Observing Managers at Work: A Statistical Analysis of the Behavior of Successful Managers

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Trained participant observers using the Leadership Observation System (LOS) recorded the behaviors of 52 managers in 3 diverse organizations. These behaviors were then related to a manager success index consisting of level over tenure. A hierarchical multiple regression analysis found two of the behavioral categories on the LOS were significantly related to the successful managers: interacting with outsiders and socializing/politicking.

Answering the question of what managers really do through observational studies has received increasing attention. Although there were some early studies that directly observed leaders (Bales, 1950) and managerial work (Carlson, 1951), the work of Mintzberg (1973, 1975) and most recently Kotter (1982) has had the biggest impact.

Based on the direct observation of five chief executives over five days each, Mintzberg (1973) identified ten managerial roles (figurehead, leader, liaison, monitor, disseminator, spokesperson, entrepreneur, disturbance handler, resource allocator, and negotiator) that he argues can be found in all managerial jobs. Although there has been some support for his overall findings (Kurke & Aldrich, 1979), a number of researchers have found contrary evidence in portions of the Mintzberg framework when the roles are operationalized differently (Snyder & Glueck, 1980; Snyder & Wheelen, 1981) and when contingency variables such as the level of the manager is taken into consideration (Alexander, 1979). In addition, factor analytic studies of questionnaires based on Mintzberg's work failed to verify the ten roles (McCall & Segrist, 1980; Morse & Wagner, 1978). These follow-up studies point to some of the potential problems with Mintzberg's original study and some of the generalizations that he and many others have made from the study.

The real value of the Mintzberg study seems not necessarily the ten roles that emerged nor the conclusions about the nature of managerial work (e.g., he did not find managers doing the traditional functions of management such as planning, but rather found the manager's work consisted of brief, discontinuous encounters that tended to be quite superficial and reactive). Instead, the contribution made by Mintzberg is that he made direct observations or real managers in real organizations to provide insights on how they actually behaved. McCall, Morrison and Hannan (1978) summarize the value



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of observation methodologies (over especially the commonly used questionnairebased methods) to study managerial behavior as follows:

not interrupt the normal work activities of managers and take up their time; most accurate and reliable method for determining time distribution among observable activities; not subject to defensive biases in self-report; and can capture brief activities and the flow, brevity, and fragmentation of work (p.35).

A more comprehensive study of the behavior and work of top level managers was recently completed by Kotter (1982). He studied 15 general managers by multiple methods (interviews, questionnaires, archival data and, importantly, about 500 hours of direct observation). One of the most interesting and consistent findings was that these top managers spent a considerable amount of their time interacting with others, oftentimes outside their own work unit, having short and disjointed conversations that mainly consisted of joking around and talking about non-work related topics. Importantly, however, Kotter points out that this "network" building of cooperative relationships is how these managers influenced others and implemented their "agendas" (loosely connected goals and plans). These managers were not observed making decisions, giving direct orders or having their time with others planned in advance.

Both the Mintzberg and Kotter studies use direct observation to qualitatively assess manager behavior in the natural setting. There are several other studies that have also used the observational method to study managerial work (e.g. McCall, Morrison & Hannan, 1978 summarize 13 such studies probably the best known being Rosemary Stewart's (1967, 1976) work on European executives). These studies are important because they begin to

