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Comments on Establishing Appropriate Measurements for the Performance of Buildings and the Serviceability of Facilities by Francis T. Ventre

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In his keynote paper for Panel A, Professor Ventre emphasized the importance of fitness of the measurement for the purpose for which it is intended. The very title for this symposium assumes that a major purpose of today's measures of performance and serviceability is their fitness to the measurement of *overall* performance. How design purpose and performance measurement inform each other is a kernel issue to the accomplishment of overall performance. Both imply the exercise of personal value judgement. Our theories and measurement methods are lacking in understanding such issues. The process of measuring performance may be seen as the mirror image of that of making design decisions: the former attempts the aggregation of discrete performance values for various attributes into overall performance values, from the specific to the general. The latter usually begins from general concepts about designs that may fulfill a set of programmatic performance objectives, and gradually works its way down to the complexity of design systems that will meet established performance measures for each attribute.

Beyond the three successive steps in quantification, as reviewed by Francis Ventre, of naming, ordering and scaling (or rating), we find that weighting and prioritizing methods usually attempt to aggregate element scores into measures of overall performance. *The weighting methods presently in use lack rigor and are impractical.* It is time to remedy the lack of application of decision theory techniques in architectural design and in facilities programming and performance evaluation. Such techniques include: T.L. Saaty's *scaling Method for Priorities in Hierarchical Structures*, and similarity judgement matrices, such as obtained with Kelly's *Repertory Grid* technique, associated with analytical techniques such as non-metric multi-dimensional scaling.

While users need not be fully familiar with the details of the techniques, computer-aided techniques now exist that facilitate their use. Such techniques have been used in marketing for some time and, suitably improved and transposed for use in evaluating *overall* building performance, may strengthen what appears to be a deficiency in both theoretical insight and methodological coherence, an Achilles heel in the laudable enterprise of establishing standards for overall performance.

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