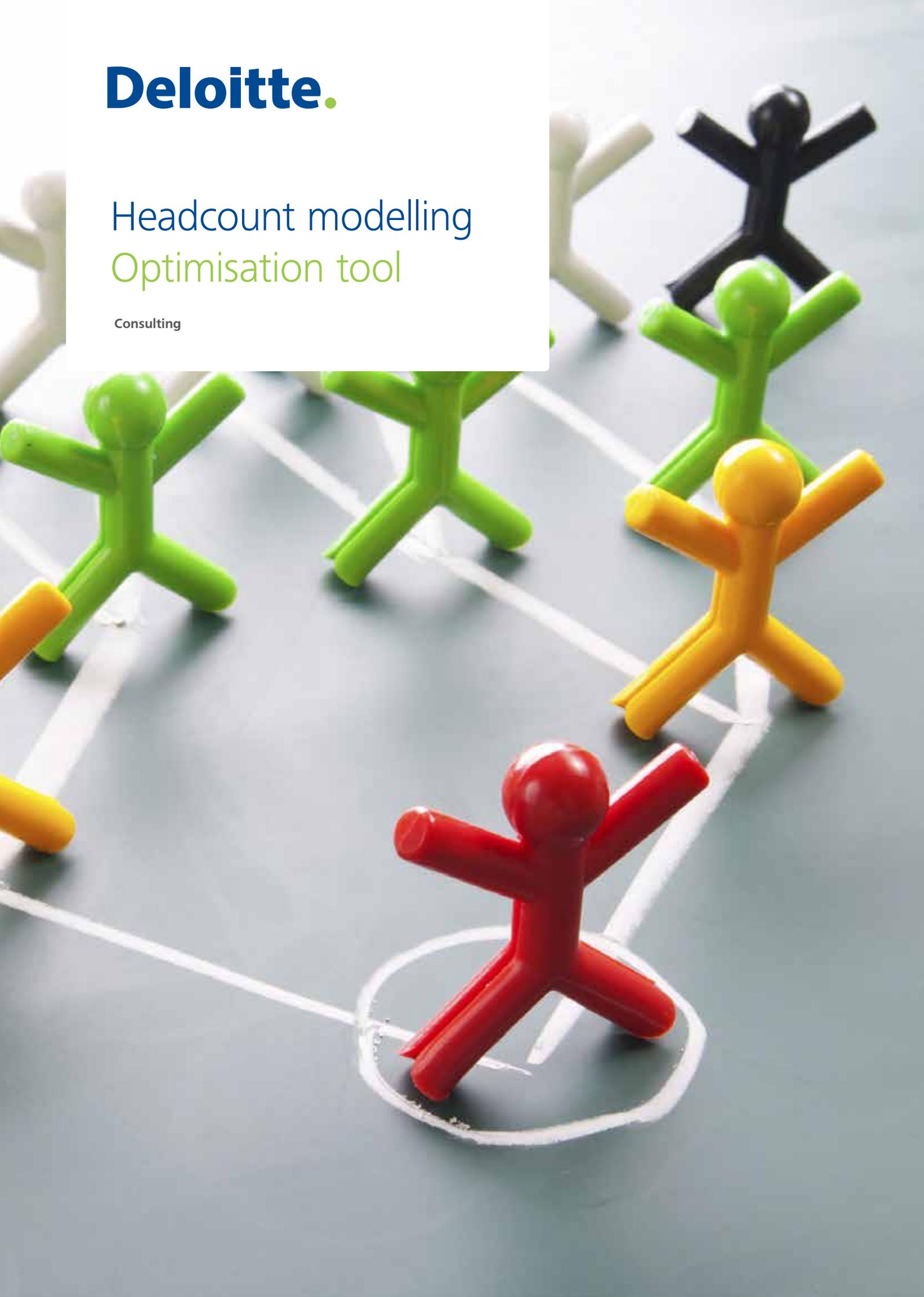


Deloitte.

Headcount modelling
Optimisation tool

Consulting



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Goals of headcount modelling

Headcount modelling is about creating a mathematical model to look at temporal changes in headcount. A headcount model informs a number of important operational and strategic tasks:



Consolidating headcount data into an integrated database



Analysing headcount at any granularity level across all data dimensions, including internal headcount benchmarking, performance indicators, production indicators, etc.



Optimising existing corporate programs such as hiring plans, personnel rotation plans, succession planning, corporate communication programs, etc.



