

- Lunsford, T. F. (ed.): *The Study of Campus Cultures*. Boulder, Colo.: Western Interstate Commission on Higher Education, 1963.
- Martin, J. "Can Organizational Culture Be Managed?" In P. J. Frost, L. F. Moore, M. R. Louis, C. C. Lundberg, and J. Martin (eds.), *Organizational Culture*. Newbury Park, Calif.: Sage, 1985.
- Ott, J. S. *The Organizational Culture Perspective*. Chicago: Dorsey, 1989.
- Ouchi, W. G., and Wilkins, A. L. "Organizational Culture." In A. Westoby (ed.), *Culture and Power in Educational Organizations*. Philadelphia: Open University Press, 1988.
- Peters, T. J., and Waterman, R. H. *In Search of Excellence: Lessons from America's Best-Run Companies*. New York: Harper & Row, 1982.
- Peterson, M. W. "Emerging Developments in Postsecondary Organization Theory and Research: Fragmentation or Integration." *Education Researcher*, 1985, 14 (3), 5-12.
- Peterson, M. W. "The Organizational Environment for Student Learning." In J. S. Stark and L. A. Mets (eds.), *Improving Teaching and Learning Through Research*. New Directions for Institutional Research, no. 57. San Francisco: Jossey-Bass, 1988.
- Peterson, M. W., Cameron, K. S., Jones, P., Mets, L. A., and Ettington, D. *The Organizational Context for Teaching and Learning: A Review of the Research Literature*. Ann Arbor: National Center for Research to Improve Postsecondary Teaching and Learning, University of Michigan, 1986.
- Reisman, D., Gusfield, J., and Gamson, Z. F. *Academic Values and Mass Education: The Early Years of Oakland and Monteith*. New York: Doubleday, 1970.
- Schein, E. H. *Organizational Culture and Leadership: A Dynamic View*. San Francisco: Jossey-Bass, 1985.
- Sherkenback, W. W. *The Deming Route to Quality and Productivity: Road Maps and Roadblocks*. Washington, D.C.: CEEP Books, 1988.
- Snow, C. P. *The Two Cultures and the Scientific Revolution*. New York: Cambridge University Press, 1959.
- Thelin, J. R., and Yankovich, J. "Bricks and Mortar: Architecture and the Study of Higher Education." In J. C. Smart (ed.), *Higher Education: Handbook of Theory and Research*. Vol. 1. New York: Agathon, 1985.
- Tichy, N. M. *Managing Strategic Change: Technical, Political, and Cultural Dynamics*. New York: Wiley, 1983.
- Tierney, W. G. "Organizational Culture in Higher Education." *Journal of Higher Education*, 1988, 59, 2-21.
- Veysey, L. R. *The Emergence of the American University*. Chicago: University of Chicago Press, 1965.
- Webster, D. S. "James McKeen Cattell and the Invention of Academic Quality Ratings, 1903-1910." *Review of Higher Education*, 1985, 8, 107-121.
- Wilkins, A. L. "The Culture Audit: A Tool for Understanding Organizations." *Organizational Dynamics*, 1983, 12 (2), 24-38.
- Zucker, L. G. "Where Do Institutional Patterns Come from? Organizations as Actors in Social Systems." In L. G. Zucker (ed.), *Institutional Patterns and Organizations: Cultures and Environment*. Cambridge, Mass.: Ballinger, 1988.

Marvin W. Peterson is director of the Center for the Study of Higher and Postsecondary Education and chair of the Program in Higher and Adult Continuing Education at the University of Michigan, Ann Arbor.

Melinda G. Spencer is a doctoral student in higher education at the University of Michigan, Ann Arbor.

Ethnographic auditing is another tool in the institutional researcher's arsenal, enabling the researcher to interpret the cultural aspects of the organization in order to facilitate its academic mission.

Ethnographic Auditing: A New Approach to Evaluating Management

David M. Fetterman

As educational institutions enter a new phase in their confrontation with fiscal realities, educational evaluators are developing new tools and new concepts to meet changing needs and priorities. Traditional auditing and fiscal evaluation were the tools of choice in the late 1970s, as declines in the national economy and the consequent drop in federal spending forced educational institutions into a period of retrenchment (Bowen, 1979; Mayhew, 1979; Riesman, 1979; Wolotkiewicz, 1980). Many institutions responded to difficult fiscal times with arbitrary budget cuts and wholesale elimination of noncore programs and of departments with low enrollments (Jedamus, Peterson, and Associates, 1980; McCorkle and Archibald, 1982).

As universities steadily attempted to increase operational productivity in quantity and quality during the 1980s (Garvin, 1980; Hopkins and Massy, 1981; Karol and Ginsburg, 1980; Van Maanen, 1983; Wolotkiewicz, 1980), the number of staff members increased, the overhead or indirect rate soared, and financial sources continued to dry up ("Stanford Erupts . . .," 1990; Grassmuck, 1990). University management is now struggling with these new realities, often resorting to widescale staff layoffs. The need now is for streamlining and simplification, and for evaluative tools to assist management in its pursuit of these goals. In this context, both traditional evaluation and traditional auditing have been useful in streamlining operations and increasing productivity. Although these approaches differ in their guiding principles and topical interests, they share common goals: to improve the educational institution and to facilitate the educational mission. In-

ingly, educational evaluators and university auditors are drawing on each other's concepts and techniques. Clearly, a synthesis of the two approaches will both deepen and broaden the scope of educational evaluation in institutions of higher education.

