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# INCREASING QUALITY OF PLACE BY USER'S VALUE ORIENTATION

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**ABSTRACT**

Better understanding of the city dynamics leads to smart urban growth. The ambition of this paper is to expose the facility management (FM) role toward society needs and FM industry development. Hand in hand, society (people and organization) and building (space and infrastructure) have to develop together in a way to create better value for the users. The main purpose is to get a usable model to gather data from existing housing areas as a base for analyses and developing smart urban growth to meet changing social needs. Combination of data mapping and value contribution mind should turn out to be effective tools for gathering and analysing a lot of information. The way of classify information gives opportunity to aggregate data and with new technology to visualize, results to obtain effective way of communicate complex information.

According with an international trend to strengthen integrated solutions in the early stages, as the basis for the project's value over time, and in the context of value management to coordinate the various actors' values before designing the project, the research looks at the needs and content that ensure the requirements for the owner and user's added value. The results from the research, running in Norway, Germany and Slovenia, show that with value principals the attractiveness of areas can increase.

**Keywords**: urban growth, housing stock, user's perspective, value orientation

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## INTRODUCTION

Real estate situation in several European countries exposes the need for changing the housing strategies in accordance with the housing market volatility and people needs. Spatial behaviour and real estate market changes are linked to the concepts of values from different perspectives. From psychological perspective we can define that 'every environment surrounding 'humanity' has certain features, characteristics that need special attention, simply because they are very important for humans, their life, survival, living, leisure and work' (Temeljotov & Rus, 2004). All of these 'directed' attentions of the inhabitant can be evaluated, both in the sense of satisfying their personal needs, as well as economic indicators.

Urbanism in conjunction with architectural solutions creates touchpoints and a myriad of associations that have a significant impact on the power and importance of the city brand (Pompe & Temeljotov, 2014). It co‐creates its identity at the level of a) physical evidence, b) promises and c) imputed properties. It affects the quality of life in a city and its attractiveness.

The principles of property evaluation are distinguished into subjective and objective, yet intertwined categories: principles that are derived from user's perceptions and those that are linked to the market environment. Value can be attributed to property at any given moment of it lifecycle: planning, initiation (birth), growth, renewal, decay and demise. Planning and development are important elements of this process, similarly as the past, present and future development of the entire micro- and macro-environment.

Cognitive interaction models mainly deal with issues, such as the relationship between environmental characteristics and personality (Rus,1997). Differences in cognitive perception and categorization of the environment, by representatives of different social and cultural groups, manifest themselves in their social and spatial behavior, attitudes and stereotypes about the physical environment and features of social representation of various macro-objects and macro-events.

Many researches compares the changes of value perspectives in Facilities Management (FM) through the years. The different research perspectives provide, in combination, a holistic view by integration of an external market based view (aimed output) and the internal resource based view (input from FM and RE). Jensen &all (2014) write a list of emphasis for added value of FM, including at the beginning the focus on strategic aspect of FM towards the business impacts and effects. Coenen at all (2014) state that the demand side perspective of value in FM in terms of market segments, which group buyers with corresponding behaviour, differ groups by 'customer' to three, as 'client' – organization that procures facility services, 'customer' – organizational unit which specify and order delivery or services and 'end user' – person receiving facility services. For them key stakeholders are no longer seen as separate but rather as an integrated economic system to co-create value in FM.

The value elements, which assure the increasing of value contribution to attractiveness of the built environment, from user's and business perspective, are found in many researches (Jensen at all, 2012, Houvila at all, 2012, Sarasoja at all, 2012). From the user perspective, they are connected with better living condition, like: sustainability, adaptability, reliability, perceived value for benefits, and for business the focus is in the harmonization of the resources and provisions.

By strategic level of FM it is possible to collect, organize, visualize and communicate data as means for strategic planning and budgeting (Bjorberg at all, 2012). Real estate and facility management orientation should be more focused in user's needs and value creation perspective. User's value approach has to take into consideration the multi-directional

character of urban environment, including socio-psychological characteristics of different group of population.

**Research**

The research is divided in different phases to follow the long life perspective of keeping value, adaptable for future needs in social and individual way.

