



Dear Readers,

You will be happy to hear that we are in the final straight of compiling the second Dream Car Report of the "Ideenwerkstatt" (Dream Factory) of the International Controller Association ICV: "What makes controllers (more) successful? | It's all about behavior!". We will present the first insights at the 37th Controller Congress 2012 in Munich in May, while publication of the entire report is planned to follow at the end of May/ beginning of June.

In the fifth IW Quarterly in September 2011 we first showed that the concept of man in traditional business management, the *Homo oeconomicus*, does not reflect real human decision-making behavior. People are unable to make absolutely rational decisions – their actions are the result of bounded rationality.

The consequence of bounded rationality is the unconscious use of strategies of simplification, known as cognitive heuristics, which reduce the complexity of decision-making situations. This, however, leads to cognitive distortions, or biases. The first article in this issue examines the impacts upon controlling using the example of Management Reporting.

In the second article, we take a deeper look at *fast and frugal heuristics*. These are strategies for decision-making which use human intuition and the elimination of information to reach efficient and effective solutions.

We wish you interesting and informative reading.

Yours,



Péter Horváth



and

Uwe Michel

Manfred Rimmel, manfred rimmel strategie consulting



My understanding of controlling is based on the comprehensive or holistic approach. The work of a controller should not only be limited to basic facts and figures. Controllers must also understand their role and behave in such a way as to have a positive impact upon their environment. If necessary, they must also point out deficits in the management of, and cooperation within, the company.

Here, communication plays a decisive role as communication helps people understand the heart of the matter. Doing so in the right way and with the right content is yet another important task for controllers.

This is why I am particularly pleased that we embraced the topics of "Green Controlling" and "Behavioral Controlling" in the Ideenwerkstatt of the ICV, topics which expand the horizons of controlling and the controller – also in the sense of an holistic approach.

I want to use my current position of management consultant to pass on my nearly 40 years of experience in the field of controlling, strategy development and strategy implementation, as well as comprehensive corporate management. From the comprehensive perspective, it is particularly important for me to show my clients that issues, people and communication within a company are inseparable and continuously impact upon one another. It is only when we pay heed to this principle that companies will become sustainably successful.

Before he became a consultant, Manfred Rimmel worked for many years in management in the automotive industry and in power generation. At the same time, he was also President of the International Controller Association.

Controlling and cognitive biases | Impacts upon bounded rationality

For decades, traditional economics has supported the thesis of rational decision-making behavior, which is manifested in the analysis instrument of *Homo oeconomicus*. However, the work of different psychologists and economists, including the two Nobel Prize winners Herbert Simon and Daniel Kahneman, has shown that the accepted rationality is actually a bounded one. Due to the limited capacity of the human brain to process data and our complex, unsure environment, people are not able to make optimal decisions in the sense of economic rationality. All rationality in our actions must be bounded. In the following article we will use the example of Management Reporting to show which impacts this has upon controlling.

Bounded rationality of human decision-making

The consequence of “*bounded rationality*” is the unconscious use of strategies of simplification, known as cognitive heuristics. We use these and our own experiences to create a simplified, structured and solvable mental image of an unstructured and complex problem. A decision made in this way can deviate from a rational decision as it means we do not necessarily choose the optimum alternative with the maximum benefit. This is due to decision anomalies, known as cognitive distortions or “*biases*”.

