



Human-Centric Reporting

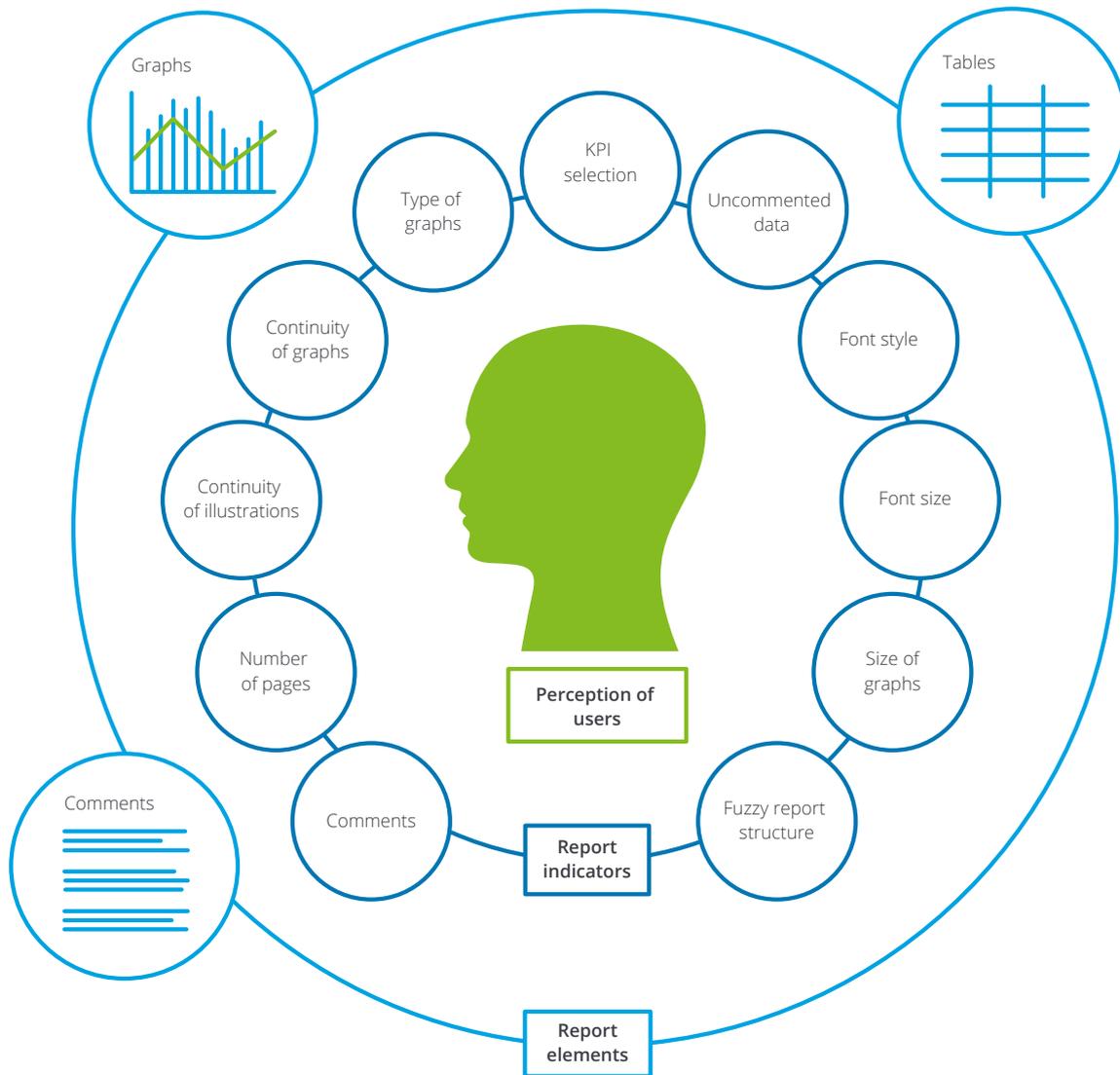
How neuroscience can enhance reporting efficiency

Efficient management reporting provides easily understandable information for well-founded management decisions. Our project experience shows that clients' reporting solutions do indeed provide the correct information, but tend to neglect an attractive appearance that could lead to more efficient use of management reports and dashboards. For this reason, report users often say

that they find working with management reports exhausting, frequently frustrating, and generally not very enjoyable. Both the producers and the users of management reports are in a situation in which both sides are not satisfied with the status quo. But how can the potential for enhancing report efficiency and increasing the satisfaction of report users be identified?

The unconscious body processes of report users enable us to identify areas in which the processing of report information can be improved, since a dominant part of the human decision-making process is unconscious. ➤

Fig. 1 – Interaction between report users and report information.



Understanding how individual users perceive report information by making use of unconscious body processes that permit current reporting efficiency to be assessed. The analytical approach to human-centric reporting aims to increase the efficiency of reporting through the use of neuroscientific methods. Deloitte has developed the Human-Centric Reporting approach, which uses neuroscientific methods to analyze the efficient use of reports from the user's point of view.