A tool for strategic urban portfolio analysis should facilitate visualization of various age cohorts in defined housing markets. Such information system which provide timely information regarding built environment and services including availability (costs) can increase or decrease attractiveness of these areas according to the age groups and/or functional capacity of potential residents.

The tool should facilitate mapping, planning and visualization of availability and needs of various age cohorts in an analysed geographical area. Facility management, facility services, health services, social services, etc. could be better managed and reported by analysis of particular geographical areas. Service innovation and service design are two approaches for further development of Facility Management and Facility Services to maintain the citizens' wellbeing and independent living. The results from the analysis of particular areas could serve as the starting point for development of new tools and methods, with attention on improved Facility Management and new facility services tailored to the inhabitants' needs.

The Nordic SURE-project (Almås et al, SBC 2013) investigated different methods and tools to assess buildings and building portfolio. Based on a list of criteria, such a method should: 1) give indication of building development potential, 2) be used in preliminary phase, 3) serve as a tool to make recommendations, 4) simplify the data collecting, and 5) be user friendly and visualize the results. From that point of view listed methods were evaluated: multiMap, LCA, BREEAM In-Use, SURE (2015)), SIA (Sustainable Impact Assessment) and LCC (Life Cycle Costs).

All of these methods and tools have different advantages. But for the purpose assessing building portfolios multiMap combined with LCC should be considered. MultiMap as a method is based on a holistic approach shown in figure 1 to assess the GAP between today status of performance and future needs or demands.

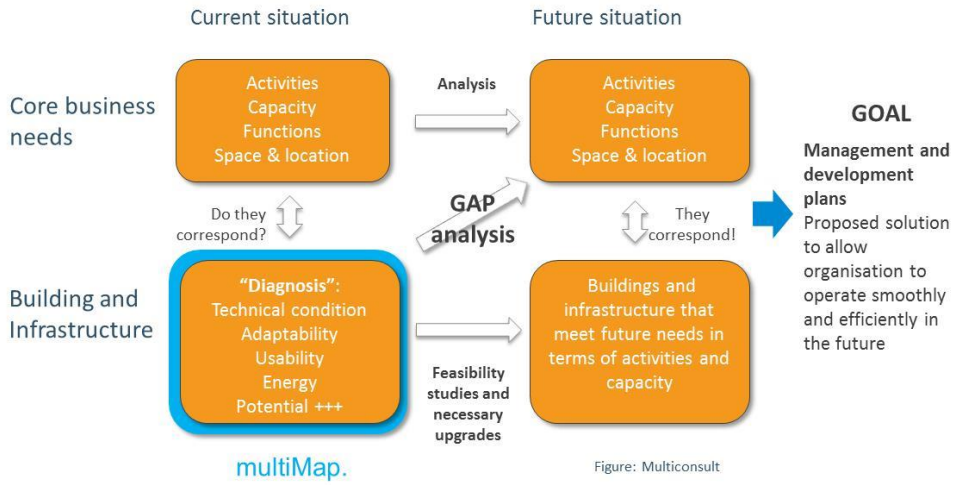


Fig 1. Holistic Analysis Model for strategic development of building portfolios (Larssen, 2011)

An adapted version for the purpose of smart urban growth shall be developed as shown in figure 2, where social and environmental aspects are implemented. These aspects, as two of the legs of sustainability, are essential regarding well-being for individuals. By using the tool, all necessary information will be the base for spinoff to create analysis for future situation.

