Solution Systems:

Beyond Data Warehouse and Management Information System

presented by

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Solution Systems:

- Common Systems
  - Data Warehouse
  - Management Information System
  - Decision Support System
  - Data Mining System
  - Data Marts
  - …

Solution Systems:

- The intention of using analytical systems
  - Analysing large amounts of data
  - Support a decision making process
  - Generating information out of data
  - Getting code / ratio numbers

Solution Systems:

- Problems of classical / common systems
  - **Do we really know, what we know?**
  - **A lack of analysts.**
  - **Who will interpret the information?**
  - **The nice-to-have-problem?**
  - **Can we generate a benefit by analysing data / information?**
  - **What kind of decision is based on information or data analysis?**
  - **Is the result of an analysis usable?**

Solution Systems:

- The main source of error by using analytical systems:

Human decision maker

Solution Systems:

- Basic question to initiate “the next step” of business intelligence:

If a computer based analytical system delivers the information which is needed by humans to make decisions then why can a computer system not make the decision by itself?

Solution Systems:

- Classification of decisions
  - The decision is based on the printed information and at the same time on other information, e.g.: someone's experience, different influences or parameters which are not available in the computer system.
  - The decision is based only on the information which is available in the computer system.

Solution Systems:

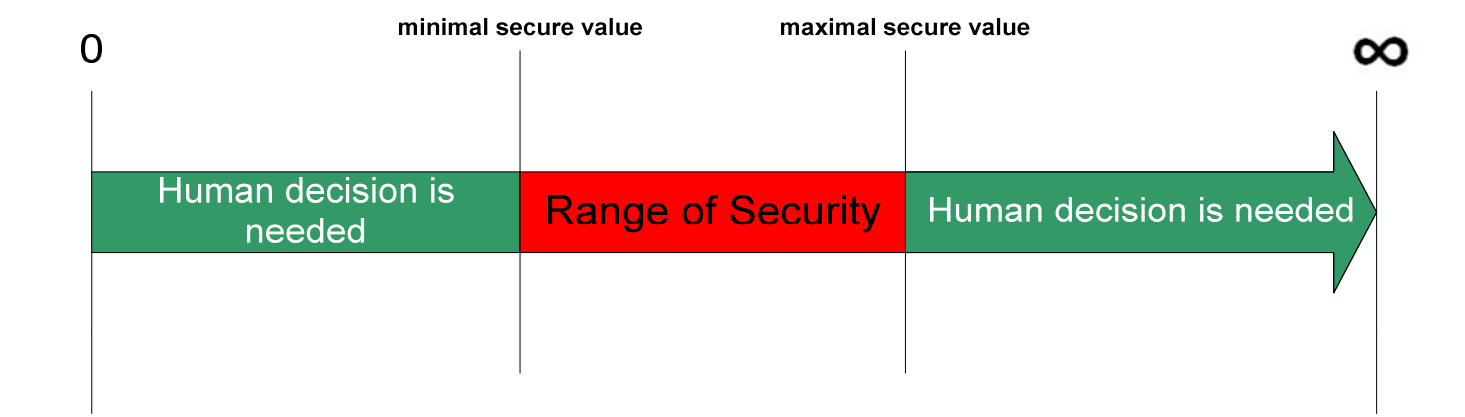
- Decisions which might be based only on the information which is available in the computer system.
  - Amount of an order (e.g. using Andler, Groff or other formulas)
  - Generating a production plan
  - Choosing one of two alternatives by using a weighed point system
  - Planning a delivery tour
  - Calculating the amount of a kanban or the number of kanbans in a feedback loop
  - Generating a shift plan

Solution Systems:

- If the computer makes the decision by itself, who is responsible (acting and responsibility) ?
- Only a human decision maker can be responsible for any activity.
- How can we get out of this trap?

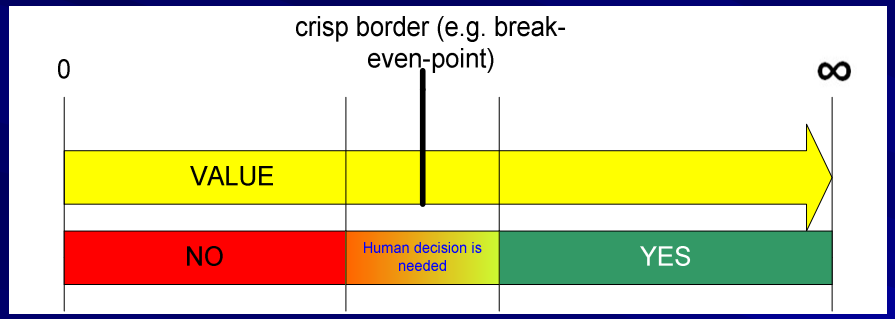
Solution Systems:

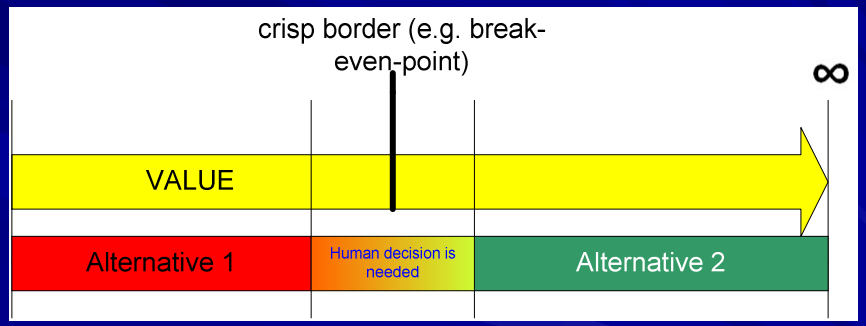
- The solution: Predefinition of values / ranges as an act of human will and his overall control

