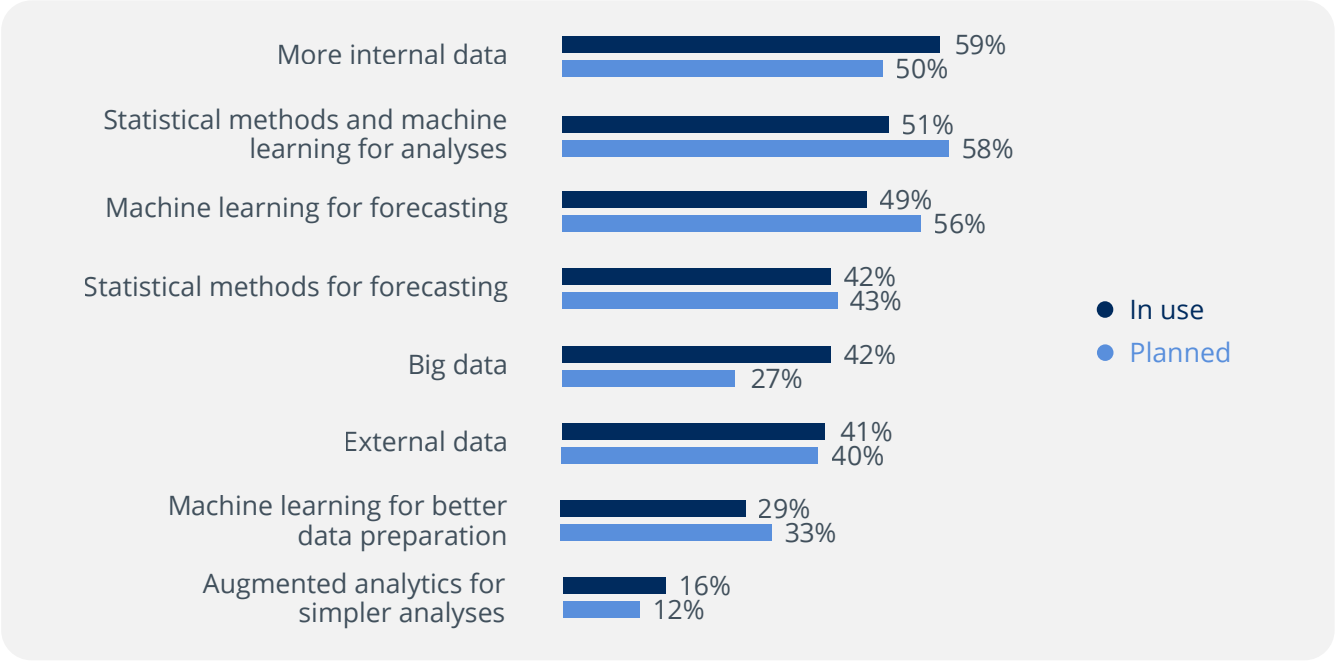
# 02 Wide-ranging applications for predictive planning and forecasting in practice

## Successful predictive planning requires relevant data and powerful methods

Algorithms generate projections based on historic data but they cannot generate new ideas. This fact is clear to many companies but often ignored. It is therefore vitally important that algorithms are fed and trained with the right data. Great effort is devoted to combining, merging and preparing the basic data. Good forecasts require more than just financial data. Companies often have relevant data on key drivers but making this usable for predictive planning is a key concern for 59 percent of those surveyed. Smaller companies in particular want to improve in this area and are looking to make greater use of internal data in the future.

In addition to internal data, external or unstructured mass data (big data) also contains important signals and information. Identifying, evaluating and using this is key to helping many companies increase the quality of their forecasts.

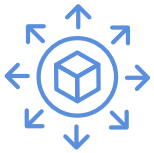
To prepare this data for analyses and analytical models, a range of data preparation functions are required. Machine learning can also help here to accelerate and improve data preparation. Like augmented analytics – with functions such as natural language query (NLQ) and automated insights – data preparation in the context of predictive planning does not have the same relevance as in analytics and BI.




Which methods and data do you use for predictive planning? vs. Which methods and data do you want to use for predictive planning? (n=73, n=117)

Large companies want to make more use of machine learning for predictive planning in the future. This desire arises on the one hand from the possibilities offered by today's popular data science tools but also from the need to use larger and heterogeneous data volumes productively.

