

TOWARD AN INTEGRATIVE FRAMEWORK OF ORGANIZATIONAL CONTROL

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Abstract

This paper develops an integrative organizational control model which synthesizes selected contributions of the administrative management school, organizational sociologists and organizational psychologists. The model consists of a core control system embedded in the context of organizational structure, organizational culture and the external environment. Control is defined as attempts by the organization to increase the probability that individuals will behave in ways that will lead to the attainment of organizational objectives. Control of work behavior is accomplished by the four core control mechanisms of planning, measurement, feedback and evaluation-reward. The paper presents propositions for each core control mechanism, relating its impact to work behaviors and outcomes. It also examines the manner in which the contextual factors (culture, etc.) function as control mechanisms on work behavior. Finally, the paper suggests directions for future research on the proposed model. Taken together, the model and the propositions comprise the basis for an integrative framework of organizational control.

The task of harnessing human efforts for the attainment of organizational objectives has always been of paramount importance. In their endeavor to gain control over the behavior of people, most organizations use a combination of mechanisms, including personal supervision, standard operating procedures, position descriptions, performance measurement and reward systems. Taken together, these mechanisms constitute the organizational control system.

The administrative science literature is replete with theoretical as well as empirical studies of organizational control. However, there is no framework at present which integrates the diverse individual constructs and research findings in this area. The literature consists of a large number of independent studies

adopting different perspectives and different concepts of control. There is no systematic body of propositions or testable hypotheses, nor even a synthesis of prior research results.

The purpose of this paper is to provide the nucleus for developing an integrative theory of organizational control. Such an initial effort is required not only to synthesize prior research efforts as a basis for future theoretical and empirical developments, but also to furnish us with the ability to draw upon the extant corpus of research findings for designing effective control systems, and, in turn, more effective organizations.

The paper has three specific objectives:

(1) to examine the nature of the concept of organizational control;

(2) to present a model of control which identifies the major variables and specifies their interrelationships; and

(3) to provide possible directions for future research by developing propositions concerning the control of human behavior in formal organizations at the individual, group and overall organizational levels of analysis.

Our intent is at once to make a contribution toward the development of an integrative framework of control and to provide the foundation for future empirical research. It is important to emphasize, however, that the need for an integrative theory of organizational control is ultimately to assist in designing improved control systems which, in turn, would contribute to increased organizational effectiveness (Otley, 1980). Organizational effectiveness, in our view, is the capacity of the organization in attaining the multiple goals which can be established either by the dominant coalition or imposed on the organization by other constituencies. This view is consistent with the various recent models of organizational effectiveness (e.g. Steers, 1977; Pennings & Goodman, 1977; Connolly *et al.*, 1980).

While the scope of the paper is admittedly somewhat broad, no attempt is made to examine all possible approaches to the subject of control (such as those of Karl Weick, the cybernetic model as in Beer (1966) and Otley and Berry (1980), the role perspective as in Collins (1982), and so on). The selective emphasis is on those approaches which deal with the behavior of human operators, especially those found in the literature of organizational psychology, sociology and administrative theory.

Owing to the many different ways in which the term organizational control has been employed, it is sometimes difficult to distinguish between control, leadership, influence and power, as well as other such constructs. We define 'organizational control' as attempts by the organization to increase the probability that individuals and groups will behave in ways that lead to the attainment of organizational goals. This suggests that control is goal-oriented; its intent is to influence people to take actions and

make decisions which are consistent with organizational goals. These goals may be established by an individual proprietor, a dominant coalition, an external authority, or an influential subset of organizational members. Control systems are techniques and processes to achieve goal congruence and may be designed for all levels of behavioral influence: individuals, small groups, formal subunits and the organizational as a whole. This view has an implicit managerial focus, and thus differs from some other design perspectives, such as those of Boland (1979) and Cooper *et al.* (1981).

Our view of control assumes that organizations and individuals are purposeful, goal-seeking entities, whose goals may not be congruent, i.e. conflict in goals may be an inherent characteristic of a social organization. We propose that the *raison d'être* of control systems is to increase the likelihood that people will internalize organizational goals and thus behave in ways which lead to the achievement of these goals. Goal congruence is conceived to be a more powerful theoretical foundation for organizational effectiveness than action or outcome congruence because of the systems characteristic of equifinality and because of the lack of total control over outcomes by any social entity, whether individual, group, or organization.

THE NATURE OF CONTROL: A REVIEW

The literature on control can be characterized as confusing in regard to the meaning of the construct as well as the measurement of relevant variables. In this section, we examine the three major perspectives or traditions which strike us as significant in the study of organizational control. We also review the specific control mechanisms that have been employed under the different approaches.

One way to conveniently organize the control literature is along the three main traditions which have dominated the study of organizations: the sociological, the administrative, and the psychological perspectives. This classification scheme is adopted here to examine the

divergent approaches toward the subject of control.