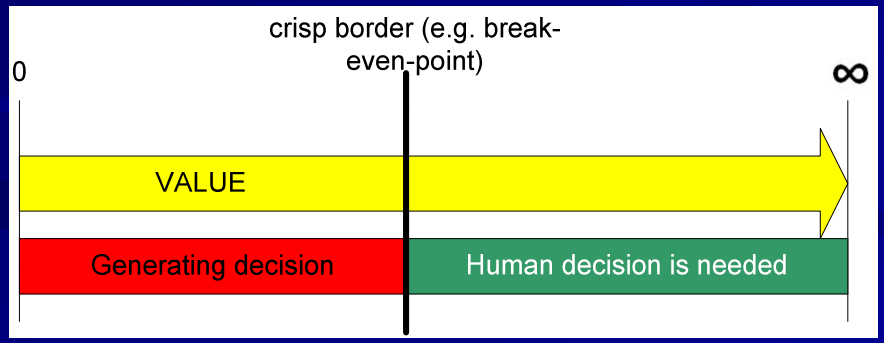


Solution Systems:

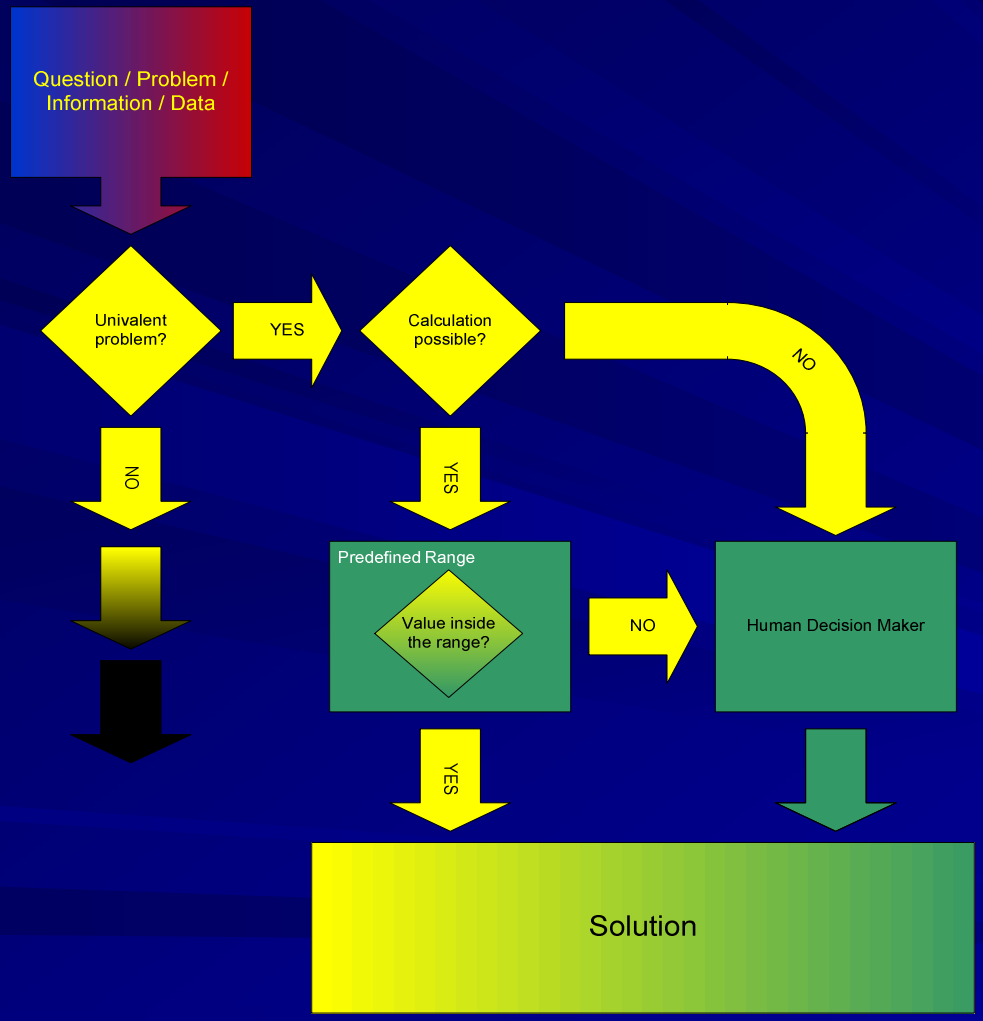
- The kind of range of security depends on the kind of problem:







Solution Systems:



- The generic algorithm for solving univalent problems (only one possible mathe-matical result) which uses the

Range of Security

Solution Systems: Conclusion

- Not every problem can be solved by a solution system

but

- Under certain premises it is possible to build a solution system

Solution Systems: Conclusion

- Some items have always to be taken under consideration when running a solution system:
  - The kind of problem
  - The relation between cost and benefit
  - The abilities of managers and / or users

Thank you for your attention

Thomas H. Lenhard

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