*Accounting, Organizations and Society*, Vol. 8, No. 2/3, pp. 153–169, 1983.
Printed in Great Britain.

0361–3682/83 $3.00 + .00
Pergamon Press Ltd.

# ACCOUNTING, BUDGETING AND CONTROL SYSTEMS IN THEIR ORGANIZATIONAL CONTEXT: THEORETICAL AND EMPIRICAL PERSPECTIVES*

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**Abstract**

This paper examines the relationship between accounting, budgeting and control in its actual organizational context from a theoretical as well as an empirical perspective. It argues that the process of exercising control in an organization is significantly more complex than conventional managerial accounting theory suggests. It also argues that budgeting and even an accounting system cannot be viewed as a control system *per se*; rather, they must be seen as a part of a carefully designed total system of organizational control. If the linkages between budgeting or an accounting measurement system and the other essential prerequisites of a control system are not adequate, then the system may not fulfill its intended functions.

The validity and implications of these ideas are examined in the context of the control systems of three organizations. The results suggest the need for a different orientation of the role that accounting and budgeting play in the control process as well as a broader concept of control itself.

During the past two decades the idea of behavioral research in accounting has struck a responsive chord both among behavioral scientists who are aware of the significant effects of accounting systems on human behavior and accountants who are aware of the interactions between accounting and behavior. Yet the current body of behavioral research in accounting has not fulfilled expectations. One major reason for its disappointing results is that behavioral research in accounting has tended to be focused upon what are admittedly important aspects of the accounting process in isolation of the organizational context in which the accounting function operates. Accordingly, a considerable amount of this research is characterized by an almost sterile quality; or at least it certainly fails to capture the richness and complexity of the on going organizational context that provides the *raison d'etre* of accounting.

As Hopwood (1978) points out, even in cases where accounting has been studied in its organizational context, there has been little attempt to gain an appreciation of the complex interrelationships between organizational processes and accounting systems. For example, in the budgeting area studies have focused upon static aspects of the relationship between participation and budgetary behavior, rather than the relationship between budgeting and the overall organizational control structure.

## PURPOSE

This paper deals with some aspects of the neglected realm of the role of accounting in its organizational context. It explores the relationship between control, budgeting and accounting

* The author is indebted to Anthony Hopwood for comments on an earlier version of this paper.

systems in their organizational context from theoretical as well as empirical perspectives. Specifically, we shall first examine the role of budgeting in the context of the overall organizational control system from a theoretical perspective. Then we shall examine selected examples of accounting and budgetary control systems in their actual organization settings.

In the paper the term "organizational control" will be used in its full sense of any actions or activities taken to influence the probability that people will behave in ways which lead to the attainment of organizational objectives (Flamholtz, 1979; Otley & Berry, 1980). It is relatively well recognized that control is an inevitable feature of all human organizations. The organizational concern for control arises because of the incompatibility of goals among people and the corresponding need to channel human efforts toward a specified set of institutional goals.

To help gain control over the behavior of people, most enterprises use a combination of mechanisms including personal supervision, rules, job descriptions, standard operating procedures, budgets, and performance measurement systems. Broadly conceived, these mechanisms and processes comprise the tangible components of an organizational control system. However, if we merely *view* an organizational control system as a collection of rules, standards, budgets, etc., or more significantly, if we treat such an *ad hoc* collection of techniques as a "control system", then we may overlook the necessity for the architecture of control systems to be *designed*. Indeed, the components of the control system ought not be confused with the system *per se*, though this error is sufficiently common. Thus a budgetary system is *not* equivalent to a control system, and thus technically we should not use the term "budgetary control system".[1]

## A META-PERSPECTIVE OF CONTROL SYSTEMS

To facilitate our thinking about a control system as opposed to the techniques of control we need a meta-perspective or framework. A schematic representation of the framework that shall be employed is shown in Fig. 1. It is based upon previous work by Flamholtz & Tsui (1980).

In Fig. 1, the control system of an organization is represented by a series of concentric circles. The innermost circle comprises the "core control system". This is a cybernetic structure consisting of four subsystems (planning, operations, measurement and evaluation–reward) which are articulated (linked) by feedback and feedforward loops. The middle circle comprises the organization's structure: its set of rules and their interrelationships. The outer circle represents the organization's culture: its value system, beliefs, assumptions; the patterned ways of thinking which are characteristic of the entity. These three elements of the control system are bounded by the environment of the organization.

