

Diagnosing culture in health-care organizations using critical incidents

Larry A. Mallak

Western Michigan University, Kalamazoo, Michigan, USA

David M. Lyth

Western Michigan University, Kalamazoo, Michigan, USA

Suzan D. Olson

Western Michigan University, Kalamazoo, Michigan, USA

Susan M. Ulshafer

Bronson Healthcare Group, Kalamazoo, Michigan, USA

Frank J. Sardone

Bronson Healthcare Group, Kalamazoo, Michigan, USA

Keywords

Corporate culture, Measurement, Organizational change, Critical path analysis

Abstract

The critical incident technique (CIT) provides a means to produce rich cultural information from organizational members in an effort to describe the organization's culture. Very few published studies have used CIT to diagnose culture. In combination with other methods, CIT can be an integral element of a larger study of an organization's culture. In this study, CIT was used in a US acute care hospital that had recently occupied a new \$181 million replacement hospital having an emphasis on patient-centered care and a healing environment. Individual CIT "stories" supplied rich detail about the hospital's culture, providing opportunities to communicate how people behave with respect to the culture. Consequently, CIT results provide specific information on what people do that supports the culture and what they do that works against the culture.

Introduction

In the 50 years since Flanagan (1954) first published the seminal piece "The critical incident technique," the critical incident technique (CIT) has progressed through a variety of applications in many different settings. CIT was originally designed to develop procedures for use in the selection and classification of aircrew personnel in the US Air Force. CIT has been used since that original application for selection and classification of employees in many other settings.

More recently, CIT has been used in more novel situations – identifying good and poor service episodes in retail and healthcare settings. For a first-rate review of recent uses of CIT in the healthcare sector, see Kemppainen (2000). Marketing researchers specifically interested in the service sector have adapted CIT to identify critical aspects of service encounters (see Bitner *et al.*, 1990; Bitner *et al.*, 1994; Mohr and Bitner, 1995). Such novel applications of CIT in the service sector led to the use of the technique to assess the culture of an organization using a bottom-up approach.

Many tools exist to measure culture using predetermined categories and questions. Their main shortcoming is the inability to surface unanticipated findings. The tools assume that the universe of cultural understanding is contained in their structure and that an assessment using these tools will provide the necessary information to understand and manage the culture. After reviewing the many uses of CIT, we designed and applied a methodology to surface cultural information in a healthcare organization using critical incidents via a pencil-and-paper format.

Using the CIT to assess culture

The CIT (Flanagan, 1954) offers a rich methodology for surfacing an organization's culture from a bottom-up perspective. Most culture measurement tools require the application of a set of predetermined cultural attributes:

Critical incident analysis allows for the emergence – rather than the imposition – of an evaluative schema and focuses on the events and dimensions of the patient experience that are most salient, memorable, and most likely to be retold to others (Ruben, 1993).

This allows easy comparison with other organizations and between units within the same organization. However, the predetermined set of attributes limits the scope of cultural findings to those found in the measurement tool.

Categorizing responses from the CIT data collection identifies cultural attributes – many of which may not have been determined beforehand. The incidents themselves provide rich content to understand the culture and to make service improvements. Using incidents about excellent service sets a benchmark for employees to follow and communicates to them the service expectation in great detail.

Many researchers have used CIT to investigate various organizational phenomena. Only recently have researchers begun using CIT to investigate culture and some of these studies have been conducted in healthcare organizations. Earlier studies, such as one by Gundry and Rousseau (1994) used CIT to surface newcomer perceptions of behavioral norms in electronics manufacturers; they found team norms to be negatively related to role conflict and



International Journal of Health
Care Quality Assurance
16/4 [2003] 180-190

© MCB UP Limited
[ISSN 0952-6862]
[DOI 10.1108/09526860310479668]

The Emerald Research Register for this journal is available at
<http://www.emeraldinsight.com/researchregister>



The current issue and full text archive of this journal is available at
<http://www.emeraldinsight.com/0952-6862.htm>

positively related to role clarity. Edvardsson and Strandvik (2000) studied CIT in examining customer relationships in a hotel setting and identified the value of putting critical service incidents in context – both internally and externally. Longo *et al.* (1993) used CIT to identify “standards of excellence” in hospital services, as defined by patients, physicians, hospital employees, and payers. Their findings produced the most incidents in the categories of “administrative policy” issues and “nurturing” incidents. Brant (1992) applied CIT to assess patient satisfaction. She noted the value of the technique in order to properly define quality from the patient’s perspective. Her position was that the critical incident analysis was essential to quality healthcare delivery and the development of patient-centered approaches to care. Kemppainen (2000) used CIT to identify dimensions of nursing care quality; her findings focused primarily on how to use CIT in a nursing setting rather than sharing the actual results of nursing care quality dimensions.