describe what managers do; what their day-to-day behaviors are really like. Yet they use very small N's (Mintzberg used 5; Kotter used 15; and the studies reported by McCall et al. have small number of managers) and thus do not use statistical procedures to analyze the results and draw conclusions. In addition, except for some old studies such as Blau's (1954) observation study of mid-level agents in a law enforcement agency and a couple of other observation studies (e.g., Guest, 1956; Jasinski, 1956) that analyzed first line foremen in manufacturing plants, no attempts have been made to systematically analyze the effects that certain observable behaviors have on effectiveness or success. In the only attempt to do this with Mintzberg's work, McCall and Segrist (1980) related the responses of 1,862 managers on a questionnaire based on the 10 roles with a promotion index (i.e., a measure of success). They found very weak positive relationships with 5 of Mintzberg's roles (.08 to .25 correlations) and an inverse relationship (-.15) with Mintzberg's leader role. Importantly, however, this study did not use direct observations to measure the frequency of the behaviors. Kotter, on the other hand, does note his subjects exhibited a variety of behavior in how they approached their jobs and concluded that the "bigger the difference in job demands, the bigger the difference in personal characteristics and in behavior" (p. 129). However, he does not offer any specific behavior or set of behaviors relating to success or nonsuccess according to these "job demands".

This study attempts to go beyond the question of "What Do Managers Really Do?" that the Mintzberg and Kotter studies attempted to answer. In particular, this study examines the question "What Do Successful Managers Really Do?" In order to answer this question an observation methodology was used, but with a large enough "N" to perform statistical analyses and in very

Thus, this study tries to take more of a middle ground between the widely publicized studies of Mintzberg, Kotter and a few others that use direct observation of a limited number of top managers to qualitatively analyze their behaviors on the one hand and the numerous studies that use standardized questionnaries (e.g., the LBDQ) filled out by a large number of respondents that statistically analyze the dimensions of leader behavior on the other. In particular, this study uses participant observers to directly observe and record the behavioral frequencies of managers from all levels of diverse organizational samples. Regression techniques are used to analyze whether onthe-job observable behaviors differentially relate to successful managers.

Method

Subjects

The sample consisted of 52 managers from 3 diverse organizations: a state department of revenue (N = 18); a medium-sized manufacturing plant (N = 19); and a campus police department (N = 15). Managers with supervisory responsibilities over two or more subordinates from all levels of these organizations were included. The age of these managers generally ranged from 26-55 years. A majority were college-educated.

Measurement

Two measures were used in this study: (1) The behavior frequencies of managers in the natural setting were obtained from trained participant observers using a newly developing observation system called the Leader Observation System or LOS (Luthans & Lockwood, 1982, in press); (2) A measure of managerial success was obtained by an index similiar in some respects to the MAQ (managerial achievement quotient) developed and used extensively by

Hall (1976) and a promotion index used by McCall and Segrist (1980).

The LOS consists of a one page form with 12 broad behavioral categories (1) planning/coordinating, (2) staffing, (3) training/developing, (4) decision-making/problem solving, (5) processing paperwork, (6) exchaniging routine information, (7) monitoring/controlling performance, (8) motivating/ reinforcing, (9) disciplining/punishing, (10) interacting with outsiders, (11) managing conflict, and (12) socializing/politicking. Each of these broad categories is defined by specific behaviors for the observer. For example, the category of "training and developing" is described behaviorally as orienting employees; clarifying roles, duties and jobs; coaching and mentoring; walking subordinates though tasks; and counseling employees about careers. The category of "interacting with outsiders" is spelled out behaviorally as doing public relations work; interacting and/or talking with customers, clients, suppliers and vendors; attending external meetings; and doing community service activities. "Socializing and politicking" is described behaviorally for observers as non-work related "chit-chat"; informal "joking around" and "B.S.ing"; discussing rumors, hearsay and the grapevine; complaining, griping and putting others down; and politicking and gamesmanship.