This discussion introduces ethnographic auditing as a vital new approach to evaluating management in higher education. The introduction of ethnographic auditing is a conscious effort to redirect research in higher education and to provide a new conceptual outlook toward the evaluation of management.

Ethnographic auditing is the application of ethnographic or anthropological concepts and methods to the appraisal of administrative controls over organizational resources. By adopting an ethnographic auditing approach, the evaluator or ethnographic auditor can focus on resource control, a topic that is fundamental to sound management.

The value of ethnography in educational research has been amply demonstrated in various collections (for example, Fetterman, 1984; Fetterman and Pitman, 1986). Ethnographic techniques help to describe how a program works—the processes and interrelationships of program practice (Patton, 1980; Miles and Huberman, 1984; Taylor and Bogdan, 1984; and Fetterman, 1988c, convincingly support qualitative approaches in educational research). Auditing has a similarly well-established, albeit unpopular, role in educational administration and evaluation. (Typically, auditing is categorized as fiscal or operational in nature. Fiscal auditing focuses on accounting and compliance issues: The emphasis is on establishing accuracy in financial reporting. Operational auditing subsumes fiscal auditing: It focuses on such administrative concerns as the duplication of resources, transaction flows, and system bottlenecks. Staffing levels and budgetary controls are also overarching concerns of the operational auditor; see Sawyer, 1981; Rittenberg, 1977.) Together, these two methods of assessment form a qualitatively different approach to the study of higher education. On the one hand, applying an ethnographic approach to audit concerns transcends fiscal auditing, improves operational auditing, and enables the evaluator to capture the multiple realities of university life. On the other hand, using audit concerns as a focal point for ethnographic data collection and analysis increases the relevance of the evaluator's findings and recommendations to educational management. In an educational institution, management is the support mechanism that enables the departments to pursue their given academic mission successfully. Ethnographic auditing tests the ability of this infrastructure to support the educational process.

This discussion is based on nearly a decade of ethnographic auditing at Stanford University and other institutions of higher education in such areas as the chemistry department, the physics department, the library, accounts payable, the personnel department, a teaching hospital

pharmacy and emergency department, and a linear accelerator. The examples are extracts from in-depth case studies and illustrate how ethnographic auditing has become an instrumental means of measuring and shaping the effectiveness and efficiency of management in higher education (Fetterman, 1986). Ethnographic auditing highlights the roles of culture, subculture, values, rituals, and physical environment in higher education management. In addition, this approach demonstrates the economic consequences of adopting various philosophical orientations or world views, the role of management information systems, the value of data bases for decision making, and the roles of judgment and honesty in management.

Guiding Principles: Appraisal, Description, and Control

Ethnographic auditing combines elements of ethnography, evaluation, and traditional auditing. It draws on ethnographic methods of description and anthropological concepts to guide inquiry and interpretation, uses evaluation to make a judgment or appraisal of the system under study, and borrows a traditional auditing focus on resource control and existing fiscal and operational controls.

As in ethnography, ethnographic auditing requires a survey period in which the auditor determines the most important areas of investigation, in addition to those routine or already prescribed areas. This survey involves a typical ethnographic, grounded theory approach (Glaser and Strauss, 1967). The auditor must develop a proposal including objectives and a time line and budget. As in contract research, the auditor then negotiates with managers or directors to determine the amount of time allotted to complete the audit and the methodology. The end product is a plan to assess the degree of control a departmental manager, director, or chairperson has over operations, whether on the academic or on the business side of the university.

The auditor borrows methodology for this study from various fields. Evaluation and psychology contribute random sampling to test a population's attributes and discovery sampling to identify a particular entity or problem. Judgment sampling, or purposive sampling, and interval sampling are among the most common tools in ethnographic auditing. Typically, the auditor's judgment takes precedence over statistical sampling. Most of the data are recorded on spreadsheets in a tick-and-check fashion—a vestige of traditional auditing's accounting or financial origins. Budget and inventory calculations are routine. Increasingly, universities are hiring ethnographers and other social scientists to analyze departments from a systems perspective to determine whether any bottlenecks, dysfunctional organizational structures, or conflicting cultural values inhibit day-to-day operations or productivity.

Formative Evaluation

Ethnographic auditing provides a formative evaluation of the management process in the educational institution. Such audits are ongoing evaluations of management's ability to plan and analyze departmental data for decision making, ranging from budget forecasting to calculating staffing levels and equipment needs. Ideally, the ethnographic auditor serves as a management consultant, aiding and assisting management (Matthews, 1983). The auditor communicates findings throughout the study by means of audit memoranda. These memoranda identify key concerns and test interpretations of events or activities. Minor infractions involving compliance issues such as a past expiration date on a piece of equipment, a minor bookkeeping error regarding a par value or stock number, or a potentially embarrassing personnel problem can be remedied in the course of an audit and thus often do not appear in the final report. In the process, the ethnographic auditor establishes a healthy rapport with management.

