The Changing Roles of the Systems Analyst

DAVID GRAF
Northern Illinois University

MARK MISIC
Northern Illinois University

The role of the systems analyst continues to be integral to the backbone of the organization—the organization’s information system. The nature of the systems analysts’ activities and work environment has undergone many changes in recent years. A more computer literate user community, new systems innovations, and a move toward cooperative systems development have contributed to these changes. This study attempted to develop and clarify the roles of the systems analyst based upon the frequency of selected systems analyst activities within the context of human relationships encountered by the systems analyst.

A systems analyst is an ambiguous title that has been used to describe everyone from programmer to team leader. In spite of its shortcomings, this title comes closest to defining the person (or persons) who play the most critical role in systems development, and who have the ultimate responsibility of overseeing the system project from inception to maintenance.

Although the position of a systems analyst didn’t emerge at the same time as computer technology became available, those involved in developing computer applications quickly recognized the need for such an individual. A great deal of energy and effort was initially directed toward making the early computer systems produce output. In time, organizations and individuals became more demanding in terms of what the system was to do, how the system did it, and who decided how the system would operate. Out of this need, the position of systems analyst emerged. Today there is almost unanimous support for the need of systems analysts to successfully develop information systems.

The activities of the systems analyst are varied and changing. Systems analysts today know more about business and users know more about computing (Senn, 1989). Current literature suggests that the 1990s will be quite different from the 1980s, that the technological focus will not be on computational technology, but on information access (Straub and Wetherbe, 1989). Besides technical skills and business understanding, the systems analyst must also possess strong interpersonal skills (Wetherbe, 1988). MIS research recognizes interaction between systems analysts and users to be a key dimension of information systems design and implementation. The spirit of cooperation, be it within a more traditional Systems Development Life Cycle model or
within a prototyping model, has added many new skills and activities needed by the successful systems analyst of the 1980s and beyond. This study attempts to clarify the roles of the systems analyst based upon the frequency which selected systems analyst activities are performed within the context of human relationships encountered by the systems analyst.

**General Description of the Problem**

This study examined the frequency of systems analyst activities within human contexts in order to clarify the analyst’s roles. Three research steps were established for the study:

1. To determine the estimated frequency selected activities are performed by systems analysts.
2. To determine the human contexts within which the selected activities are performed.
3. To analyze the responses to define the roles of systems analysts.

Current research in the area of identifying and defining systems analyst activities within human contexts has been limited to the validation and ranking of tasks and skills. Tasks represent specific pieces of work or duties. Skills relate to the ability to do something well. Activities, the focus of this study, are more broadly defined as spheres of action. The current research is helpful in identifying tasks or skills in order to categorize them as activities. For purposes of this study, a combination of traditional and recent tasks formed the basis of the systems analyst activities.

Systems analyst activities are not performed in a vacuum. Complex systems increase the need for purposeful interaction between technology-wise users and systems analysts. The literature concurs that an increasing amount of the systems analyst’s time is spent interacting with other professionals. These professionals include MIS professionals and personnel from functional areas of the organization. Time is also spent doing individual activities.

Prior research offers little empirical evidence of which systems analyst activities are performed in various human contexts. Also, the wide variation of instruments constructed, techniques used, information professionals sampled, and the age of much of the research leaves room for additional investigation.

**Prior Research**

The research related to this study can be broadly categorized into two major areas based on the primary focus of the research: 1) specific tasks and skills; and 2) the roles and interactions of systems analysts.

**Specific Tasks and Skills.** This area of research is most relevant to this research project since it led to the development of the activity list. Research studies were conducted from the mid 1980s to early 1990s to learn more about the evaluation, psychology, and skills of the systems analyst. Guimaraes (1980) sought to develop a skills hierarchy for systems analysts and provides a starting point for developing a list of important skills. Skills requirements based on employment trends and subjective management perspectives are presented by Cheney and Lyons (1980). A similar approach was taken by Alloway (1980) in interviewing management and analysts to determine what skills were considered important, and also which skills were rewarded by management. The 1972 ACM curriculum study and subsequent modifications in 1982 also provided relevant skills and skill category background (Nunamaker, 1982). Other researchers (Nelson, 1991; Vitalari and Dickson, 1983) refined existing knowledge/skill and activities lists to conduct personnel evaluation research. Vitalari (1985) further developed a list of knowledge categories that practicing analysts actually use when solving systems analysis problems.

Personal history, activities, and an attitude questionnaire was yet another approach used to predict the success of a systems analyst (Bryant and Ameen, 1976). Skill requirements across a dimension of “organizational maturity” was tested by Benbasat, Dexter, and Mantha (1980) to determine whether the skills required of a systems analyst needed to change as the organization matured.

**Role and Interactions of Systems Analysts.** Research in this area included research on the changing role of the systems analyst (Sayani, 1976) and the difficulty of explicitly defining what the role of a systems analyst is (Addlemen, 1976; Dance, 1976; Ho, 1976). More recent research studied the perceived importance of systems analysts’ job skills and roles (Green, 1989; Scharer, 1982). Green surveyed users and systems analysts and looked at the perceptions each group had toward the role of the systems analyst. Comparisons were also made of users and systems analysts who worked on system development and design teams (Kaiser and Bostrom, 1982).
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