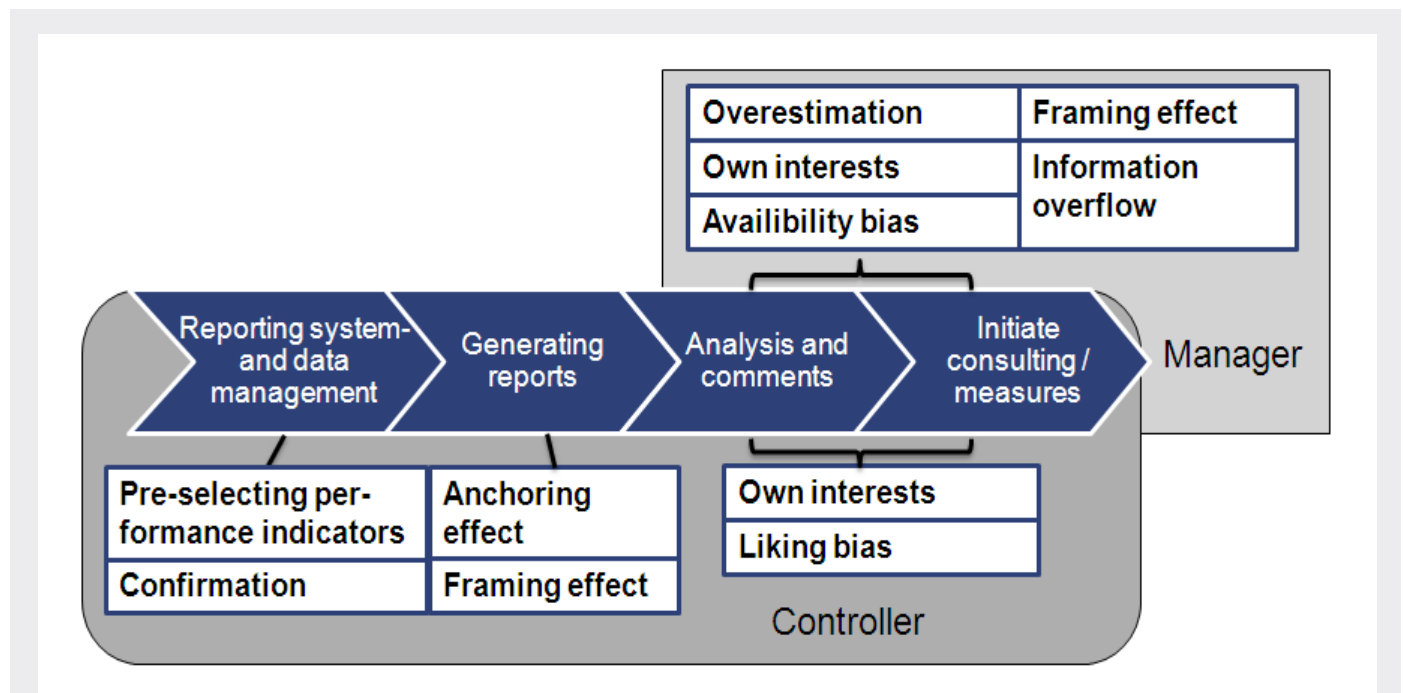
One example of cognitive bias is “*availability bias*”. This describes the phenomenon where decisions are made based on available information or information which is easily accessible. When appraising management performance, supervisory boards rely on information which has been provided by, of all people, the managers they are assessing. Finance managers use the Black-Scholes formula to calculate the price of derivatives, despite the fact that its validity was refuted ten years ago. *Dobelli* (2011) compares these examples with using the wrong city map as opposed to not using one at all.

Knowing that human actions are systematically irrational is one starting point for improving our decision-making through the use of current findings in psychology.

Behavioral orientation in Management Reporting

The goal of management reporting is to provide information relevant to decision-making for the performance-based management of a company. For a long time, behavioral orientation in reporting was neglected. It was widely believed that by providing all the relevant corporate data, managers would be able to manage and steer their companies optimally. Most people never questioned how the report recipients would read or interpret and use the data for their decisions.

Comprehensive reports, often with no relevance for concrete decision-making situations, lead to “*information overflow*” for the recipients. The larger the amount of data, the more difficult it is to differentiate between relevant and non-relevant management information. Managers and controllers run the risk of focusing on less relevant information (see *Volnhals & Hirsch* 2008).



Picture 1: Management-Reporting and examples of cognitive distortions (according to International Group of Controlling 2011, S. 34).

This insight has led to some turning their backs on the growing “data cemeteries” and instead tailoring individual reports to the specific needs of the recipient. However, human actions are determined by further psychological and social influences which the controller must also consider when designing and generating reports.

Management Reporting and cognitive bias

In **reporting systems and data management**, if the controller is too one-sided when pre-selecting performance indicators and ratios, this can lead to the manager suffering from the phenomenon of tunnel vision when assessing the as-is situation. Controllers run the risk of only considering those indicators and ratios which they believe are relevant for decisions or which support their (the controllers’) views and opinions.

The risks during **report generation** lie especially in the distortive use of starting points for predicting future developments (*anchoring effect*) or the non-consideration of important correlations and causes as a result of processing and aggregation (*framing effect*).