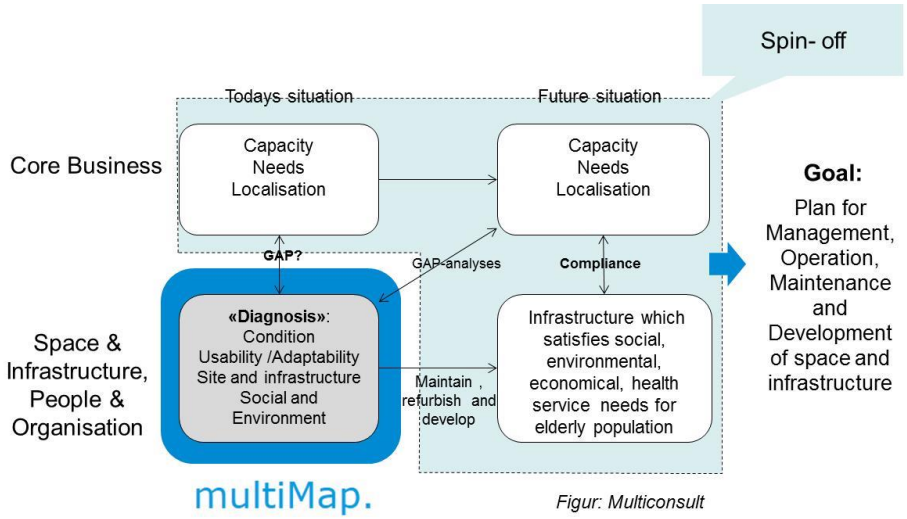


Fig 2. Model for developing smart urban growth

The assessment method is based on two main approaches: 1) data input provided by FM-personnel with good knowledge of the actual building portfolio (space and infrastructure) with some assistance from persons with knowledge about core business of the portfolio (people and organisation), 2) assessments of interviews of users of the portfolio (social and environmental aspects including economy). Collecting information for building portfolio give many data. All data are divided into a scale of four, 0 is 'the best', 3 is ´not acceptable´. For communication purpose of all data Onuma Planning System combined with Google Earth provides possibility for visualising in 3D pictures (figure 3, red is level 3, green is level 0).

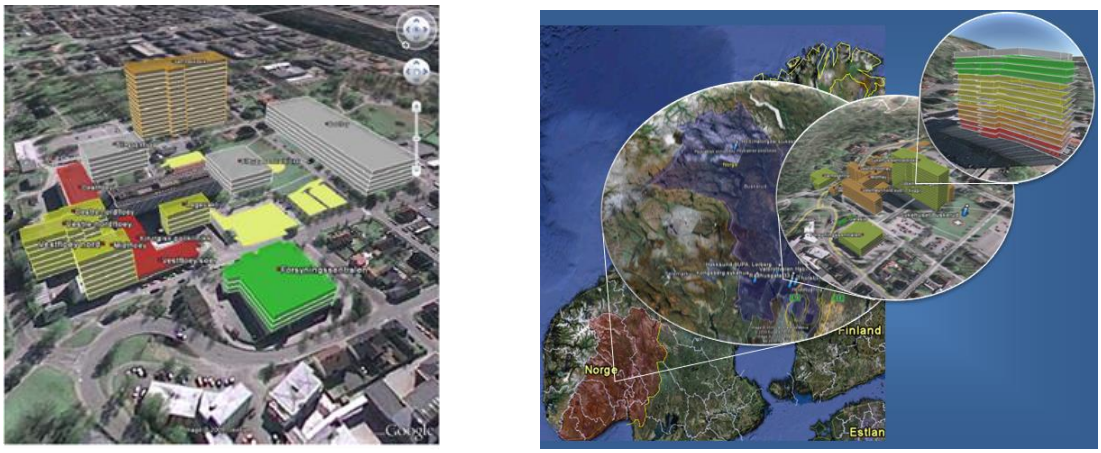


Fig 3. Presentation of data using Google Earth and Onuma Planning System

The rent of space should be "cost covering rent", based on annuity of net present costs (NPC) for a defined period. Anticipated costs over the period, such as yearly operating costs (energy,

insurance, cleaning, public dues etc.) and periodic costs (preventive maintenance, replacements, minor upgrading etc.), should be taken down to NPC.

**OSCAR project**

The research project "OSCAR – Value for User and Owner of Buildings" with the main intention 'to develop competences, methods and analysis tools for optimizing building design in a way to contribute to value creation for owner and end-user throughout its life time', will take smart urban growth as a case.

The project takes into consideration a clear connection between the design and operation of the buildings and values for the owners and users. To achieve value creation processes, it is necessary to have competent actors who have good tools for decision and communication through projects and processes. Life Cycle Aspect is essential as an input in Early Design Phase, and the processes through the following phases have to assure its inclusion in a way that value creation is complied with the user phase.

The research findings in Oscar project are a result of cooperation with 17 project partners from three countries from academic, private and public sector, representing all stakeholder groups. It is presented how it is possible to achieve more efficient buildings by collaboration of stakeholders from the early beginning with the same goal to maximize value for owner and user over building's life time. In accordance with findings from literature review and purpose of the project, the relevant stakeholder groups for Oscar project are: owners, users, planners/designers, consultants and contractors, FM providers and society.

