MANAGING ARCHITECTURAL DESIGN BY RULES OF THUMB

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Abstract
Meeting daily with innovations in the field of construction management, as integration, optimisation, efficiency, creativity, is an every day event. Nevertheless, a lack of valuable architecture\(^1\) is still an evident problem. Management methods or strategies focus architectural design processes generally, but we require specific management methods including responsibility, which can concentrate on a healthy, user-orientated, environmentally sound, or greener architecture. Hence, we are aiming for an easy and transparent management help, preferably in the form of guidelines, rules, and tools. There are already theoretical resources available for improving and applying such instruments. Some researches, including PhD studies, gained such means at the Eindhoven University of Technology. Those results will be discussed in this paper. Architectural design has a high degree of complexity. It is dependant on the contribution of a number of design experts, as well as users. Because of this intention, it has to be teamwork. A proven working method, the Method Holistic Participation, can help to manage a valuable architectural design within a short time. The most important aspect is to search for consensus for decision-making in the light of a whole life approach between all participants\(^2\). Furthermore there are steps formulated leading to higher value in architectural design. Those rules of thumb are based on the author’s previous experiences, realising valuable architecture in a small scale. We see practical possibilities and challenging opportunities for further improvement of nowadays-architectural design processes. At the same time, we search for concrete possibilities for reconnecting architecture to elementary life values. In addition, the paper deals with culturally and socially relevant factors as well.

Keywords: Architectural value, ecological factors, human factors, rules of thumb, teamwork.

INTRODUCTION / BACKGROUND
The usual way of executing architectural design and building realization processes, except in cases of huge projects, has not included architectural management - in its nowadays-specialized form. In the last decades, management strategies took an enormous booming. A “big job” came into existence and many different management styles have already developed, which very roughly could be categorized by the range from ‘no-nonsense’ to ‘spiritual’, and from ‘to the point’ to ‘fully user-orientated’ or from ‘sophisticated’ to ‘holistically’, etc. In the past, it was already necessary to manage carefully all steps to get something complex done in the building sphere. In those days, we did not speak about management, but organization. At the same time, there where no specialized educational programs available. Organization mostly was a question of talent, experience, and good luck.

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\(^1\) The authors understand under valuable architecture an architecture, which fulfils users need without health risks, which has minimal environmental impact, which optimize technical possibilities, and which expresses harmony at the same time.

\(^2\) All participants who are collaborating in the building process and maintaining process.
In spite of a fast development in the field of architectural design, we still lack proper and practically applicable methods and strategies for organizing valuable architectural design processes. There are only coincidental cases, which answer the expectations for a clear integral architectural management. A management approach, like at the Maharishi University of Management, can give very fruitful inspirations for best practice. In one hand, we seek for new guidelines and rules, at least for some rules of thumbs to rationalize architectural design processes on a transparent way. In the other hand, there is an urgent need to redefining architectural values. Since architecture is a reflection of many cultural phenomena, most probably it will take quite a time, before renewed values will be found, accepted, and implemented. Nevertheless, to include vital quality criteria for values with a high common sense into our management strategies, could be a good idea. It will also enlarge both the quantity and quality of all collaboration and co-operation processes in an architectural design. In our paper, we give some rules of thumb for a general management process and some further steps towards valuable architecture, trying to help managers to find their own responsible approach.

RULES OF THUMB
A transparent tool helps to work easy. Good rules of thumb are concise. Here we collected the once which answer the need for integration, optimization, efficiency, creativity, pleasure, as well as are suitable for valuable architecture, like healthy, user-orientated and environmentally-sound, greener building. Beside the most refined automatic assessment technologies as for example “eco-efficiency assessment” (Tucker et. al., 2003), still uncomplicated rules have their place and fundamental meaning. Because of clearness, simplicity has a power to reach easy our consciousness and increase a higher level of personal responsibility, what can be used later even in very complex processes.

Eleven steps to higher value in architectural design
Eleven steps are provided to a general management approach in architectural design towards better health of humans and human’s environment:
1. Location, Orientation
Choose a site, which will be healthy for its dwellers and inhabitants; consider the best possible orientation for the whole building as well as for all rooms;

2. Space, Mass
Shape useful, closed or open, protecting spaces; Include identity and expression in all large and small building masses and parts;

3. Modular Co-ordination
Apply harmonious and ergonomic measures in numbers, dimensions, weights, co-ordinated and meaningful;

4. Indoor Climate, Furnishing, Installation
Create a cosy and comfortable indoor climate with a minimum of installations and use flexible equipment and furnishing for a suitable atmosphere;

5. Structure, Construction
Design sheltering, load-bearing structures and simple, understandable, durable constructions, which do not make us dependant from much technical means;

6. Material, Energy
Use mainly renewable, endless available, growing, and re-usable, soft, clean building material, and similarly energy for production and exploitation;

7. Production, Building Process
Produce in a human way and by a healthy method; make a wise choice using handicraft or industry, self-help or automation; apply participation;

8. The Art of Joining
Detail, join, connect, and compose the ‘nuclei’ for all building parts and components in a harmonious manner, rather solid, but demountable, simple, efficient; the nuclei or details determine the whole;

9. Use
Optimize the functions towards the best possible use;

10. Ecological Factors
A simple EIA – Environmental Impact Assessment can help to clarify the environmental quality of a design;

11. Human Factors
A simple HIA – Health Impact Assessment can help to clarify the health quality of a design;
How to construct sufficient design processes and reach adequate results?
There are two instruments offered in Figure 2, which can be used in both research and design:

![Figure 2]

*Figure 2*

The instrument, shown at the left hand side, is the palette of topic questions, which if answered concerning a certain problem or task, delivers already a well-built part of the solution. The topic questions help to understand a total design approach.