Analysis and comments serve to validate the report and elaborate upon the causes of deviations. This phase is crucially linked with the **discussion and selection of possible measures** and its presentation has a considerable influence on how matters are perceived (*framing effect*). There is a risk here that too much aggregation of data can lead to causal links being lost or that too great a focus on specific aspects can mean data is falsely seen as being particularly relevant.

When **making decisions**, managers are often satisfied with available information (*availability bias*) without requesting further evaluations or detailed analyses. The preferred use of information is to support the manager’s own convictions, which is a further problem (*confirmation bias*). Information which refutes the manager’s opinion is regarded as irrelevant and overlooked or ignored.

Fast and frugal heuristics | Simple and efficient forms of decision-making

The reflex of wanting to bring enormous resources to bear when we have to make a decision in an unsure and complex situation can be traced back to the desire for optimization and it corresponds to the concept of *Homo oeconomicus*. Researchers from the Max Planck Institute for Human Development Berlin confront the *Homo oeconomicus* with the modern concept of man, the *Homo heuristicus* – a person who, when searching for efficient and effective solutions, often ignores information and also relies upon his or her intuition in unsure decision-making situations.

Homo oeconomicus versus *Homo heuristicus*

Here is an example of the decision-making process of *Homo heuristicus*: If many happy guests are sitting in one restaurant while another is completely empty, our intuition tells us there must be a good reason for the preference of the many. We would tend to choose the more highly frequented restaurant.

Instead of having one generally applicable method for every problem imaginable, *Homo heuristicus* has an arsenal (**adaptive toolset**) of specialized strategies which he or she

In both phases, managers and controllers are particularly subject to their own interests. Various incentives, both monetary and non-monetary (e.g. promotions), can influence the selection of measures. At the same time, we can also develop preferences for specific themes due to emotional attachment (*liking bias*) which cannot be explained rationally.

Recommendations for sensitizing managers and controllers for cognitive bias in their decision-making behavior could be, for example, objectifying motivations and self-interest, showing alternative perspectives, or tailoring the processing of information to suit recipients’ needs. **For more details on this, please see the complete Dream Car Report of the Ideenwerkstatt: “What makes controllers (more) successful? | It’s all about behavior!”**

Further information

The two models of decision-making described in this issue are not complementary; indeed, they contradict one another: The use of fast and frugal heuristics leads to efficient and satisfactory solutions, and the use of heuristics leads to cognitive bias, respectively. This is due to differences in what is understood by the term “heuristics”.

The Ideenwerkstatt of the ICV has neither the skills nor the remit to decide which model is correct and which is false, if indeed this decision is even possible. It is our aim to show:

- Which forms of **cognitive bias** can arise within controlling processes in the decision-making behavior of managers and controllers, and
- What fast and **frugal heuristics** are, in which situations these can lead to simple and efficient solutions, and what is necessary for fast and frugal heuristics to be applied in companies.

can choose from depending on the concrete circumstances of a problem. The decisive assumption is that optimization in the real world of limited resources and bounded rationality is not only impossible but also

often not even desirable. Despite low efforts required, fast and frugal heuristics provides good results, sometimes actually better ones.



Which fast and frugal heuristics are used by people

Imagine you had to decide which of the two cities had more inhabitants: Detroit or Milwaukee.

To answer this question, *Homo oeconomicus* would gather all the available knowledge about both cities (e.g. whether the city had large industrial areas), weigh up the facts and then choose the alternative with the highest total value. If you asked a group of people in Germany this question, about 90% of them would quickly choose the right answer: Detroit. This majority is in fact greater than if you asked a group of Americans the same question as only about 60% of them would choose Detroit.

As a rule, Germans possess only vague information about both cities. They choose Detroit because they recognize the name of the city, while they have never heard of Milwaukee. This fact allows the use of **recognition heuristics**. If you recognize precisely one of two objects, then it follows that this has the higher value for a specific criterion (e.g. number of inhabitants). Despite the apparent naivety of this rule, it is possible to use it to put together profitable investment portfolios or to predict the winners of elections.

If you know both alternatives and indeed you have rapid access to a lot of knowledge about the alternatives, you don't necessarily always have to take this knowledge into account. Which city has more inhabitants: Stuttgart or Berlin? You can probably access many details about both cities which have a positive correlation with the higher number of inhabitants (e.g. airports, universities, sports clubs). Yet most people would correctly choose Berlin simply by asking themselves, "Is one of the cities the capital?" This is known as using "**take-the-best**" **heuristics**: Consider the criteria according to relevance and end the search as soon as there is a difference in one single criteria.