An analysis of critical incidents alone is insufficient to provide a thorough cultural description (Davey and Symon, 2001). However, in conjunction with other methods, CIT can provide rich stories to support the description of the current culture as well as to motivate change in areas where needed.

For a critical incident report to be useful, at least three pieces of information must be collected:

- 1 a description of the situation that led to the incident;
- 2 the actions of the focal person in the incident; and
- 3 the results or outcomes of the incident (Anderson and Wilson, 1997).

In addition, Anderson and Wilson (1997) include a Likert-type scale for respondents to indicate the level of effectiveness of the incident. This allows for qualitative analysis of the incident report along with quantitative analysis of the effectiveness data, which, in turn, provides an avenue to produce summary information about how many incidents were positive, negative, or neutral. We used a similar effectiveness item in this study for respondents to rate their incidents.

Incidents can be solicited several ways – through self-administered questionnaires, telephone interviews, workshops, group interviews, one-on-one interviews, systematic record keeping, and direct observation (Anderson and Wilson, 1997; Kemppainen, 2000). In this study, subjects

provided responses via pencil-and-paper data collection. Research supports the use of pencil-and-paper data collection for critical incidents (Flanagan, 1954; Gundry and Rosseau, 1994; Ruben, 1993). This approach allows for incidents to be collected with much less demand on the researcher’s and the organization’s time.

Methodology

In this study, critical incidents were collected as part of a larger study (Mallak *et al.*, 2003) of culture in a Midwestern US healthcare provider. The survey targeted all employees of the provider system, except for the insurance company. The insurance company had separate offices and conducted very little business in the new facilities. Nearly three-fourths of all study participants provided one or more critical incidents. The study was limited to employees because the provider had existing mechanisms in place to survey patients and physicians. All employees were mailed a survey to their home address. The decision was made to investigate culture by first approaching employees. Follow-up surveys may include some of the other stakeholder groups, including physicians, patients, and patients’ families.

Respondents were asked to share incidents where an employee’s action either supported or worked against the firm’s culture. Analysis of these incidents led to categories of culture (e.g. values). Positive incidents show the strength of the particular value and negative incidents show areas where interventions may be used to strengthen the culture.

The methodology followed these general steps.

- 1 We designed a CIT instrument to fit this application.
- 2 We incorporated the CIT instrument in a larger mailed survey.
- 3 We collected and transcribed responses to the CIT items.
- 4 We categorized responses and performed a reliability check.
- 5 We reported and interpreted results.

The hospital in this study was selected for several reasons:

- It had been nationally recognized by the US-based Center for Healthcare Design as a “Pebble Partner” for its innovations in its facility design. The Pebble Partners have a shared mission to conduct research

on health-care built environments and share the results with each other and with the broader healthcare community. (See www.pebbleproject.org for more details on this partnership.)

- The hospital wanted to measure its culture and outcomes with respect to its new built environment.
- The hospital had a shared goal with the university-based authors to publish the results of the project.

The hospital in this study gave careful attention to creating a patient-centered, healing environment. As one hospital manager put it, the design of the replacement hospital “pivoted” around the patient. For example, the new hospital has all private rooms, rather than the semi-private rooms found in the old hospital. This decision was made based on patient feedback and clinical data. A private room has many advantages for the patient and hospital alike. Private rooms may allow for:

- the same volume to be served with 10 per cent fewer beds;
- reduction of nosocomial infection rates;
- reduction in patient transfer costs (from one room to another, estimated at US\$500-US\$1,000 per transfer);
- family support by creating a welcome environment for them to visit solely with the patient;
- greater patient-centered privacy and confidentiality; and
- result in higher patient satisfaction scores (Hamilton, 2000).

Many other patient-focused features also played into design – use of light and art, classical music in public areas, and intuitive wayfinding. The integration of natural elements such as full-spectrum light, plants, and gardens as well as the open feel of a garden atrium provide a peaceful, comfortable setting for patients and visitors (see Murphy, 2000; Ulrich, 1984). In fact, a 1995 study showed that open-heart surgery patients required lower levels of pain medicine and healed faster when they had soothing scenes of lakes and forests in their rooms (Murphy, 2000).

Instead of asking the respondent to provide incidents concerning service quality or nursing care, as done in previous applications of critical incidents in healthcare, we asked them to identify incidents either supporting or working against the organization’s culture. This method requires the respondent to think

about the organization’s values and then provide one or more incidents relevant to those values. By aggregating the responses from all respondents into categories, we then constructed a set of values deemed important at the respondent level. In this study, respondents were all employees, so the resulting value set reflects the values of the employees (as opposed to the patients, physicians, or other stakeholders).

