**Information Systems Example**

Our job is to develop a system to sell advertising time for Piccadilly Television, the holder of a regional British television franchise. As we shall see, the constraints on the price of television time are many and varied, so the problem is both interesting and difficult.

In Britain, the broadcasting board issues an eight-year franchise to a commercial television company, giving it exclusive rights to broadcast its programs in a carefully defined region of the country. In return, the franchisee must broadcast a prescribed balance of drama, comedy, sports, children’s and other programs. Moreover, there are restrictions on which programs can be broadcast at which times, as well as rules about the content of programs and commercial advertising.

Piccadilly attracts most of the Audience in Midlands UK. Thus Piccadilly must set its rate to attract a portion of advertiser’s budget. One of the ways to attract an advertiser’s attention is with audience ratings that reflect the number and type of viewers at different times of day. The ratings are reported in terms of program type, audience type, time of day, and Television Company. But the advertising rate depends on more than just the ratings. For example, the rate per hour may be cheaper if the advertiser buys a large number of hours. Moreover, there are restrictions on the type of advertising at certain times and for certain programs. For example:

* Advertisements for smoking may be shown only after 9 PM
* If an actor is in a show, then an ad with that actor may not be broadcast within 30 minutes of the show (15 minutes before and 15 minutes after the show)
* If an ad for a class of products (such as an automobile) is scheduled for a particular commercial break, then no other ad for something in that class may be shown during that break.