

## Association for Information Systems AIS Electronic Library (AISeL)

---

ICIS 1983 Proceedings

International Conference on Information Systems  
(ICIS)

---

1983

# Observing Organizational Environments: Is it Really of Any Use to the Information Analyst?

Kenneth E. Kendall

*University of Nebraska-Lincoln*

Julie E. Kendall

*University of Nebraska-Lincoln*

Follow this and additional works at: <http://aisel.aisnet.org/icis1983>

---

### Recommended Citation

Kendall, Kenneth E. and Kendall, Julie E., "Observing Organizational Environments: Is it Really of Any Use to the Information Analyst?" (1983). *ICIS 1983 Proceedings*. 7.

<http://aisel.aisnet.org/icis1983/7>

This material is brought to you by the International Conference on Information Systems (ICIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in ICIS 1983 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact [elibrary@aisnet.org](mailto:elibrary@aisnet.org).

Observing Organizational Environments:  
Is it Really of Any Use to the  
Information Analyst?

Kenneth E. Kendall  
Department of Management  
University of Nebraska-Lincoln

Julie E. Kendall  
Department of Speech Communication  
University of Nebraska-Lincoln

ABSTRACT

Previously the authors developed a framework for observing key elements in the organizational environment. The art structure proposed was borrowed from film criticism, but the correlation between office environments and characteristics of the people who use them is grounded in individual research efforts of others. Since first proposing the mise-en-scène framework as a tool for information analysts, the authors set out to determine if reliable and valid measures could really be developed. Once satisfied with their results, they attempted to use the technique to identify information requirements in a regional blood service organization. This paper describes the problems encountered in relating physical surroundings to decision maker characteristics, improvements to the general framework, reliability, and validity limitations, and options for implementing the observational technique in a consulting project. Suggestions are provided for future research that would solidify the usefulness of observing organizational environments.

INTRODUCTION

In an earlier MIS Quarterly article (Kendall and Kendall, 1981) the authors developed a framework, called mise-en-scène analysis, for observing organizational environments of decision makers. In the present follow-up article the usefulness of the framework and its potential for implementation are evaluated through an application for Information Analysts (IAs). Two questions served as the foci in this regard: 1) does the framework really work? and if so 2) how can it best be implemented?

To briefly recapitulate the thrust of the earlier article, mise-en-scène (pronounced mēz-ān-sēn) analysis is a systematic approach for observing organizational environments which the authors adapted from film criticism. In this analogy the film critic is equivalent to the IA who uses mise-en-scène analysis to understand the contributions that concrete and abstract elements make to the decision making process.

An IA is never able to observe decision processes in their entirety. Therefore the chosen unit of mise-en-

scène observation (analogous to the shot in film), is a representative sample of the physical surroundings and behavior of the decision makers in the organization. These are observations made during organizational visits upon which the IA will base conclusions about information requirements.

With this approach the IA can obtain information unavailable through the traditional techniques of interviewing and investigation of hard data. Information gathered this way may be used to confirm, reverse or negate what might be called the "organizational narrative" or the opinions given in interviews and hard data.

Thus mise-en-scène analysis can be used to supplement the more traditional methods. Specifically, mise-en-scène analysis provides a structured approach to observing office design, space, location of offices and equipment; office lighting and color; clothing worn by decision makers; the abilities of decision makers, their attention to multiple objectives, the cognitive maps of decision makers, and whether decisions are made on a group or individual basis.

## IMPROVEMENT AND VERIFICATION

### Background

The two members of the research team had a combined total of fourteen years experience working with regional blood centers before this project began (Cumming, Kendall, Pegels, and Seagle, 1980; Cumming, Kendall, Pegels, Seagle, and Shubsda, 1976; Frankfurter, Kendall, and Pegels, 1974; Kendall, 1980a; Kendall, 1980b; Kendall and Kendall, 1979; 1980; Kendall and Lee, 1980; Pegels, Seagle, Cumming, and Kendall, 1974). It therefore made sense to validate the mise-en-scène framework in the familiar surroundings

of blood centers. The information gathered from this effort would in turn be used to develop a decision support system package for one American Red Cross blood center. The resulting DSS is expected to be more flexible because the design would take into consideration the information gathering, storing, and processing of more than one administrator. If the administrator currently using the DSS would leave the organization, modification of the DSS to suit the needs of the new administrator would be minimal.

