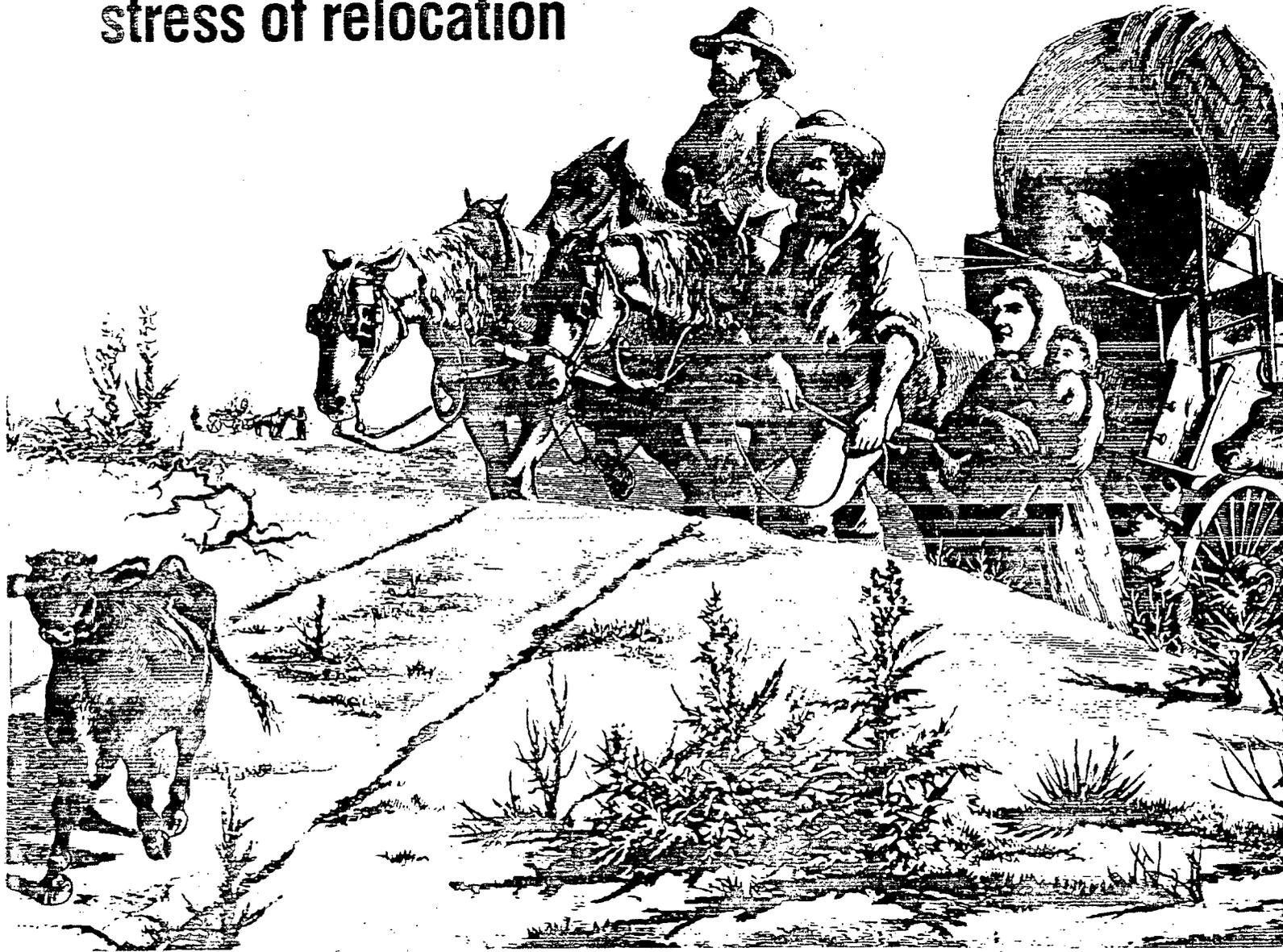JULY 1980

MANAGEMENT *Review*
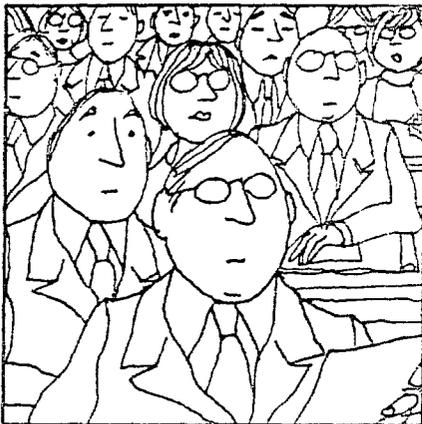
Managing organizational culture
How Peking's joint venture laws will work
The sexual side of enterprise

The high cost and stress of relocation

Getting the best results from a newly installed automated information
control system often depends on how management conducts . . .

The post-implementation review

PAUL S. BENOIT

COMPUTERIZED INFORMATION SYSTEMS
fall short of their objectives unless they
are well-managed. The post-imple-
mentation review phase of automated in-
formation system development work is a
crucial time for exerting management
control. The review provides manage-
ment with a feedback mechanism that can
measure the project results and gather
data necessary to analyze what, if any,
corrective action is required before be-
ginning another system development ef-
fort.

Broadly speaking, management wants
to know whether the system was de-
veloped, converted, and implemented
within cost estimates; whether it was im-

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plemented on schedule; whether its per-
formance is acceptable; whether actual
benefits are at least equal to the projected
benefits; whether it is operating within
cost estimates; and what corrective action
is required.