Preparing headcount plans for each asset/subsidiary/line of business, including normal personnel inflow/outflow forecasts considering internal and external personnel supply as aligned with corporate strategic indicators



Informing other headcount forecasting and analysis

This publication covers a modelling approach, including samples of tasks that the headcount model can inform within the following analysed dimensions:

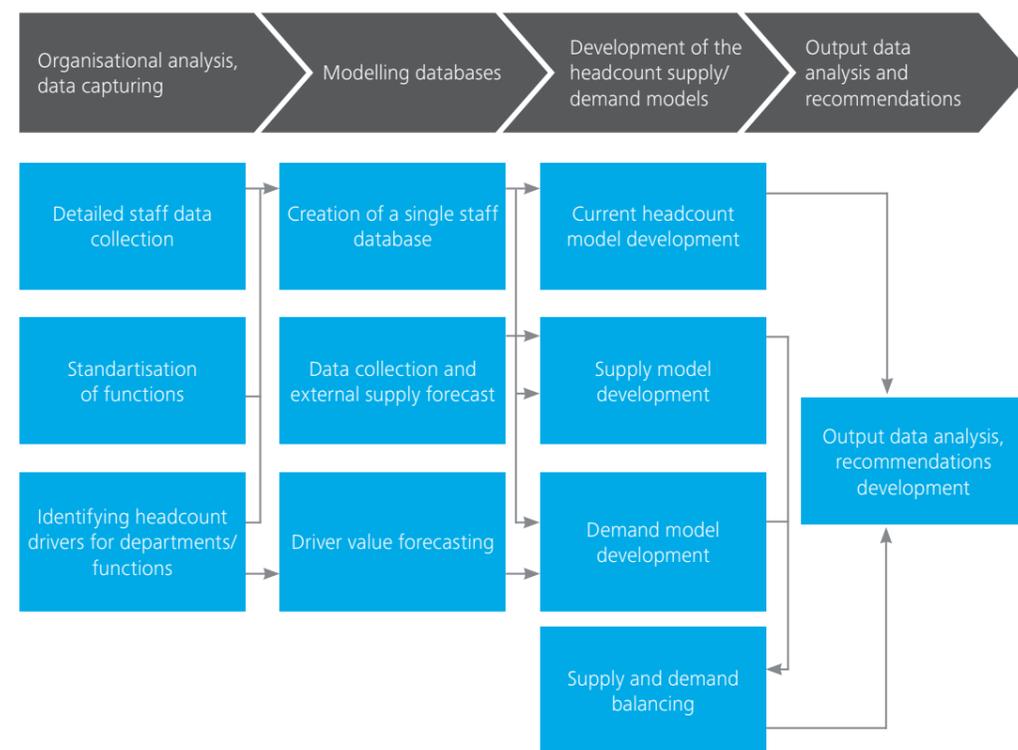
- **As-is headcount analysis**
- **Headcount demand forecasting**
- **Headcount supply forecasting**
- **Demand and supply balancing**

Each dimension features sample modelling outputs based on a certain set of parameters such as personnel turnover and average retirement age.

A headcount model can use an almost unlimited variety of user-defined parameters with a capability for online, scenario-based analysis of company development.

Modelling approach

A headcount model can include 1 to 4 dimensions with granularity ranging from a line of business to an individual employee across subsidiaries.
 A headcount model has four main development stages, with timing depending on granularity requirements and on how many dimensions and user-defined parameters there are.



We use QlikView as a modelling engine, that provides::

