

Applying DSS technologies to improve service quality

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IFIP WG 8.3

Case Studies of DSS

Budapest – Hungary

01. 04. 2005.



Introduction



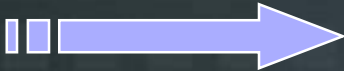
- To improve service quality it is necessary to elaborate a support system that helps decision-makers to generate alternatives based on objective performance (service quality) measurement.
- We need to:
 - Define service quality,
 - Have a model for assessing service quality,
 - Develop a DSS based on the model
 - Test and verify the conformity
 - Build a modified model (if necessary) and a modified DSS

Quality and performance



- Quality = „fitness for use” (Juran, 1988)
- Quality = stable, reliable processes
- Quality = continuous improvement

- Quality (performance) improvement:
 - Constant process
 - Evaluation (statistical methods)
 - Continuous control and feedback

 **Expert (support) systems**

Quality of services



- Services are **intangible, heterogeneous, inseparable**.
- Service quality is
 - hard to evaluate,
 - not only judged by its outcome, but the whole process,
 - subjective.
- Many uncertainties – good-bad service, expectations

Why do we need a DSS?

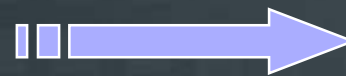


- Decision situations at service quality improvement are **ill-structured**.
- Absence of mathematical, statistical methods.
- In a changing, complex environment decision makers **rely on their intuitions**.
- **Decision making** is less effective.

Why do we need a DSS?



- To make decision making more effective:
 - determine the dimensions of service,
 - create the possibility of measuring by dimensions,
 - specify the persons concerned by the service,
 - elaborate a database,
 - carry out analysis,
 - prepare proposals for decision makers,
 - maintain the database,
 - communicate.