Ethnographic auditing looks for manifestations of meaning, cognition, competence, and quality. It speaks the language of management: translating budgets, ledgers, equipment rosters, and numerous other forms of fiscal information into pragmatic assessments of the present and recommendations for the future.

Role and Access

Unlike the stereotypic Internal Revenue Service agent or the external auditor, the internal ethnographic auditor—or management consultant (see Sawyer, 1981; Brink, 1982; and Rittenberg, 1977, for reviews of modern internal auditing)—works for the institution. As a result, internal auditors have access to all facets of the organization. They also have internal support: senior management benefits from the internal auditors' assessment of their operation and supports the auditors' efforts, often to protect themselves from external inspections, evaluations, and audits. During an audit, senior management generally sends the word out to the staff that they are to hold nothing back from the internal auditors. As long as the internal auditors demonstrate that they are there to help management, information flows freely. In fact, the auditors have immediate access to information not accessible to most evaluators or ethnographers. Further, auditors work on site every day, much as ethnographers do, becoming immersed in the minute details of daily operations.

Unfortunately, the label "auditor" carries a general stigma (Goffman, 1963). A second problem involves the law of diminishing returns. There is a limit to the amount of probing and testing individuals will tolerate. Time, experience, and open discussion are required to dispel misperceptions and inaccurate assumptions and to ease tensions. Professional judgment will always be the most significant factor determining acceptance in the field.

Contribution of Ethnographic Auditing to Management

From the traditional auditor's perspective, a vital question is, Does management have control of its operation? Control requires valid and reliable data, checks and balances, and security. Accountability is fundamental in management. Locating a problem as soon as possible is essential to putting the organization back on course. Built-in mechanisms of accountability allow management to monitor and test old and innovative approaches. Traditional auditing focuses on such operational components as a department's operational efficiency (including productivity), planning and analysis, data for decision making (management information systems), supervision, work space, staff development, and record-keeping practices.

Ethnographic auditing adds to that process a cultural level of analysis. Understanding what makes management tick is at the core of ethnographic auditing. Organizational culture typically consists of shared knowledge about specific status levels, overlapping hierarchies, specific languages, sacred symbols, rituals, and behavior. "A strong culture is a system of informal rules that spells out how people are to behave most of the time" (Deal and Kennedy, 1982, p. 15). An anthropologist studies a culture to learn the insider's cultural knowledge and so better understand the patterns and processes of that culture. Similarly, the ethnographic auditor learns the cultural knowledge that underlies organizational behavior.

In the distinct culture of a university, efficiency and sound fiscal planning must be weighed against the need to provide an environment conducive to education and exploration. Studying a university from a cultural perspective provides concepts to guide inquiry and interpretation. Methodologically, a cultural approach offers effective techniques to conduct operational audits in the same manner in which they have been applied to evaluation (Fetterman, 1984, 1988a, 1988b, 1988c, 1989a, 1989b; Fetterman and Pitman, 1986). Anthropological methods of particular value in this context include participant observation (Pelto and Pelto, 1970; Spradley, 1980), key informant interviewing (Spradley and McCurdy, 1975), informal and structured interviews, expressive autobiographical interviews (Spindler, 1970), and triangulation, which involves incorporation of multiple methods into the investigation and analysis of the phenomenon under study (Webb, Campbell, Schwartz, and Sechrest, 1966). Participant observation is immersion in a culture. It combines participation in the lives of the people under study with maintenance of a professional distance that allows adequate observation and data collection. Although ethnographers and ethnographic auditors try to speak with as many people as possible while in the field, time is always a factor. Therefore, ethnographic researchers typically rely most heavily on one or two highly articulate and culturally sensitive key informants or actors to provide historical data, knowledge about contemporary interpersonal relationships, and a wealth of information about the nuances of everyday life. Interviews with key informants and other indi-

viduals in the field may be conducted in an informal conversational mode or in a structured, topical checklist format. In some cases, an expressive autobiographical interview is useful. This type of autobiographical interview is focused on a small but relevant part of the individual's life, such as his or her career in the institution. This type of interview is not as rich or voluminous as a complete autobiographical interview, but it is more manageable and efficient. In addition, it captures some of the most relevant information for the specific task at hand in institutional research.

All ethnographic data should be tested. Typically, the ethnographic evaluator triangulates the data, testing one source of information against another to strip away alternative explanations and prove a hypothesis. Comparison of information sources tests the quality of the information (and the person sharing it), clarifies the part an actor plays in the social drama, and ultimately puts the whole situation into perspective. In addition, the following unobtrusive data can be gathered: physical traces, archives, folktales, proxemics (Hall, 1974), and questionnaires. In each of the case studies that follow, a concern about resource control merges with a cultural interpretation of events and the application of anthropological techniques. (See Fetterman, 1989b, for a detailed discussion of ethnographic concepts and techniques.)

The anthropologist's cultural approach draws attention to the systems level of analysis, illuminating the interconnected nature of a department or an entire university. Functional and fiscal relationships are intertwined entities. In addition, the cultural perspective focuses on the structure and values that shape the behavior of professors, administrators, students, and staff. Adopting this perspective both enhances the relevance of findings and increases the probability that the client will accept both the evaluation findings and the evaluator's recommendations.