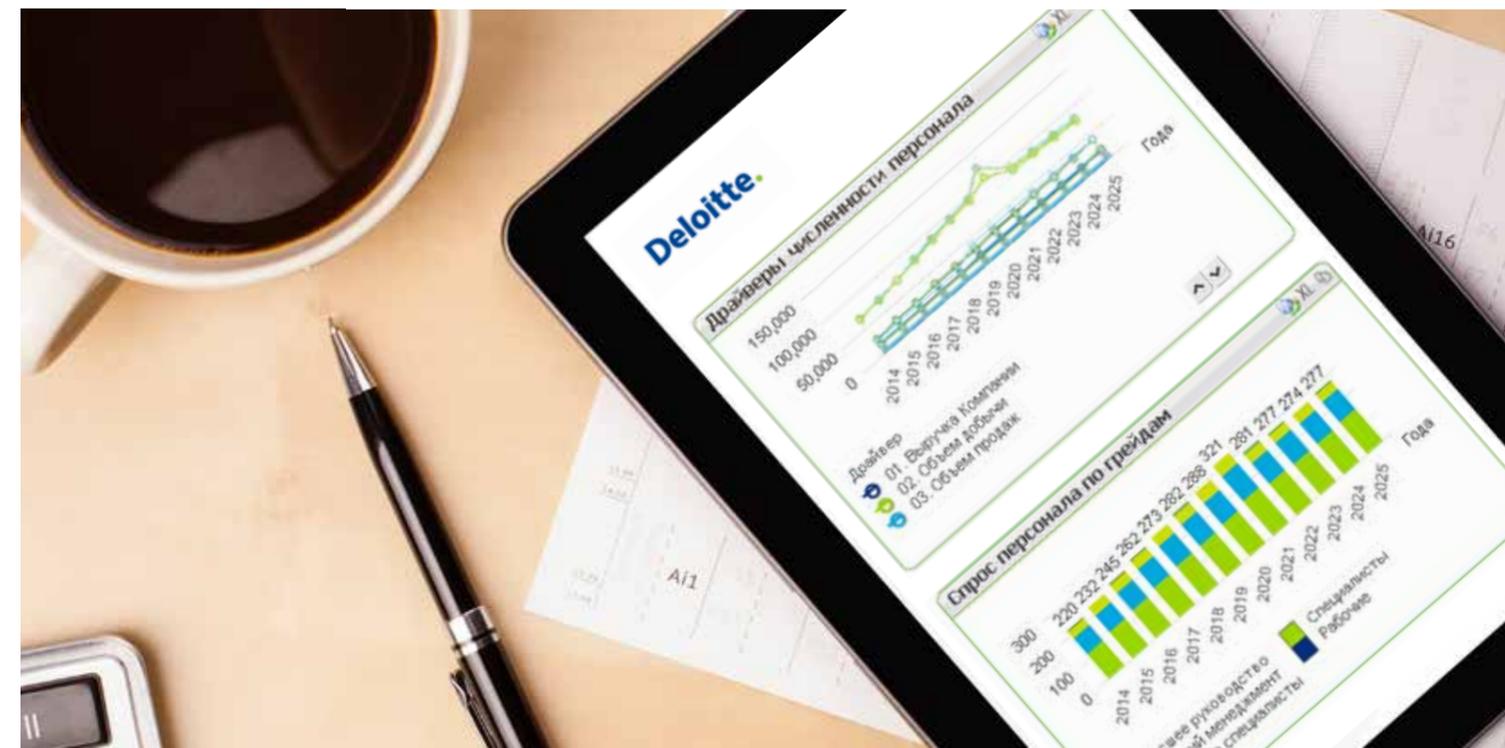
- Required computational speed by:
 - Using a relational database rather than separate tables
 - Featuring an innovative RAM-based computing process
- User-friendly interface for visualisation and data analysis:
 - Offering a fast recalculation process for plots, charts and tables when another data dimension or modelling parameter is chosen
 - Supporting data export to Excel and other systems

Each model is tailored to suit each client, depending on the needs for analytical data and computation assumptions applicable to the client.

An almost unlimited variety of user settings and model control components can be used on the model to make sure that it covers key areas and enables a forecast that is as accurate as possible. Access level to the model can be customized individually for each user.

Samples of modelling outputs

- As-is headcount analysis
- Headcount demand forecasting
- Headcount supply forecasting
- Supply and demand balancing





Samples of modelling outputs

As-is headcount analysis

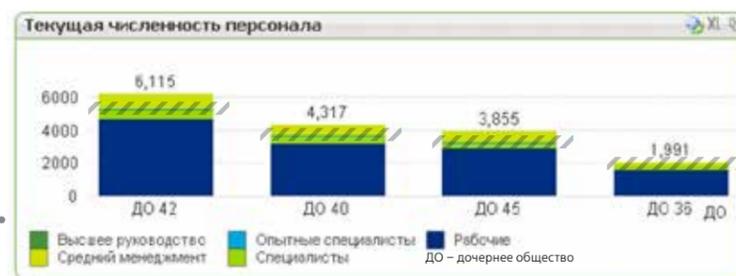
When based on a staffing table, the as-is headcount model enables the assessment of how a headcount is distributed across business units and functions.

The model answers the following key questions:

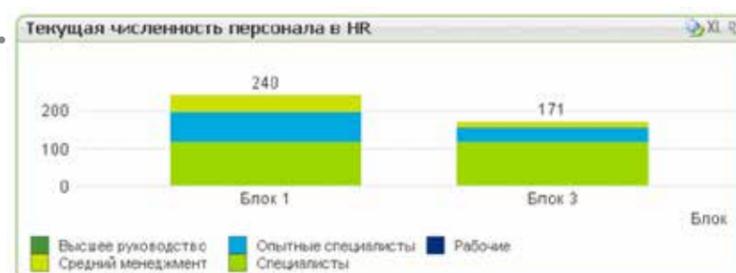
- 1 What is the existing headcount structure as analysed by function, organisational level, grade, etc.?
- 2 How the share of each type of professional compares across functions?
- 3 How the existing personnel are distributed by age?