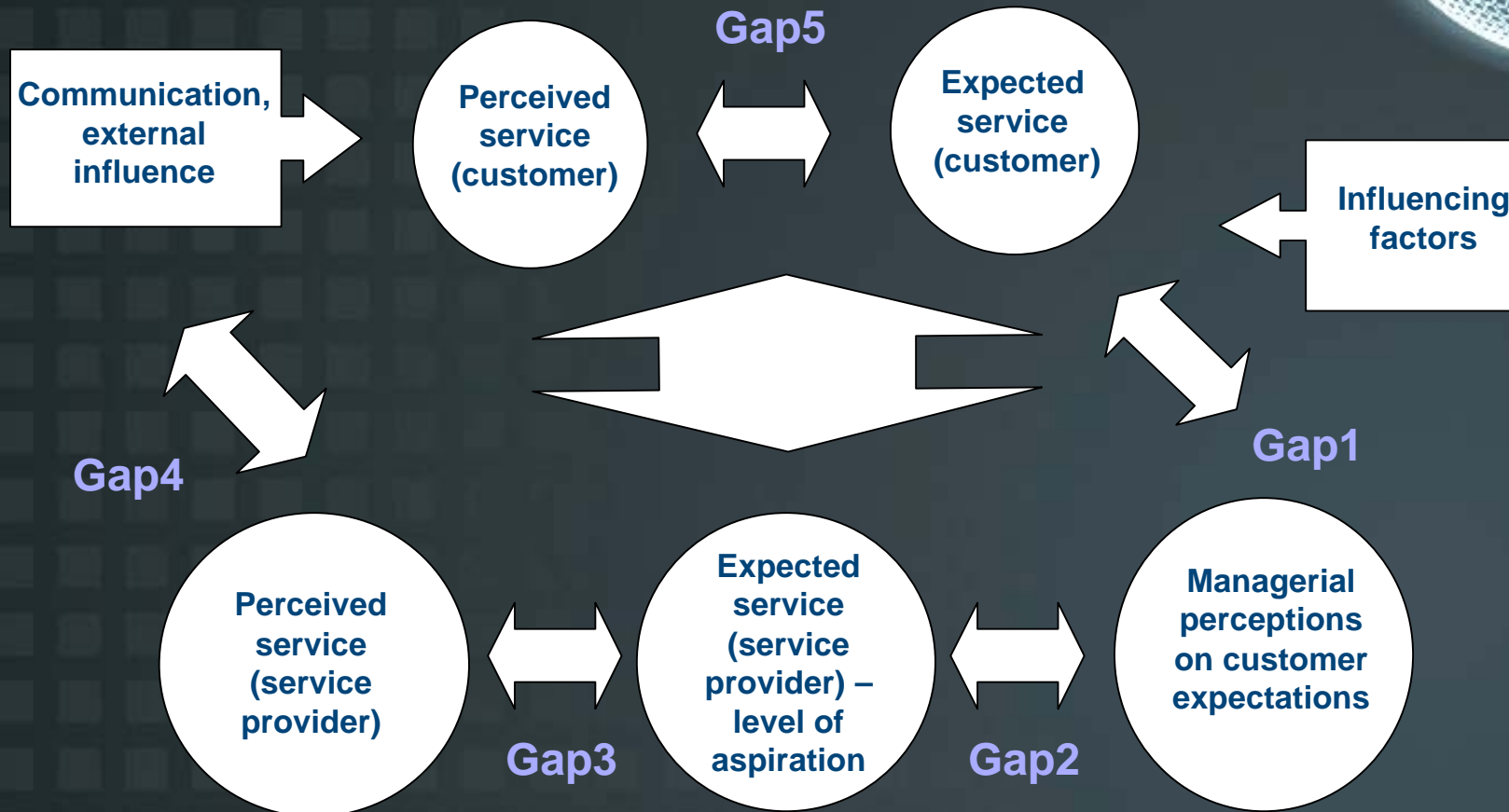
DSS

SERVQUAL model



- American model to assess SERVICE QUALity (Zeithaml, V. A.; Parasuraman, A.; Berry, L.L.; 1990.)
- Basic hypotheses:
 - Customer expectations related to service
 - Characteristics of perceived service differ from each other
- Pitfalls of service delivery (GAP1-GAP5)

SERVQUAL model



SERVQUAL model



- Aim of the model:
 - define the dimensions through service quality can be measured,
 - analyse the „gaps”,
 - choose among the dimensions to be improved; choose among the pitfalls to be avoided.
- **Measurability and comparability!**

SERVQUAL dimensions



Developing SQI-DSS model



- **Our Aim:** Develop a Decision Support System that help top management in making their strategic decisions concerning quality improvement.
- **Method:** queries, 22 questions, 1-7 scale
- **Focus groups:**
 - Top management
 - Operative management
 - Employee in contact with the customer