Auditing a university on a cultural level requires attention to both specific practices and underlying systems. The ethnographic auditor must study specific charge documents, productivity statistics, computer use, personnel records, work space conditions, health and safety concerns, procurement transactions, cash-handling controls, and equipment, payroll, and travel controls. These specific mechanisms are manifestations of underlying systems, including operational efficiency, planning and analysis, supervisory structures, and information systems. These fundamental systems and processes lie at the heart of university culture.

Case Studies

Case studies clearly illustrate ethnographic auditing's contribution to the improvement of management. A detailed case study about an ethnographic audit of a university hospital pharmacy and emergency services department highlighted the role of a cultural interpretation of events (Fetterman, 1986).

For example, immersion into the pharmacists' daily activities revealed that few pharmacists took the department's work load statistics seriously, because the system of recording and analyzing productivity data did not accurately reflect the pharmacists' behavior. The system merely counted the number of prescriptions to measure productivity, a misleading measure because one prescription might take two minutes to prepare while another prescription might require half an hour or an hour. The system thus generated unrealistic standards of efficiency that were doomed to failure. More important, they provided misguided and inaccurate decision-making information to management. This problem became clear after spending time with the pharmacists and helping them for a couple of weeks, observing what they do and how they do it, and asking them what they thought about the system. In other words, participant observation and informal interviewing provided an audit finding essential to management.

Conflict of interest is a classic organizational concern. A traditional auditor typically focuses on personal conflicts of interest: Does the university's health and safety officer have a consulting arrangement with the hazardous waste disposal vendor that services the university? A management consultant or evaluator focuses on the organizational level: Does the health and safety department report to a unit that it is supposed to monitor? An ethnographic auditor goes one step further, focusing on the perception of conflict of interest. For example, in a recent ethnographic audit, the health and safety department did not technically report to a unit that it is supposed to monitor. There was not even an appearance of a conflict of interest. However, interviews with all health and safety department members revealed that many staff members perceived a conflict of interest because the vice-president they reported to was a member of a unit they had monitored many years ago. The vice-president had left the university for a time between her previous position and the higher-level position she currently held, but many health and safety members still saw her in her old position. One employee referred to this relationship as "the fox guarding the hen house." Their perception of reality, while not technically a conflict of interest or even an apparent conflict of interest, was an important factor shaping departmental behavior. Department staff exaggerated the seriousness of findings, anticipating that the vice-president would play down their importance. This insiders' or emic perception may not have been grounded in objective reality, but it had real consequences. Other controversial case studies about problems in higher education that were investigated using ethnographic auditing include the falsification of medical records by a physician (Philp and Wells, 1987) and allegations of intimidation, cover-up, unethical behavior, legal violations, and waste and mismanagement in a university health and safety department (Fetterman, 1988b, 1989a, 1990).

A few brief examples illustrate more general conceptual problems fac-

ing management in higher education, including the role of philosophical orientations, the use of management information systems, the utility of data bases for decision making, and the role of administrative judgment. The delicate nature of audit information, however, requires that sensitive or confidential details of each case study be omitted. In fact, no discussion of these findings was possible until the problems were rectified or until significant parties had transferred to new positions. Thus, the focus in this presentation is on basic, generalizable patterns and descriptions.

Philosophical Orientations. The philosophical underpinnings of an organization shape its members' behavior. Management's responsibilities are to determine the most appropriate philosophical orientation for the organization and to ensure that this orientation is consistently and conscientiously applied throughout the organization. Poor communication of or control over philosophical orientations can be costly. For example, a senior management decision to adopt an aggressive affirmative action plan can be thwarted by middle managers who do not get the message or who decide to implement their own conflicting employment philosophy. These divergent, uncontrolled philosophical orientations have serious social costs. In addition, the costs of severely eroded organizational credibility and a tarnished reputation are significant but difficult to calculate. The costs of failure to comply with the philosophical orientations manifest in policy statements are measurable in terms of sizable lawsuits.

Even the most grandiose philosophical positions are rooted in the mundane day-to-day affairs of people. A classic organizational decision that is often at the core of affirmative action cases involves centralizing or decentralizing institutional operations (Mayhew, 1979). An organization's decision to centralize or decentralize operations typically stems from individual expressions of content or discontent. These expressions emerge and coalesce into a group statement. Many factors are weighed in this particular decision-making process. Centralization provides greater control of decisions, operations, and record keeping. Centralized activities, however, undermine local control and initiative. Officers in a decentralized system are typically in closer touch with local concerns; by its nature, a decentralized system requires less time and less red tape than a centralized system, thus fewer delays in the process by which tasks are or are not accomplished. The decision to centralize or decentralize operations has tremendous implications for an organization and as such should reflect the larger ethos of the institution. Many large universities, for example, are shifting away from their highly centralized character to a more decentralized posture to meet the needs of their clients: the faculty and the staff. The academic atmosphere fosters such values as independence and self-governance. Like most consumers, faculty and staff also place a premium on the right to select the person, product, or solution that best serves their needs, ideally in the most efficient and effective manner. The right to recruit, hire,

and maintain hiring records, for instance, is one of the most significant areas affected by the decision to centralize or decentralize activities (Mininberg, 1980).