1 The as-is analysis allows for the identification of whether there is potential understaffing or overstaffing

There is a lack of experienced professionals providing a link between lower grade professionals and mid-level management.



Although Block 1 and Block 3 have comparable headcounts, Block 1 has more HR professionals as compared to Block 3.



2 The model enables the comparison of relative headcount values

The model enables the comparison of relative headcount values in subsidiaries with similar functions. For example, percent of administrative personnel in operational subsidiaries of one business unit:

Some subsidiaries are significantly understaffed with administrative personnel.



3 Personnel demographic analysis provides outputs for adapting corporate programs and processes

There can be significant differences across functions in terms of their age structure, with a strong potential impact on selecting an optimal communication program.

It can be seen that there is a function staffed with people under 40.



However, there is also another function that is staffed with people aged mainly from 25 to 35 and 45 to 55.





Samples of modelling outputs

Headcount demand forecasting

The demand model defines the number of people a company requires over the forecast period taking into account adjustments for strategic and operational indicators, as well as drivers impacting the headcount.

The model answers the following key questions:

- 1 What is the headcount required for the entity's various strategic scenarios?
- 2 What is the headcount required based on performance?
- 3 What drivers impact the headcount demand and how?

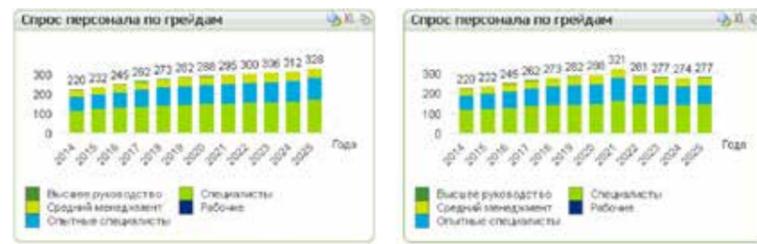
1 The demand forecast is based on adjustments for changes in strategic indicators

Development scenario selection



Headcount-impacting driver values

Demand forecasting

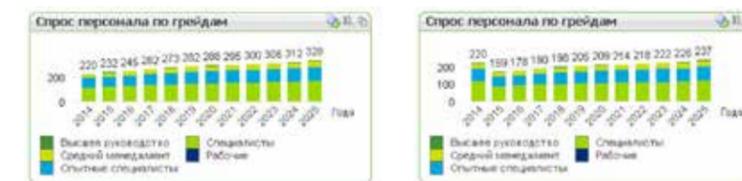


2 The demand forecast is based on target employees' performance

Target performance assessment



Demand forecasting



3 The model shows how certain factors impact demand

Key drivers that encourage an increase in headcount demand over a defined period



Key drivers that encourage a decrease in headcount demand over a defined period





Samples of modelling outputs

Headcount supply forecasting

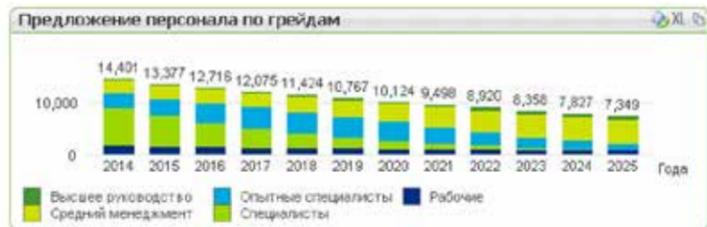
The personnel supply model enables headcount forecasts that are based on processes such as career growth, firing rates, internal transfers and retirement. This model does not deal with the hiring process.

The model answers the following key questions:

- 1 How many people of a certain qualification, field, grade, age, etc. need be recruited?
- 2 How will the change of career programs impact the entity's grade structure?
- 3 How many employees will be retiring, leaving, moving to other departments, etc. per annum?
- 4 What is the external supply from key higher education institutions, regions, countries and fields?