The perspective of organizational sociology is essentially macroscopic in nature. The focus tends to be the entire organization and the larger groups within it. This perspective is represented by the work of Weber (1947), Inkson *et al.* (1968) and Thompson (1967). The administrative perspective tends to focus on the individual or departments within the organizations, with little or no concern for comparative studies across organizations. Finally, the focus of the organizational psychologists is primarily (but not exclusively) the individual. The concern is about individual behavior in relation to group or organizational objectives.

It would be readily evident from even a cursory review of the literature that there are about as many definitions of control as there are theorists. The meanings range from "choosing operating rules and enforcement rules to maximize the organization's objective function" (Arrow, 1964) and "verifying the conformity of actions to plans and directions" (Fayol, 1949) to "interpersonal influence activities" (Tannenbaum, 1968). Some theorists equate control with structure (e.g. Blau & Scott, 1962; Weber 1947), while others do not differentiate control and power (e.g., Etzioni, 1961) or influence (e.g., Tannenbaum, 1968). Some view control as a function prior to action, and thus a guide to behavior (e.g., Arrow, 1964; Perrow, 1977); others view it as a step to correct behaviors that deviate from plans or initial directions (e.g., Fayol, 1949; Dornbusch and Scott, 1975). Some include both *ex ante* and *ex post* efforts (e.g. Davis, 1940; Flamholtz, 1979a). Clearly, there is no consistent definition of the concept of control, leading inevitably to divergent approaches to the study of it.

Further evidence of divergent approaches can be found in the basis or mechanism of control employed by each theorist. According to the sociological view, control is accomplished through structural mechanisms of rules, policies, hierarchy of authority (e.g. Arrow, 1964; Blau & Scott, 1962; Perrow, 1977; Weber, 1947), or coordinative units (e.g. Thompson,

1967). The control mechanism frequently employed by the administrative theorists are plans, measurement, supervision, evaluation and feedback (e.g., Davis, 1940; Koontz, 1959; Urwick, 1928). Lastly, the psychological approaches tend to rely on the mechanisms of goal and standard setting, extrinsic or intrinsic rewards, feedback or interpersonal influence (e.g., Flamholtz, 1979a; Lawler, 1976; Tannenbaum, 1968).

Certain conclusions may be derived from this brief review. First, the theorists generally identify one or more mechanisms as bases of control in their theoretical or operational frameworks. These mechanisms involve techniques, structures, or processes that attempt to influence the behaviors of individuals, groups, or organizations. Second, there is a lack of integration of divergent conceptualizations. Most control frameworks also focus only on one level of analysis (individual, group, etc.) or on only one form of control mechanism, and thus can best be considered as only partial control systems. Third, developments of models and conceptualizations have progressed more rapidly than the measurement of key variables and processes. Most frameworks are not accompanied by empirical research (e.g. Arrow, 1964; Koontz, 1959; Lawler & Rhode, 1976; Flamholtz, 1979a). Others use operationalizations that can be criticized on questions of construct validity (e.g. Tannenbaum, 1968) or of measurement adequacy (e.g. Etzioni, 1961). In sum, the lack of theoretical integration and the relative inattention to measurement have limited our understanding of the nature of the control process in complex organizations.

INTEGRATIVE FRAMEWORK OF ORGANIZATIONAL CONTROL

The integrative framework proposed here is an extension of the original Flamholtz (1979a) model. This new framework espouses a concept of control that is cybernetic in nature and also accommodates an open systems view of the organization and its environment. It consists of a

core control system embedded in the wider context of organizational structure, organizational culture, and extra-organizational factors. A brief explanatory section of the model is followed by a detailed presentation of the major elements accompanied by a number of propositions and hypotheses for future empirical testing and validation.

The model

Organizational control refers to the process of influencing the behavior of people as members of a formal organization. Organizational control systems are mechanisms (both processes and techniques) designed to increase the probability that people will behave in ways that lead to the attainment of organizational objectives.

Those mechanisms that appear to directly influence individual or group behavior toward the achievement of organizational goals are selected to comprise the “core control system”. Mechanisms that seem to have an indirect influence are termed as the “control context factors”. Such factors include structure, culture, etc. This

model is intended to be applicable to all levels of control: individual, group and organizational.

Unlike previous frameworks, the one proposed here recognizes the open-systems nature of organizational control. The influence of the contextual control factors is considered, both in terms of additional control that they may mean for organizational members as well as in terms of the indirect effect on the overall effectiveness of the core control mechanisms. A graphical representation of this control model is given in Fig. 1.

The focus of control in this theoretical framework is on human systems within an organization, at the individual, group and organizational levels of analysis. This is termed the operational subsystem. Control of machine performance or mechanical processes is beyond the scope of this framework, except what transpires through the actions of the human operators for whom the control system is designed.