### *The core control system*

Although the applicability of cybernetic concepts to organizational control has been challenged (Holstede, 1979; Otley & Berry, 1980), the main problem has been the narrow interpretation of mathematical cybernetics (Weiner, 1948) and the use of mechanistic analogies (i.e. the thermostat model of control). However, the concept of the core control system presented here presents an integrated structure of four basic organizational processes: planning, operations, measurement, and evaluation–reward. The core model is presented schematically in Fig. 2.[2]

Planning, which can itself be defined in many ways, is basically the process of deciding about the

[1] As considered below, a budgetary system may operate with the *effect* of a control system *if* the other required elements of the control systems are in place.

[2] An alternative model of control based upon the thermostat analogy has been presented by Lawler (1976).

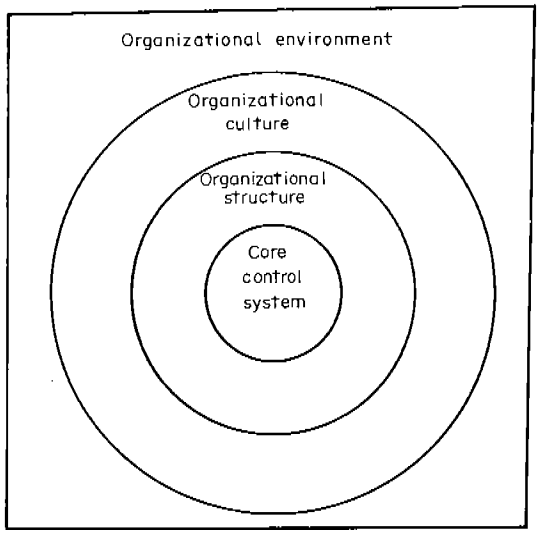


Fig. 1. Schematic representation of an organizational control system.

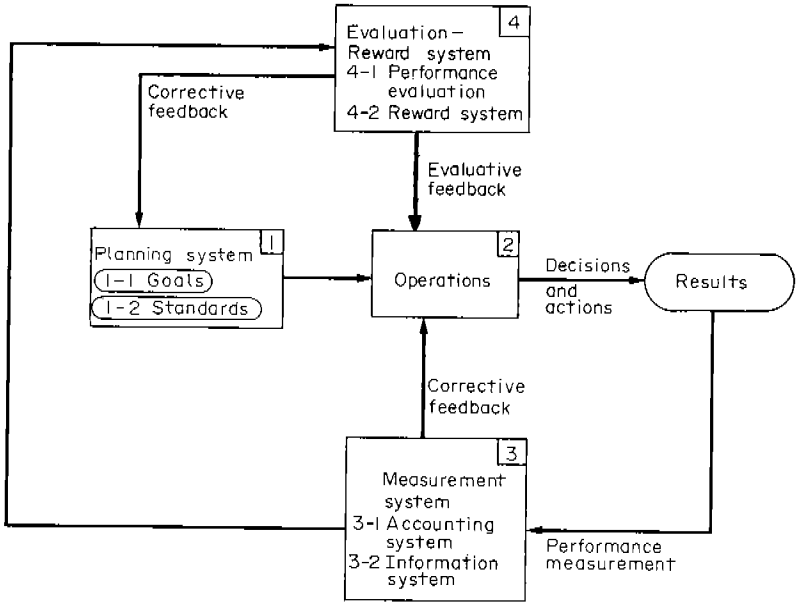


Fig. 2. Schematic model of the cone control system.

goals of an organization (and/or its members) as well as the means to attain those goals.[3] "Organizational goals", according to Hall (1975, p. 12) "are the desired ends or states of affairs for whose achievement system policies are committed and resources allocated." In this paper, the term "goals" refers to relatively broad statements about things an organization wishes to achieve in a given "performance area" (markets, products, personnel, financial results, etc.). "Standards" represent the level of aspiration sought to be attained for a given goal. For example, the financial goal for Pepsico may be "to earn a satisfactory return upon net assets employed in the business," while its standard of performance for a given year might be "18% pre tax ROI".

Operations, or the operational subsystem, refers to the on going system for performing the functions required for day to day organizational activities. These are the responsibilities and activities specified in organizational roles.

In an organizational context, measurement is the process of assigning numbers to represent aspects of organizational behavior and performance. The overall measurement system includes the accounting system with its measures of financial and managerial performance. It also includes nonfinancial measures of organizational performance, including production indices such as scrap rates, capacity utilization and product quality (rejection ratios) measures as well as (at least potentially) social accountability measurements.