The survey asked the questions shown below to elicit critical incidents:

- 1 Think of a time when a [hospital] staff member (including physicians, administration, nursing, etc.) did something that either you felt should be encouraged because it was an example of what [hospital] is all about as an organization or that you felt went against the way things should be done at [hospital]. What were the general circumstances leading up to this experience?
- 2 Please identify by position or title the person or persons involved in this experience.
- 3 In what month and year did this experience occur?
- 4 Describe the actual behaviors you observed in this experience.
- 5 What message or messages did you get about the organization from this experience?
- 6 Please rate the effectiveness of this experience in supporting the organization. (Likert-type scale where 1 = highly ineffective, works against the culture, to 7 = highly effective, supports the culture.)

Those questions were based on work by Anderson and Wilson (1997), Ruben (1993), and Longo *et al.* (1993).

Items 1, 2, 4, and 5 of the critical incident questions above elicited narrative responses concerning the incident. Item 3 asked for the date of this incident. Item 6 asked the respondent to rate the effectiveness of this incident, thereby reducing the bias that would be introduced if the researcher were to read the incident and make this assessment. This rating by the respondents allows their belief system concerning the organization’s values to be reflected not only in the choice of incident but also in their assessment of the incident’s effectiveness relative to the culture.

Responses to the critical incident items were analyzed by first printing out each incident individually. A variation of Glaser’s

(1965) constant comparative method was employed to facilitate the sorting of each incident according to similarities and differences. Initial inspection of the resultant groups showed several groups having overlapping characteristics. Those groups were re-sorted to eliminate the overlap. This re-sorting process was repeated until each group's incidents had a distinct identity such that the incidents had a logical home in the group where each was located. Consistent with other critical incident studies, positive and negative incidents dealing with the same type of incident or same cultural value were placed in the same category. This allowed the interpretation of how well the organization performed against that category.

To ensure reliability, a second rater performed this exercise. This rater placed 283 of the 296 incidents in the same categories as the original sort, for a 96 per cent agreement. Mean effectiveness scores were calculated for each resulting category of incidents. These scores provide an indication of how well the organization adhered to a particular category or cultural value.

Results

The ten resulting critical incident categories generally reflected the organization's stated cultural values, yet provided greater levels of detail and differentiation concerning those cultural values. For example, one of the organization's stated values – care and respect for people – was represented by five critical incident categories:

- 1 "Concern for patient";
- 2 "Support and concern for employees";
- 3 "Concern for family and visitors";
- 4 "Competence in work process and management"; and
- 5 "Work together to serve the patient."

The organization's succinct statement of values was necessary for its formal documentation and for easy recall by employees and other key stakeholders. However, to effectively diagnose and shift culture, the greater level of detail and differentiation from the critical incident technique provided better insight into how a particular value was put into action in the work place. The organization's values were most visibly stated in two locations:

- 1 the organization's planning documents that contain its mission, vision, patient care excellence mission, and values (displayed on its Web site); and

- 2 in the organization's hiring materials.

These two versions of the organization's values appealed to two different populations:

- 1 the audience for the planning documents is generally the organizational leadership and, to some extent, the consumer who may access this information on the organization's Web site; and
- 2 the audience for the hiring materials are those individuals seeking employment with the organization.

The statement of values on the hiring materials included much greater levels of detail concerning the types of behaviors expected from potential employees.

A comparison of critical incident categories to the organization's stated values provides an interesting method to highlight differences in how employees experience the organization's culture. Figure 1 shows a mapping of the critical incident categories to the organization's stated values.

This mapping serves to show the differences in emphasis on values between employees and senior management. Clearly, these two groups have different perspectives on the organization. A nurse who spends a 12-hour shift tending to patients does not have much time to think about "responsibility to community," let alone perform a behavior in support of that value. That does not mean the value is not important to the nurse; it merely means that in the course of the workday, the types of behaviors the nurse performs or observes primarily relate to patient care activities and interactions with other employees. Although five of the ten critical incident categories mapped to the stated value of "care and respect for people," at least one of the incident categories mapped to each of the remaining stated values.

The category containing the most incidents – "Concern for the patient" – reflects the organization's philosophy and practice. Although the effectiveness rating for "Concern for the patient" was positive, there were six other categories scoring higher on effectiveness. Only three categories revealed mean effectiveness scores in the negative region of the scale:

- 1 "Competence in work processes and management";
- 2 "Working conditions/human resources"; and
- 3 "Communication and interactions."

The analysis of the 296 critical incidents produced ten categories. Table I shows the

critical incident categories (corresponding to categories of organizational values) along with the percent of total incidents falling into that category and an example incident.