The core control system

The core control system is grounded in the

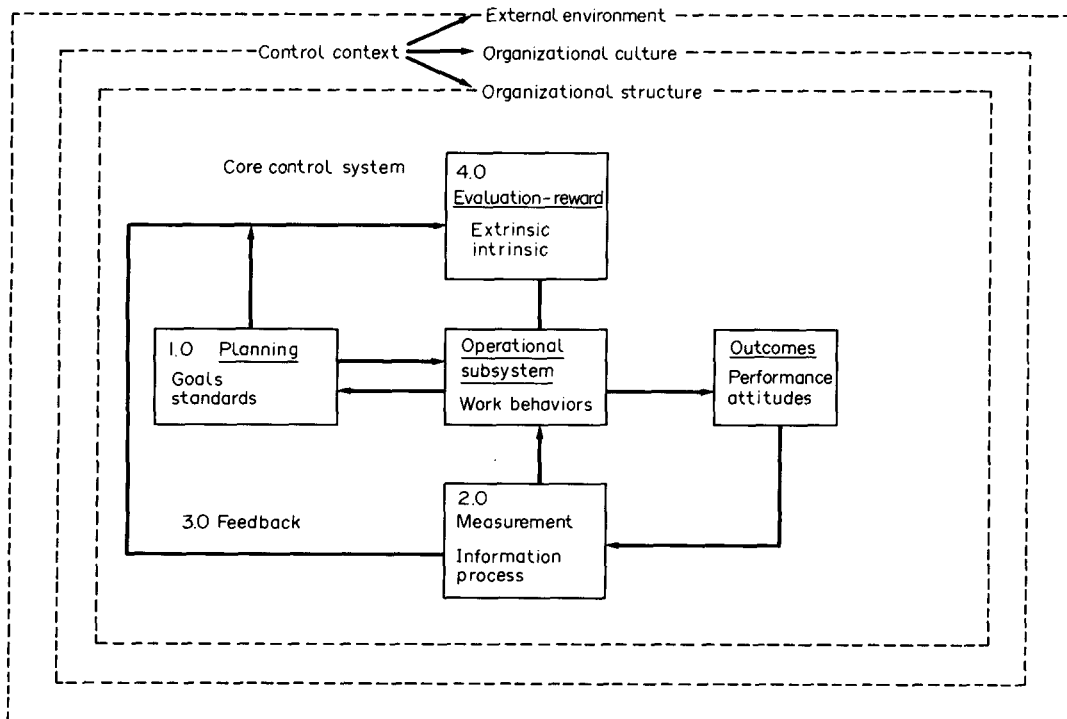


Fig. 1. An integrative framework of organizational control.

cybernetic process of goal and standard setting, measurement and comparison, and evaluation and feedback for corrective actions (Weiner, 1954). As shown in Fig. 1, the cybernetic process begins with the planning activity, which generates a list of work objectives and related standards for the operational subsystem. The outcomes of the operational subsystem are measured by the various measurement systems which provide the information for comparison against the pre-established goals and standards. Observed deviations are fed back into the operational subsystem for corrective action and into the planning element for work goal or standard adjustment. Information from this planning element is further evaluated and used for reward administration.

In summary, the core control system contains the following six elements:

(1) The planning element, which includes goal setting and standard establishment in each key functional area for which the individual or the work unit is held responsible.

(2) The operational subsystem (specified by organizational roles), which includes the behaviors exhibited by the individual and the group or larger organizational units, pertaining to the acquisition, allocation, utilization, development, conservation and disposition of resources.

(3) The outcome element, which includes performance (e.g. sales volume, productivity, profit margin), work attitudes (e.g. satisfaction, commitment, alienation), and other outcomes such as turnover and absenteeism.

(4) The measurement element, which includes the management information system (e.g. production, inventory, administrative and budget control system) and the employee performance appraisal system.

(5) The feedback element, which refers to the delivery of information regarding performance compared against pre-determined objectives and standards to the operational subsystem for correction, to the planning element for goal or standard adjustment, and to the evaluation-reward element for reward administration.

(6) The evaluation-reward element, which

includes the administration of extrinsic rewards based upon the evaluation of work performance, and the design of intrinsically rewarding tasks to influence self-control of work behaviors.

Four of the above six elements comprise the core control mechanisms — planning, measurement, feedback, evaluation-reward — and these seek to influence the behavior of individuals within the organization. An initial set of goals and standards occurs, designed to channel individual or group efforts toward organizational ends. Once set, these become performance standards which serve to function as *ex ante* and *ex post* control. They serve as *ex post* inputs to the evaluation-reward subsystem. Measurement directs attention toward measured dimensions of goals, and permits corrective and evaluative feedback. Organizational rewards, both extrinsic and intrinsic, also serve as *ex ante* and *ex post* control. *Ex ante*, they are a source of arousing motivation toward organizational goals; *ex post*, they serve to reinforce or modify particular behavior.

The four core control mechanisms are designated by two-digit numbers in Fig. 1, as a preliminary to identifying the various propositions to be derived. These latter are presented with appropriate discussion of the specific nature of each of the four core control mechanisms, and the way in which the control function is performed in each case.