Measurement performs a dual function as part of a control system (Flamholtz, 1980). One function is that the numbers generated may be used to monitor the extent to which goals and standards have been achieved, so that organizational members may be provided corrective and/or evaluative feedback. This is termed the "output function" of measurement. The second function of measurement relates not to the numbers produced by measurement operations, but rather to the phenomena caused by the *act* or *process* of measurement *per se*. The very fact that something is the subject of measurement tends to influence the behavior of people in organizations (Cammann, 1976; Prakash and Rappaport, 1977; Flamholtz, 1980). Thus the medium of measurement is itself a stimulus. This is termed the "process function" of measurement.

The accounting system is a component of the measurement system of an overall control system. The budgeting system in organizations is part of the planning system as well as the measurement system. However, neither the accounting nor the budgetary system are equivalent to the whole of a control system, because they lack critical components. In the case of the accounting system the pieces missing are planning and evaluation–reward, while in the case of budgeting the element lacking is the evaluation–reward system.

The evaluation–reward system refers to the mechanisms for performance assessment and the administration of rewards. Rewards are outcomes of behavior which are desirable to a person. Although rewards can either be extrinsic or intrinsic, those used in the evaluation–reward system are extrinsic.

*Different configurations of core control systems elements*

Although the four basic elements of the core control systems must be present for the system to function fully, it is possible to find in actual organizational settings different configurations of one or more of the system's elements.[4] For example, it is possible to observe a "control system" that consists merely of a planning system with little else. In such situations measurements may be available only at year end and thus are not available for periodic assessment of performance on a real time basis. In contrast, performance measurement systems may be found in situations without any formal system for planning and goal-

[3] The problem of reification need not hinder us if we view the "organization" as a proprietorship, dominant coalition, or institution comprised of individuals and groups.

[4] The author is indebted to Denise Niterhouse for raising a question on the paper by Flamholtz and Tsui (1980) during its presentation at the Harvard Business School Seminar on Planning, Accounting, and Accountability, January, 1981, that stimulated the development of this line of thought.

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setting. In these situations, it is not possible to evaluate actual performance in relation to plans or budgets.

A major consequence of the existence of different configurations of core control system elements is that each observed control system may be expected to produce different degrees of control. The amount of control produced by the given control system may be expected to increase with the addition of each element of a control system. For example, the degree of control can be expected to be greater if a control system includes planning and measurement components than if it includes *either* planning *or* measurement. Accordingly, it is useful to conceive of "control" as a variable, where the amount of control is a function of the configuration of control system elements.

For conceptual purposes, it may be useful to think of control as achieving different degrees of control or "control levels", according to the number of control system elements which comprise the system, as represented in Fig. 3. By definition, if none of the four elements of control