1 The model shows internal supply in forecast period

Internal supply by grade



Internal supply by function

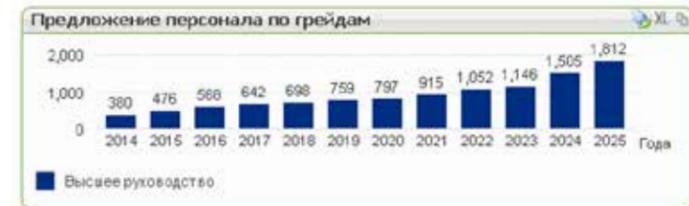


Internal supply by age

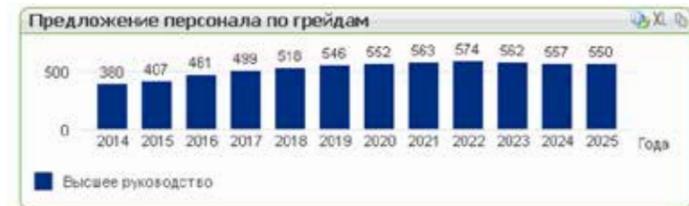


2 The model is a convenient tool for developing career programs

Fast promotions may result in a quick growth in the management headcount



An optimal career growth program will allow for the avoidance of a breach of the entity's grade structure

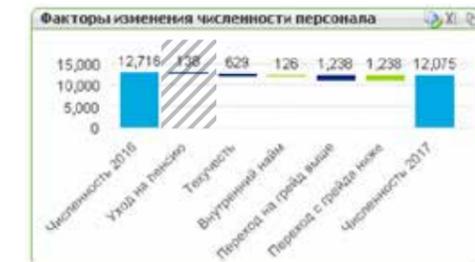


3 The model shows how certain factors impact supply

Employees retiring in a given year at the current average retirement age



Changes in retiring employee population as a result of corporate programs aimed at increasing the average retirement age



4 The model can take into account the external supply

External supply by region and higher educational institution





Samples of modelling outputs

Demand and supply balancing

Balancing combines supply and demand models and enables forecasts of additional recruitment needs, based on processes such as career growth, firing rates, internal transfers and retirement.

The model answers the following key questions:

- 1 How supply and demand compare to each other?
- 2 What number of employees should be hired each year to fulfill the company's requirements?

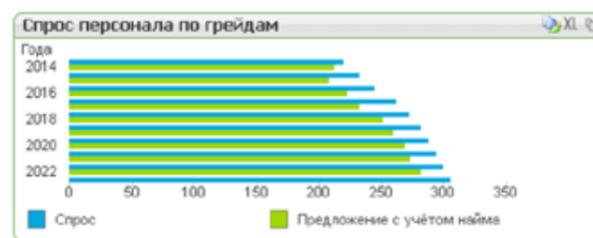
1

The output from supply and demand models is displayed on a single chart for convenience of analysis

Supply and demand models comparison excluding recruitment



Supply and demand models comparison including recruitment



2

The model incorporates both the existing employees and new hires

Existing employees to new hires in each forecast year



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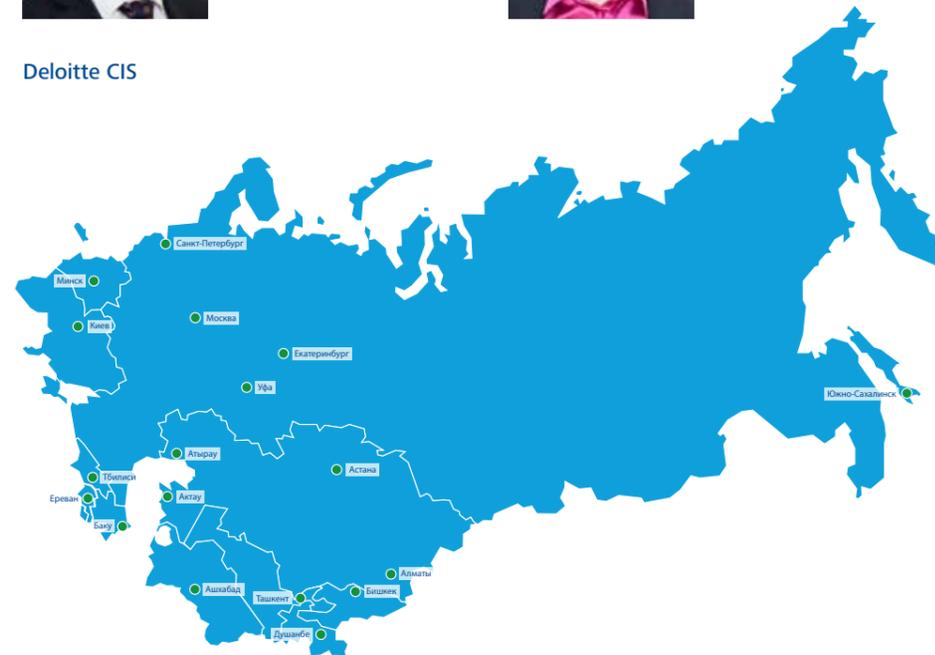


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Deloitte CIS



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