“Concern for the patient” contained 55 incidents or nearly 19 per cent of the total number of incidents. Many of the positive incidents in the “Concern for patient” category involved caregivers offering care and compassion outside typical boundaries – delivering personal belongings to a patient’s home or visiting a patient in another health-care facility 100 miles away. Some of the negative stories concerned staff putting their own needs ahead of the patients’ needs with the patient feeling that he or she did not receive the attention needed.

“Competence in work processes and management” accounted for nearly 18 per cent of incidents. Many of the positive incidents in this category involved employees demonstrating competence in their work by ensuring high levels of service, such as making numerous calls to clarify orders and explain test results. Negative stories concerned individuals who did not meet the high expectations of work performance.

“Role modeling and leadership” accounted for more than 10 per cent of the incidents reported. Many of the positive incidents in this category involved employees demonstrating behaviors that manifest the organization’s stated values. For example, positive incidents involved experienced nurses coaching newer nurses, nurses thanking service personnel for their hard

work, and a director providing same day feedback to staff about results of a Joint Commission on Accreditation of Healthcare Organizations (JCAHO) visit. Negative stories concerned staff who did not model desired behaviors – for example, a staff member joined family members in smoking cigarettes in a non-smoking area. The remainder of the categories provided similar results to the organization on its culture. Table I provides examples of positive stories for each of the categories.

Effectiveness scores were collected for each critical incident. Respondents supplied a rating on a Likert-type scale to show whether the reported incident was highly ineffective (score of 1) to highly effective (score of 7). Mean scores were calculated for each critical incident category. Along with the distribution of number of incidents across categories, the mean effectiveness scores provide an assessment on how well the organization is performing with respect to that value. For the studied organization, nearly two-thirds of the total reported incidents scored “5” or higher, for a positive rating. That left one-third of the incidents at neutral or negative. The incidents provide detailed stories for feedback to employees, to demonstrate how a certain value has been practiced in clear behavioral terms, and potentially as input to training materials. The presence of effectiveness ratings allows us to make a quick read of how well that value is being practiced.

“Working together to serve the patient” scored high in effectiveness and supports the

