

## From Our Readers

### *Letter to the Editor:*

In my letter published in the *MIS Quarterly* in September 1979 (Volume 3, Number 2) I suggested four characteristics of human behavior that might cause incomplete, incorrect, or insufficient responses to inquiries of managers as to Critical Success Factors.

The letter has prompted considerable discussion between Jack Rockart and myself with input from Peter Keen of MIT. I would like to share the results of the discussion.

<i>Characteristics</i>	<i>Results of Discussion</i>
1. Human capacity for information processing (short-term memory)	Does not apply directly to CSF
2. Bounded rationality	These are constraints which must be considered by analyst using CSF
3. Human ability to evaluate probabilities and to identify causality	
4. Biasing effect of availability of data	

The critical success factors method in eliciting responses has been shown to be successful, but a person who uses the CSF method should keep in mind the limitations of response. The CSF method will not always elicit the information executives actually *need*. Rather, it will elicit information they feel they need (an important consideration).

Depending on the type of system being developed, the analyst may (1) accept and implement the CSF information needs as expressed, or (2) perform procedures to provide assurance that the CSF requirements are complete and correct.

The implement as stated option may be appropriate for systems that are designed to evolve, such as decision support systems or some managerial monitoring systems where exact data needs are unclear where a "support now, evolve later" philosophy has worked well, and appears correct. A process of clarification and assurance may be appropriate for systems with requirements that need to be and can be more stable.

A related set of issues were raised by my statement that an analyst needs an *analytical model* to use in eliciting and evaluating CSF responses. A model used by an analyst needs to be fairly simple. It can, however, be more explicit and comprehensive than the implicit models being elicited from managers. This leads to the question as to whether the analyst is a "blank slate" on which the manager writes the critical success factors or the analyst is an active participant in helping to elicit and shape the CSF's. The consensus Rockart and I have arrived at is that the more background understanding of the business an analyst has developed prior to undertaking his CSF interviews, the better the outcome will be. He will understand the executive better and will be able to clarify some responses and even help shape the CSF's which result.

The value and role of explicit versus implicit models for the analyst to use in interacting with the manager needs further discussion.

It is clear that the CSF approach has the merit of addressing one of the most critical problems for systems development: the strategic design criteria. Far too often, we develop the wrong system from the users viewpoint. Rockart's work is a step forward, in the direction he and I want MIS research to go. Given this, our interchange suggests a variety of interesting and useful topics for research and discussion on CSF. Some examples are:

- empirical evidence on biases when managers define critical success factors (studies on one or more of the three limits)
- the evolution of manager's perception of critical success factors
- implicit models used by analysts when eliciting information requirements
- the relative effectiveness of implicit versus explicit models by analysts in eliciting information requirements

There have been many methodologies proposed and used in information systems analysis and design that have not been fully enough researched nor has experience in their use been documented. Additional research and experience sharing among MIS researchers are needed. CSF is an example where this research and experience sharing process may improve our ability to effectively understand and most effectively use the method.

Gordon B. Davis  
University of Minnesota  
(after discussion and  
input from John F.  
Rockart and Peter G. W.  
Keen)

### ***Letter to the Editor:***

In enjoyed reading Gordon Davis' comments on "Critical Success Factors" in the recent September 1979 issue of the *MIS Quarterly*. I have to respond.

Consider that without CSF's, all the possibilities for failure which Davis discusses still exist. If anything, the CSF approach brings more order — more potential for getting the truly important information than the absence of that or a similar approach.

Some managers will make mistakes as Davis indicated, but *they* are responsible, *they* will discover/correct them, or maybe *they* will fail. That is, after all, the name of the game.

This is not to say that Davis' comments are not a caveat for those contemplating the use of CSF's. They should be heard and heeded by anyone who attempts to casually or quickly use the process. My opinion is that they are not a significant risk for anyone who approaches the process with the intensity appropriate for factors which are so critical to success.

James H. Scott  
Manager, Operational and  
Development Department  
Management Systems Division  
Procter & Gamble Company