Planning as a control mechanism. Planning involves the setting of work goals for each key functional area and the establishment of standards for each goal. It is an *ex ante* form of control, since it provides the information necessary to direct or guide individual and group actions. It is the main vehicle for promoting goal congruence between the individual and the organization.

Empirical research on the relationship of work goals with their related standards and performance outcomes may be found in the organizational psychology literature. For example, clear and specific goals were found to be more strongly related to performance outcomes than “do your best” or general goals (Ivancevich, 1976, 1977; Kim & Hammer, 1976; Latham &

Yukl, 1975; Locke, 1968; Terborg, 1976; White *et al.*, 1978). Also, goals with a higher level of standards, i.e., difficult goals, are associated with higher performance levels (Atkinson, 1964; Campbell & Ilgen, 1976; Latham *et al.*, 1978; Latham and Yukl, 1975; Locke, 1968; Steers, 1976).

Participation in goal setting has been found to be related to the acceptance and subsequent commitment to the established goals, leading to favourable outcomes in terms of both performance and attitudes (Coch & French, 1948; French *et al.*, 1966; Mitchell, 1973). Both Argyris (1964) and Likert (1967) argued that participation is instrumental in promoting the integration of individual and organizational goals, and that goal congruence is essential for both system effectiveness and individual growth and satisfaction.

The following three propositions postulate the relationship between planning as a control mechanism and work outcomes:

1.1. Goals and standards: planning in the form of setting goals and challenging standards is directly relate to performance outcomes.

1.2. Work goals and individual needs: work outcomes will vary with the extent to which individual needs are considered in the goal setting process and reflected in the established goals.

1.3. Goal clarity and workload: negative outcomes will be experienced in terms of both performance and attitudes when work goals are too ambiguous and when too many work goals are established.

In sum, planning as a control mechanism influences work behavior through the setting of specific work goals and the establishment of challenging standards. These work goals and related standards serve as *ex ante* control by providing the information necessary to guide individual or group actions. Goal congruence may be promoted by individual participation in the planning of goals and standards.

Measurement as a control mechanism. Measurement, which involves assigning numbers to objects according to rules, influences work

behavior by the information it produces as well as by the act or process of measurement itself (Flamholtz, 1979b). Its informational function is a form of *ex post* control, while its behavioral or process function may be considered as *ex ante* control. However, when measurement is used to indicate anticipated performance outcomes (e.g. the budget) or the performance context (e.g. sales forecast), it becomes an *ex ante* control.

Traditionally, measurement has been recognized primarily for its informational functions, since it provides the information necessary for corrective action (Eilon, 1962; Reeves & Woodward, 1970). Lawler & Rhode (1976) maintained that all control systems involve the collection, analysis and transmission of information in some specific forms, with some specific frequencies, and distributed to some specific, usually predetermined, groups of people. However, the presence of invalid data in the information systems has been recognized as a major problem for the design and administration of organizational control systems (Hopwood, 1974; Lawler, 1976; Lawler & Rhode, 1976). The prevalence of this problem has been well documented (Argyris, 1964; Hofstede, 1967; Pettigrew, 1972, 1973; Wilensky, 1967). The invalidity may be a result of intentional distortion of data or it may be a psychological reaction to the measurement process which has been referred to as the interactive or reactive effect by psychometricians (e.g., Kerlinger, 1973). For instance, one behavioral reaction to this effect is the attention focusing property. Individuals tend to focus more attention on areas where information is being requested. This measurement effect has been recognized as an explicit, intended mechanism of control by Flamholtz (1979b) as described by his psychotechnical system perspective of measurement.

Flamholtz (1979b) identified four ways in which the act of measurement can influence work behavior. First, it serves as a criterion function by operationally defining the goals and standards of activities. The criterion becomes the decision premise (March & Simon, 1958; Perrow, 1977) or the constraint (Simon, 1964) that

guides behavior or action. For example, budgeting sales or production cost forecasting are measurement activities that provide the analysis necessary for operationally defining the criterion. In addition, they also induce the manager to engage in systematic planning. This is the catalytic function that Flamholtz (1976b) suggested. A third way in which the act of measurement can influence behavior is through affecting perception. The measurement system produces an information set which serves as input and which generates alternatives for decision making and problem solving. Thus, decision and behavioral alternatives tend to be limited to the set of information produced by the measurement system. This is called the set function (Flamholtz, 1979b). Lastly, the motivational function refers to the attention focusing property of the information system, i.e. individuals concentrate efforts in areas where results are measured (Cammann, 1974; Blau, 1955) and ignore those aspects that are not being measured or rewarded. Therefore, measurement serves as a motivational function when the information collected on specific work activities is used for evaluating the individual's contribution in determining rewards.