Developing SQI-DSS model



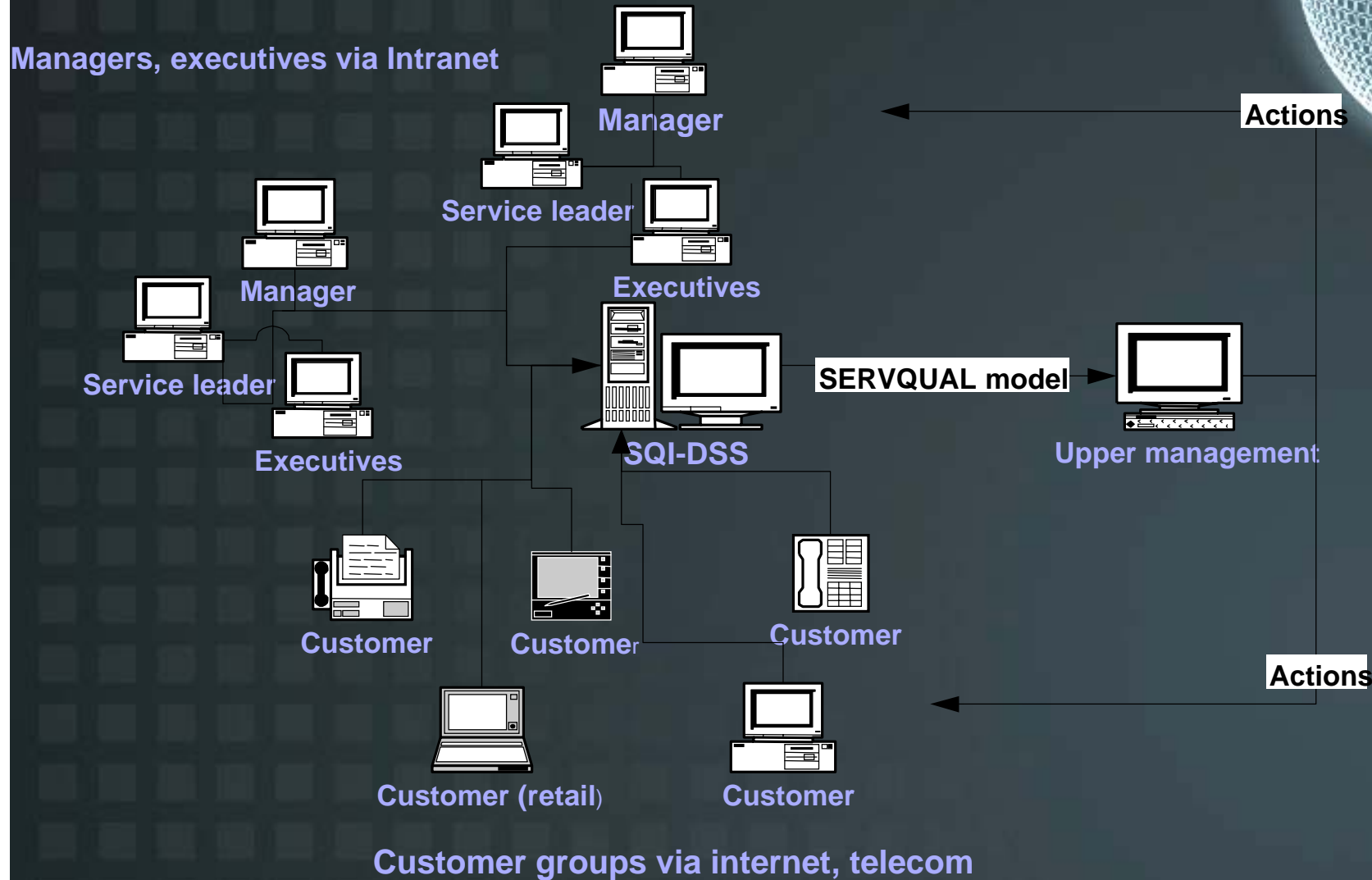
- Difficulties of seizing service quality:
 - different expectations of customers,
 - expectations changing in space and time,
 - judgements become distorted as time elapses,
 - few data, and hard to collect.
- Difficulties of the queries:
 - time consuming,
 - expensive.

The SQI-DSS model



- Use the Internet, telecommunication networks, company intranet.
- Customers queried through Internet, or telephone
- Close to service delivery
- Information immediately centralized
- Create databases, group

Centralized SQI-DSS model



Pros' and cons' of SQI-DSS model



- Pros':
 - faster queries,
 - possibility of continuous queries – dynamic model,
 - faster and better grounded decisions,
 - easier measurement – possibility of using statistical methods,
 - more effective and rational strategic decisions on service process.

Pros' and cons' of SQI-DSS model



- Cons':
 - problem of infrastructure,
 - **problem of questionarre,**
 - problem of applicability by respondents,
 - problem of time-horizon.

Testing and verifying



- **Questionnaire:**
 - 22 questions (Qs)
 - 5 dimensions (SERVQUAL dimensions)
 - All 22 Qs are understandable, applicable?
 - Dimensions are separable?
 - Method: Factor analysis, Cluster analysis

Testing and verifying



- Test sample: Case Study (see later)
- Result:
 - Reduced questionnaire: 16 Qs instead of 22
 - Same dimensions



modified Model in DSS

Case study



- Hungarian commercial company
- Ten sites in Hungary
- Commitment to quality and continuous improvement
- Complex environment:
 - Different kinds of customers,
 - Geographically separated sites,
 - Central management,
 - Strategic approach,
 - Internet, intranet.

