Business Software Specifications for Consumers: Toward a Standard Format

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ABSTRACT

Commercialized business application software packages have been widely used to implement business information systems. In order to determine whether a software package meets the system needs, consumers must check the software specifications against the target system requirements. Since the commercial software industry does not have a standard format of software specifications for consumers, free-formatted descriptions of application software and ad hoc demos are commonly used in marketing software products, but are often too ambiguous for consumers to uncover the implemented capacity. This paper proposes a model of commercialized business software specifications for consumers. It suggests that software packages need to provide specifications for consumers in four aspects: business operations, user-computer interfaces, user-perceived inputs and outputs, and business rules. Using an example, the paper demonstrates the implementation of the model.

Keywords: information analysis techniques; information requirements analysis; information technology adoption; requirement specification; system analysis methods; system documentation; user orientation; user requirements

INTRODUCTION

Information systems analysis and design lies in the core of the information systems discipline. The techniques and approaches of information systems analysis and design are continually renovated. About 15 years ago, systems analysis and design projects were more likely to place the focal point on the use of databases and fourth-generation languages to implement real business information systems. Gradually, systems users and consultants found that commercialized business application software packages were readily available in the software market. According to the author’s observations over the past decade in supervising 428 real-world MIS (management information systems) analysis and design projects, the percentage of business applications that can be implemented by using commercialized software packages has dramatically increased since 1994 (Figure 1). Clearly,
the phenomenon and the trend observed are based solely on the author’s personal experience, and the claim may not be generally valid. Nevertheless, the observed real-world cases indicate that about 90% of small or middle-size business applications can be implemented by using off-the-shelf software packages. One can shop online to find a low-price and well-designed laundry management system, salon management system, and flower-delivery management system, to name a few.

As a result of the proliferation of commercialized business application software, for most business information technology professionals, the tasks of system design and implementation have been shifted from software construction to software system adoption. Nowadays, assessment of strategic values of software systems has become the central issue of systems development (Jurison, 2000). In this view, the theme of systems analysis and design for business enterprises has been shifted from system construction to system acquisition. In the traditional systems analysis and design cycle, system specifications are used for software development. However, in the system acquisition analysis cycle, specifications of software systems are needed for software consumers in choosing commercialized software packages that best match their system requirements. Accordingly, specifications for software construction and specifications for consumers, which are so called acquisition specifications, play different roles, as depicted in Figure 2.

The software industry has various specification instruments with de facto standards for business software development, such as data flow diagrams (DeMarco, 1978; Gane & Sarson, 1979), UML (unified modeling language;
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