To fully utilize the measurement system as a control mechanism, it is therefore important to recognize both its informational and its behavioral impacts. The effectiveness of the measurement mechanism in influencing work behavior and its outcomes depends critically upon the validity and reliability of the information generated by the measurement system. Formalizing the process function of measurement as an integral part of this control mechanism suggests that the effectiveness is also affected by the measurement system's behavioral validity and behavioral reliability. The former refers to the extent to which a measurement process leads to the behavior it is intended to produce, and the latter refers to the extent to which behavioral outcomes produced by the measurement process are consistently produced, i.e. the consistency with which behavioral effects are reproduced repeatedly.

Two general propositions are derived, address-

ing the two primary functions of measurement as a control mechanism:

2.1. Information validity and reliability: performance is affected by informational validity and reliability.

2.2. Behavioral validity and reliability: both performance and attitudes are affected by behavioral validity and reliability.

One fundamental assumption underlies these propositions, with clear implications for the selection of methodology for research. We consider the issues of validity and reliability to be meaningful primarily from the vantage point of the individuals receiving the information. Valid and reliable information, if not perceived as such, will be unlikely to have any effect on the behavior of the perceivers.

In summary, then, measurement controls work behavior by both its informational and its process functions. The effectiveness of the measurement control mechanism in influencing behavior depends on the validity and reliability of the information produced by the measurement systems and the validity and reliability of the behaviors they intend to affect. The total measurement mechanism involves both *ex ante* and *ex post* forms of control. As *ex ante* control, it defines the performance goals and expectations in terms of the budget or forecasts, and thus serves a similar purpose as the planning mechanism. As *ex post* control, it provides the information for comparing behavioral outcomes to pre-established expectations. The output of this comparison is then used for corrective and/or evaluative feedback. The behavioral function of measurement is *ex ante* due to its criterion, catalytic, set and motivational functions.

Feedback as a control mechanism. Feedback refers to the information provided about work behavior and outcomes. There are two ways by which feedback can control the work behavior of organizational members: directional and motivational. It directs behavior by providing the necessary information for corrective action and it motivates behavior by serving as a promise for future rewards (Annett, 1969).

Feedback has been traditionally considered as providing primarily a directional function. This is quite clearly reflected in the frequently quoted statement by Reeves & Woodward (1970, p. 38): "Control... is limited to monitoring the outcomes of activities, reviewing feedback information about this outcome, and if necessary taking corrective action." Lawler (1976, p. 1279) also explicitly defines feedback in terms of its directional or corrective function: "Feedback gives the individual the information that is needed in order to correct his or her behavior when it deviates from the standard or desired behavior." The motivational function of feedback is related to the evaluation-reward system. Evaluation feedback provides the information to suggest future rewards or punishment, or it may even serve as a reward or punishment itself (Ilgen *et al.*, 1979). For the purpose of influencing or controlling work behavior, the function of feedback may be best summarized as that of providing information on work goal accomplishment. The recipient of such feedback may use the information for corrective action, may interpret it to be reward or punishment, or may interpret it to mean promise for future reward or punishment. This informational function of feedback seems most relevant in the context of a control system.

A recent review of the literature on performance feedback by Ilgen *et al.*, (1979) suggests that the effectiveness of feedback in affecting work behavior depends on its quantity, timeliness, understandability, specificity, relevance to task, and the sign of feedback, i.e. positive or negative information. These characteristics of feedback and of the feedback process as important for performance improvement have received strong empirical support (Becker, 1978; Erez, 1977; Kim & Hammer, 1976; Seligman & Darley, 1977). These studies suggest that the impact of feedback on performance is positive when it is frequent, from a credible source, provided in a timely fashion, understandable, relevant to the task, and specific. Negative feedback tends to be rejected more often than positive feedback (Ilgen *et al.*, 1979). However, its acceptance is improved when it comes from a

credible source, credible in terms of the source's technical competence and trustworthiness (Halperin *et al.*, 1976; Ilgen *et al.*, 1979).

More recently, a new perspective on feedback and control was provided by Ouchi (1977, 1978, 1979) and Ouchi & Maguire (1975). They suggest that organizations exercise control by providing individuals with feedback on either output or behavior. Ouchi (1979) further specifies the conditions under which behavioral or output feedback is appropriate. Under the condition of perfect knowledge on the transformation process (i.e. a clear understanding of the means-ends relationship), control can be achieved simply by watching the behaviors of the employees. If the behaviors conform to the desired transformation steps (e.g. in a tin-can plant), then the outcome of the work behavior is certain even without measurement of outcomes. Behavioral feedback during the work process almost guarantees the desired outcome. On the other hand, when the knowledge on the transformation process is imperfect and the means-ends relationship is unclear, output control is appropriate when the outcomes can be measured with certainty. For example, there is no general set of behaviors for successful fashion buyers or for automobile sales agents. However, the outcome of their work behavior can be clearly measured. Therefore, output control is appropriate under this condition. Behavior can be influenced by providing feedback on the individual's output performance. The effectiveness of output feedback, however, relies critically on the information validity and reliability of the measurement system.