# 02 Wide-ranging applications for predictive planning and forecasting in practice



## Predictive planning generates added value in diverse use cases

Participating companies were asked which use case for predictive planning was particularly successful. The most interesting examples are listed below:

### Finance and controlling

- Automated P&L forecasts at division and group level
- Creation of a 5-year financial plan with various scenarios
- Pre-assignment of P&L planning with write-over function, dependencies between certain positions
- Cash flow forecast
- Monthly automatic year end forecast. Whole P&L incl. drivers (e.g., sales volumes).
- Planning of future projects incl. financial planning for the success of projects

### Sales and marketing

- Sales and revenue forecasts
- GIS-based consumer market trend forecasts
- Forecasting of customer churn, cloud revenue and new customers
- Phone campaign planning

### Production and logistics

- Predicting the timing of a breakdown or downtime in a production facility
- Improving MRP preplanning
- Forecasting inventory levels and item requirements based on planned production orders
- Pricing models based on shipping costs in the logistics industry to stay ahead of seasonal fluctuations and cost spikes

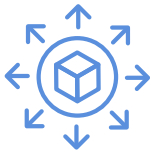
### Personnel and resources

- Distribution to predict staffing levels in the warehouse
- Predicting the impact of organic growth on specific budget areas (e.g., full-time positions, IT spending)
- Strategically planning the recruitment, hiring, training and deployment of personnel
- Salaries and headcount
- Forecasting employee attrition

### Industry-specific

- Anticipated revenue for research grants
- Prediction of premiums, losses, loss ratio
- Predictive model for fraud
- Prediction of energy supply (load/consumption, power generation, capacity, etc.)
- Prediction of insurance rate pricing
- Prioritization of educational disciplines to achieve greatest impact and value for university
- Student enrollment

# 02 Wide-ranging applications for predictive planning and forecasting in practice



## Planned use cases for predictive planning target automation and better results

The following selected use cases for predictive planning are prioritized for implementation by some of the companies surveyed:

### Finance and controlling

- Forecast group sales and EBIT until the end of the year
- Cash flow forecast
- Partially automated liquidity planning using cash-relevant data based on historical data
- Cost forecast, OPEX forecast
- Profit forecast
- Semi-automated P&L forecast update using historical data, current year data and expected results

### Sales and marketing

- Sales forecast
- (Semi-)automated forecast and budget creation in the sales area
- Establishment of an S&OP / S&OE process with integrated demand and supply forecasting
- Forecasts of the expected development of sales and expenses
- Sales forecast for setting targets for individual sales managers
- Proposed values for sales planning as a base line
- Market analyses and demand planning

### Production and logistics

- Capacity planning for production level and product mix
- Quantity forecast
- Forecast of failures
- For warehouse management

### Personnel and resources

- Forecasting the volume of work over time to determine support needs at different times of the year
- Planning of human resources

### Industry-specific

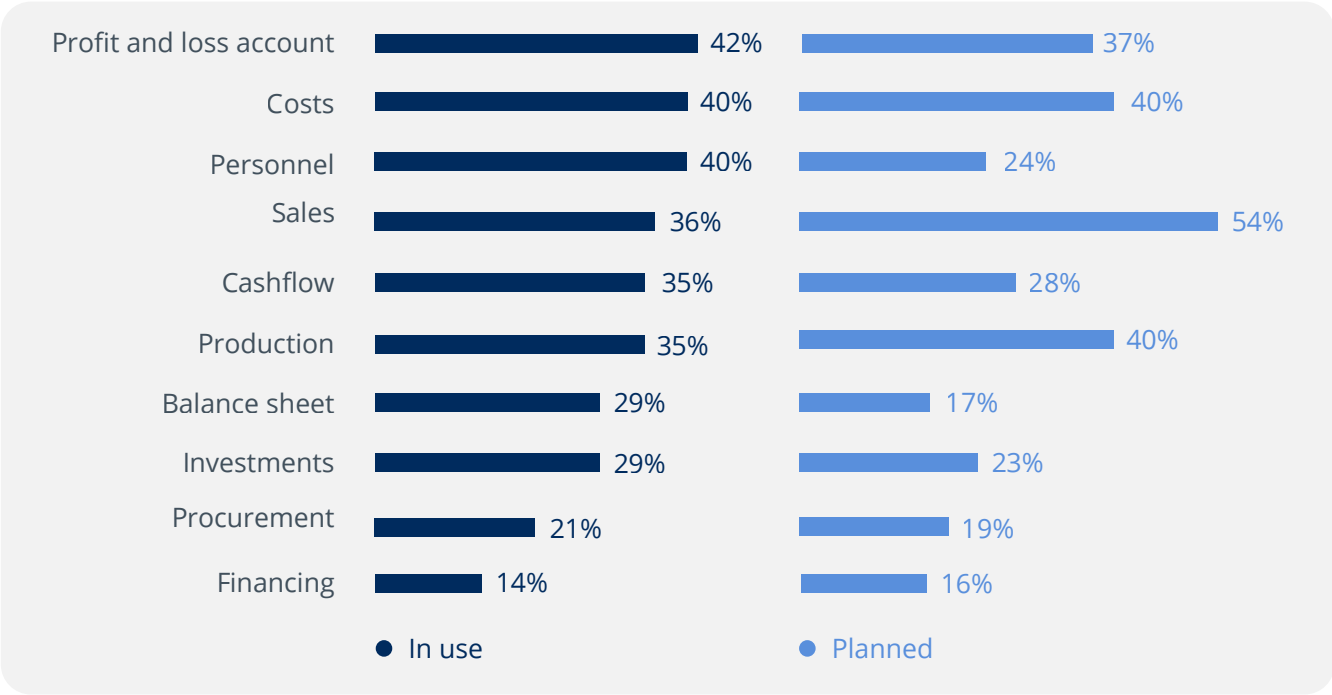
- Forecasting for retail stores (openings and closings)
- Driver-based planning based on historical data
- For the preparation of economic and multi-year planning