To achieve a true portrait of typical regional blood system administrators, a sample of different-sized centers was used. Some of the blood centers were affiliated with the American Association of Blood Banks. The sample of regional blood centers fulfills approximately six percent of the whole blood and red cell requirements for the United States and Canada.

From these centers one or, in some cases, two blood administrators were chosen to be observed and interviewed. When the medical director was involved with administrative decisions it was necessary to include him in the study. Sixteen participants had to be observed in different settings, and asked specific questions about the way they make key decisions.

### Development

In the original MIS Quarterly article, the framework called for three concrete and four abstract elements. On closer examination of the film literature, it was determined that much had been written about the first concrete element which is referred to as sets and backgrounds (in films), and office design, space, location of offices, and equipment (in organizations). In practice it became difficult to assimilate all sub-elements of this category, so it helped to break down this

element into more manageable units of observation. The modified framework and corresponding units of observation in organizations are presented in Table 1.

The next step was to develop a corresponding list of items to observe in the physical environment and scales to aid in measuring these items. A panel of experts in information systems was

Table 1. Filmic Elements of Mise-en-scene and Their Organizational Equivalents as Revised from the Original Framework

Concrete Elements	
Filmic Elements	Organizational Elements
Set location	Office location
People positioned within a frame	Decision maker's placement in an office (ie. desk placement)
Stationary objects	File cabinets, bookshelves, and equipment for storing information
Props (movable objects)	Calculators, CRTs and other items used for processing information
External objects (brought in from other scenes)	Trade journals, newspapers, and items used for external information
Lighting and color	Office lighting and color
Costumes	Clothing worn by decision makers
Abstract Elements	
Filmic Elements	Organizational Elements
Abilities of actors	Abilities of decision makers to make timely decisions
Focus and depth of field	Attention to multiple objectives
Camera angle	Cognitive maps of decision makers
Number of actors in a shot	Emphasis on individual of group decision making

assembled to suggest improvements in the items and scales. Their comments regarding observation of the concrete elements were enthusiastically positive, but the comments about the abstract elements were overwhelmingly negative. Most offensive to the panel of experts was tying the piles of paper on a manager's desk to his/her ability to make timely decisions. Lesser objections were voiced regarding the link between physical surroundings and an administrator's attention to multiple objectives, cognitive maps of decision makers, and the amount of group versus individual decision making.

This resistance initiated a re-examination of these abstract elements. It was determined that abstract elements can still be observed in the organization, but the administrator's behavior, rather than surroundings, is the observable unit. This concept was much more acceptable to the panel. Rationale for observing behavior comes in part from Kerlinger who considers it necessary to observe behavior when variables are interactive and interpersonal (Kerlinger, 1973). Additionally, behavioral observation is recognized as being an unobtrusive method of collecting data (Webb, Campbell, Schwartz, Sechrest, 1966).

Five point Likert-type scales were developed for each of the observable objects and behaviors. For example, the scales described how much space was available in front of the administrator's desk, how many file cabinets were present in the office, what type of clothing was worn by the participants, and the presence of calculators or CRTs. References to each of these items are available in the original MIS Quarterly article (Kendall and Kendall, 1981).

Multiple methods are required for validation of these measures. Interviewing was chosen as an additional method

for a number of reasons. First and foremost is the common acceptance of interviewing as the most used technique of gathering information (Atwood, 1977). Interviewing has other advantages, including the ability of IAs to follow up or probe responses or even straighten out confusing items impossible to correct on questionnaires (Babbie, 1973). Interviews consisted of both structured questions and unstructured conversations, allowing the interviewee to emphasize his/her own priorities. The observers used notes to respond later to the Likert-type scales.

Before going on the road, a pilot study was conducted in one regional blood center. Many of the scales were changed based on this experience.

## RESULTS

If the mise-en-scène framework is to be used generally by information analysts, it is important that observations of IAs are reasonably consistent with each other. The intercoder reliabilities were therefore determined for both concrete and abstract elements (as featured in Table 2). For the most part the reliability coefficients for observation of the physical environment are higher than those for behavioral observation or interviewing. The amount of equipment, space, and distance between offices, as well as information about the type of clothing and lighting and color are more easily observed than behavior and more easily measured than responses obtained during interviews.