The knowledge of the transformation process can partially affect the nature of work goals that can be established for the individual or the workgroup. Clear and specific work goals which focus on the work behaviors (i.e. the process or means to achieve end goals) can be established when the knowledge of the transformation process is clear. However, when such knowledge is imperfect yet the output can be measured, result-oriented work goals, along with the desired level of standards can be meaningfully established. When both the knowledge of the transformation

process is clear and the measurability of output is clear, work goals covering both the means and ends of performance expectations can be established. In this case, both behavioral and output feedback will be involved. Lastly, when both the transformation process is ambiguous and the output measurability is low, when neither behavioral nor output feedback is possible. Under this condition, other means of control, e.g., social or self control, may be necessary.

The feedback mechanism involves essentially three major dimensions and a proposition is developed for each, postulating relationships to work behavior and outcomes:

3.1. Nature of feedback: the appropriate use of behavioral or output feedback depends on the nature of work goals and the measurement system.

3.2. Delivery of feedback: the effectiveness of feedback in influencing work outcomes is related to the manner it is delivered.

3.3. Feedback source credibility: the effect of feedback on performance and attitudes is affected by source credibility affected by source credibility.

In summary, feedback is primarily an *ex post* control device. It involves the *post hoc* communication of information regarding deviations in performance outcomes from expectations established in the planning phase of the cybernetic control process. Feedback information can be specific to the work goals or it can be general. It can be about work behavior or about work outcomes. The type of information used in the feedback process, therefore, depends in part upon the nature of the work goals, and in part upon the measurement system. As a core control mechanism, feedback can directly steer individual efforts toward the attainment of group or organizational goals.

Evaluation-reward as a control mechanism.

This is the final control mechanism in the core control system of the integrative framework. Evaluation involves assessing the performance of individuals or groups against the pre-established goals and standards, based upon the infor-

mation provided by the measurement system and the personal observation of the superior. It represents *ex post* control. Rewards are outcomes of behavior which are desirable to a person and which can be either extrinsic or intrinsic. Extrinsic rewards are administered after the evaluation process, usually conducted by the hierarchical superior. Intrinsic rewards can be received and experienced by the individual independent of the organizational evaluation process. Rewards are general *ex post* control devices, but may be *ex ante* when the anticipation of rewards serves to influence behavior toward organizationally desired directions.

To be an effective mechanism of control, rewards must be perceived to be contingent upon performance and, further, they must be valued (Campbell & Pritchard, 1976). The motivational potential is strongest when individuals perceive that task oriented behavior is a path toward their own goals (Georgopoulos *et al.*, 1957; House & Dessler, 1974). Thus, control will be more effective when there is both reward-contingency and goal congruence. This also is a condition that will minimize the occurrence of the "reward folly" phenomenon described by Kerr (1975).

The effects of extrinsic reward in influencing work behavior are qualitatively different from that of intrinsic reward. Extrinsic rewards are tangible, observable outcomes given to the individual upon completion of a task. Thus, the expectancy of extrinsic reward contingent upon performance may serve as an *ex ante* control. Empirical research has demonstrated the association between reward-contingency perception and higher performance outcomes (Cher-rington *et al.*, 1971; Latham *et al.*, 1978; Terborg, 1976; Terborg & Miller, 1978). The positive reinforcement theory suggest that rewards delivered on a variable schedule and immediately following performance are more effective in producing similar behavior in the future. This proposition also has received strong empirical support (Hammer, 1974; London & Oldham, 1976; Luthans & Kreitner, 1975).

Research has shown that individuals evaluate the equity of the rewards they receive relative to

the efforts they put into task performance, and relative to the efforts of others who receive similar rewards (Adams, 1965; Goodman & Friedman, 1971; Lawler, 1971, 1973). The effectiveness of extrinsic rewards in channeling work behavior is reduced when inequity is perceived. Its effectiveness is further reduced when individuals do not accept the evaluation based upon which reward decisions are made. Acceptance of evaluation depends upon the perception that the evaluation is fair and valid. It was found that evaluation based on objective measures or information is more likely to be accepted by the recipient and more likely to be effective in influencing behaviors (Lawler & Rhode, 1976). Evaluation based upon subjective measures tends to be accepted only when there is a high degree of trust between the evaluator and the individual being evaluated (Porter *et al.*, 1975). Also, involving the individual in the evaluation tends to increase the acceptance of the evaluation results. The perception of reward-contingency is also enhanced.