# 02 Wide-ranging applications for predictive planning and forecasting in practice

## Predictive planning for P&L, cost and personnel planning are the most common use cases

Predictive planning is most frequently used for planning and forecasting items of the profit and loss statement (P&L), in the context of cost planning (OPEX, cost centers) and personnel planning. Some examples show the variety of individual use cases:

- Planning of P&L items at customer and product level for forecasting revenues and reconciliation with investments
- Monthly P&L forecast for the entire business area with calculation of EBIT to replace the manual forecasting process
- Strategic planning of recruitment, hiring, training and deployment of staff. Forecasting employee churn.




In which sub-plans do you use predictive planning? vs. In which sub-plans do you want to use predictive planning? (n=72, n=126)

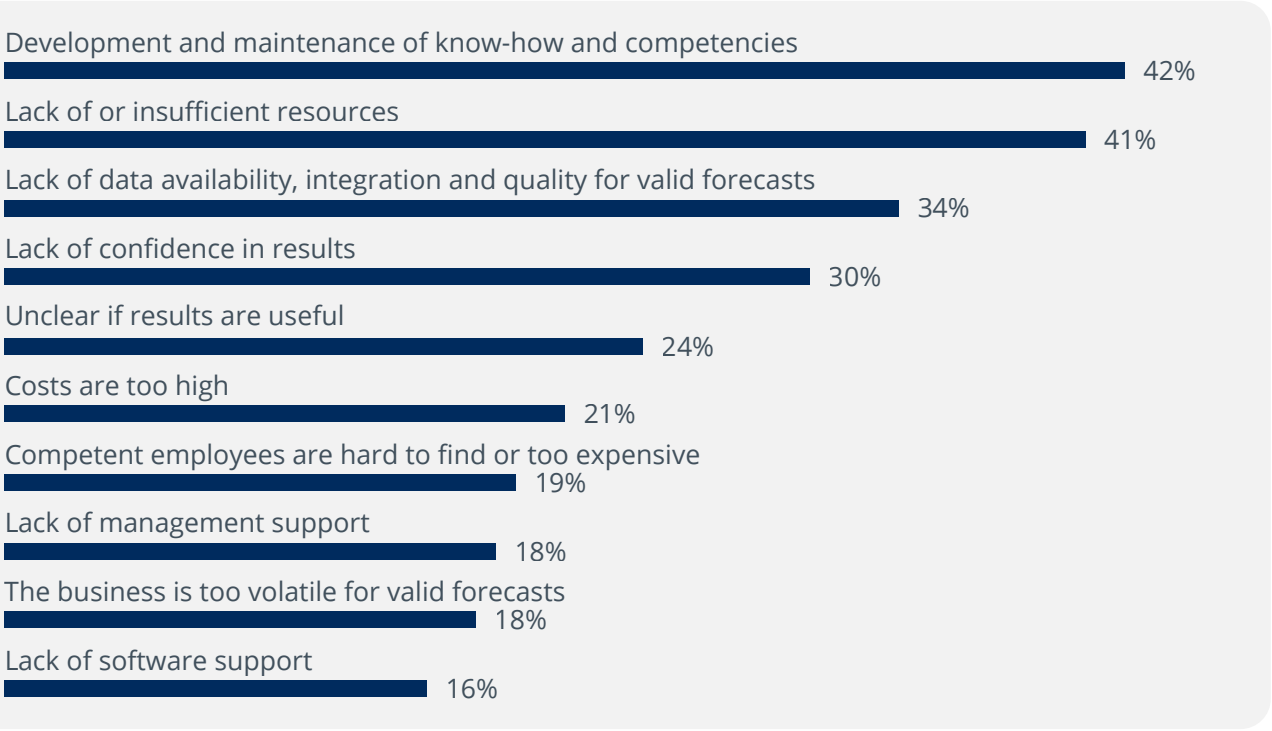
The majority of companies that want to use predictive planning in the future would like to employ it for sales planning (54 percent). Predictive planning can help to detect drivers and correlations efficiently, even in large amounts of data that remain hidden from other methods of analysis. This information can be used, for example, to optimize marketing measures or calculate forecasts incorporating a variety of factors and details. This allows quantities or revenues to be forecasted at a very detailed level, but still with reasonable effort.