The derivation of the 12 categories is described in detail elsewhere (Luthans & Lockwood, 1982, in press), but, in brief, they came from 440 hours of free observation (44 managers in a wide variety of organizations were observed an hour a day over two weeks by trained observers). The Delphi method was used to reduce the raw behavioral data down to the 12 categories and their behavioral descriptors. Reliability analysis of the LOS is quite encouraging (see Luthans, Lockwood & Conti, 1981 for a complete discussion and a full data presentation of the reliability assessment). For example, there

was a 93.5 percent agreement between the participant and outside observers in the reliability analysis of the LOS. The outside observers (trained graduate students) simultaneously, but independently, filled out the LOS on a random time sampling basis. When only agreement on observed behaviors (leaving out agreement on behavioral categories that did not occur) was calculated, there was a 87.4 interrater reliability. Cohen's (1960) kappa statistic, which specifically represents the proportion of joint judgments in which there is agreement after chance agreement is excluded, yielded a highly significant (p < .001) .81. In addition to reliability, there is some preliminary support for the validity of the LOS. A multitrait-multimethod (MTMM) analysis found support for both convergent and discriminant validities when multiple rater sources were treated as more than one method (Luthans & Lockwood, 1982, in press). The validity did not fare as well in the MTMM analysis when standardized questionnaires such as the LBDQ-XII and the LOS were treated as multiple methods. However, when directly comparable categories from a self estimate of time usage questionnaire were analyzed in relation to the LOS, the MTMM yielded more support for validity. In any event, there seems to be enough reliability and validity evidence for the LOS to justify its use as a measure of the behavioral frequency of the managers in this study.

Hall (1976) uses an index involving the managers age over his/her rank or level in the organization as a measure of success. That is, the higher one's level in the organization and the younger one is, the more successful. Hall computes this success index as follows:

$$MAQ = \frac{5 (6 - Level)}{Age} \times 100$$

The 5 in the numerator is included by Hall (1976) to reflect "a constant progression factor-the time in grade per number of career moves available if one were to spend his work life in a eight-level organization-which reflects

potential mobility upward in the absense of any other forces such as politics and chance" (p. 7). Level in the MAQ is measured on a scale of 1-5. McCall and Segrist (1980) simply used a promotion index consisting of current level divided by years of service to measure success.

The manager success index or MSI used in this study is a hybrid of the above and is calculated as follows:

$$MSI = \frac{5 (6 - Level)}{Organization Tenure} \times 100$$

In the manager success index (MSI) the quantity (6 - Level) is a level index derived by assigning values of 1 to 5 to organizational levels which range from lowest (5) to highest (1) and subtracting from 6 as a correction factor. In the denominator, organizational tenure represents an index of time available for promotion within the manager's present organization. The multiplier of 100 is used to avoid dealing with decimals.

Procedures

Each target manager (N = 52) had a participant observer fill out the LOS form on them 80 times over a two week period (in random 10-minute periods each working hour over two weeks). The participant observers were selected on the basis of having maximum visual and audible contact with the target manager and having a good understanding of the functions, terminology, and nature of the work performed by the subject. Each of the observers went through an extensive training workshop conducted by the researchers. The first half of the training covered four areas: (1) giving a general explanation of the purpose of the observations (they were told that besides the research purposes, the data would be used for executive development purposes and the observers input would always be kept confidential); (2) going over the LOS giving special attention to defining and interpretating the 12 behavioral categories; (3) giving careful instruction on overcoming potential observation

errors (following Thorton & Zorich, 1980); and (4) stressing to the observers to be as unobtrusive as possible when recording behaviors and making sure not to inform the target managers about the nature of the behavioral categories or when they would be observed. The second half of the training was devoted to demonstrations using modeling (Bandura, 1977; Latham & Sari, 1979) and actual practice by the observers using role playing skits. The workshop concluded with an elaborate skit that contained six predetermined LOS categories. This served as an evaluation of the training. The trainees were very close to perfect on this evaluation check.

Results

The data were analyzed using hierarchical multiple regression techniques (Cohen & Cohen, 1975). One set of regression analyses was performed for each of the twelve behavioral categories. The strategy in each case was simply to partial out variance due to differences among the organizations, and then examine the semipartial correlation between manager success and the observed behavioral frequencies. Interactions between the organization and the manager behaviors were also examined.