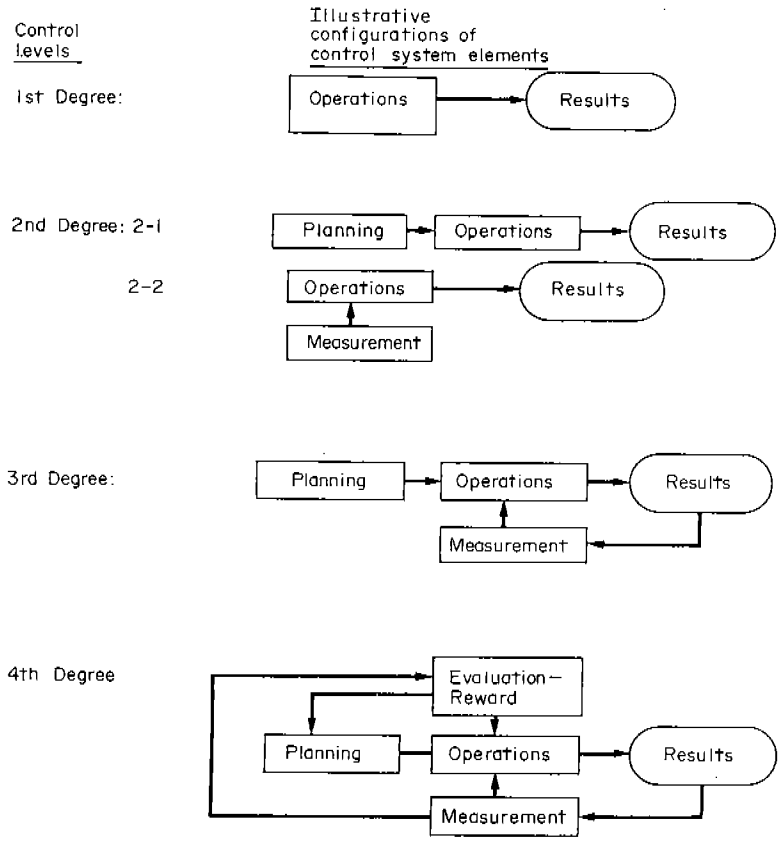


Fig. 3. Levels of control achieved by different configurations of system elements.

are present we shall define this condition as first degree control. In this condition, there are merely operations (decisions and actions) which produce results. This type of condition is not uncommon and is characteristic of entrepreneurships and relatively small businesses. Second degree control consists of operations plus (any) one additional element: planning, measurement, or evaluation–reward. For example, an organization may have

a measurement system without formal planning or even without any system for performance assessment and the administration of rewards. Similarly, different combinations and configurations of control system elements may exist as illustrated in Fig. 3. Third degree control consists of operations plus any two additional elements. For example, as illustrated in Fig. 3, organizations may have a control system consisting of planning, operations and measurement. Fourth degree control consists of all of the four basic elements of the core control system: planning, operations, measurement and evaluation—reward. This conceptualization may be used both in understanding the effects and defects of control systems as well as a guide to their evaluation and design.

*Organizational structure as a component of control*

The second component of the overall control system, shown previously in Fig. 1, is organizational structure. As Otley & Berry (1980, p.232) state: "Indeed, organization can itself be viewed as a control process, occurring when groups of people feel the need to co-operate in order to achieve purposes which require their joint actions." Similarly, Etzioni (1966) states that "organizations are social units deliberately constructed to seek specific goals." Other organization theorists have argued that organization structure is developed as a response to the problem of control (Blau & Scott, 1962; Hall, 1972; Perrow, 1977; Thompson, 1967).

Several structural dimensions contribute to the process of control including the degree of centralization or decentralization, functional specialization, degree of vertical or horizontal integration and the span of control. Some dimensions of organizational structure (i.e. functional specialization or rules) facilitate control by reducing the variability of behavior and, in turn, increasing its predictability. Other dimensions (i.e. centralization) facilitate control by direct influence over the decision making process for non-programmable events.

In contrast with the core control system, organization structure is relatively static. It represents a strategic response to the requirements of markets, technology and the environment (Child, 1979; Chandler, 1962; Lawrence & Lorsch, 1969). Specifically, the choice of an organizational structure represents a managerial strategy on how to adapt the organizational entity to the requirements of its environment. For example, in its competition with Ford Motor Company for leadership of the U.S. auto market during the early 1920's, General Motors under the leadership of Alfred P. Sloan (1965) perceived accurately that the two firms were in competition not only with specific products but with the very issue of how their organizations were structured. As Sloan (1965, p. xxiv) stated:

> It should be recognized that competition takes various forms: General Motors, for example, has competed with other enterprises as a type of organization (decentralized) and in its long-range way of doing business (up-grading the product), as well as usual day-to-day business activities. The elder Henry Ford, on the other hand, believed more in centralized organization and in a static car model.

*Organizational culture as a component of control*

The term "culture" is subject to many different definitions and denotations. Kluckhohm (1951, p. 6) stated that:

> "Culture consists in patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievement of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional (i.e. historically derived and selected) ideas and especially their attached values."

In the organizational context, Ouchi (1979) refers to culture as the broader values and normative patterns which guide worker behavior, practices and policies. In this paper, we shall refer to organization culture as the set of values, beliefs and social norms which tend to be shared by its members and, in turn, tend to influence their thoughts and actions.

Although culture is shown as the third circle in Fig. 1, it is, in fact, the starting point for the design of an organizational control system, because it determines (or at least ought to determine) the

nature of the other components. For example, in an entrepreneurial organization the culture required may be based upon the values of individual initiative, flexibility, lack of bureaucratic control and independence of action. Given this culture, the required organizational structure ought to be characterized by decentralization rather than centralization; loosely defined roles rather than tight role definitions and minimal rules and standard operating procedures rather than extensive rules and procedures. If not, there will be an obvious incongruity between the organization's culture and its control structure. Similarly, the entity's core control system ought to be compatible both with the overall culture and the structure. The nature of the firm's planning system ought to be congruent with its culture.