Other planned areas of application are cost planning (40 percent) and production planning (e.g., capacity) (40 percent).

# 03 Predictive planning and forecasting yields great benefits once the hurdles are overcome

## Slow build-up of know-how and lack of resources continue to arrest wider use

BARC studies have shown for years that the development and maintenance of know-how and competencies for predictive planning, as well as a lack of resources, are major hurdles to successful deployment. The problem is therefore not so much the technology but above all a lack of skilled resources. If we look at the challenges from different points of view, we see that they are complex and vary greatly:

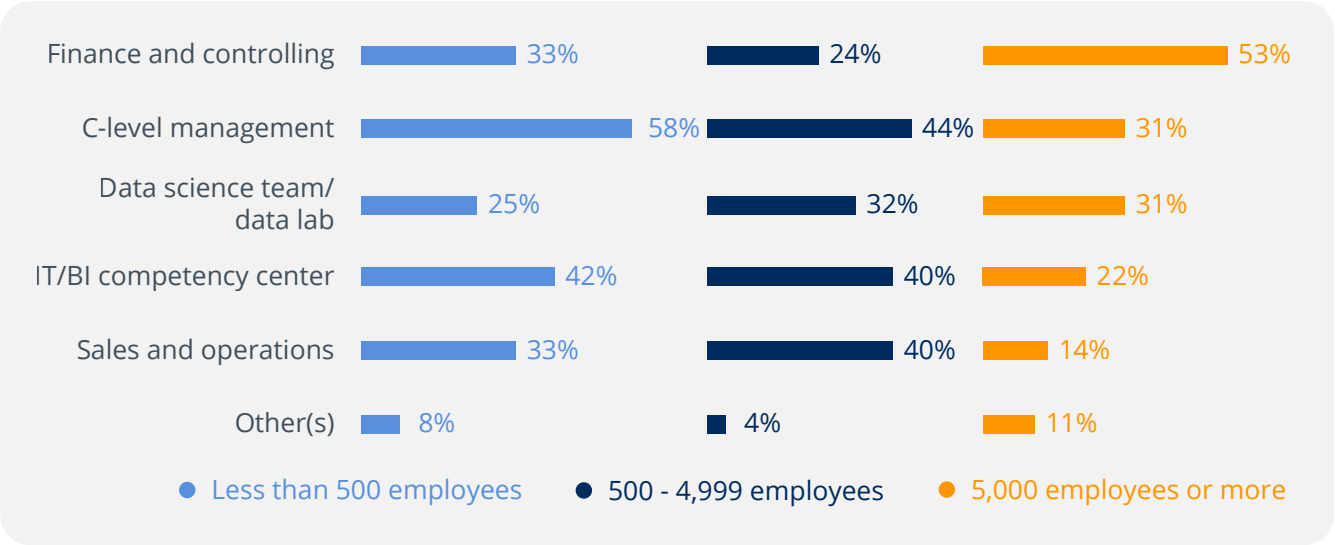



What are the biggest challenges in the use of predictive planning in your company? (n=265)

- Ensuring the continuous improvement of know-how presents difficulties for many leaders. In addition, they often struggle with data availability, data quality and regulatory restrictions on data use. They are also more likely than laggards to realize that their own business is too volatile for valid forecasts.
- In the case of laggards, a lack of resources is the main factor curbing adoption, not least due to a lack of support from management and a lack of trust in the results. This leads to uncertainty as to whether predictive planning is useful at all. Promoting predictive planning as part of a larger transformation initiative can help overcome a lack of management attention.
- Smaller and medium-sized companies often lack proper technology support or are incapable of pushing ahead with predictive planning and forecasting because the costs are too high. Large organizations, on the other hand, are primarily concerned with the shortage of skilled workers. New employees with the necessary skills are hard to find and often expensive.