Still the reliabilities for behavioral observation and interviewing were for the most part reasonable. Observing an administrator storing his/her own information was difficult and consequently the reliability coefficient BOC3 was low. The coefficient repre-

Table 2. Organizational Elements, their Relationship to Characteristics of Decision Makers, and the Intercoder Reliabilities of Each Method

Concrete Elements				
Organizational Elements	Characteristics of Decision Makers	Physical Observation	Behavioral Observation	Interviews
Office location	Shares information with others	.95*	.90*	.55
Decision maker's placement in an office (ie. desk placement)	Exercises power in decision making	.92*	.74*	.34
File cabinets, bookshelves, and equipment for storing information	Stores information personally	.97*	.33	.87*
Calculators, CRTs and other items used for processing information	Processes information personally	.98*	.74*	.80*
Trade journals, newspapers, and items used for external information	Seeks extra-organizational information	.99*	.75*	.80*
Office lighting and color	Gathers information informally	.86*	.88*	.52
Clothing worn by decision makers	Exhibits credibility in decision making	.89*	.88*	.70*
Abstract Elements				
Organizational Elements	Characteristics of Decision Makers	Physical Observation	Behavioral Observation	Interviews
Abilities of decision makers to make timely decisions	Makes timely decisions	-	.73*	.78*
Attention to multiple objectives	Considers many objectives	-	.20	.69*
Cognitive maps of decision makers	Pictures oneself as a major source of information	-	.54	.83*
Emphasis on individual or group decision making	Encourages participative decisions	-	.75*	.72*

\*  $p \leq .01$

senting observation of an administrator's attention to multiple objectives (BOA2) was a troublesome .20. Out of eleven interviewing measures, three were not acceptable. This suggests it might be difficult to ascertain how an administrator gathers information (INC6), shares information with others (INC1), or proves his/her credibility as an effective decision maker (INC7) through the interviewing process.

Multitrait-multimethod matrices (Campbell and Fiske, 1959) are presented in Tables 3 (for concrete elements) and Table 4 (for abstract elements). Convergent and divergent validity were inferred by determining that a series of conditions were met and an extensive discussion of validity is presented elsewhere (Kendall and Lee, 1980). The small coefficients for INC1-POC1 (.11) and INC2-POC2 (.18) on the validity diagonal circled in Table 3 were not too disturbing since this result may be explained by reliability problems with the interviewing scales INC1 and INC2.

The only troublesome correlations on the validity diagonal of Table 3 were BOC6-POC6 (.16) and INC6-POC6 (.26). Here an attempt was made to show a relationship between warm lighting and color and gathering information informally. This concept is grounded in research about offices (Birren, 1969; Knapp, 1978), and consequently it is distressing that the present study was unable to confirm this. One plausible explanation is that sterility of blood centers in both collecting and processing blood carries over to the office environment. Another explanation is that fluorescent lighting is viewed as more appropriate (and less "extravagant") than warm lighting for non-profit organizations.

Convergent and divergent validity were inferred for the abstract elements in Table 4 without the problems encoun-

tered with concrete elements. Hence, with the possible exception of lighting and color, this research suggests that both physical observation of the concrete elements and behavioral observation of the abstract elements measure the intended characteristics of decision makers.

## OPTIONS FOR IMPLEMENTATION

Information Analysts are not primarily in the business of validating techniques, but rather are interested in knowing how to use them. One of the key uses for mise-en-scène analysis is resolving differences between interview information and information gained through observation. When information conflicts, mise-en-scène analysis can be used as a cue to look further into the situation.

For instance organizational participants omit information intentionally, make up missing information during an interview, or even lie. By comparing the interview data with the mise-en-scène checklist the IA is able to either confirm, negate, or reverse what has been said in interviews. In this manner the IA gains a more complete understanding and will more accurately determine information requirements that result in a better fit between the DSS and its user.

### Using a Checklist

The IA may find it useful to make a chart or checklist of the elements to be observed. This is something the authors have found valuable in the field. As interviewing ensues, each observable element is noted. When notes from interviews are compared with the chart more knowledge of the situation is gained.