The dimensions of culture and structure also have implications for the firm's accounting measurement system. Thus, the accounting system in decentralized organization will simultaneously provide information to permit day-to-day decisions to be exercised by divisional managers while also permitting overall coordination and control.

In spite of the fact that it changes slowly and typically with great difficulty, organizational culture *is* a variable. It is subject to design, and can be the product of management decision. For example, in early 1981 the Board of Directors of U.S. based RCA Corporation decided to replace that company's president, Edgar H. Griffiths, with Thornton F. Bradshaw. According to an analysis presented in *Business Week* (February 9, 1981, p. 72), Bradshaw was chosen explicitly to change RCAs culture. His task is to change the value system in the company from one that stresses short-term projects and planning to long range goals. *Business Week* quoted an unidentified "source close to the Board", as stating that under Griffiths: "Long-term planning meant, 'What are we going to do after lunch?' " In addition, Bradshaw ". . . must redirect the culture of the company from one based on intense politicking to one that rewards performance."

In brief, culture is a pattern of values, norms and beliefs shared by an organization's members. These dimensions of culture help influence the behavior of members of an organization. Once the desired culture has been defined, the remaining elements of the organizational control system (structure and the core control system) help transmit and reinforce the entity's culture throughout the organization to govern strategic and operational decisions and actions.

*Some preliminary implications*

The meta-perspective of organizational control presented above suggests several preliminary implications. These are presented below.

*Budgeting and control.* If we accept the notion of the three part system of control, then the conventional concept of a control system limited to the accounting-measurement system is spurious. Statements such as "Through budgets, activities of different parts of an organization can be coordinated and controlled" (Bruns & Waterhouse, 1975, p. 180)[5] are technically incorrect or at least incomplete. It is possible that a budgetary system may operate as though it were a complete control system *if there are certain implied or perceived connections between budgetary measures and organizational rewards.* This means that the budgetary system is a part of a control system configuration that achieves the fourth degree of control. However, without the complete configuration the budgetary system may simply not fulfill the assertion by Bruns & Waterhouse (among others) that through budgets "an organization can be controlled". In a subsequent section, we shall present a study of budgeting in an actual organizational context in which budgeting exists independently of the evaluation–reward component of control and examine the consequences for effective organizational control.

*Integration of control system elements.* Given the concept of a tri-part control system, it is

[5] This notion of budgeting as a control system pervades accounting and thus is not a criticism of Bruns & Waterhouse (1975) *per se.*

implied that all of the three elements (the core system, structure and culture) ought to be *designed* in concert. The organization's culture determines what its structure ought to be and, in turn, the nature of the required core-control system. The failure to design a structure or core control system which are consistent with the organization's value system is likely to create resistance and produce a motivation to defeat the purposes of the structure and/or core control system. We shall examine this phenomenon in the context of an actual organization in a subsequent section.

*Institutionalization of core control system as a vehicle of organizational change.* The very process of designing a core control system can itself be used as a vehicle of cultural change in an organization. In an organization with two cultures engaged in an invisible war, top management may wish to finesse the issue of cultural conflict and use the process of designing a core control system as a *de facto* mechanism to change the organization's value system. For example, in an entrepreneurial culture the very idea of control being exercised on a top-down basis may be anathema to divisional managers who accept the culture of autonomy and the personal freedom it implies.

*Dominance of cultural traditions versus formal control systems.* The traditions which characterize an organization's culture may be an equally or even more important factor in predicting behavior than the formal core control mechanisms. Faced with a conflict between organizational traditions and a "new" control mechanism, it is not clear which element of control will ultimately affect actual behavior. We shall examine an actual instance of this conflict in the organization context of a "natural experiment" in a subsequent section.

## ACCOUNTING, BUDGETING AND CONTROL SYSTEMS IN THEIR ORGANIZATIONAL CONTEXT

The framework for organizational control systems presented above can be useful in analyzing the operation of such systems in their organizational context. In this section, three studies of accounting and budgetary systems in their organizational environment are presented and analyzed from the perspective of the meta-framework. The first deals with a traditional system for budgetary control that had been applied at a medium sized residential real estate company in a major metropolitan area of the United States. The second study deals with the ability of an accounting system to function as part of the overall organizational control system in the control of a relatively small distributor of industrial abrasives. The final study deals with an attempt to introduce a "zero-base budgeting system" (Phyrr, 1973; Cheek, 1977) in a very large U.S. financial institution. Taken together, they will provide an opportunity to assess some of the preliminary implications of the control framework presented above as well as to develop additional insights about the operation of accounting and budgetary systems in their actual organizational milieu.

