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Panel 7: Information Systems Development: Product or Service?

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PANEL 7

Information Systems Development: Product or Service?

Chair: Joseph G. Walls
University of Southern California

It is often observed that MIS departments have great difficulty in adequately meeting their customers needs. Perhaps we can gain some insight into how we can better manage operations and improve customer service by looking to the operations management (OM) field.

Researchers in OM investigate problems associated with managing the production of products and services. Most work in the field has been in the manufacturing arena. Attempts to adapt approaches developed in the context of manufacturing to the management of services are often thwarted because of significant differences between products and services. Among these are:

1. The consumer participates in creation of a service but not in the creation of a product.
2. Services are produced and consumed simultaneously.
3. Unlike products, services cannot be inventoried.
4. Manufacturing operations may be located almost anywhere but consumer location dictates the location of service operations.
5. Services are less tangible than products.
6. The output of service operations are more difficult to measure than the output of manufacturing operations.
7. Services tend to be less standardized than products.

These characteristics have significant implications for both the process by which products and services are created and the way in which service operations and manufacturing operations are managed. In recognition of the differences between how manufacturing and services should be managed, a whole new subfield of OM known as "service operations" management has emerged.

In the context of MIS, "lip service" is often paid to the idea that an MIS department is a service operation. Even though there have been limited efforts to incorporate service principles into MIS operations (e.g., information centers), the full set of implications of viewing MIS as a service operation have not been developed. In particular, the systems analysis and design (SA/D) process has traditionally been viewed as resulting on the construction of a product or good. This implies that techniques applicable to SA/D are akin to those in manufacturing. Upon consideration of the seven characteristics of services listed above, however, it may be argued that systems analysis and design (SA/D) is itself a service operation.

This panel will focus on issues associated with these alternative views of systems analysis and design and on the implications of these two perspectives for both the perceptions and behavior of systems analysts and their clients.

Product View of Systems Analysis and Design

Randolph B. Cooper
University of Michigan

The traditional system development life cycle likens the process of designing and building an information system to the construction of a building or a custom-made piece of machinery. This is definitely a product oriented model and it has been highly successful.

Service View of Systems Analysis and Design

Omar A. El Sawy
University of Southern California

Although there have been limited efforts to incorporate some service principles in the areas of end-user support and information centers, in many other areas of MIS the service aspects have been underemphasized and, in some cases, virtually ignored.

It is clear that systems analysis and design has most, if not all, of the characteristics of a service. I therefore believe that, for those engaged in this process, a service mindset is preferred over a product mindset. Advantages to be gained from viewing the systems analysis and design process as a service will be highlighted.

Implications of the Two Views for the Systems Analyst

Lance B. Eliot
University of Southern California

People do as they believe. A mental model held by a systems analyst will serve to guide the analyst's behavior during a systems study. If the mental model has a dominant theme that involves a product orientation, then the analyst will tend to act in a product producing mode. Alternatively, a service oriented mental model is likely to create behavior which treats systems analysis and design as a service producing operation.

In essence, focusing on information systems as one kind of business structured phenomenon (e.g., product or service) will have significant implications for the *study* and *practice* of systems analysis; in particular, some concern should be given to the analyst's belief.

Implications of the Two Views for the Customer

Fred D. Davis
University of Michigan

A user may view the systems analysis and design process as a service or simply view the resulting information system as a product. His perception will affect factors such as how involved he will become in the specification of the end result. Ultimately this will affect his degree of acceptance of the information system. Furthermore, if the user takes one view and the systems analyst another, problems will undoubtedly arise.