Tables 1 and 2 present the results of these analyses for two of the behavioral categories: "Interacting with Outsiders" and "Socializing/ Politicking." None of the other categories showed significant relationships to the success index. Table 1 shows a significant relationship between frequency of "Interacting with Outsiders" and the Manager Success Index (semipartial $\underline{r} = .375$, $\underline{p} < .005$). There appears to be little difference in this effect across the set of organizations examined, since the interaction set provides no increase in $\underline{R^2}$.

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Insert Tables 1 and 2 about here

behavior and the success index. There is a significant relationship (semipartial $\underline{r} = .326$, $\underline{p} < .02$). With this behavioral category, however, the increment to $\underline{R^2}$ from the addition of interaction terms is significant, thus indicating that this relationship occurs in different forms across these three organizations. Examination of plots of the functions for each organization reveals that the state revenue department data has a much flatter slope than the other two organizations in the study, indicating a weaker relationship.

Discussion

The results of the regression analysis provide evidence for answering the research questions posed by the study. Observed behaviors do differentially relate to manager success as defined by the MSI. In particular, the behavioral categories of interacting with outsiders and socializing and politicking were found to have a significant relationship with the successful managers in this study. On the other hand, the measured behavioral categories of planning/coordinating, staffing, training/developing, decision making/problem solving, processing paperwork, exchanging routine information, monitoring/controlling performance, motivating/reinforcing, disciplining/ punishing and managing conflict did not have significant relationships with the successful managers. In other words, only two out of twelve categories of managerial behavior related to successful managers.

The traditional management literature, starting with Fayol (1949) and in every textbook, trade book and periodical since, has stressed the importance

of planning, staffing, decision making, controlling and motivating to successful management. Yet, when these classic management functions were behaviorally defined and their frequencies directly measured by trained participant observers in the natural setting, they were not found to be related to successful managers as empirically defined by the index of level over tenure. Importantly, however, it should be pointed out that most of these various behavioral categories were observed to be occurring on a relatively frequent basis (e.g., in terms of raw frequency, the managers in this study were observed to be engaged in more decision making behaviors than socializing and politicking behaviors and more decision making and planning behaviors than interacting with outsider behaviors). However, these traditional normative prescriptions for managerial success were not found in this observational study.

The more successful managers in this study exhibited significantly more interacting with outsider and socializing/politicking behaviors. This finding supports the recent emphasis in the management literature of the importance of power and politics. In this study, the more successful managers engaged in behaviors that are generally associated with power and politics and, in particular, what Kotter (1982) calls "networking." That is, these managers were observed to exhibit interacting with outsider behaviors such as talking directly or over the phone with customers and suppliers, attending external meetings and doing public relations work and socializing and politicking behaviors such as informal joking around, "B.S.ing" and "chit-chating" about non-work related topics; discussing rumors, hearsay and the grapevine; complaining, griping and putting others down; and engaging in politics and gamesmanship. These socializing and politicking behaviors occured with subordinates, peers and superordinates. Kotter (1982) found that these types

of behaviors were not without purpose. He concluded that these "networking" behaviors were important in influencing others and getting the job done. The findings of this study would tend to support such a conclusion. In addition, Mintzberg's roles give specific recognition to external interactions (e.g., disseminator, spokesperson, figurehead, liaison and negotiator) which are quite compatible to the results of this study.

While the findings of this study generally support Kotter's conclusions and the emphasis Mintzberg places on external interactions, they raise some doubts about the generalizability of Mintzberg's ten roles of managerial work. Although this study found that managers were observed to perform most of the roles that Mintzberg identified, the more successful managers behaved differently than the less successful ones. Yet, Mintzberg says that his top managers (whom were presumably successful), exhibited all ten roles and he makes no distinction between one role being more frequently found than the other. Another difference is that Mintzberg did not observe his managers doing planning. This study found that planning behaviors were a frequently observed category (about in the middle of the twelve categories used in the study). More in line with Mintzberg, however, planning behaviors were not significantly related to successful managers.