The Deloitte team has developed the ability to make the unconscious processes of the human body visible. The expertise of a selected team of doctors, psychologists, and biologists contributes a methodology for measuring, collecting, and interpreting neuroscientific data. Our team offers a wide range of experience in building leading management and performance reporting solutions. For example, the team developed performance dashboards for global supply chain functions and jointly devel-

oped customized reporting documents to improve communication between business units. Moreover, the team has many years of experience in developing customized key performance indicators for individual business requirements for dashboards and reports.

The exclusive combination of reporting and neuroscience expertise enables Deloitte to develop groundbreaking management reporting solutions that include the design and application of dashboards.

Human-Centric Reporting consists of five consecutive analysis steps:

The first step is a prior analysis of the existing reporting solution. The required reports are collected and a questionnaire is developed. The finalized questionnaire contains questions about the logic, speed, combination, and comprehensive reading of the report. In the second step, the team briefs the study participants on the study approach and the procedure in test session

A. The measuring device is then installed with the sensors that record neuroscientific indicators of body activity. Once the test devices have been set up, the participants answer the questionnaire based on the information from the report being tested. In the study test, participants have to solve tasks that require searching for, collecting, and combining different data points in the

Fig. 2 – Human Centric Reporting approach.



report. While the participants are answering the questionnaire, their unconscious body activities (e.g. stress level, heart rate, brain and eye activity) are being recorded using neuroscientific methods. In the fourth step of the analysis, the Deloitte specialists clean and evaluate the collected data and assess the usability of the report. In addition, the team evaluates

the efficiency of report usage and identifies challenges in solving tasks and answering questions in the questionnaire. Recommendations for improving the original report are derived from this analysis and support is given for implementing these recommendations in creating an improved report. When the improved report or dashboard has been generated, the fifth step

is performed. The improved report is then re-tested in test session B. After testing the improved report, the team is able to come to a conclusion as to whether the original report or the improved report is more efficient to use.

Fig. 3 – Example questions of test questionnaire.

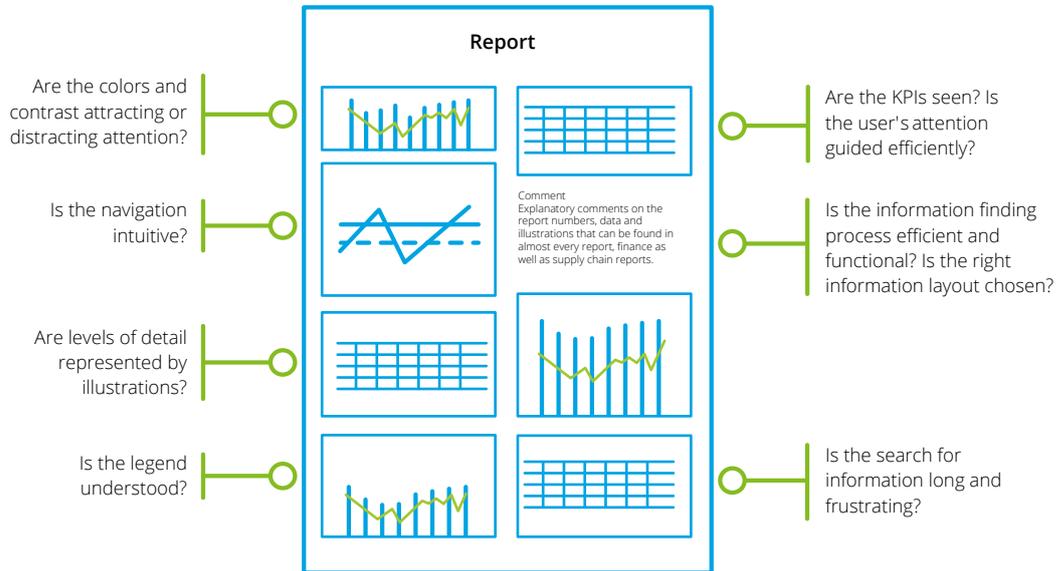


Fig. 4 – Illustration of test session A and B.



The Deloitte Neuroscience Institute combines expertise of neuroscientists, psychologists and Deloitte professionals to measure unconscious motivations and decision-making processes by applying scientific methods. This team is able to collect, analyze, and interpret neuroscientific data collected from report users.

The following neuroscientific methods are used to capture the unconscious body activities of report users:

Electroencephalography (EEG)

Cognitive processing and the motivation to search for data can be analyzed by measuring brain activity.



