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REDUCED RISK SPENDING or ECONOMIC SPACE for ARCHITECTURAL DESIGN

PLANNING, A CULTURE OF RISK MANAGEMENT

There is a general wish for our architectural community to promote research and developmental efforts, especially towards what we may call “apologetic” issues, such as “design added value” and “added quality by planning”, or “good design pays”.

The objectives of our legal institutions towards the building and construction industry are clearly expressed to the same ends.

During the past 20 years, our company has done research work in the field of interrelated elements of **cost of planning** (constituted by cost of definition, design, documentation and confirmation), as opposed to **cost of risks**, errors and faults in the building and construction industry, and the ensuing total cost of quality generated by these elements in our built environment.

THE “SHARK-CURVE” AND “REDUCED RISK SPENDING”

In principle, these interrelations may be expressed by a simple, hyperbolic curve, the “shark-curve” (©) which was first published 1992.

The curve is built on empirical data, and shows how the **cost of risks**; errors and faults, in any kind of project, will be **correlated to resources spent on planning**, in terms of definition, design, documentation and confirmation efforts.

These correlations of the “shark-curve” will naturally be found in any industry with planning and design as a vital chaos-piloting element, and the curve indicates that any “total cost of quality” will be a sum of planning costs (on the x-axis) and the correlated costs of errors and faults (on the y-axis).

These findings are so far presented and published in three Norwegian professional papers as well as one paper on Iceland, addressing three different actors in the construction industry;

Clients, Contractors, as well as Architects / Planners / Engineers.

THE “SHARK-CURVE” AND OUR CLIENTS

The message of the “shark-curve” is remarkably intuitively well understood during contracting and preliminary meetings with our clients of most categories; private and corporate, as well as municipal or federal.

When clients are given the choice of spending a high percentage of their resources on risks, errors and faults due to low investment in planning, represented in the left part of the curve, rather than spending their resources on defined quality and minimisation of risk, represented in the right part of the curve, most people, from corporate economists and engineers to private homeowners, will have their priorities clear.

THE “SHARK-CURVE” AND THE CONTRACTORS

The contractors will normally be the first part to acknowledge the importance of planning, as long as they don't have to pay the bill, and as long as the planning is done well in advance of their own required activities.

To our experience, contractors are rather action-oriented, and not inclined towards planning, which of course comes with the territory.

In our northern European reality, it is well known, if not very well documented, that contractor-based total contracts, where the tasks of planning, design and documentation are included in “give me a building”-contracts, the output will be less defined and specified. In many instances, this may lead to sub-standard quality both in function and detailing, and the buildings are prone to be objects of ensuing lawsuits, as well as short life spans, as the case may be.

In relation to the “shark-curve”, these contractor-based projects are often represented by the left part of the curve, which means low values spent on definition, documentation and confirmation, but high ensuing “forced” values of risk, errors and faults, as well as retro-documentation and legal costs.

There is little doubt that some contractors as well as some clients wilfully tend to speculate in this end of the curve, where low definition, high risk, spot-marked building activities also may give high returns on a good day, a practice that may be found in other risk management professions, such as shipping, trade of commodities and finance. The big difference is that our “built commodities” will be around for a time span of some 50-100 years.

The tab on errors and faults is to be picked up by the rest of the industry, in the forms of low trust and high insurance policies, and by the society at large, in the forms of low efficiency buildings, high maintenance costs, short life cycles etc.

THE “SHARK-CURVE” AND THE ARCHITECTS / PLANNERS

To our surprise, the curve is not readily adopted by our own colleagues. The architects seem to be mainly preoccupied with their formal discussions, whereas the engineering societies seem to be in a position, both professionally and perhaps corporately, to understand the implications of the curve, both in their practices and in the building industry in general.

My main objective towards our own architectural profession, is to point out where and how we may find our “economic space for architectural form”.

The “shark-curve” shows that our economic space for planning and design will have to be carved out by promoting our activities along the x-axis of the curve, as we tell our clients that spending resources on planning, i.e. design, definition, documentation and

confirmation activities, will be money well spent, as compared to resources spent on activities along the y-axis, with little definition, **high risk**, and a likely high percentage of costs spent on errors, faults, retro-documentation, law-enforcing agencies etc.

THE “SHARK-CURVE” AND THE CHOICE OF THE CLIENT

In fact, we ought to give our clients their own choice in the game; Please fill in your own given value x (for planning), and face the **risk** of ensuing y-values (risk of errors and faults) represented by the functions of the curve.

Our clients are ready, and most of them well equipped, to appreciate this choice.