Figure 1
Critical incident categories mapped to the organization’s stated values

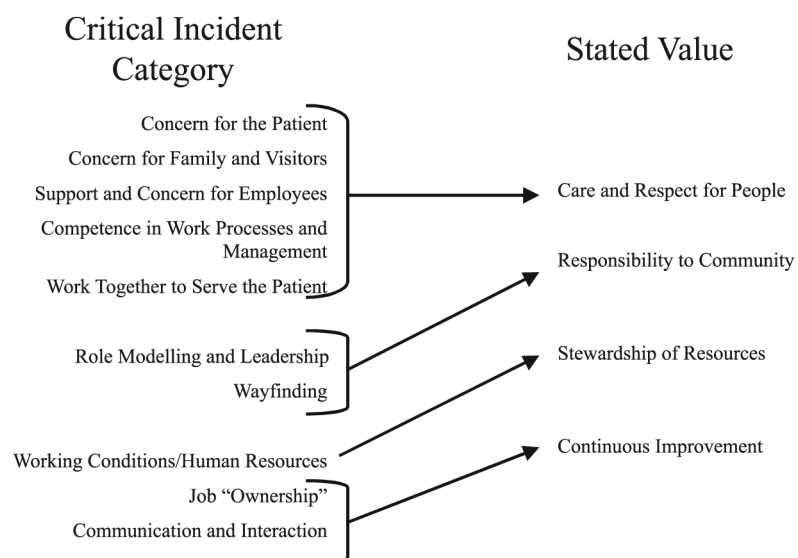


Table 1
 Critical incidents provided a rich, bottom-up cultural analysis

Value	Per cent of total	Example incident
Concern for the patient	18.6	"We had a patient that spent on a month in our nursing unit. This patient was transferred to another hospital across the state for a major operation. Two associates from our floor went to visit. I also went to see the patient and the family to offer support. My children brought this patient presents. (They had never met before.)"
Competence in work processes and management	17.9	"A senior technologist makes numerous phone calls to physicians and offices to clarify orders, explain test results, apologize for errors, make suggestions."
Role modeling and leadership	10.5	"Our new director immediately sent out a department memo regarding the success of the JCAHO site visit (the same day!). This was immediate, positive, and showed a new direction for dept. communication. Perfect."
Support and concern for employees	10.1	"We had a staff member that was diagnosed with cancer. She needed chemotherapy. She had been employed at Hospital for only two months so she was not eligible for short-term disability. She was unable to work for 6-8 weeks. The employees in our department donated enough paid time off (PTO) hours for this nurse to pay her bills and continue receiving pay checks until she was able to return."
Working conditions/human resources	8.1	"Orientation has been very thorough in explaining hospital core policies and procedures. Personnel were very open to questions – very approachable."
Communication and interaction	7.4	"A nurse (RN) noticed a problem with someone else's charting. Instead of ignoring it, she went directly to that person and explained nicely the correct procedure. I have noticed the quality care of many RNs and others at Hospital. The RN who found the mistake was caring yet firm."
Work together to serve the patient	7.4	"One of the patient care assistants from a cardiology practice was in the nursing unit across from a room that I was seeing a patient. The patient developed signs of a stroke. Immediately the patient care assistant came in to help even though he had not yet met this patient. Excellent Work! Quick action to assess the patient, assist the nurses, contact the primary cardiologist."
Wayfinding	6.4	"An elderly gentleman and his wife were lost and needed directions to the doctor's office. A staff member helped the couple get from the north campus to the south campus. She had to get a wheelchair even though that was resisted at first. They walked so slow it took nearly 1/2 hr to make it."
Concern for family and visitors	6.4	"A visitor appeared lost in hallway at 2:30 a.m. He was blind and his wife just had a baby and he wanted something to eat. An RN from non-obstetric unit escorted him to the café, made him a sandwich, escorted him back to wife's room, and then went back for her own tray."
Job "ownership"	6.4	"A patient left the unit without receiving a couple of pills to take home that needed to be taken that evening. The RN who was responsible for that patient left work and went to deliver the medication to the patient's home."

Note: Incidents have been edited to protect identities and to ensure understanding by the reader

organization's emphasis on a team culture as measured by the Competing Values Framework (Quinn, 1988). Stories offered in this category involve an outside employee (from a cardiology practice) noticing that a patient was suffering a stroke and he immediately assisted the care team even though the patient was not his responsibility. Another story concerned a phlebotomist who was drawing blood from a child in the emergency room. He noticed the color of the child's blood and suggested that a certain test – carboxyhemoglobin – should be ordered. In fact, this suggestion surfaced the child's problem.

Effectiveness measures provide information to assess culture strength with respect to certain values. At the aggregate level, these ratings tell managers what areas need attention and which ones need continuation and reinforcement. Samples from incidents in those categories – both positive and negative – provide rich details to share with employees and to use in targeted action planning. Clearly, the information contained in these incidents and in the effectiveness ratings are powerful and telling about the organization's culture.

Mean effectiveness ratings of critical incidents were found positively and significantly correlated with three quality-related scales (Meyer and Collier, 2001). The three scales correlating with mean effectiveness ratings were:

- 1 executive leadership support for quality;
- 2 patient results; and
- 3 comparative measures of patient satisfaction.

The implication of these findings is that the reporting of more effective incidents is associated with higher ratings of executive leadership concerning quality, better patient results, and higher patient satisfaction compared to other competing providers.

Putting these results to work

The use of critical incidents to assess and change organizational culture in healthcare organizations is a new application. However, the organization in this case study found several avenues for putting these critical incident findings to work. The most popular application was using several of the CIT stories to exemplify the good aspects of the culture that were already present. And, since the organization's focus was on change, using several stories to show what needs to change.

For example, with "Concern for the patient" being a value that was strongly held by the members of the organization, the CIT stories provided rich detail on specific actions employees have taken to live this value. These stories have been shared in briefings of the culture survey results, in staff meetings, and in other organizational celebrations. Negative stories have been used more selectively to reduce the emphasis on blame-finding and focus more on resolving the underlying issues. Of course, care must be taken to ensure that individual responses are protected when sharing details of critical incident stories.

With nearly 300 incidents, breaking the incidents out by various groupings assisted in analyzing organization-specific issues. For example, with the current US emphasis on improving patient safety in hospitals and healthcare settings, the organization wanted to review those incidents having direct implications for patient safety. This produced a far richer level of detail compared with previous efforts to surface patient safety issues or relying on the stories provided by those in the Patient Safety Committee. Combined with other measures of patient safety, the incidents offer support and detail that helped guide the Patient Safety Committee to take effective action to make targeted improvements.

Another area of focus in this organization was critical care. Critical care offers one of the harshest work environments in nearly any industry, and certainly within the health-care industry. Attracting and retaining critical care staff is a constant goal. Breaking out incidents offered just by critical care staff and those having an impact on critical care areas provided specific information to plan effective improvements in the critical care areas.

Still, other outlets exist for using the CIT data. Often, training modules for customer service, patient care, and other topics rely on scenarios that have been written to illustrate a particular point. With CIT, the organization has its own database of rich stories that can show employees how things should be done or how they are being done poorly. Training sessions become real grounds for improvement using real examples, rather than constructing scenarios that may bear little semblance to the organization's actual experience. On the implementation side, using CIT to manage and change culture takes no more time than using typical survey results. In fact, CIT usually provides more

detailed, targeted information than typical survey data which eliminates a lot of the interpretation and “guesswork” concerning what needs to change. If you have a CIT story that shows how a patient was not treated well, that provides a lot more information than a score on a survey item that is rated one point lower this year compared to last year.