Reward-contingency is a distinguishing characteristic of intrinsic rewards. This is also the major feature that differentiates intrinsic rewards from extrinsic rewards. Intrinsic rewards are entirely contingent upon task performance and/or its successful completion. It is the satisfaction derived solely from engaging in meaningful and ego-involving tasks (Deci, 1975). It is therefore non-tangible or unobservable. Favourable organizational and individual outcomes from intrinsically motivated and internally controlled behavior by organizational members have been observed by Argyris (1964), McGregor (1960) and Tannenbaum (1968). Jobs are observed to provide intrinsic rewards when incumbents perceive that they have influence over the activities involved (Tannenbaum, 1968), when they perceive the desired level of attainment is moderately high (Atkinson, 1964; Lawler & Rhode, 1976), and when they experience task identity, significance, autonomy, feedback, or the utilization of a variety of skills (Dunham, 1979; Hackman & Oldham, 1976). Intrinsic rewards, however, may be effective in influencing behavior only for

those who value self-control (Lawler, 1976). A general observation from the control literature is that intrinsic rewards have been underutilized in the design of control systems (Lawler & Rhode, 1976).

Based upon the relationship between rewards, evaluation, and work outcomes, we have derived four propositions that are consistent with the integrative model of control:

4.1. Reward contingency: rewards are effective in influencing work behavior and outcomes when they are contingent upon performance.

4.2. Reward valence: the motivational power of rewards depends upon the valence attached to them by the recipients.

4.3. Reward equity: the effectiveness of extrinsic rewards is affected by their perceived equity.

4.4. Evaluation and reward: the evaluation process affects the effectiveness of extrinsic rewards in influencing work behavior and outcomes.

In summary, evaluation is an *ex post* control and it serves as an input for the decision on the type and amount of extrinsic rewards to be given to the individual for his performance on pre-established work goals. Individual participation in the evaluation process may increase its acceptance and enhance the reward-contingency perception. The effectiveness of extrinsic rewards in influencing work behavior depends on the perception of reward-contingency, reward equity and the reward delivery schedule. Intrinsic rewards are suggested to be an effective means of control, especially for those who value intrinsically motivating tasks and internal control. Normally, rewards are *ex post* control devices. However, their anticipation created by the contingency perception make them *ex ante* control as well.

Summary. Based on the conceptual model (Fig. 1), twelve propositions have been derived, postulating the complex relationship among the four core control mechanisms, work behavior, and work outcomes. A number of hypotheses can be formulated from these propositions for future research, in terms of empirical validation and further conceptual development of the

proposed integrative framework (considerations of space precluded us from listing and discussing these formulations here). The propositions have been, as much as possible, built upon prior research and theories to accomplish the task of integration and synthesis of existing knowledge on organizational control processes.

The control context

Another conceptual difference in our approach is the notion that the core control system is embedded in a wider control context. The contextual variables within which the core control system is embedded include the organizational structure, organizational culture, and the relevant external environment. The control context may either facilitate or inhibit the effectiveness of the core control system in coordinating human efforts toward the attainment of organizational goals. It may facilitate control effectiveness by the additional control that is imparted by several dimensions in the various contextual factors. Examples of some of these dimensions are organizational formalization, centralization, social norms in the organizational culture, or standards of professionalism found in the organization's external environment. The control context may inhibit the effectiveness of the core control system if the latter is incompatible with the norms, values, management philosophy or practices in the larger context. For example, a core system that emphasizes detailed measurement and frequent evaluation of performance may not be appropriate in a J type organization (Ouchi, 1978) in which social control and infrequent evaluation are more prevalent practices.

Organizational structure and control. Many theorists have advocated the position that organizational structure is developed as a response to the problem of control (e.g. Blau & Schoenherr, 1971; Blau & Scott, 1962; Hall, 1972; Perror, 1965; Thompson, 1967). March & Simon (1958) see organizational structure as the essence of control in the work of Merton, Selznik and Gouldner. Inkson *et al.* (1968) specifically proposed that control can be accomplished by

either bureaucratization, or by centralization of decision making. Arrow (1964) spoke of the control problem as that of choosing operating rules and enforcement rules. Thus, those dimensions of the organizational structure intended to influence human behavior toward cooperative efforts may serve as additional control mechanisms. The literature suggests that the following structural dimensions may serve such control function: span of control, functional specialization, vertical and horizontal differentiation, centralization, formalization and standardization. These dimensions may facilitate further control by reducing the variability and increasing the predictability of work behavior such as by formalization or standardization. They may, however, also reduce control effectiveness such as by the problem of control loss in multiple hierarchies (Evans, 1975) or by the problems of alienation or role stress induced by a high level of centralization (Aiken & Hage, 1966; Morris *et al.*, 1979).

Though several dimensions of the organizational structure have important implications for control, we are not suggesting that structure *per se* is a control mechanism. We recognize that there are aspects of structure which arise out of technological requirement (Thompson, 1967) or due to the nature of the environment (Lawrence & Lorsch, 1969). These structural dimensions may not directly contribute to the attainment of organizational objectives.