Table 5 and the following provide an example of how the three methods described are actually utilized. Two ad-

Table 3. Concrete Element Multitrait-Multimethod Matrix for Observation of the Physical Environment, Behavioral Observation, and Interviewing (Decimals Omitted)

	Physical Observation							Behavioral Observation							Interviewing						
	POC1	POC2	POC3	POC4	POC5	POC6	POC7	BOC1	BOC2	BOC3	BOC4	BOC5	BOC6	BOC7	INC1	INC2	INC3	INC4	INC5	INC6	INC7
POC1																					
POC2	25																				
POC3	14	15																			
POC4	-10	-22	75*																		
POC5	-06	20	83*	65*																	
POC6	-19	19	-09	-27	15																
POC7	-30	40	11	04	48	34															
BOC1	74*	-09	55	24	33	-06	-17														
BOC2	00	81*	-01	-15	36	27	72*	24													
BOC3	18	-19	89*	78*	76*	-08	17	60*	-03												
BOC4	03	-17	69*	73*	60*	-14	06	32	-19	75*											
BOC5	-36	13	46	28	63*	43	43	01	38	39	41										
BOC6	42	-04	49	22	43	16	-11	65*	-16	50	25	08									
BOC7	-20	12	70*	63*	91*	29	58*	-19	31	72*	49	54	44								
INC1	11	-17	56	20	50	30	14	50	-12	54	42	37	84*	55							
INC2	-15	18	04	-06	10	23	43	-17	49	-02	-26	27	-33	18	-26						
INC3	13	-29	81*	82*	59*	01	-07	57	-29	76*	69*	24	42	61*	47	-04					
INC4	01	-13	90*	81*	83*	07	16	48	-05	82*	77*	50	49	79*	62*	-05	91*				
INC5	-23	28	52	35	79*	42	70*	13	52	50	47	86*	18	74*	43	18	33	61*			
INC6	26	02	27	07	23	26	-19	33	-08	29	10	12	87*	25	71*	-33	13	21	06		
INC7	-16	29	54	51	75*	24	70*	19	54	54	30	58*	09	82*	19	48	51	63*	78*	-12	

\*  $p < .01$



Table 4. Abstract Element Multitrait-Multimethod Matrix for Behavioral Observation and Interviewing (Decimals Omitted)

	Behavioral Observation				Interviewing			
	BOA1	BOA2	BOA3	BOA4	INA1	INA2	INA3	INA4
BOA1								
BOA2	75*							
BOA3	31	35						
BOA4	20	15	28					
INA1	63*	39	21	-10				
INA2	67*	71*	28	-12	47			
INA3	04	15	60*	-05	09	05		
INA4	34	34	30	86*	-04	06	18	

\*  $p \leq .01$

ministrators were examined through use of a checklist approach to mise-en-scène. After using observation of the physical environment, it was clear that each required a different decision on the part of the IA.

The first administrator interviewed (the blood administrator) seemed unsure about his role as a decision maker. He cited examples of his ideas that were never implemented in the blood center. From observing his behavior it was clear that he exhibited little credibility in his decision making activities, preferring to let others initiate decision making. In trying to convince others he cited situations in other blood centers and not his own personal track record.

Finally, the mise-en-scène element of clothing was observed. The administrator dressed in a somewhat casual manner with sports coat and slacks. Some of the jackets he wore sported western-look stitching. His clothing clearly fell toward the casual end of the spectrum. In this case, observation of the element of clothing confirmed what had been surmised with the other methods. The administrator was low to average in his credibility in decision making.

In another instance, the three methods were used with a medical director who shared in administrative decision making. In interviews he painted his decision making role as primarily that of an advisor to regional physicians

Table 5. Example of Checklist Items for Two Blood Center Administrators

Administrator Number 1 (Blood Administrator)				
Cites specific examples of their own decisions and speaks confidently about decisions made				
rarely				often
1	2	3	4	5
Demonstrates credibility in decision making practices by exerting authority, utilizing decision skills, and acting confidently				
never				always
1	2	3	4	5
Wears authoritative business suits rather than casual or sporty clothing				
wears casual or sporty clothing				wears conservative business suits
1	2	3	4	5
Administrator Number 2 (Medical Director)				
Cites specific examples of their own decisions and speaks confidently about decisions made				
rarely				often
1	2	3	4	5
Demonstrates credibility in decision making practices by exerting authority, utilizing decision skills, and acting confidently				
never				always
1	2	3	4	5
Wears authoritative business suits rather than casual or sporty clothing				
wears casual or sporty clothing				wears conservative business suits
1	2	3	4	5

and internal staff members. He played down his decision making credibility.

