

Implications on Operation

Given
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The Impact of sophistication on other aspects of the operating system and its environment is great. For example.

1. There tends to be a bigger gulf between a system and its administrators. The guy who has to decide to order $\$$ more core is frequently ~~unable~~ not in a position to know why it's needed. He needs simple guidelines for complex decisions.
2. The operating staff must be trained up.
 - i. Potential for a disaster is high (e.g. - a single mis-set switch could screw up file system and require re-load of all information)
 - ii. As users become anonymous people-at-a-distance, operators find they are alone in the control room - ~~at~~ almost always.
 - iii. Operation become question of priority - must want paper tapes; ~~access~~ etc.
 - iv. operation room takes on aspects of a telephone exchange.

3. A first-class maintenance team is required.

But what is that maintenance?

Must give them challenging jobs over head of system to keep their interest and willingness to spend much time going after dull bugs.

4. Tendency of changing systems goes up.

i. Sheer problem of installing a new system - large tapes, etc.

ii. Many more opportunities for a small change than to have hidden effects.

iii. Utility dependence discourages frequent risk of exposing users to new systems.

Let us look at the various operating implications

- a. A security force, which challenge the systems claim that it is protecting privacy.
- b. A compliance bureau and a responsive consultation staff, with contacts through to system programmers.
- c. A locksmith, who can outangle mistakes in use of privacy releasing mechanisms (e.g., lost password)
- d. Administrative policy/planning/ordering/accounting functions.
- e. Editorial boards, to decide which user activities should go in the library. (Amplified with on-line, shared information systems.)
- f. Off-line communication paths - newsletters, etc, to keep people informed of each others work so they can share easily.
- g. Learn with telephone communication people - (You have to learn how to live with the telephone system - it isn't going to adapt to you.)

- ii. Auditors, who verify that internal usage accounting is fair and accurate.
- iii. System management and tuning to keep it matched to the load presented by the user community.

Observation: Operating Monotony is very high - you can't drastically change a system like this overnight, e.g., conduct - if service is important - you can't be down for six weeks while changing computers.