Organizational culture and control. Culture may be defined as the broader values and normative patterns which guide worker behavior, practices and policies (Ouchi, 1979). Katz & Kahn (1978) refer to system norms and values as providing a set of appropriate forms of behavior for members and the justifications for them. Workers adopt and internalize such values and normative patterns through the process of socialization. Control of individual or group behavior toward the attainment of organizational goals through organizational culture is most appropriate when the knowledge of the transformation process is imperfect and the ability to measure output is low. The detailed, exten-

sive measurement system in this technological condition becomes an ineffective mechanism of control. In this situation, culture contains the information in the form of rituals, stories and ceremonies necessary to prescribe the desirable behavior by members for attaining the collective goal (Ouchi, 1979; Wilkins, 1979).

Organizational culture represents a form of social control. The process of socialization facilitates the internalization of organizational values and goals by organizational members (Collins, 1982). Goal congruence then increases the probability that individual and group behaviors will lead to the attainment of organizational objectives.

External environment and control. The external environment is the societal context for the organization and its members. It has been conceived as the source of meaning, providing the stock of knowledge in guiding the behavior of the organization and its members (Silverman, 1971). Three broad classes of environmental factors have been identified to be potential mechanisms of control on the behavior of organizational members. They are the dominant work values in the temporal social setting, level of professionalism, and direct demands from clients and customers.

Surveys of work values in the past decade indicate that today's work force seems to value more freedom on the job and to desire more opportunity to participate in the decision making process (Hackman & Suttle, 1977; O'Toole *et al.*, 1979). This emerging need for active involvement and increased responsibility may be fruitfully channeled into productive energy for the attainment of organizational objectives.

Related to the pattern of new work values is the growth of professionalism in many occupations. This is the second environmental factor which may be a potential mechanism of control. According to Filley *et al.*, (1976), professionals hold the values of autonomy, authority of expertise, high ethical standards, collegial evaluation of performance, and service of society rather than personal or organizational interests. Many of these characteristics are descriptive of indi-

viduals who are capable and desire self-control. This may relieve the hierarchical supervisor from close supervisory activities of feedback and frequent evaluation, and concentrate instead on promoting goal congruence between the professionals and the organization.

A third environmental factor that may be a potentially powerful means of control on the work behaviors of organizational members is the demand for quality service or products from customers and clients. For example, the instructor is subject to very direct control from his students; the doctor or nurse from their patients. Sales personnel are subject to the demands of high-income clientele (Ouchi, 1977). These demands are usually directly consonant with the performance objectives of the organization. Thus, this environmental factor facilitates organizational control of members behaviors for meeting organizational purposes.

Summary. The above are only three of the many aspects of the external environment that may either serve to facilitate organizational control or reduce its effectiveness. The relationship of these factors and work behaviors within the organization may be more complex than postulated. There may be dynamic interactions among the factors themselves, in addition to the complex relationships between aspects of the environment and organizational culture, and between organizational culture and structure, and further, between environment and structure. How these contextual factors relate to the process of control requires much further theoretical development and empirical testing, but are beyond the scope of the present paper.

CONCLUSION

The existing literature on organizational control is rich with divergent perspectives, besides being inordinately fragmented. Drawing upon prior research and theories, an integrative framework has been presented in this paper. This framework espouses a concept of control that is consistent with most of the prior perspec-

tives, i.e. control is the process through which an organization attempts to increase the probability that individuals will behave in ways that will lead to the attainment of organizational objectives. Such a concept appears to be meaningful from both theoretical and managerial viewpoints.

The model of control proposed comprises a core control system (which is cybernetic in nature) and a control context (which recognizes an open systems approach). The core control system consists of four control mechanisms. The cybernetic process begins with the planning mechanism which serves as an *ex ante* control function. The measurement and feedback mechanisms have both *ex ante* and *ex post* control functions. The evaluation process is *ex post*, while rewards may also be either *ex ante* or *ex post*, depending on the perception of the individuals. The control context consists of organizational structure, organizational culture, and aspects of the external environment. The model attempts to explain the control process at all levels of analysis by synthesizing literature from organizational sociology, administrative science and administrative psychology. Thus, it has the promise of offering a more comprehensive explanation of the control process in complex organizations than existing theories and approaches.

Based on the literature and the integrative framework proposed, twelve propositions and

thirty testable hypotheses have been derived. These propositions and hypotheses serve to systematize the variables and relationships and to lay the foundations for possible empirical research.

The next step in the development of an integrative theory is the elaboration of the conditions under which the core control system is more or less effective. In other words, further conceptualization is desirable on the universalistic versus particularistic aspects of the control framework. For example, would organizational characteristics, such as structure or technology, affect the effectiveness of the control system? Do the various control mechanisms complement each other, or must they be effective all at once for achieving the desired level of control?

Future research on organizational control must involve both theory testing and methodological development. Currently, theory has advanced faster than the operationalization of key constructs and processes. To advance our understanding of this domain of organizational processes, concurrent efforts in conceptualization and operationalization are needed.

The ultimate goal of theory development is to provide new insights for practice and for solving complex problems in human organizations. It is hoped that the control framework presented here is a step toward the goal of increasing organizational effectiveness through the control of human efforts.

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