What was seen by the team with behavioral observation seemed to be at odds with the interview information. Staff respected the medical director's decisions and did not question them. He exhibited much credibility in this regard.

Using observation of his clothing, it was noted that he dressed in an extremely credible manner, in three piece suits. In this case, observation of the mise-en-scène element of clothing served as a cue to look further, since the results from the first two methods were negated by the third. Upon developing more appropriate interview themes and questioning the medical director further it became clear he enjoyed making decisions. Indeed, he cited specific examples of his effectiveness in administrative decisions.

#### A Less Structured Approach

Sometimes even bringing a checklist into the organization is unnecessary if the observable elements are kept in mind. Few of us attend a film with checklist in hand, yet communicative items of mise-en-scène rarely escape our awareness.<sup>1</sup> Likewise the IA need not carry a checklist to effectively observe organizational environments.

The following example demonstrates that important items can be revealed even without a checklist. When the authors were attempting to design a DSS for a regional blood center they interviewed the administrator and asked about any restrictions on equipment. He assured them that since he wanted his blood center to be the most up-to-date and forward-looking center in the Midwest, there were no real restrictions on equipment. As the research team observed the environment this statement was negated. There was no

modern office equipment and the medical director used an old donor table to hold medical journals. Even without a checklist, the cue was taken from this element of mise-en-scène to question further.

As we interviewed more in this topic area the administrator stressed that the Red Cross includes many diverse operations including Aid to Military Families and Disaster Relief as well as Blood Services. In order to provide equal treatment to each branch in the eyes of the staff, only new medical equipment was purchased. Purchases of other types of office equipment for Blood Services were purposely held to a minimum in order to avoid enviousness in the other branches. One way this affected our report to the organization was that microcomputers for individual offices were not recom-

---

<sup>1</sup>In the film Psycho directed by Alfred Hitchcock, mise-en-scène speaks powerfully. One scene involves a conversation between Marion Crane (Janet Leigh) and Norman Bates (Anthony Perkins) in his parlor. When Norman explains his devotion to his mentally ill mother, the viewer should be feeling empathy, but instead one senses a growing feeling of oppressiveness.

Examination of the mise-en-scène evidenced in the sets and background reveals how the oppressive feeling is gained. Norman and Marion are both surrounded by a ghastly collection of stuffed birds of prey, and no matter how reassuring the conversation, the birds dominate the mood with a feeling of being entrapped (Pegels, Seagle, Cumming, and Kendall, 1974). All of this is available to the movie goer without aid of a checklist.

mended, rather a communally-shared computing system was encouraged.

### Using Photography

Another way to implement mise-en-scène analysis is through the use of photography. A photograph can provide excellent documentation of the concrete elements. It can also serve as a reminder or reference point for the IA when it is not possible to be in the organization.

There are some potential drawbacks to employing photography when using mise-en-scène analysis however. One highly respected clinic in the Midwest allowed us to take photographs but was very concerned, even uptight, about the possibility of photographing a celebrity or a celebrity's spouse and thus invading their privacy.

Obviously, the IA's judgment is necessary when deciding to use photography in mise-en-scène analysis. The simple chart or checklist approach described above has worked well for the authors in place of photographs depending on the particular organizational dynamics.

### FUTURE CONSIDERATIONS

Before concluding that mise-en-scène analysis is an invaluable tool for IAs, the following four steps must be undertaken. First, the framework needs to be validated using a larger sample size. While the present study provides an adequate foundation for building, it is desirable to continue validating through an extended sample size to be certain that findings thus far are consistent.

Second, it is necessary to use other methods in conjunction with mise-en-scène analysis such as investigation of hard data including memos, performance reports, written documents,

annual reports, and the like in order to further demonstrate its capability for acquiring the same information in a different manner. Thus far it has worked well with interviewing and it is important to keep testing its worth in this manner.