# 03 Predictive planning and forecasting yields great benefits once the hurdles are overcome

## C-level management and finance and controlling are primarily driving the use of predictive planning




Who is the driving force behind the use of predictive planning in your company? By company size (n=73)

For the majority of organizations surveyed (59 percent), initiatives to use predictive planning are part of a broader finance or business transformation. To a large extent, this is especially true of leading organizations. The data clearly shows that companies derive more benefits from predictive planning when they embed it in a comprehensive business or financial realignment.

The main goals of modernizing finance and controlling processes are to accelerate the supply of information, make greater use of internal and external data, and automate them to a greater extent. Predictive planning pays off for all these goals, supports planners and is therefore an important building block in the future of corporate planning for many organizations.

The driving forces behind deployment are found in finance and controlling as well as C-level management (40 percent each). Significant differences can be observed when considering the size of companies. While C-level management, IT, the BI competency center (BICC) and sales & operations are the main drivers of predictive planning initiatives in small and medium-sized companies, it is clearly the finance and controlling department in larger companies. In smaller and medium-sized companies, the topic is therefore often higher on the agenda and a lack of management support is not such a common challenge. In larger companies, on the other hand, the finance and controlling department more commonly drives the use of predictive planning, perhaps because the challenges and the pressure for efficiency in corporate planning are significantly higher here.

# 03 Predictive planning and forecasting yields great benefits once the hurdles are overcome

## Leaders primarily rely on external know-how, while laggards plan to build up internal know-how

Many of the companies currently prototyping or preparing to use predictive planning want to improve their chances of success. The paths chosen vary and differ according to the size of the company.

Large companies tend to favor internal solutions such as building up the skills of their employees (59 percent) and improving data literacy (52 percent). In other words, they want to increase both data competence in their business departments and methodological competence in statistics, analytics and machine learning. They are also relying on new, specialized – and often interdisciplinary – teams to improve planning and forecasting. These companies are using their more extensive resources to fight on many fronts in parallel. They are pursuing more initiatives simultaneously to make predictive planning a success – again benefiting from embedding in larger transformations that create synergies and give access to more resources.

Compared to large organizations, small and medium-sized companies generally pursue fewer initiatives to improve their capabilities. In addition to training their employees, they focus on collaboration with external experts. In particular, the use of external resources can accelerate important and complex projects to implement solutions more quickly.

The reality is that companies find it difficult to prioritize dedicated resources alongside challenging day-to-day business and ever-changing issues (e.g., ESG) and crisis situations. As a result, the use of predictive planning for many companies progresses in very small steps – if at all.


How do you improve your organization's ability to successfully use predictive planning? (n=124)

# 03 Predictive planning and forecasting yields great benefits once the hurdles are overcome

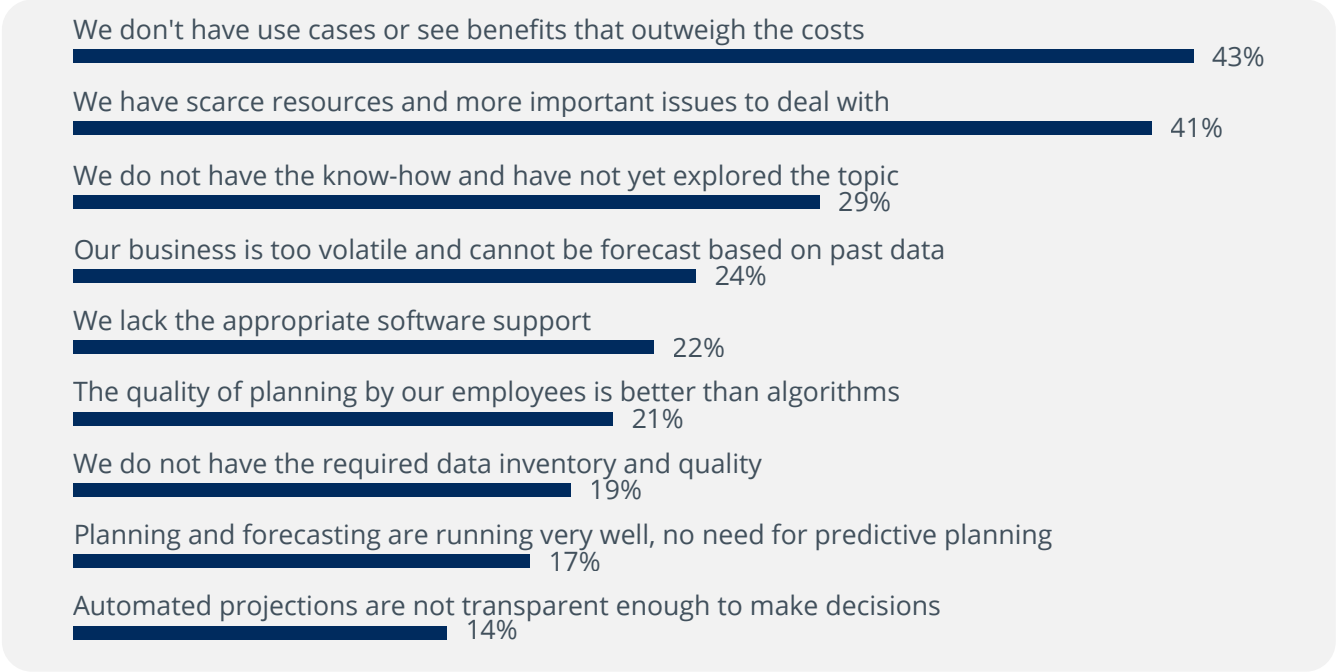
## Key success factors for the use of predictive planning

