QUALITY MANAGEMENT
BUILDING EVALUATION SYSTEMS
POST OCCUPANCY EVALUATION

1. quality management
2. building evaluation
3. post occupancy evaluation
4. samples
### Quality Management

#### Quality Management

**Quality Management**

<table>
<thead>
<tr>
<th>functional quality</th>
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<tbody>
<tr>
<td>quality of structure (material)</td>
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<tr>
<td>quality of the aesthetics</td>
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<tr>
<td>standards, ISO, TQM, etc.</td>
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**Building Evaluation Systems**

Utilitas, Firmitas, Venustas

/Vitruv/
2 BUILDING EVALUATION SYSTEMS

evaluation of buildings
- building performance evaluation
- building in-use assessment
- post occupancy evaluations
- post construction evaluation
- environmental design evaluation
- environmental audit
- facility assessment

2 WHAT IS POST OCCUPANCY EVALUATION (POE)

evaluation of buildings in use with the aspect of the end-users:

- health safety
- ergonomics
- functional efficiency
- environmental psychology
- aesthetical quality
- satisfaction
2 POST OCCUPANCY EVALUATION (POE)

no standardised method

all inspection that is performed after the completion of the building is POE

2 GENERAL QUESTIONS

Does the building work as it has been expected?

Are the claims of the users the same as before?

Are there any problems to be promptly solved?

Was the execution process effective?

What experiences can be noticed for future projects?
2 BUILDING EVALUATION SYSTEMS

+ functional-technical aspects

- thermal comfort
- durability
- indoor air quality
- energy consumption
- humidity
- etc.

2 SHORT HISTORY OF POE

1960-70 evaluation of governmental procurements by researchers in the USA and in Canada, in the UK and in France

1985 Brill et al.: Using Office Design to Increase Productivity

after 1985 evaluations in the private sector
- analyses of the work environment (work efficiency)

1988 POE – as an expression
AIMS OF THE POE

1. experience for well-functioning future projects
2. Support for effective planning
3. reduction of life-cycle costs of the building

METHODS AND TOOLS OF POE

report

site investigation
questionnaire
visual records

PROFESSIONAL EVALUATION

database of proper and wrong samples for future planning and for proper maintenance
2 TRADITIONAL METHODS

• questionnaires

• reports with end-users or other special groups

• workshops

• monitoring of use

2 ADVANCED / MODERN METHODS

• web applications

• walkthroughs (with groups of users)

• evaluation systems for the analyses of the correspondence of the technical state and functional data
2 METHODS

Vidovszky – BME/BUTE – Department of Construction Technology and Management

2 ADVANTAGES

short term

• solving prompt problems
• to satisfy the claims of the users
• more efficient use of the facilities (FM)
• more co-operative attitude of the users (get involved)
• support for decision making
## 2 ADVANTAGES

### Mid-term

- Evaluation of the existing building stock
  - in case of development of the company
- Consideration of the new claims of the possible new users
- Defined responsibility of the designers

### Long-term

- Increase the performance of the building in the long run
- Evolution of the quality of designing buildings
- Database for strategic decisions
2 THE TYPES OF POE

- **Fast survey** – rapid, superficial, (e.g. some ad-hoc report + site investigation)

- **Detailed, revealing investigation** – more substantial, with more reliable results (e.g. questionnaire + report with target groups)

- **Diagnostic analyses** – substantial, based on both technical characteristics and the reactions of the users, involves building performance analyses as well

- **Procedure-based** – analyses of the construction procedure or the maintenance procedure

- **Technical performance based** – building installation systems, acoustics, illumination, environmental-impacts, CO2 emission, water consumption, energy consumption, maintenance requirements, etc.

- **Functional performance based** – strategic value, aesthetics, space, comfort, services, equipment, use, maintenance costs, life-cycle costs
2 THE PARTICIPANTS OF POE

Involved participants

- The staff of the POE (asking):
  - maintainers – architects
  - psychologists – environmental psychology
  - sociologists – How to ask?
  - mathematicians – statistics
  - How many and what kind of experts are required?

- The users of the building (answering):
  - What groups have to be asked? (primary users, secondary users, guests, etc.)
  - How many people? Individuals or groups of people?
  - How and when the asked people to be found?

2 THE PROCESS OF POE

- Phase 1: Planning – preparation phase
  (parameters, time, cost, requirement of professionals, methods for collecting data)
  - 1. investigation, feasibility
  - 2. planning of resources
  - 3. planning of research
- Phase 2: Execution – the study
  - 4. collecting data on site
  - 5. controlling the collecting activity
  - 6. analyses of data
- Phase 3: use of the results – problems and possible solutions
  (data for new evaluation)
  - 7. report on the results
  - 8. proposals
  - 9. summary of results
2 CONTENT OF A POE

A: definition of the project

A.1 – denomination – (location, type, etc.)
A.2 – aims, priorities
A.3 – scope (time, cost)
A.4 – participants (investors, consultants, etc.)
A.5 – other concerned groups (authorities, media, NGO-s, neighbors, etc.)
A.6 – procedures – project schedule

B: Goals, means, resources, environment

B.1 – Project management – participants, relations, quality control
B.2 – Legal questions, standards – regulations concerning, the building, the use, the users,
B.3 – Cost and time limits – finance, budget, schedule
B.4 – Background and history – history of the project, pervious or current analyses
B.5 – Building, plot, environment – berth, infrastructure, buildings etc.
B.6 – Future enterprise of the client– goals of the organization, strategies
B.7 – Future use – organization, relations, users, activities, expectable changes
B.8 – Aims of the project – expected effects, performance, use
2 CONTENT OF A POE

C: Requirements of the building – performance, use

C.1 – Plot and environment – special connections, protection, connection to traffic safety infrastructure, urban zones, etc.

C.2 – Building – physical characteristics, traffic in the building, safety, environmental strategy, installation and comfort, communication, IT, appearance, pieces of art, maintenance

C.3 – Performance of the building structures – load bearing structures, partitions, inner architecture

2 SAMPLES

traffic analyses

[Diagram of traffic analyses]
2 SAMPLES


passageway matrix

1. evaluation of quality – involving the users

2. report/publication on experiences for investors
Éléments de méthode communs au spécifiques aux démarches de programmation génératives et participatives


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secondary school – analyses:

involved:

- architect – responsible for the building program
- ministerial employee – responsible for public procurements
- designer architect
- research fellow from the Institute of Pedagogy
- sociologist
- teachers
- pupils
REFERENCES

Adrienn Lepel: Használatelemzés, 2012 (presentation)