Oscar project contains three working packages (figure 4) and four phases, with a goal to: 1/ to define the knowledge how to contribute to value creation in user phase as input in Early Design Phase (focus on characteristics which contribute on value creation); 2/ to define execution models and processes which execute contribution to value creation, and 3/ to design methods and tools (focus on cost benefit evaluation simulation model and information to user phase so value can be obtained).

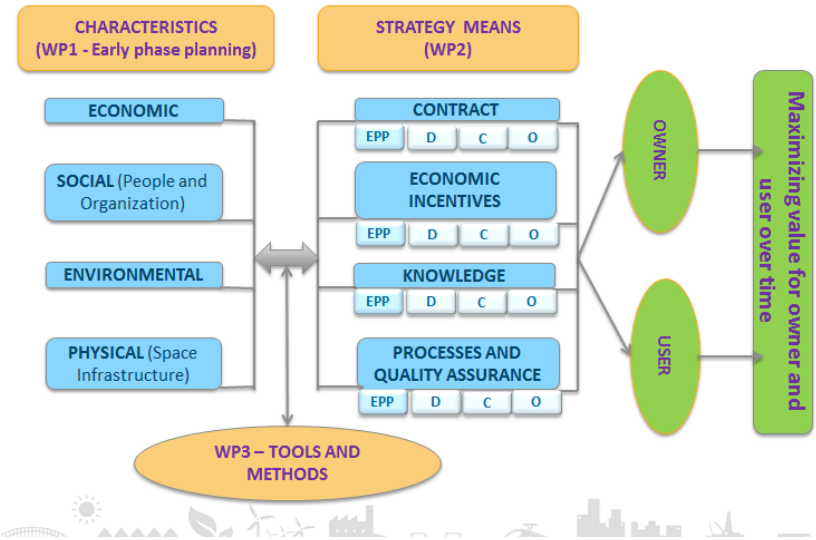


Figure 4. Value contribution model

From literature review about value aspect, it was concluded to use OSCAR definitions as:

- Value: the project value should be a result of owner's strategy for the project.

- Value creation: process needed to achieve value.
- Added value: innovation and possibilities throughout the project process which can increase value outcome.

Within the first phase of the project, a list of characteristics and means are found from literature review, which are important for the value creation. (Table 1, Table 2).

Table 1. Characteristics for value creation

| Project group | Subgroups | Characteristics or Means |
|---|---|---|
| PG 1 – Characteristics which contribute to value creation | Economic | Optimum FM organization, maintenance plan (predictability), outsourcing, transparency of costs, cost of ownership, running/operational cost, cleaning cost, space efficiency cost, rental cost, interaction of costs (best solutions not lowest costs), project cost, cost reduction, green accounting, potential income, strong brand, market value, payback time, profitability for the core business, productivity in construction phase, long term commitment partnership |
| | Social (People and organization) | Architectural value, satisfaction, indoor climate, comfort, individual control of conditions, aesthetic value, open view, layout (open /cell space), enough space, orientation, cleanliness, logistic service support, organizational value, social responsibility, location characteristics, historic value, usability (efficient workplace), accessibility, safety, security, |
| | Environmental | Renewable energy, energy efficiency, recycling and reuse of materials, waste management, minimize contamination, environmental friendly products, life time materials, green roofs |
| | Physical (Space and Infrastructure) | Technical condition, space distribution / logistic for core business, quality materials, construction quality, architectural solutions, life cycle design, environmental solutions, flexibility possibilities, elasticity possibilities, generality possibilities, designed for disabled persons, sufficient infrastructure, innovative solutions |