We asked companies how they had overcome their trickiest challenges ("What have you done?") or what they still needed to do to be successful with predictive planning ("What do you need to do?"). Here follows a selection of the key success factors that emerged:

| Success factors ("What did you do?") | Success factors ("What do you need to do?") |
|---|---|
| **Transparency:** Executives need to know what predictive models can achieve to understand how robust the information on which they base decisions is. | **Invest:** Invest more time and resources (internal and external) to drive and accelerate the issue. Increase budgets, train staff. |
| **Culture change:** Greater use of frequently updated forecasts as part of corporate management, instead of classic annual budgets. | **Prioritize:** Prioritize projects and resources, set clear performance targets and monitor on an ongoing basis. |
| **Data democratization:** Improve data integration, quality and accessibility for broader use across the enterprise. | **Software:** Comparison, selection and implementation of the right software type and tool for your requirements. |
| **Management support:** Focus, sponsorship and commitment at executive level to get the necessary resources and appropriate attention. | **Use case:** Describe a concrete use case, identify and value the potential benefits. |
| **Think big, start small:** Concentrate resources on a clearly defined use case. Strong collaboration between all responsible parties. Good data inventory for the model. Extend when model is proven. Learn from results. Repeat. | **Data:** Create and grow data inventory, connect external data, break down and integrate internal data silos, improve access to data. |
| **Quick wins:** Identify use cases with major impact as pilot projects and communicate benefits achieved (internal marketing). | **Model:** Build a forecast model including data inventory for a specific use case. Continuous monitoring and optimization of the models. |
| **Cross-departmental collaboration:** Better collaboration with internal (business, process and IT experts, management, etc.) and external resources (partners, consultants, universities, etc.). | **Feasibility study:** Create working prototype to communicate application capabilities and potential. Build confidence in results through transparency and expectation management. |
| **Time:** Every predictive model must be continuously monitored and optimized - continuous (re-)training and adaptation for high forecast quality. | **Benefits analysis:** Highlight the concrete benefits for managers to obtain sufficient resources for a successful implementation. |
| **Data inventory:** Incorporate more external data (e.g., to identify drivers). Do not exclusively use internal data. | **Best practices:** Seek out more information on how implementation can succeed in practice. |
| **Change of perspective:** Thinking backwards from the available data and its quality ("What is achievable?", "What data do only we have?"). | **Automation potential:** Measure current effort for manual planning activities (time, resources, costs) to assess potential for automation. |
| **Bandwidths:** Do not just use point forecasts but calculate intervals taking into account scenarios and probabilities. | **Documentation:** Better documentation and training for new employees so that they can become "productive" more quickly. |

# 03 Predictive planning and forecasting yields great benefits once the hurdles are overcome

## Lack of use cases, low potential benefit and scarce resources slow down deployment




Why do you not plan to use predictive planning? (n=63)