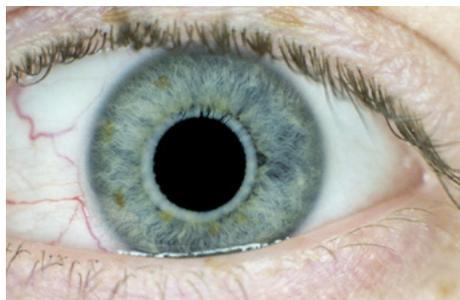
Facial coding

Spontaneous reactions to content can be understood through emotional reactions, measured by facial expressions.



Eye tracking

Precise recording of eye tracking to identify focal points, attention, and individual prioritization and visualization of information



Galvanic skin response (GSR)

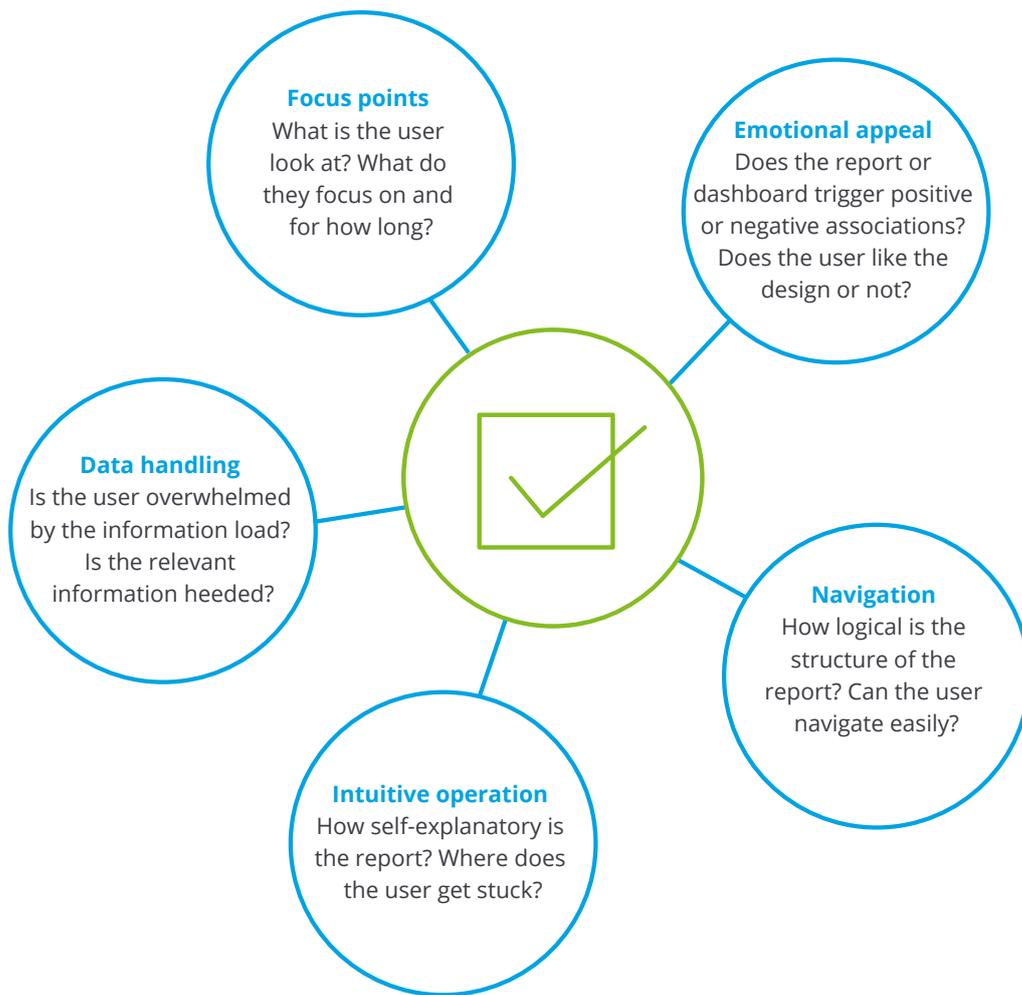
Individual attention and stress values can be determined by measuring skin conductance



Based on the information analyzed, measures are derived to increase the user-friendliness of the dashboards and optimize the report layout. The interpretation of these records provides decisive

insights for the evaluation of the current reporting solutions. The following indicators are used to evaluate the perception of the report:

Fig. 5 – Evaluation of report perception



Human-Centric Reporting focuses on the user and enables the client to create a customer-oriented and user-friendly report with enhanced efficiency. Use cases have shown that Human-Centric Reporting enables the client to implement individual reports that are easy to use, less complex, and permit faster data interpretation and thus improve the decision-making process.

The results can lead to significant benefits and sustainable improvements in management reporting, such as the greater acceptance of the report and the visibility of key figures and messages in charts and tables. Moreover, efficiency improvements in daily operations were observed through improved navigation, clear information layout and density. It also reduces the risk

of business decisions based on poor data and improves support for decision-makers. We look forward to discussing the methodology and use cases for our approach to human-centric reporting analysis. If you would like to analyze your report and improve your individual reporting efficiency, please contact us.

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