An audit of a personnel department's record keeping—in a university that had decided to decentralize operations, providing greater local autonomy—found that the record-keeping system was functioning unevenly and was highly dependent on the hiring department's discretion in applying the appropriate guidelines. Generally, the department maintained records on hires but did not keep records of rejected applicants and of the reasons for rejection. In any case, records were rarely maintained for three years, as was required. This discovery would appear to be merely a procedural finding. Ethical, organizational, and legal reasons for maintaining appropriate records on both parties for a minimum of three years, however, makes this issue more significant (Alvarez and Lutterman, 1979; Leach, 1978). Foremost, these records are legally required by Executive Order 11246 and by much legislation that prohibits discrimination, such as the Equal Pay Act of 1963, the Civil Rights Act of 1964, the Equal Employment Opportunity Act of 1972, and the Age Discrimination Act of 1975. Such records represent the physical manifestations of a decision-making process. An organization loses both its credibility and its court case in an external affirmative-action-related review of a hiring decision if the only records are those provided by the disgruntled employee.

In this study, corrective mechanisms were recommended within the boundaries of the philosophical decision to decentralize adopted by the university. A call was made for a fundamental reaffirmation by line officers of their responsibility to monitor record-keeping practices, including monitoring turnover rates of individual record keepers. In addition, the personnel department was reminded of its educational role in the community, for example, to provide ongoing training sessions, use exemplary departments as models that other departments can emulate, and provide videotape training sessions for those unable to attend regularly scheduled sessions. Two and a half years later, a cursory review of the system suggested that the recommended mechanisms had been put in place and were operating effectively to ensure proper record-keeping behavior. This example was framed within the context of a specific philosophical decision. The intent of the decision to decentralize at the time was to meet the needs of the faculty and staff who had voiced their growing dissatisfaction with a highly bureaucratic, inefficient, centralized system of hiring personnel (Blau, 1973; Gross and Grambsch, 1974). The decision was sound, but the implications were not sufficiently thought out, regarding both internal and external expectations. The problems that could have emerged, were it not for routine internal examinations, were profound.

A more insidious example of the dangers of uncontrolled philosophical orientations appears in the day-to-day operations of typical departments

such as health and safety or plant service departments. These departments are less visible than a personnel department confronting affirmative action issues. Their invisibility protects them from routine questions about the underlying assumptions that guide their structures and behaviors. The result is a long-term budgetary impact on the overall organization. Although less sensational than affirmative action issues, philosophical questions about service departments are fundamental to the efficient operation of any organization.

One such question involves choosing whether a department will adopt a service or a consultative philosophy. All departments have some mixture of consultative and service orientations. A consultative orientation is generally characterized by the transmission of advice and recommendations for corrective behavior. The rationale underlying this orientation is that the responsibility for a service resides with the supervisor and the employee. A service orientation is characterized by a "hands-on" approach, requiring direct involvement in resolving problems. The rationale for this approach is that a specialized knowledge (which is not readily transferable) is required to ameliorate the problem. Moreover, the logic behind a service orientation suggests that responsibilities reside primarily within a centralized portion of the organization.

A study of one department found that one section of the department had adopted a service orientation, and another part a consultative orientation. Management was unaware of their divergent orientations; these ideological or philosophical differences partially reflected differences in the nature of the work. These orientations were not a result of any conscious long-term plan but were an artifact of historical development and individual personalities and styles. Management was unaware, as well, of the consequences of this type of behavior for present and future development. In this case, the consequences were an increasingly lopsided department. The part that had a service orientation required constant increases in staff. Conversely, the consultative part of the department remained at status quo or reduced its staff. Ideally, these decisions about orientation and growth should be guided by a risk management orientation. Management's responsibility was to shape growth and, in the process, control the philosophical orientation of its evolving department and the larger organization. The ethnographic audit of the system made explicit the underlying differences in orientation and offered constructive ways to draw the best from each approach without forcing an overall conversion on either part of the department. Awareness of their different approaches and tasks helped to ease some of the conflicts that the two opposing philosophies had created.

Management Information Systems. One of the tools that enables management to make informed, intelligent decisions about current operations and the future is the management information system (Lee and Van Horn, 1983; Lockwood, 1972; Mininberg, 1980; Wolotkiewicz, 1980). An informa-

tion system may be as complex as a series of sophisticated computer programs or as simple as a couple of calculations on the back of an envelope. A key ingredient of a useful system is the ability to collect, aggregate, and monitor data in a systematic fashion that reflects management information needs. The data may concern production flows, staffing levels, accidents, space utilization, or any number of related management concerns. Typically, departments lack useful management information systems or collect and aggregate information in a manner that hides the variation within categories and hence hinders identification of problem areas. A useful management information system requires well-defined goals and objectives, input and output data to measure work flow, output standards, measuring devices to account for the way in which staff allocate their time to complete their tasks, feedback signals or monitoring components to evaluate progress toward specified goals, and a protocol for corrective action (Garrett and Silver, 1966). Ethnographic auditors are most useful in testing the strengths and weaknesses of these elements of management information systems. They view problems from a systems perspective. Although they are able to design these systems, they should, with minor exceptions, leave this task to management. First, it is management's responsibility to design a satisfactory system. Second, a good manager in conjunction with staff and employees should know the details of the system better than an outsider can know. Minimally, it is more cost-effective to have insiders design the core of a system than to have an outsider take the time to learn all the intricacies of an operation. Third, there is a conflict of interest for anyone that designs a system and is then charged with evaluating the same system.