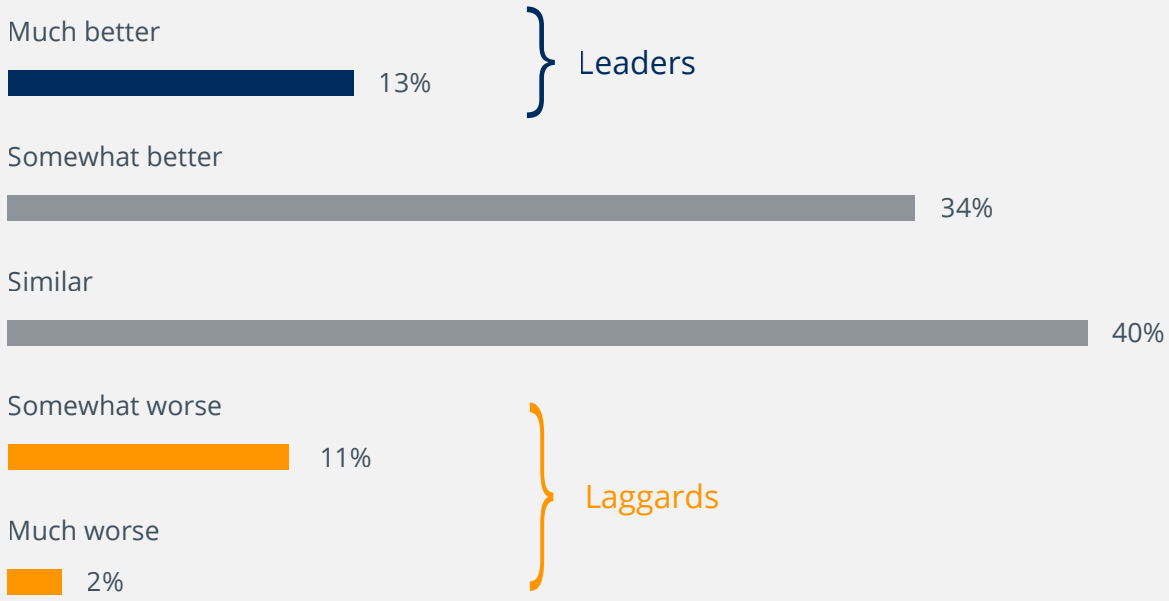
While many companies already benefit from predictive planning or are preparing to deploy it, a quarter of them have no aspirations in this direction. A lack of use cases with sufficient potential to outweigh the costs is the most common reason (43 percent) why they do not consider deploying.

Small and medium-sized companies have to contend with scarce resources and competing demands (41 percent). In addition, there are other reasons such as a lack of expertise, high volatility of the business, lack of software support and low confidence in the results that tempt organizations to use their resources elsewhere.

The benefits of predictive planning are often uncertain and depend largely on the use cases. Given the necessary investments in expertise and resources, data and modeling, as well as technology, it is understandable that some decide to exercise caution. Following the major upheaval caused by the pandemic, many finance and controlling departments are already dealing with the next crises, so resources for evaluating new planning approaches are scarce and the most skilled employees are needed to deal with the most pressing issues.

The use of predictive planning has only failed in a few companies. In particular, the investment in uncertain benefits, the lack of trust in results as a justification for important decisions, as well as the poor quality of forecasts due to an inability to map the specifics of their own business (e.g., volatile customer behavior) were cited by companies as reasons why their deployments failed. However, a positive signal is that two-thirds of those companies that failed at the first attempt want to get back on the horse and evaluate predictive planning again.

# Leaders vs. Laggards




How do you rate your company's ability to plan and forecast efficiently and profitably compared to your main competitors? (n=247)

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 do you rate your company's ability to plan and forecast efficiently and profitably compared to your main competitors?". Companies that stated that they were much better at planning and forecasting for effective business management than their competitors are referred to as "leaders" (13 percent), while those that stated that they were somewhat or much worse than their competitors are classified as "laggards" (13 percent).

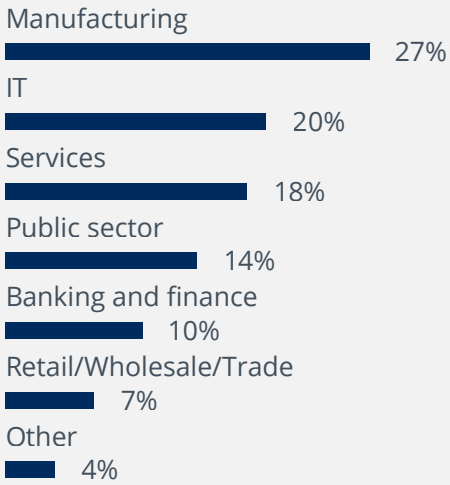
# Demographics

## Broad spectrum of industries and company sizes

This worldwide online study was conducted from May to June 2022. It was promoted within the BARC panel, via websites and to newsletter distribution lists. A total of 295 people took part, representing a variety of different roles, industries and sizes.

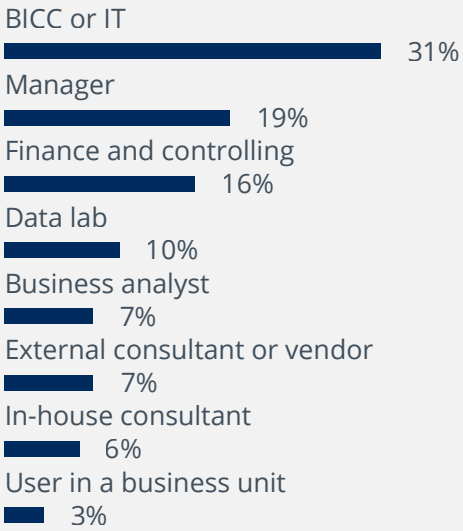
Due to rounding, totals may not add up precisely. The selection of the answer option "Don't know" is not taken into account in the sample size stated below each chart and is also hidden in the charts.