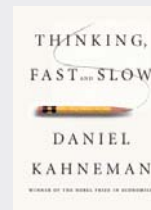
When does using fast and frugal heuristics make sense

In principle, **fast and frugal heuristics** can also be applied in corporate management. Complex mathematical models, such as the Pareto/NBD or the BG/NBD models, exist to answer the question of whether a customer is still an active buyer of the products of a company or if it will no longer buy them in the future.

Wübben and von Wangenheim (2008), for example, were able to prove empirically that **hiatus heuristics** ("The customer will buy no products in the future, if he has not bought any

Recommended reading

Daniel Kahneman - *Thinking Fast and Slow*



The latest work of the Nobel Prize winner for economics deals with different models of human thought: Rapid, emotional decisions versus more complex, considerate and apparently logical ones. But beware: "This book will change the way you think" (R. Thaler).

Rolf Dobelli - *Die Kunst des klaren Denkens*



In this book, the Swiss columnist Rolf Dobelli presents a collection of 52 errors in reasoning which he published over the period of more than one year in weekly essays in the Monday edition of the Frankfurter Allgemeinen Zeitung and which he described using everyday situations.

of our products in the last six (nine, twelve) months") provide the same and sometimes better results than mathematical optimization models.

The father of the portfolio theory, the Nobel Prize winner *Harry Markowitz*, did not set up his own retirement provisions using the models he had developed. Instead, he spread the finances for his retirement provisions equally across N shares and used a naïve diversification. In other words, he used **1/N heuristics**: Spread all your resources equally across the number N of available alternatives.

Naturally, there is no guarantee of correct answers or "good" decisions with fast and frugal heuristics. Before 1990, the criterion of federal capital in the question of whether Stuttgart or Bonn had more inhabitants would have led to the incorrect answer. The use of **fast and frugal heuristics** leads to good results if there is a fit between selected strategy, evolved human abilities and the environmental conditions of the decision-making situation. This is called **ecological rationality**.

For further information we invite you to acquire the forthcoming publication of the Dream Car Report of the Ideenwerkstatt: "What makes controllers (more) successful? | It's all about behavior!"

Dobelli, R., *Die Kunst des klaren Denkens - 52 Denkfehler, die Sie besser anderen überlassen*, München 2011.

Wübben, M./Wangenheim, F., Instant Customer Base Analysis: Managerial Heuristics Often "Get It Right", in: *Journal of Marketing*, 72 (2008) Mai, S. 82-93.

Volnhals, M./Hirsch, B., Information Overload und Controlling, in: *Zeitschrift für Management und Controlling*, 52 (2008) Sonderheft 1, S. 50-56.

International Group of Controlling, Controlling-Prozessmodell: Ein Leitfaden für die Beschreibung und Gestaltung von Controlling-Prozessen, Freiburg 2011.

Imprint

Publisher and Copyrights:
International Controlling Association
Ideenwerkstatt
Head of:
Prof. Dr. Dr. h.c. mult. Péter Horváth
Dr. Uwe Michel
www.controllerverein.com/iw

Editing:
IPRI-Institute gGmbH
Dipl.-Kfm. Dipl.-Sportwiss.
Andreas Aschenbrücker
Königstraße 5
70173 Stuttgart
Telephone: +49 (711) 620 32 68-0
Fax: +49 (711) 620 32 68-889
AAschenbruecker@ipri-institute.com

Members of the Ideenwerkstatt:
Manfred Blachfellner, ICV
Siegfried Gänßlen, Hansgrohe AG
Dr. Lars Grünert,
Trumpf Laser GmbH & Co. KG
Prof. Dr. Heimo Losbichler,
FH Oberösterreich
Manfred Remmel,
manfredremmel strategieconsulting
Karl-Heinz Steinke,
Deutsche Lufthansa AG

International Controlling Association
Main Office
Post Box 11 68
D-82116 Gauting
Leutstettener Straße 2
Telephone: +49 (89) 89 31 34-20
Fax: +49 (89) 89 31 34-31
www.controllerverein.com
verein@controllerverein.com