Discussion

The organization in this study was an acute care hospital located in the US Midwest. The hospital is a community-owned, not-for-profit organization established in 1900 and has 348 licensed beds, 282 of which are in a replacement hospital that was opened in December 2000. The hospital offers a broad range of healthcare services, along with high-risk obstetrical, Level III neonatal intensive care unit, a Level I trauma care center, and a designated Children’s Hospital inside the main hospital. The hospital has a market area containing 231,000 residents and has one major competitor in the same city. Approximately 3,000 employees work in the healthcare system, which includes the hospital and several related facilities.

The hospital had recently occupied a new replacement facility that had been planned for nearly a decade. Meetings with employees, physicians, community members, and other stakeholders led to the development of a philosophy behind the building – a patient-centered, healing environment with comfort, ease of use, and security built in. The design goal was to create an environment that fosters the healing process. This was accomplished through many design features:

- horizontal and vertical adjacencies of services;
- the use of all-private rooms throughout the hospital;
- the use of art, light, and music; and
- even smaller touches like robes for patients and less-revealing gowns.

Nurses use portable computers to chart patient information. Pedestrian traffic is designed to flow horizontally so patients, guests, and visitors only need to go to one floor. Outpatient testing services have been consolidated in the new hospital, to save patients from having to go from lab to x-ray. Patient records concerning outpatient tests are also located in one area, rather than having to be consolidated from several

departments and then put on the main patient chart.

This case study application of CIT to assess organizational culture bears several implications for practice. Culture is complex and systemic – no one technique or method can or should be used to construct a definitive description of the culture. Members of the organization often take cultural practices for granted – that is the nature of a culture and one of its purposes; as such, a trained observer outside of the organization can identify many of these cultural practices and attributes that an insider cannot. Instrumentation needs to be carefully designed to capture specifics of the organization under study. And, the focus should not only be on changing the culture, but on continuing the desired attributes that are already in place.

Do not rely on one method to measure culture

An organization’s culture is a product of many complex factors – people, behavior, history, its environment, competitors, location, industry, and more. In fact, some researchers state that organizations are cultures rather than organizations have cultures. Reliance on a single method to measure culture will produce results containing the bias of that method. A complex system requires multiple measures using multiple methods to assess. “Cracking” the culture requires a fair amount of evidence – evidence that only can be gleaned from a variety of sources. In this study, we used a modified version of the Competing Values Framework, a custom-tailored culture strength scale, and CIT. CIT provided an open-ended, bottom-up means to measure culture. In addition, the senior author participated in many organizational activities and observed the organization in action to add depth to the structured forms of analysis.

Use the rich descriptions of your organization’s culture

Numbers on a survey report are one thing; actual stories about how your employees behave on the job are another. Using CIT to assess culture will surface rich descriptions of how an employee went “above and beyond” to meet a patient’s need, yet it may also surface how an employee shirked his or her job and created a dissatisfied patient. Or, worse yet, CIT may surface situations involving unsafe patient care behaviors. Once aware of the types of data produced by

Larry A. Mallak, David M. Lyth,
Susan D. Olson,
Susan M. Ulshafer and
Frank J. Sardone
*Diagnosing culture in
health-care organizations
using critical incidents*

International Journal of Health
Care Quality Assurance
16/4 [2003] 180-190

CIT, managers can be prepared on how to handle the output of this technique. The main outcome of CIT is the categories of incidents, but the more interesting outcome is the stories that describe what people in the organization are actually doing.

CIT produces a bottom-up view of your organizational culture

In contrast with most popular surveys for measuring culture, CIT has no predetermined categories for analysis – the data themselves produce the categories. In this manner, the employees produce their view of the culture, from a bottom-up perspective. The hospital case presented in this paper learned about cultural events that would never have been included in a standardized survey instrument.

Disregarding these data perpetuates the myth that leadership alone constitutes the organization's culture. If the organization is the culture, then all employees influence the culture. The culture's influence must permeate the entire organization. In a strong culture, nearly all employees respond to specific situations uniformly. For example, in the hospital we studied, wayfinding was a strong cultural value. Reported incidents and the senior author's own experience validated this value – employees provided verbal directions and then escorted the person to the desired location.