Auditors typically recommend alterations in existing management information systems to improve their utility, integrity, and security. In one ethnographic audit, the recommendation went one step further and involved nothing less than asking managers to reconceptualize the way they classified their data. This department tracked accidents and injuries on campus and classified them according to the parts of the body damaged. For example, one individual was classified as suffering from a muscle strain (arm), another suffered from a laceration (hand), while another suffered from a pulled tendon (abdomen). Few useful patterns emerged by analyzing data from this perspective. I suggested that behavior-oriented categories be used as an overlay for their figures. Reclassification of the accident categories in terms of employee behavior during the accident enabled useful patterns to emerge from the injury/accident reports. For example, classification of the same injuries under the behavioral category of lifting revealed a pattern that included each of the three injuries above. A number of other accident-prone behavioral categories appeared as well. The identification of discrete, recurring, accident-related behaviors enabled the department to focus its resources on injury/accident prevention.

In some cases, the development of management information systems involves setting up budgets, generating financial projections, and monitoring income and expenses. In one instance, I merely recommended that management attend more closely to its own system. The most sophisticated system developed is useless if no one pays attention to it. In a large academic department, one of the shops made instruments for faculty experiments. The shop brought in no money, but its operating cost was projected at over \$100,000 a year. The data provided by their management information system were accurately collected and clearly presented, but no one paid any attention to the report. The information provided a signal that the shop was underfunded and that the department should either request funds from administration, have the faculty subsidize the shop with research grants, or close it down. In making no decision, the management effectively made a decision with serious fiscal consequences. Administration had developed a pattern of absorbing the deficit and scolding the department at the end of the fiscal year. This form of de facto subsidization created confusion, distrust, and resentment between the department and the administration over the years. The fault, however, was management's (on both sides) for not paying attention to early projections of the department's expenditures. Management information systems are by definition informational. They inform decision making and signal the need for decisions, but they are never a substitute for management decisions.

Data Bases. The advent of personal computers, networking, and mainframes has given management a wealth of accessible and manipulable information. This resource, however, has been poorly exploited. In fact, one of the most common observations resulting from my reviews of university departments is the underutilization of computer data bases for planning and analysis in decision making. Data bases allow innumerable comparisons and aggregations of data. Most departments have an impressive collection of records. The utility of this information, however, is reduced because the data are not readily accessible. In addition, data are often manipulated manually, which is time consuming and labor-intensive and thus inhibits routine analysis. These obstacles can be removed by entering the data into personal computers and mainframes.

I entered one department's records into my own personal computer data base to illustrate the utility of data bases for decision making. In the case of the department tracking accidents on campus, I was able to identify a number of significant patterns that challenged the subjective perceptions of the department's administrator. For example, the data base was used to identify the most common location of accidents, when they occurred, who was involved, and who the supervisor was at the time of the accident. These results differed significantly from the perceptions of the manager who had been in that position for over twenty years. This information enabled him to objectively identify the parameters of the problem and use his resources wisely. Instead of providing in-service accident-prevention

training to all employees, the department was able to focus its training efforts on repeaters and on supervisors who had numerous employee accidents. The data base also enabled me to project accident patterns. It was possible to anticipate where and when problems would occur in the future, signaling the need for further analysis or immediate corrective action. In some cases, redesigning or restructuring specifically hazardous work stations was warranted. The demonstration illustrated the importance of basing departmental decisions on objectively, systematically, and empirically collected and analyzed data.

Administrative Judgment. Many case studies demonstrate the significance of judgment in decision making in higher education. Obvious examples of poor administrative judgment are easy to present. The administrator who cuts all supplies to a department because it has been routinely over budget without inquiring about the appropriateness of the funding adds insult to injury. Moreover, bringing the department to a halt in the middle of an academic quarter has greater fiscal consequences than an overdrawn budget. I have purposely selected an example that on the surface may appear indirectly related to higher education: the operation of a gas station. This case study, however, illustrates the significance of one of the most important ingredients in any successful institution of higher education. Universities have numerous service centers to meet the needs of their departments in a cost-effective manner. The chemistry and biological sciences departments generally have an on-campus store to purchase chemicals, glassware, and other supplies. The government requires universities to operate their service centers on a break-even basis, within a margin of plus-or-minus 5 percent. One of the most common service centers in universities is the motor pool.

At a neighboring university, the supervisor of the motor pool found that his department was operating significantly under the 5-percent margin. It was the end of the year, and he was desperate. He had to balance his budget within the 5-percent allowable margin. He retraced the steps for the entire year to determine why he was losing so much money. He found that he had undercharged various departments for lubrication jobs. He decided to rectify the problem post haste. His first error was being less than creative in his attempt to rectify the problem. In fact, his corrective actions bordered on fraudulent behavior. He decided to increase his revenue quickly by charging every vehicle serviced during the remaining month in the year for a lubrication job, whether or not he provided that service. His rationale was simple: He had indiscriminately undercharged his customers throughout the year, so he decided that indiscriminately overcharging his clients to balance his budget was only fair. The manner in which he accomplished his task, however, was clumsy, and departments quickly recognized what was happening. His effort certainly represents poor supervisory judgment, but that was not the most significant level of the problem.