Table 2. Means for value creation

| Project group | Subgroups | Characteristics or Means |
|---|---|---|
| PG2 – Means which motivate to value creation solutions | Economic incentives | Environmental funds, financial support for testing new trends, branding, rewarding, cost productivity, orientation, investment loan for enhancement/replacement, changing energy consumption, combining different energy resources, emission reduction, support for maintenance and technical upgrading, support for refurbishment, tax reduction, competitiveness |
| | Knowledge | Good planner, good management, changing regulations, new demands from society, social awareness, user satisfaction, communication ability, creating value with society, organizational development, best practice design, developing know-how training of employees, implementing new cooperation models, developing strategic KPI, knowledge on sustainable efficient building, open for new technical solutions supporting innovative ideas, establishing creative teams |
| | Contract | Contract process with dialogue, contract division, contract type, contract procedure, selection and award criteria, contracting plan, PPP practice, clear tasks and definitions, contract duration, financial capacity of contractor, allocation of responsibility and |

| | | |
|---|---|---|
| | | risks, clear specification of deliverables, performance targets, measurement methods and standards, active partnership dialogue, organizational measures, developing strategic SLA, |
| | Processes and assurance quality | Process management ability, communicating value, political support, user's participation, performance requirements for each phase, mechanisms and procedures for ex-ante evaluations, mechanisms for ex-post evaluations, monitoring, inspecting, evaluating, success / failure factors, key performance indicators |

Based on the findings from the literature review, the questionnaire was prepared. Over 600 respondents from all stakeholder groups (owners, users, planners/designers, consultants and contractors, FM providers and society) from Norway gave their opinion of importance regarding value creation for owner and user.

It was found that from economy aspects the most important is 'investment costs' (88 %) and the lowest is 'cost effective service' aspects (57 %). From environmental aspects 'indoor climate' (comfort) was evaluated as the most important (80%) and lowest 'recycling materials' (70%). For social aspect 'user involvement' is evaluated as the most important (70 %), and 'space for physical activities' as the lowest (55 %). From physical aspects, the most important is 'accessibility' and 'universal design' (80 %), and 'generality' aspects as lowest (55 %).

For the early phase it is found that 'competences' should have an important role. It is assessed that some improvements are needed, from the perspective of: 'experience', 'higher responsibility', 'clarification of project organization', 'increasing of multidisciplinary understanding', 'better project manager's competence', 'including FM experiences in early phase', 'better competence of LCC', 'more focuses on value for client/ owner/ user'.

It is also assessed that: 'all these competences are needed from the early design phase', 'methods and tools should support early phase', 'need for instruments' exists, 'need for processes' exists and 'incentives to strengthen behavior to achieve common goal' are desirable.

## Conclusion

The main purpose is to get a usable model to gather analyse data from existing housing areas as a base for developing smart urban growth to meet changing social needs for people. Combination of multiMap and Value contribution model should turn out to be effective tools for gathering information. Classifying information on a four level scale gives opportunity to aggregate data and with new technology to visualize results to obtain effective way of communicate complex information. According with an international trend to strengthen integrated advice in the early stages as the basis for the project's value over time and in this context of the concept and function of "Value Management" to coordinate the various actors' values before designing the project (Shen, 2013), the project looks at the needs and content that is in the function to ensure the requirements for the owner's / user's added value in the use phase.

From literature review, it was found that there are many value creation characteristics and means for value creation associated with interaction between hard FM (space and infrastructure) and soft FM (people and organization). These criteria are also important as urban qualitative criteria, as they affect the attractiveness of the city. The positive consequences of understanding of two areas, characteristics which contribute to value creation and means which motivate to value creation solutions, gives the opportunity to

create the ideal model for life cycle planning, from the perspective of maximizing the value for user and owner of buildings. Means, mentioned in the fields of economic incentives, knowledge, contract and processes and assurance quality, should be understood as drivers for changing the behaviour and securers for the quality. As stated by Salaj (2015), ''we live in times of struggle between provocative beauty and consumer beauty. Consumer beauty follows or sets beauty ideals dictated to us by consumer mentality. We must be forced to replace things fast so the exponent progress of production cycle does not slow down''.

From Oscar research questionnaire it is seen that early design phase team should have stronger participation and competences from facility management and core business area, in addition to integrated architecture and technology, that user's needs and value creation perspective is secured. From the questionnaire on project experiences it is found that highest focus from economic perspective is on investment cost and the lowest on cost effective services. From environmental aspects, the highest focus is on indoor climate and comfort and the lowest on recycling materials. From the social aspects the highest focus is on user participation and the lowest on facilities for physical activities. From the physical perspective the highest were assessed accessibility and universal design, and lowest generality. From psychological perspective we can define that more desirable environment is, the greater the identification with it will be.

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