Get outside help

In the same vein as "Physician, heal thyself," an organization cannot easily assess its own culture. Culture is "the way we do things around here" and operates on the basis of deeply rooted assumptions. As such, for an insider, an organization's culture does not typically operate at the level of consciousness needed to conduct an objective analysis (Schein, 1985). An outside resource, properly trained, can gather poignant insights to an organization's culture and place those insights in the context of the overall culture measurement process. An outside agent will provide respondents with anonymity and should result in better data collection. Of course, over-reliance on outside help is a problem, too. This can lead to a lack of internal motivation and a dependence on the outsider to initiate internal change, when such change is the responsibility of the internal employees. What is needed here is the proper balance to provide the organization with cultural information. An effective use of outside resources is to engage a qualified outside agent to work with the

organization to identify its needs, design the data collection process, and collect and analyze the data. The internal employees should be actively involved in the study of culture by assisting the outside agent through the provision of cultural information, insights, and working with the agent to discern the meaning behind cultural practices and symbols. This process roughly follows what has been termed the "Lewinian consulting" process (Weisbord, 1987). Then, the organization's leadership can put these findings to work in change efforts and other initiatives to sustain and improve the organization.

Carefully design the instrumentation and data collection processes

Critical incident data collection can be viewed as time-consuming and therefore avoided for its resource consumption. However, using the questionnaire method to collect data (as opposed to face-to-face interviews) dramatically cuts the amount of time required to collect the data without sacrificing quality. Independent of the method, the narrative data need to be analyzed and this is much more involved and different than traditional quantitative analysis. However, the costs associated with analysis can be maintained by first having the incidents entered into a database by clerical employees. Each incident took approximately six minutes to enter. In this study, that amounted to 30 hours of data entry time. Data analysis consumed nearly ten days of professional time, including categorizing the incidents, reliability checks among raters, and interpretation of the results for the client organization.

As discussed earlier, questionnaire methods produce similar data at a fraction of the cost to collect data via interviews. Using an effectiveness rating for each incident provides respondent-supplied data of how well the value is being practiced. This removes the analyst's bias in assigning ratings based on the collected incidents. Once the incidents are collected and sorted into categories, compare the resulting categories to existing statements of organizational values. The incidents will reflect what the respondents experience, which may differ greatly from what administration would like the organization to espouse as its desired values. Gaps between these two value sets supply additional management information for culture and behavior change efforts.

Sustain and change the culture

Culture has been likened to a large ship moving through a sometimes calm, sometimes turbulent environment. However, the organization's course has usually been set ("strategy") and minor corrections keep the organization on track. Organizations seeking to strengthen their culture should have a sound strategy in place and have one or more key values that are held strongly. An essential process of culture measurement is to assess the strength of the culture – how well the organization's values are held by its employees. Therefore, one essential outcome of culture measurement is to identify which values and practices should be sustained – through identification and reinforcement of behaviors that support those values. Of course, many organizations seek to change culture, but culture change should be approached carefully because of its long-term and broad-ranging implications for how the organization accomplishes its objectives. Deeply rooted values are part of the reason why many employees elected to work at an organization and why they stay (O'Reilly *et al.*, 1991). Changing those values takes time and takes its toll – some employees may leave or may be forced out by changes in values. These departures are expected and help the organization achieve its culture change goals.

Culture data in this study, as in many organizations, are protected by human subjects policies. As such, an individual cannot be identified by his/her responses on the survey. Care is taken in all aspects of the study to ensure the confidentiality of responses. In addition, this study was conducted anonymously, meaning we did not collect names with the data. Given these protections, we should experience a greater likelihood that people will "speak their minds" when filling out the questionnaire and not worry about retribution. The number and types of incidents collected substantiates this view – nearly one-third of the collected incidents were negative and could have implications for a person's employment if identities were made known.

Conclusions

The CIT provides a rich, bottom-up view of culture. This bottom-up view can be compared to more structured means of measuring the culture as well as the organization's statements of its desired or existing culture. In this manner, we can see

what gaps exist between what management believes the culture is (or what they desire the culture to be) and what the employees are experiencing concerning the culture.

CIT involves measuring positive and negative cultural events from the perspective of various stakeholders – in this case the employee perspective was used. Firsthand stories shared by employees contain rich detail about the culture. Alone, these stories provide interesting examples of where the culture went right and where it went wrong. In aggregate, these stories provide a powerful view of the organization's true value structure making up its culture.

The use of CIT has specific benefits and costs. The chief benefits have been outlined throughout this article and they include:

- CIT yields a rich, bottom-up description of the culture.
- CIT provides both positive and negative behavioral examples of how the culture is practiced.
- When compared with conventional culture measures, CIT provides an internal point of comparison.

Of course, these benefits require some costs: to collect, enter, and analyze CIT data requires a few more resources compared to machine-scored instruments. However, the additional resources are limited to a few hours of clerical time and a few days of professional time. Most organizations seeking an honest evaluation of their culture should readily see the value of the CIT.