### Industry sector



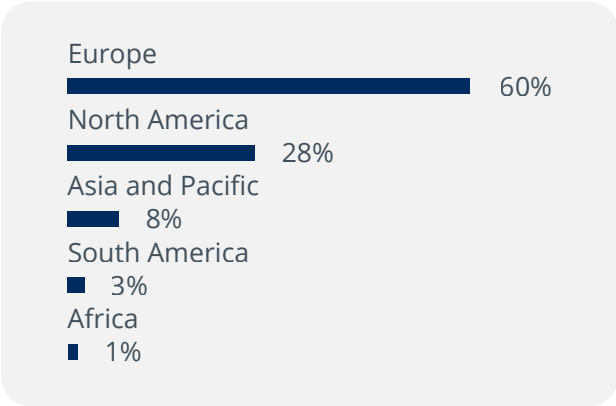

Which of the following best describes your organization's industry sector? (n=271)

### Role



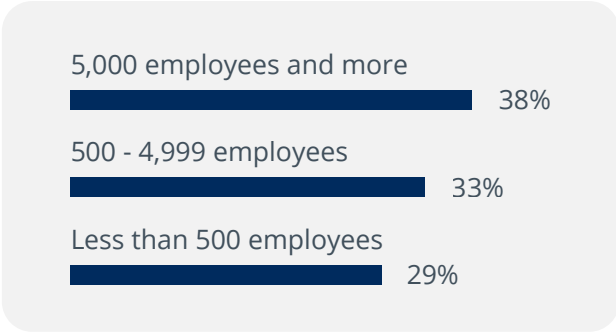

What is your role in the planning process? (n=271)

### Region




In which region are you located? (n=271)

### Company size




How many employees does your company have? (n=271)

# BARC – making digital leaders

### BARC – Business Application Research Center

BARC (Business Application Research Center) is one of Europe's leading analyst firms for business software, focusing on the areas of data, business intelligence (BI) and analytics, enterprise content management (ECM), customer relationship management (CRM) and enterprise resource planning (ERP).

Our passion is to help organizations become digital companies of tomorrow. We do this by using technology to rethink the world, trusting data-based decisions and optimizing and digitalizing processes. It's about finding the right tools and using them in a way that gives your company the best possible advantage.

This unique blend of knowledge, exchange of information and independence distinguishes our services in the areas of research, events and consulting.

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Our BARC studies are based on internal market research, software tests and analyst comments, giving you the security to make the right decisions. Our independent research brings market developments into clear focus, puts software and vendors through their paces and gives users a place to express their opinions.

**Events**

Decision-makers and IT industry leaders come together at BARC events. BARC seminars in small groups, online webinars and conferences with more than 1,000 participants annually all offer inspiration and interactivity. Through exchange with peers and an overview of current trends and market developments, you will receive new impetus to drive your business forward.

**Consulting**

In confidential expert workshops, coaching and in-house consultations, we transform the needs of your company into future-proof decisions. We provide you with successful, holistic concepts that enable you to use the right information correctly. Our project support covers all stages of the successful use of software.


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# Sponsor profile: Serviceware

### About Serviceware

Serviceware offers strategies and software solutions that help companies compete digitally with best-inclass Enterprise Service Management (ESM) - by improving service quality and efficiently managing service costs.

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Serviceware Performance is your key tool for planning, analyzing and controlling your corporate performance. This flexible platform based on a multidimensional database offers you all the possibilities of performance management. Whether you work in controlling or another department, no specialized IT or programming know-how is required to develop and maintain applications on your own. Serviceware Performance also enables you to improve the efficiency and quality of your planning and forecasting processes (predictive planning) by using automated machine learning services. AI algorithms take over the search for deviations or anomalies in the data and thus relieve the controlling department.

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Robert Tischler is managing director and senior analyst at the Business Application Research Center (BARC) Austria. His areas of specialty are analytics and business intelligence front ends and process-oriented BI applications. He supports companies in the software selection process, during the introductory phase and with reviews to optimize architecture and organization. Robert has many years of experience as a project manager of analytics and BI projects, and has hands-on expertise with many front-end BI tools, as well as in the back end. He also assists companies with designing, coaching and implementing reporting, analysis and planning solutions with a focus on self-service BI, data discovery, information design, financial planning & analysis and advanced planning.


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