This supervisor failed to realize that his budget would be merged with the entire automotive shop budget. The total automotive shop budget was comfortably within the margin, without adding charges for nonexistent products. The supervisor's lack of knowledge evidenced an administrative failure to monitor staff behavior and to communicate. The supervisor's superiors failed to inform their employees of the entire fiscal picture. The supervisor failed to seek out this type of basic budgetary information from his colleagues. Errors and adversity are not uncommon or unexpected. A manager's ability is tested by the way he or she deals with problems. The greatest weakness demonstrated in this case study was the absence of common sense and creativity, both fundamental qualities of good judgment and sound administration in higher education.

Conclusion

Organizations pick up bad habits much the way that individuals do, and management needs to become aware of these habits. The ethnographic auditor assesses the fiscal and operational backbone of an organization within its own cultural context. Ethnographic auditing penetrates the surface of administrative knowledge. Noam Chomsky (1972), the prominent linguist, depicts a surface and a deep structure of language. The model can be applied to management in higher education as well, most graphically to one of the traditional auditor's most common tasks: reviewing spreadsheets. The surface calculations of an electronic spreadsheet printout provide elementary insights into management practices. Questioning the appropriateness and accuracy of underlying formulas contained in each cell, as well as the format of the spreadsheet itself, provides insights on a much deeper and more abstract level. Ethnographic auditors take this approach one step further by using the spreadsheet to describe the value system of the institution and of individual administrators. A budget is a reflection of a value system: People spend money on what they value. Ethnographic auditors also recognize the organizational rituals that characterize an institutional culture, from the ritual cleansing of institutionwide reorganization and consequent layoffs to rites of passage during graduation ceremonies. In essence, ethnographic auditing is another tool in the institutional researcher's arsenal, helping the researcher interpret the ledgers and the processes and procedures of management and, in the process, facilitating the academic mission.

References

- Alvarez, R., and Lutterman, K. G. (eds.). *Discrimination in Organizations*. San Francisco: Jossey-Bass, 1979.
- Blau, P. M. *The Organization of Academic Work*. New York: Wiley, 1973.

- Bowen, H. R. "Socially Imposed Costs of Higher Education." In D. Henry (ed.), *Conflict, Retrenchment, and Reappraisal: The Administration of Higher Education*. Urbana: University of Illinois Press, 1979.
- Brink, V. Z. *Modern Internal Auditing: Appraising Operations and Controls*. New York: Wiley, 1982.
- Chomsky, N. *Language and Mind*. San Diego, Calif.: Harcourt Brace Jovanovich, 1972.
- Deal, T. E., and Kennedy, A. A. *Corporate Cultures: The Rites and Rituals of Corporate Life*. Reading, Mass.: Addison-Wesley, 1982.
- Fetterman, D. M. *Ethnography in Educational Evaluation*. Newbury Park, Calif.: Sage, 1984.
- Fetterman, D. M. "Operational Auditing: A Cultural Approach." *Internal Auditor*, 1986, 43 (2), 48-53.
- Fetterman, D. M. *Excellence and Equality: A Qualitatively Different Perspective on Gifted and Talented Education*. Albany: State University of New York Press, 1988a.
- Fetterman, D. M. *Stanford Special Review on Health and Safety (Phase 2): A Report on Allegations*. Stanford, Calif.: Stanford University, 1988b.
- Fetterman, D. M. (ed.). *Qualitative Approaches to Evaluation in Education: The Silent Scientific Revolution*. New York: Praeger, 1988c.
- Fetterman, D. M. "Ethnographer as Rhetorician: Multiple Audiences Reflect Multiple Realities." *Practicing Anthropology*, 1989a, 11 (2), 2, 17-18.
- Fetterman, D. M. *Ethnography: Step by Step*. Newbury Park, Calif.: Sage, 1989b.
- Fetterman, D. M. "Health and Safety Issues: Colleges Must Take Steps to Avert Serious Problems." *Chronicle of Higher Education*, Mar. 21, 1990, p. A48.
- Fetterman, D. M., and Pitman, M. A. *Educational Evaluation: Ethnography in Theory, Practice, and Politics*. Newbury Park, Calif.: Sage, 1986.
- Garrett, L., and Silver, M. *Production Management Analysis*. (2nd ed.) San Diego, Calif.: Harcourt Brace Jovanovich, 1966.
- Garvin, D. *The Economics of University Behavior*. San Diego, Calif.: Academic Press, 1980.
- Glaser, B. G., and Strauss, A. L. *The Discovery of Grounded Theory: Strategies for Qualitative Research*. Chicago: Aldine, 1967.
- Goffman, E. *Stigma: Notes on the Management of Spoiled Identity*. Englewood Cliffs, N.J.: Prentice-Hall, 1963.
- Grassmuck, K. "Big Increases in Academic-Support Staffs Prompt Growing Concerns on Campuses." *Chronicle of Higher Education*, Mar. 28, 1990, pp. A32-A34.
- Gross, E., and Grambsch, P. *Changes in University Organization: 1964-1971*. New York: McGraw-Hill, 1974.
- Hall, E. T. *Handbook for Proxemic Research*. Washington, D.C.: Society for the Anthropology of Visual Communication, 1974.
- Hopkins, D. S., and Massy, W. F. *Planning Models for Colleges and Universities*. Stanford, Calif.: Stanford University Press, 1981.
- Jedamus, P., Peterson, M. W., and Associates. *Improving Academic Management: A Handbook of Planning and Institutional Research*. San Francisco: Jossey-Bass, 1980.
- Karol, N., and Ginsburg, S. *Managing the Higher Education Enterprise*. New York: Wiley, 1980.
- Leach, D. E. "Affirmative Action Guidelines: An Appropriate Response." *Labor Law Journal*, 1978, 29, 555-561.
- Lee, S. M., and Van Horn, J. C. *Academic Administration: Planning, Budgeting, and Decision Making with Multiple Objectives*. Lincoln: University of Nebraska Press, 1983.
- Lockwood, G. *University Planning and Management Techniques*. Paris: Organization for Economic Co-Operation and Development, 1972.