The two behavioral categories exhibited by the successful managers held across the diverse organizational environments sampled, but socializing and politicking behaviors were somewhat organization specific. It may not be surprising that the successful managers in the state department of revenue had the weakest relationship with socializing and politicking behaviors, the campus police managers had the strongest, and the manufacturing managers were in the middle. The state department of revenue is a knowledge-based, "no nonsense," "watchdog" type of organization environment. The managers in this

organization typically have accounting, computer and legal backgrounds. The successful managers in this type of environment may not have to depend as much on socializing and politicking to influence others and become successful as they do in a campus police or manufacturing environment. For example, the campus police department is a relatively uncertain environment where doing favors for one-another and helping out in tough situations (cases or interpreting regulations or living within a very tight budget) may call for more socializing/politicking behaviors on a day-to-day basis to be successful.

Observational methodology is not a pacacea and does not eliminate all the problems of the commonly recognized reactivity, reliability, and validity issues associated with questionnaire methods of data gathering. By the same token, observational methods in the natural setting certainly have been overlooked and seldom used as an alternative, or even a supplement, to the questionnaire methods of data gathering in organizational research. This study demonstrates that observational data can be feasibly gathered in natural setting, and contrary to the few widely publicized observation studies, statistical analysis can be performed and logical conclusions drawn. In particular, this study provides input to an answer (not the answer) to the question posed in the title (What do Successful Managers Really Do?) and is additive to the Mintzberg and Kotter studies as well as having implications of its own for the impact that interacting with outsiders and socializing/politicking behaviors have on the success of managers.

References

Alexander, L.D. The effect level in the hierarchy and functional areas have on the extent Mintzberg's roles are required by managerial jobs. In R.C. Huseman (Ed.), Academy of Management proceedings, 1979, 186-189.

Bales, R. F. Interaction process analysis. Cambridge, Mass.: Addison, Wesley, 1950.

Bandura, A. Social learning theory. Englewood Cliffs, N.J.: Prentice-Hall,

Blau, P.M. Patterns of interaction among a group of officials in a government agency. Human Relations, 1954 7, 337-338.

Methods of managing directors. Stockholm: Strombergs, 1951.

Cohen, J. A coefficient of agreement for nominal scales. Educational and Psychological Measurement, 1960, 20, 37-46.

Cohen, J., & Cohen, P. Applied multiple regression/correlation analysis for the behavioral sciences. Hillsdale, N.J.: Lawrence Erlbaum Associates, 1975.

Fayol, H., trans. by C. Storrs. General and industrial management. London: Pitman, 1949.

Guest, R. H. Of time and the foreman. Personnel, 1956, 32, 478-486.

Hall, J. To achieve or not: The manager's choice. California Management Review, 1976, 18, 5-18.

Jasinski, F. J. Foreman relationships outside the work group. Personnel, 1956, 33, 130-136.

Kotter, J. P. The general managers. New York: The Free Press, 1982.

Kurke, L. B., & Aldrich, H. E. Mintzberg was right: A replication and extension of The Nature of Managerial Work. In R. Osborn (Chair), Managerial roles in formal organizations. Symposium presented at the Academy of Management, Atlanta, 1979.

Latham, G.P., & Sari, L.M. Application of social learning theory to training supervisors through behavioral modeling. <u>Journal of Applied Psychology</u>, 1979, 64, 239-246.

Luthans, F., & Lockwood, D. L. A preliminary analysis of the reliability and validity of the leader observation system. ONR Technical Report No. 10.

Lincoln: University of Nebraska, College of Business Administration, 1982.

Luthans, F., & Lockwood, D. L. Toward an observation system for measuring leader behavior in natural settings. In J.G. Hunt & C. Schriesheim (Eds.), Managerial behavior and leadership research. Carbondale: Southern Iilinois University Press, in press.