### *Conventional budgeting and control systems*

In this section we examine a study of the budgeting system of a medium-sized U.S. real estate company located in a large metropolitan area. The primary purpose is to use this field study of a budgetary system in its actual organizational setting as a test of the question of whether: (1) budgeting is a control system (the traditional view) or at least operates with the effect of a control system; or (2) budgeting is a component of an overall control system and therefore does not actually influence behavior unless it is linked to other critical components of a control system.

This issue is not merely a question of semantics. There is a fundamental difference in the two views of budgeting as a control mechanism or as a *component* of a control system. The issue is significant because if budgeting is *not* equivalent to a control system, then efforts to design effective systems of channeling human efforts toward organizational objectives will fail if they follow conventional orthodoxy and merely presume an identity between budgeting and control.

*Nature of study.* This field study involved an

attempt to examine a firm's system of motivating and controlling its manager's performance because of the company's president's perceptions that these processes were not fully effective in assisting the firm in achieving its goals. In the course of this study, we examined the nature and operation of the firm's budgeting system, using the model presented in Figs. 1 and 2 as a reference point for evaluation.

*Nature of the research site.* The organization serving as a research site is a residential real estate firm. The firm provides a full set of services (brokerage, property management, leasing, etc.) to buyers of residential real estate throughout a relatively large metropolitan area in a major U.S. city. The firm's organizational structure is shown in Fig. 4.

*Firms's culture, structure and budgeting prior to study.* Residential real estate firms in the U.S. are sales oriented. They tend to be entrepreneurships begun by one or a few people who were initially successful sales-persons themselves and founded their own companies because of available business. Neither the owners or managers in residential real estate firms typically have formal management training or managerial experience in other industries. Thus the culture found in such firms may be characterized as a sales culture. Accordingly, the explicit and implicit value system of the firm emphasizes sales: "listing" of properties to be sold and sales of properties.[6] The culture also states that sales is a "numbers game". If you make so many calls, house showings, etc. you will get listings and sales and, in turn, earn income.

Branch managers tend almost exclusively to be

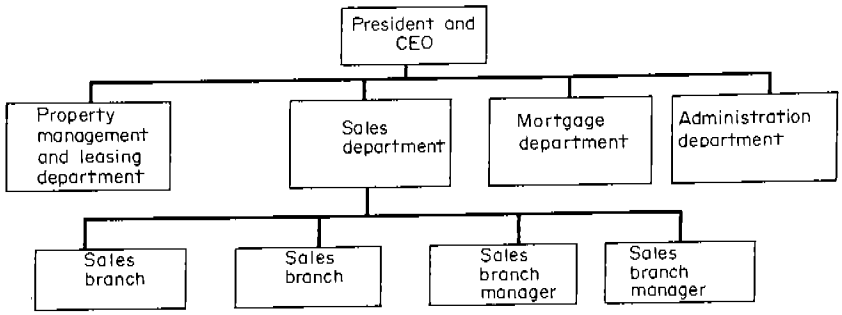


Fig. 4. Organizational structure of metropolitan residential real estate firm.

At the time of the study, the firm had 12 sales branches located throughout the metropolitan area. Each branch was headed by a branch manager who was supposed to be responsible for branch revenue and costs. Thus technically each branch constituted a profit center. Branches typically had between 10–25 "sales associates" (sales personnel) and 1–2 clerical personnel. The annual volume of residential real estate sold was approximately $300 millions.

former salespersons who have been promoted. Few real estate firms have formal training programs for recently promoted managers. They are expected to learn on the job.

Since the firms are entrepreneurial in style, there are not typically job descriptions for branch managers, or if role descriptions exist, they tend to be vague. Accordingly, the branch manager tends to define his/her own job and, not surprisingly, the notion of the jobs often emphasize the sales

[6] A "listing" is a contract between the principal (property owner) and agent (broker) for the latter to have exclusive rights to sell the property.

component or things which support sales, rather than such administrative matters as budgeting, planning, cost control, etc.

Branch managers receive a base compensation of X thousand dollars per month. In addition, they receive an "override" of 1% of "Company Dollars", (Gross Commissions Income received by the firm less the salesperson's share).