- McCorkle, C. O., and Archibald, S. O. *Management and Leadership in Higher Education*. San Francisco: Jossey-Bass, 1982.
- Matthews, J. B. *The Effective Use of Management Consultants in Higher Education*. Boulder, Colo.: National Center for Higher Education Management Systems, 1983.
- Mayhew, L. B. *Surviving the Eighties: Strategies and Procedures for Solving Fiscal and Enrollment Problems*. San Francisco: Jossey-Bass, 1979.
- Miles, M. B., and Huberman, A. M. *Qualitative Data Analysis: A Sourcebook of New Methods*. Newbury Park, Calif.: Sage, 1984.
- Mininberg, E. I. "Administrative Finance in Higher Education." In E. Rausch (ed.), *Management in Institutions of Higher Education*. Lexington, Mass.: Lexington Books, 1980.
- Patton, M. Q. *Qualitative Evaluation Methods*. Newbury Park, Calif.: Sage, 1980.
- Pelto, P. J., and Pelto, G. *Anthropological Research: The Structure of Inquiry*. New York: Harper & Row, 1970.
- Philp, T., and Wells, J. "How Professor Fell From Grace." *San Jose Mercury*, June 7, 1987, pp. A1, A8-A9.
- Riesman, D. "Can We Maintain Quality Graduate Education in a Period of Retrenchment?" In D. Henry (ed.), *Conflict, Retrenchment, and Reappraisal: The Administration of Higher Education*. Urbana: University of Illinois Press, 1979.
- Rittenberg, L. *Auditor Independence and Systems Designs*. Altamonte Springs, Fla.: Institute of Internal Auditors, 1977.
- Sawyer, L. B. *The Practice of Modern Internal Auditing*. Altamonte Springs, Fla.: Institute of Internal Auditors, 1981.
- Spindler, G. D. *Being an Anthropologist: Fieldwork in Eleven Cultures*. New York: Holt, Rinehart & Winston, 1970.
- Spradley, J. P. *Participant Observation*. New York: Holt, Rinehart & Winston, 1980.
- Spradley, J. P., and McCurdy, D. W. *Anthropology: The Cultural Perspective*. New York: Wiley, 1975.
- "Stanford Erupts Over Indirect Costs." *Science*, 1990, 248 (4953), 292-298.
- Taylor, S. J., and Bogdan, R. *Introduction to Qualitative Research Methods: The Search for Meanings*. New York: Wiley, 1984.
- Van Maanen, J. (ed.). *Qualitative Methodology*. Newbury Park, Calif.: Sage, 1983.
- Webb, E. J., Campbell, D. T., Schwartz, R. D., and Sechrest, L. *Unobtrusive Measures: Nonreactive Research in the Social Sciences*. Skokie, Ill.: Rand McNally, 1966.
- Wolotkiewicz, R. J. *College Administrator's Handbook*. Newton, Mass.: Allyn & Bacon, 1980.

David M. Fetterman is administrator and professor of education at Stanford University, Stanford, California, and Sierra Nevada College, Incline Village, Nevada.

Although assessments of campus climates can be difficult, survey methods can yield substantive results and thus inform organizational decision makers.

Campus Climate: Using Surveys for Policy-Making and Understanding

Leonard L. Baird

A series of racial incidents at a large research university leads the dean of students to inquire about the climate of racial relations on the campus. A college president becomes concerned about the sense of community on his campus. A series of articles in the student newspaper based on a sexual harassment lawsuit filed by a woman student leads the vice-president for academic affairs to seek information about the climate for women on the campus. After a fatal accident during a beer bash at a fraternity, a university-wide committee seeks to understand whether and why many students drink to excess.

Each of these people needs information to make decisions. They need information about the complexities of their institutions' climates, that is, the interplay among people, processes, and institutional culture. Important aspects of a college or university's climate are the perceptions, expectations, satisfactions, and dissatisfactions of the people who make up the campus community. Information about the climate is a critical addition to the knowledge of most decision makers about their institution, which is often limited to their personal experience and intuition and those of the relatively few members of the campus community with whom they meet or communicate. Understanding how the members perceive its realities and how they react to their perceptions is important so that decision makers can avoid actions that would be detrimental to their institution. Administrators and faculty members can use this information to compare their institution with similar colleges or universities in order to identify areas where changes are needed, make suggestions about how to improve the climate, and measure the effectiveness of these changes. Also, this information can be used