Luthans, F., Lockwood, D. L., & Conti, M. A reliability assessment of participant observational measures of leader behavior in natural settings. ONR Technical Report No. 3. Lincoln: University of Nebraska, College of Business Administration, 1981.

McCall, M. W., & Segrist, C. A. In pursuit of the manager's job: Building on Mintzberg, Technical Report No. 14. Greensboro, N.C.: Center for Creative Leadership, 1980.

Mintzberg, H. The manager's job: Folklore and fact. Harvard Business Review, 1975, 53 (4), 49-61.

Mintzberg, H. The nature of managerial work. New York: Harper & Row, 1973.

Morse, J. J., & Wagner, F.R. Measuring the process of managerial effectiveness. Academy of Management Journal, 1978, 21, 23-25.

Snyder, N. H., & Glueck, W. F. How managers plan-The analysis of managers activities. Long Range Planning, 1980, 13 70-76.

Snyder, N. H., & Wheelen, T. L. Managerial roles: Mintzberg and the management process theorists. In K. H. Chung (Ed.), Academy of Management proceedings, 1981, 149-253.

Stewart, R. Contrasts in management. London: McGraw-Hill, 1976.

Stewart, R. Managers and their jobs: A study of the similarities and differences in the way managers spend their time. London: Macmillan, 1967.

Thorton, G. E., III, & Zorich, S. Training to improve observer accuracy.

Journal of Applied Psychology, 1980, 65, 351-354.

Table 1

Hierarchical Regression Analysis of Interacting with Outsiders as a Predictor of Manager Success

Independent Variables	Cumulative R2	Da.	JP .		۵	Increment p to R F	ъ.	¥		۵	
Organizations	.0476	1.226 2, 49 n.s.	2,	64	n.s.						
Interacting with outsiders	.1946	3,866	3,	43	*000	3.866 3, 43 .008 .147 8.76 1, 48 <.01	8.76	1,	84	<°01	
Interactions	.2024	2,335 5, 46 ,047	5,	94	.047	*000	.224 1, 46 n.s.	1,	95	n.s.	

Table 2

Hierarchical Regression Analysis of Socializing/ Politicking as a Predictor of Manager Success

Independent Variables	Cumulative R2	52.	#		Δ.	Increment to R	2.	đ.		۵.	
Organizations	.0476	1.226 2, 49 n.s.	2,	64	n.s.						
Socializing/Politicking	*089	1.571 3, 48 n.s.	3,	84	n.s.	.0418	.0418 2.203 1, 48 n.s.	-,	84	3.8.	
Interactions	.2123	2,480 5, 46 ,037	5,	95	.037	.1229	.1229 3.588 1, 46 <.05	-,	95	<.05	

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LIST 9 USMC

Naval Training Analysis
and Evaluation Group
Orlando, FL 32813

Commanding Officer
ATTN: TIC, Bldg. 2068
Naval Training Equipment Center
Orlando, FL 32813

Chief of Naval Education and Training (N-5) Director, Research Development, Test and Evaluation Naval Air Station Pensacola, FL 32508

Chief of Naval Technical Training ATTN: Dr. Norman Kerr, Code 017 NAS Memphis (75) Millington, TN 38054

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Head, Research and Analysis Branch
Code 434, Room 8001
801 North Randolph Street
Arlington, VA 22203

Commanding Officer
USS Carl Vinson (CVN-70)
Newport News Shipbuilding &
Drydock Company
Newport News, VA 23607

Headquarters, U.S. Marine Corps Code MPI-20 Washington, DC 20380

Headquarters, U.S. Marine Corps ATTN: Dr. A. L. Slafkosky, Code RD-1 Washington, DC 20380

Education Advisor Education Center (E031) MCDEC Quantico, VA 22134

Commanding Officer Education Center (E031) MCDEC Quantico, VA 22134

Commanding Officer
U.S. Marine Corps
Command and Staff College
Quantico, VA 22134

LIST 13 AIR FORCE

LIST 12

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