*The control problem.* The basic problem with respect to budgeting in this firm is that branch managers paid little or no attention to the budget or variances. They virtually ignored the income statement. Stated simply, branch managers ignored variances, large or small. Many, if not all, hardly looked at the budget or income statement.

The theoretical as well as practical managerial question underlying this behavior may be stated quite simply: Why did the branch managers ignore the firm's income statement and budget variances? To answer this question we shall draw upon the control framework that has been outlined to examine the elements of culture, organizational structure and core control system. Taken together, an analysis of these elements explains the rational behavior of branch managers in ignoring income statements and budgets.

*Culture and budget control.* The firm's culture unintentionally mitigated against branch managers paying attention to budgets, income statements and even profits; the culture emphasized *SALES*. The explicit value system as well as the informal socialization system all held the successful salesperson in high regard. This carried over to successful branch managers; they were successful if they could attract, motivate and retain "top sales people".

*Organizational structure and budgetary control.* The role of sales manager emphasized selling rather than administration. In addition to the ability to recruit and manage personnel, the sales managers must be knowledgeable about real estate transactions both to train sales associates and to serve as consultants on complex transactions. Knowledge of accounting and budgetary controls skills are not explicitly viewed as part of the role and, if present, are not highly valued.

*The core control system and budgetary control.* The firm's core control system was not explicitly designed as such. There is a plan (budget), a measurement system (the accounting system), feedback (budget reports and income statements) and an evaluation–reward system (performance appraisal and compensation systems). However, these components or subsystems have not been designed either: (1) explicitly to lead to emphasis on profits and attention to variances from profit budgets or (2) to articulate with one another in an integrated fashion. The former problem concerns the purposes of the system while the latter concerns the system's architecture or structure.

In the language of the firm's culture, the branch managers do not perceive "ownership of the budget". It is not *their* budget, but top *management's budget.* There is also a problem with the accounting system as it relates to providing information for real time decisions and control. In a sales culture such as this, the art of completing a contract of sale is the major point of psychological closure for a salesperson and a branch manager. From both a legal and accounting point of view, however, the transaction is *not* totally completed (final) until the deal "closes" (that is, all the conditions of the transactions have been satisfied and money and deeds to property are exchanged). A "closing" may occur 30–60–90 days or more after the deal has been reached, and by this time salespersons and branch managers are absorbed by other potential transactions.

To deal with the uncertainty in realization of income, the firm's accounting system either operates on an accrual basis with an "allowance for cancellations" which is similar but not identical to an allowance for uncollectables.[7]

Thus there is a conflict between the psychological mind set of branch managers with respect to income "earned" and the accounting definition

[7] Some residential real estate firms use a cash basis under which income is realized and commissions paid when escrow closes.

of income earned as well as the financial reporting of such income. This difference has led the managers to reject and ridicule accountants and accounting systems while still being forced to accept their dictates. Consequently, the numbers generated by the accounting system as reported in Company income statements are viewed as irrelevant to managers for *action taking purposes.* The numbers affect the timing of the managers compensation but are not seen as useful.

In addition, the most relevant numbers concern sales revenues not net profit, because the compensation system provides for an override (bonus) based upon sales not branch profits. This is congruent with the sales-oriented culture of the firm. It is an instance of what Kerr (1975) has referred to as "the folly of rewarding A, while hoping for B".

*Implications.* The operation of budgetary control system at this real estate company is a dramatic illustration of the fallacy that budgeting *per se* is a control system. For a complex set of reasons, including the nature of the firm's culture, structure and accounting system, branch managers paid very little attention to budgets; were not concerned when budgeted profit targets were missed and tended to disregard income statements for their branches. In other words, the budget was not integrated with the overall control system. These observed behaviors are contrary to managerial accounting theory but are rational in view of the firm's actual organizational context.

These findings support the broader view of a control system presented in this paper as well as the notion that the design of an effective control system must explicitly consider the relationship between culture, structure and the core control system.

*Accounting and control systems*

In discussions of the nature and purpose of accounting, scholars and text-book writers typically state that the functions of accounting include the ability to control operations, or, at the least, accounting can play a significant role in organizational control (see, for example, Anthony & Reece, 1979, pp. 4–5). Yet the mere existence of an accounting system is insufficient to guarantee that accounting information will be used to fulfill the managerial function of control.