The project leader, together with
members of the original development,
conversion, and implementation team,
performs the post-implementation re-
view. During the review, facts are
gathered and analyzed to measure project
objectives against the results. Significant
deviations, such as plus or minus varia-
tions established by the organization as
unacceptable, are identified and
analyzed. Appropriate recommendations
for corrective action are developed. A
post-implementation review report is
written and submitted to management.

Identifying objectives

Identifying the project objectives is a
necessary first step in determining
whether they were met. The system pro-
posal that documented the original rec-
ommendation to management for system
development, conversion, and im-

plementation should provide the review
team with the developmental, conver-
sion, and implementation cost estimates;
the detailed schedule for developing,
converting, and implementing the sys-
tem; the layout of the proposed system;
the quantitative and qualitative benefits
expected; and the estimated cost of
operating the system.

Measuring results

Gathering the data to be used in
measuring results against the objectives is
the next step in the post-implementation
review process. Actual costs through im-
plementation and completion date infor-
mation should be available from the or-
ganization's project control system and/or
financial accounting records.

Since systems are designed for users,
the user's satisfaction is the ultimate test
of whether the system is performing ac-
cording to design specifications. Inter-
views and questionnaires are two ways of
collecting the desired information. A
third way is to review data frequently
maintained within the data processing or-
ganization to identify danger signals that

System Overview: From Start to Finish—and Review

System Proposal	Project Control System		Post-Implementation Review	Corrective Action
• Cost Estimates • Detailed Schedule • Output • Benefits		System Development, Conversion & Implementation	• Objectives • Results • Deviations • Recommended Action	
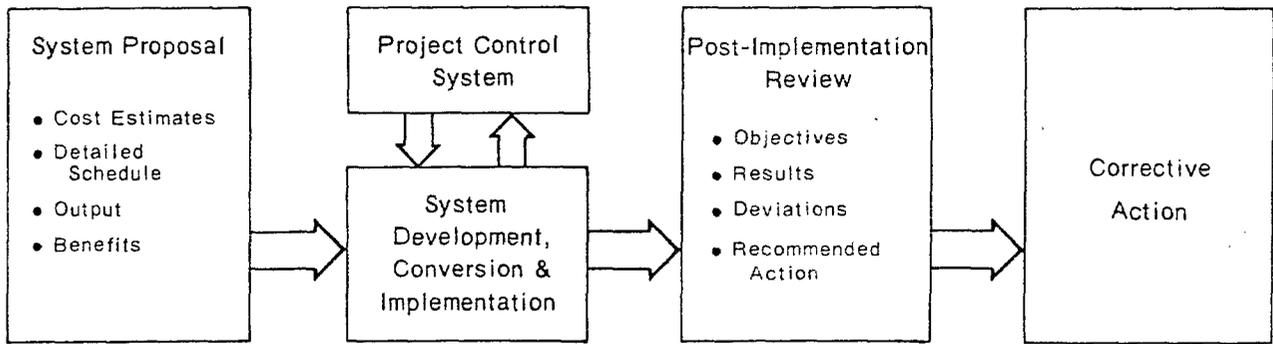
indicate less than satisfactory system performance and/or problems with the basic proposal, development, conversion, and implementation process. Examples of such danger signals are:

- A high error reject or rerun rate; a high incidence of untimely, inaccurate, or incomplete output; and a high degree of user dependency on data processing personnel for instruction on interfacing with the new system.
- A large amount of hardware downtime and frequent changes in nonapplication system software, in basic system design, and in the application program.
- Numerous input layout redesigns, master file recreates, abnormal application program terminations, and output layout redesigns.

Determining whether the quantifiable and nonquantifiable benefits were achieved may require considerable effort depending on the complexity of the project objectives. In general, benefits derived from developing and implementing information systems fall into two categories: (1) lowering costs and (2) obtaining more accurate, complete, or timely information that is in turn used to further the organization's goals. During the review, facts and figures will have to be obtained from a variety of sources, sorted, and analyzed in order to arrive at meaningful conclusions. Actual costs for operating the system should be available

from the organization's financial records.

Determining corrective action

Once deviations and danger signals are identified, the root causes must be determined by the review team. For example, a slipped target date may indicate any number of problems such as poor estimating techniques, an inadequate work breakdown structure, or a project control system with an inadequate feedback mechanism. A high reject error rate may indicate that user personnel were poorly trained in preparing input for the new system or that input layouts are confusing. A high rerun rate may indicate that personnel were poorly trained in processing data under the new system or that there is a complete lack of, or inadequately prepared, processing instructions.

The causes of the deviation and danger signals will generally fit into the following categories:

- Lack of clear objectives or clearly delegated responsibility and accountability.
- Inadequately detailed plans for achieving objectives, insufficiently staffed project, under trained staff, or poorly motivated and coordinated personnel.
- Inadequate resources allocated to the project; a need for standardized procedures for personnel to follow; weak

organizational structure; poorly drawn performance standards; an inadequate measuring and feedback system; or a failure to take appropriate corrective action.

The categories listed above were developed from a generalized management process model (R. Alex Mackenzie, *Harvard Business Review*, November/December 1969). The fact that the causes of the deviations and danger signals fit so logically into these categories leads to the conclusion that system development, conversion, and implementation failures can be attributed, largely or entirely, to a bypassing of basic management process functions. The Mackenzie or other management process models can be used as guidelines for arriving at recommended corrective actions. For instance, to follow through on the high reject rate example used earlier, a recommendation might be that user personnel be given additional training. Once the recommended corrective actions are developed, the post-implementation review report is made final and submitted to management.

After receiving the report, management takes appropriate action. This action will generally involve management process improvement, procedural documentation or standardization, or the upgrading of personnel skills. However, in more extreme cases, management may have to terminate employees or abort the newly implemented system. ●