The instrument, shown at the right hand side, is the star of relevant items related to any scientific, building-technological, or architectural problem. It could be seen in a broader cultural context, as well, or as a table of content within a PhD research study. The secret is the scientific description of each item, not reliant on their technological or even artistic aspect.

How to reach quick consensus with all participants in a design process?
Former cultures knew already consultation as a mean to solve their problems of survival. Since architectural design has a high degree of complexity, it has to be a collaborative and participatory process or in other words – teamwork. Finally, a good design is dependent on the contribution of a number of (design) experts, and, last but not least, of users and clients.

The Method Holistic Participation – MHP, which in a way was re-introduced by Konrad Wachsmann and Walter Gropius around the middle of the last century (and further developed and continued by the author), is an excellent working method, which can help to fulfil systematically most of the needs, criteria, and aims, as mentioned above.

One of the most important aspects within the given theme is to search for consensus for decision-making in the light of a whole life approach between all participants of a design process. MHP is also for this purpose a skilful, operational instrument. The new sociocratic approach (See Ref. 18.) with its management skills confirms those ideas. Nowadays the term mediation came into fashion. Mediation, likewise management, is actually not new. Consultation has already a long tradition, which goes far back to probably even so-called pre-historian periods of human cultures. Consultation with its own typical rules can be seen as a form of mediation. The change of the different - sometimes-opposing - viewpoints amongst the participants makes the impossible often possible when played in a role game.
Consultation, mediation, participation towards new values in architecture; schema shows the integration of (here three) components by a “role game” of designers, experts, users.

The MHP logo, showing the simplified weaving lines of the role game leading from a complex task via creative study and consultation or mediation towards a balanced and optimized result.

MHP is a typical management tool and uses in its centre the method of consultation or mediation in order to build up an optimum of consensus within all participants for a successful common decision-making. MHP is a Planning and Design Decision Support System for cooperating persons or groups of people, all engaged or committed in a more or less commonly task for creating a design and consequently a building.

The various different aspects and/or factors and/or components of a complex problem, as a task for an architectural design, are rhythmically separately explored, and commonly discussed. After each informative and consultative plenum, the participants or groups of small teams go to change their aspect or factor or component in the next working session in order to get the necessary insight as well as influence, and to grow mutual understanding and consensus in the whole of the team. Even opposing opinions can be creatively optimized by the help of this method.
An example of a MHP working scheme, which can be adopted also for smaller or bigger groups, for shorter or longer periods, and for all types of complex tasks.

FUTURE DEVELOPMENT
We will need some idealism and power of realization to change today’s attitudes and habits - within the usual architectural design and management practice - into a convinced aspiration regarding a sustainable, healthy, environmentally sound, and culturally stabilized built environment.

Many publications and international conferences deal with a fashionable environment and health-orientated approach. Very often, actually, it comes out that wellbeing, health, environment, sustainability are only keywords or slogans. A more fundamental approach to those world problems is mostly missing. Nevertheless, we have more chances to change our behaviour than ever before. The world has become ‘smaller’ by the tremendous possibilities of physical as well as information and knowledge connections. Humankind’s consciousness is going to extend and to recognise itself as one family, which lives on one common planet – Our Earth - with its limited resources.

Architecture and building reflects the political and social circumstances of a civilization. There is the opportunity to achieve and to handle architecture and building as a responsible element within our world economy and world culture. It should get an exemplary and representative state, showing how fundamental values could be managed in consensus.

We briefly presented the need for re-defining architectural values and the requirement for co-operation within a design process. Our emphasis on integral design in architectural
management is beyond question. This is the way to a sustainable development and finally to valuable architecture. Some rules of thumb, as an answer for those needs, were specified. Eleven steps to higher architectural values in design process were discussed. For the question “How to construct sufficient design processes and reach adequate results?” there are two instruments offered. Both are also beneficially applicable in education. More over, the Method Holistic Participation is warmly recommended. MHP realises an integral and ‘whole life approach’ design process, where consensus is a key element.

A fruitful architectural management has to integrate the actual and urgent needs of sustainability. This includes – holistically - health of humankind as well as environment, and a balanced economical situation in the whole world. Architecture and building, as major sectors within the world society, are not allowed to wait for comparable changes towards higher values in other sectors. They have to start or to continue with re-valuing architecture in their own responsible way. Then it will be possible to fulfil consumer needs, and to create environmentally conscious and healthy architecture, thus valuable architecture, as discussed in this paper.

![Collage of examples of MHP – managed designs and projects](image)

**Figure 6**

Collage of examples of MHP – managed designs and projects

*Left: a building as an organism, joining all natural renewable resources; Middle: a settlement design with 10 different districts, based on mixed functions; Right: a multifunctional community building for sustainable life within a commune;*

**Bibliography**