A third step that should be taken in order to help establish mise-en-scène analysis as a useful tool is to employ it within organizations other than blood centers. While there are considerable differences between other organizations and blood centers it is important to show that there is nothing so unique about them as to make the method unusable in other types of organizations.

The fourth step that should be taken is to use trained observers instead of using the same researchers who developed the framework. Obviously there is a built-in bias when the developers of the framework also serve as observers. Trained observers will bring fresh objectivity to the framework and help to further refine it. Using a larger sample size, other methods, other organizations, and trained observers will allow other IAs to employ mise-en-scène analysis with increased confidence.

Mise-en-scène analysis provides a unique tool for the IA. It can be employed with interviewing and other methods to confirm or negate the organizational narrative. It can be used with or without a checklist and requires no additional time from organizational members or the IA. This article has taken the first stride in demonstrating the true value of mise-en-scène analysis for the IA.

### REFERENCES

Atwood, J.W. The Systems Analyst, Hayden Book Company, Inc., Rochelle Park, New Jersey, 1977.

- Babbie, E.R. Survey Research Methods, Wadsworth Publishing Company, Inc., Belmont, California, 1973.
- Birren, F. Light, Color and Environment, Van Nostrand Reinhold Co., New York, New York, 1969.
- Campbell, D.T. and Fiske, D.W. "Convergent and Discriminant Validation By the Multitrait-Multimethod Matrix," Psychological Bulletin, Volume 56, 1959, pp. 81-105.
- Cumming, P.D., Kendall, K.E., Pegels, C.C., and Seagle J.P. "The Impact of Information on a Regional Blood Service Management System," Information and Management, Volume 3, 1980.
- Cumming, P.D., Kendall, K.E., Pegels, C.C., Seagle, J.P., and Shubsda, J.F. "A Collections Planning Model for Regional Blood Suppliers: Description and Validation," Management Science, Volume 22, Number 9, May 1976, pp. 962-971.
- Frankfurter, G.M., Kendall, K.E., and Pegels, C.C. "Management Control of Blood through a Short-Term Supply-Demand Forecast Systems," Management Science, Volume 21, Number 4, December 1974, pp. 444-452.
- Kendall, K.E. "A Decentralized Information and Control System for Blood Management," Journal of Systems and Software, Volume 1, Number 1, 1980.
- Kendall, K.E. "Evaluation of a Regional Blood Distribution Information System," International Journal of Physical Distribution and Materials Management, Volume 10, Number 7, 1980.
- Kendall, K.E. and Kendall, J.E. "Information and Communication Audit for Blood Services," Consulting Report, 1979.
- Kendall, K.E. and Kendall, J.E. "Evaluating Group Interactive Processes at Blood Centers," Working paper, 1980.
- Kendall, K.E. and Kendall, J.E. "Observing Organizational Environments: A Systematic Approach for Information Analysts," Management Information Systems Quarterly, Volume 5, Number 1, March 1981, pp. 43-55.
- Kendall, K.E. and Kendall, J.E. "Eliciting Information Requirements Using Structured Observation of the Office Environment: Reliability and Validity," Working Paper, 1983.
- Kendall, K.E. and Lee, S.M. "Formulating Blood Rotation Policies with Multiple Objectives," Management Science, Volume 26, Number 11, November, 1980.
- Kerlinger, F.N. Foundations of Behavioral Research, Holt, Rinehart, and Winston, New York, New York, 1973.
- Knapp, M.L. Nonverbal Communication in Human Interaction, 2nd edition, Holt, Rinehart and Winston, New York, New York, 1978.
- Naremore, J. Filmguide to Psycho, Indiana University Press, Bloomington, Indiana, 1973.
- Pegels, J.P., Seagle, J.P., Cumming, P.D., and Kendall, K.E. "A Computer-Based Interactive Planning System for Scheduling Blood Collections," Transfusion, Volume 15, Number 4, December, 1974, pp. 381-386.
- Webb, E.J., Campbell, D.T., Schwartz, R.D., and Sechrest, L. Unobtrusive Measures: Nonreactive Research in the Social Sciences, Rand McNally College Publishing Company, 1966.