References

- Anderson, L. and Wilson, S. (1997), "Critical incident technique", in Whetzel, D.L. and Wheaton G.R. (Eds), *Applied Measurement Methods in Industrial Psychology*, Davies-Black Publishing, Palo Alto, CA, pp. 89-112.
- Bitner, M.J., Booms, B.H. and Mohr, L.A. (1994), "Critical service encounters: the employee's viewpoint", *Journal of Marketing*, Vol. 58 No. 4, pp. 95-106.
- Bitner, M.J., Booms, B.H. and Tetreault, M.S. (1990), "The service encounter: diagnosing favorable and unfavorable incidents", *Journal of Marketing*, Vol. 54 No. 1, pp. 71-84.
- Brant, S. (1992), "Hearing the patient's story", *International Journal of Health Care Quality Assurance*, Vol. 5 No. 6, pp. 5-7.
- Davey, K.M. and Symon, G. (2001), "Recent approaches to the qualitative analysis of organizational culture", in Cooper, C.L., Cartwright, S. and Earley, C. (Eds), *The International Handbook of Organizational*

Larry A. Mallak, David M. Lyth,
Susan D. Olson,
Susan M. Ulshafer and
Frank J. Sardone
*Diagnosing culture in
health-care organizations
using critical incidents*

International Journal of Health
Care Quality Assurance
16/4 [2003] 180-190

The authors wish to acknowledge the support for this work by the Bronson Healthcare Group, Kalamazoo, Michigan, USA. Bronson provided their organization as a living laboratory and case study to devise new ways of measuring culture and examining the relationships between culture and the built environment. Bronson also provided funding for this project. As a Pebble Partner with the Center for Health Design, Bronson engages in research and shares those results with the broader academic and practitioner community. See more about the Pebble Project at: www.pebbleproject.org

- Culture and Climate*, Wiley, Chichester, pp. 123-42.
- Edvardsson, B. and Strandvik, T. (2000), "Is a critical incident critical for a customer relationship?", *Managing Service Quality*, Vol. 10 No. 2, pp. 82-91.
- Flanagan, J.C. (1954), "The critical incident technique", *Psychological Bulletin*, Vol. 51 No. 4, pp. 327-58.
- Glaser, B.G. (1965), "The constant comparative method of qualitative analysis", *Social Problems*, Vol. 12 No. 4, pp. 436-45.
- Gundry, L.K. and Rousseau, D.M. (1994), "Critical incidents in communicating culture to newcomers: the meaning is the message", *Human Relations*, Vol. 47 No. 9, pp. 1063-88.
- Hamilton, K. (2000), "Design for patient units", *Paper presented to the Healing by Design: Building for Health Care in the 21st Century Conference*, 20-21 September, 2000, at the McGill University Health Centre (Canada), available at: www.muhc.mcgill.ca/healing/english/Speakers/hamilton_p2.html (accessed 18 February 2003).
- Kemppainen, J.K. (2000), "The critical incident technique and nursing care quality research", *Journal of Advanced Nursing*, Vol. 32 No. 5, pp. 1264-71.
- Longo, B., Connor, G. and Barnhart, T. (1993), "Using the critical incident survey to assess hospital service quality", *Journal of Hospital Marketing*, Vol. 17 No. 2, pp. 91-100.
- Mallak, L.A., Lyth, D.M., Olson, S.D., Ulshafer, S.M. and Sardone, F.J. (2003), "Culture, the built environment, and healthcare organizational performance", *Managing Service Quality*, Vol. 13 No. 1, pp. 27-38.
- Meyer, S.M. and Collier, D.A. (2001), "An empirical test of the causal relationships in the Baldrige Health Care Pilot Criteria", *Journal of Operations Management*, Vol. 19, pp. 403-25.
- Mohr, L.A. and Bitner, M.J. (1995), "The role of employee effort in satisfaction with service transactions", *Journal of Business Research*, Vol. 32 No. 3, pp. 239-52.
- Murphy, E. (2000), "The patient room of the future", *Nursing Management*, March, pp. 38-9.
- O'Reilly, C.A., Chatman, J. and Caldwell, D.F. (1991), "People and organizational culture: a profile comparison approach to assessing person-organization fit", *Academy of Management Journal*, Vol. 34 No. 3, pp. 487-516.
- Quinn, R.E. (1988), *Beyond Rational Management*, Jossey-Bass, San Francisco, CA.
- Ruben, B.D. (1993), "What patients remember: a content analysis of critical incidents in health care", *Health Communication*, Vol. 5 No. 2, pp. 99-112.
- Schein, E.H. (1985), *Organizational Culture and Leadership*, Jossey-Bass, San Francisco, CA.
- Ulrich, R.S. (1984), "View through a window may reduce recovery from surgery", *Science*, Vol. 224, pp. 420-1.
- Weisbord, M.R. (1987), *Productive Workplaces*, Jossey-Bass, San Francisco, CA.