Case study

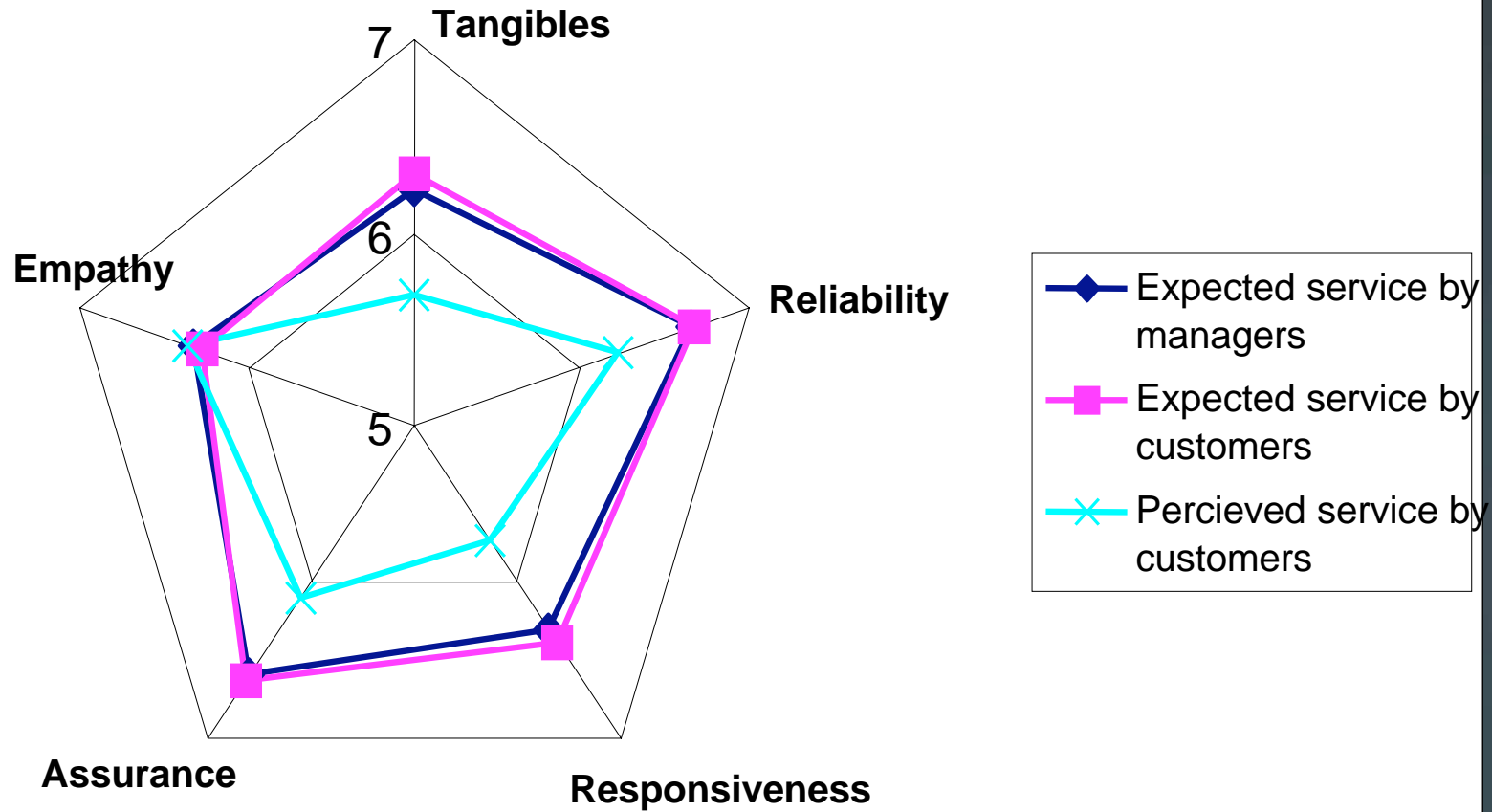


- Questionnaires:
 - 10 from top management
 - 52 from sites
 - 43 from partners
- Aspects:
 - What is the ideal company like in the eyes of the customer?
 - What is the ideal company like in the eyes of the employees?
 - What is the present image of the company like?

Case study



SERVQUAL dimensions



Further improvement



- Use the modified model
- More case studies
- Improve the Internet, intranet platform
- Make SQI-DSS more user-friendly
- Use graphical forms
- Build a follow-up system
- Make SQI-DSS interactive
- Use real-time analysis

Q&A



IFIP WG 8.3 Workshop
Budapest - 01.04.05

THANK YOU FOR YOUR
ATTENTION!