The ability of an accounting system to function as part of a control system depends to a considerable extent upon an organization's culture. The validity of this notion shall be illustrated below as we examine the role of accounting in the actual context of a U.S. distributor of industrial abrasives.

*Nature of the research site.* The organization serving as a research site serves as a distributor of a full set of industrial abrasive products ("loose", "bonded", "coated", and "precision") for industrial firms which use the products in their own manufacturing processes. "Loose abrasives" include such things as sand or grain; "bonded abrasives" refer to materials which have been bonded into grinding wheels; "coated abrasives" include products such as sand papers; and "precision abrasives" refer to such things as diamond vitrified bonded abrasives.

At the time of the study the firm's corporate headquarters as well as its major distribution facility was located in a major metropolitan city in the U.S. The firm also had one satellite branch office in another major city. The firm's sales volume exceeded $12 million annually and the firm employed approximately 75 persons.

*Firm's culture and structure.* Although the firm had been founded more than twenty years prior to this study, for most of its history it had remained relatively small in terms of sales volume and personnel. Beginning in 1976, the firm had experienced rapid growth in sales volume attributable to favorable economic conditions, its full range of products, sales force and ability to meet customer service requirements. During the period 1976–1978 the firm increased in size from $3½ millions to more than $12 millions.

The firm was owned by a single family and three family members (father and two sons) ran the firm along with other family members. As typical in firms of this size, responsibilities were not formally defined and tended to be overlapping.

The firm had been successful, at least in part, because of competitively priced products and skill

at selling by family members and the sales staff. None of the members of the family as well as virtually all other "managers" had been formally trained in management. The firm did have a "Controller", who was a CPA.

*The accounting system and organization control.* The firm did not have any formal system of management control as has been defined above. As an organizational function, "control" was exercised by the personal involvement of family members in the day-to-day activities of the firm, rather than through formal planning, measurement, performance appraisal and reward systems. In this respect, the firm was probably quite typical of most organizations with its type of history: rapid growth as an entrepreneurship.

The firm's accounting system produced an annual income statement and balance sheet. An illustrative income statement is shown in Fig. 5 to indicate the format used; the numbers have been modified but are illustrative of the key variables. These financial statements were prepared at the end of each year to determine the firm's yearly income and financial position both for ownership and tax purposes; but they were not used otherwise in day-to-day management of the business.

As seen in Fig. 5, the income statement format is very simple. Expenses are listed alphabetically rather than by functional categories (selling, administrative, warehouse, etc.). Although the firm has four different product lines, there is no attempt at product line profitability analysis and this did not occur in any other way in the firm.[8] In neither this income statement nor any supplementary analysis was there any attempt to classify costs as "fixed" or "variable", "controllable" or "uncontrollable". As noted above, the income statement was prepared annually and therefore was not available for periodic monitoring during the year. In addition there was no budget or profit plan. Thus, there was neither an attempt to set profit goals nor to assess the variance of actual profit in relation to goals.

In brief, there was not a formal system or control in this firm and the accounting system did not perform any of the control functions ordinarily associated with it. Indeed, the firm's financial statements were virtually ignored except to determine whether or not a profit had been made.

If this organization's firm were merely an illustration of an isolated firm that lacked sophisticated management, it would be of little significance. However, this firm is, I believe, typical of many entrepreneurships which have experienced rapid growth but have not yet responded to their changed circumstances. Rather than being atypical, it is the prototype of a great many *successful* firms of its size in a variety of industries.

*Impact of culture upon utilization of accounting and control.* What explains the firm's lack of formal organizational control system as well as its failure to use accounting information to facilitate organizational control? The key is in the organization's culture.

The firm is an entrepreneurship. It was successful because it could do certain operational things very well: buy product, sell it, deliver it and service customers. Personal attention to the business and an open-ended commitment by family members and many employees made the firm prosper and grow. However, the firm lacked a professional management orientation. It did no formal planning and there was not even informal long range planning; rather, the firm reacted to changing events and circumstances. Organizational roles were not defined explicitly. People did what work had to be done. There was no budget but the controller paid attention to cash flow. Because the firm was growing sales revenues were sufficient to cover expenses and the firm had a line of credit sufficient to cover short term cash requirements.

The firm was sales and product-oriented. Its owners were skilled in personal selling and because of good interpersonal skills they were also able to maintain relations with suppliers. If expenses had

[8] Indeed, management did not know what the relative product line profitability was except in terms of "gross margin": selling price less direct materials costs.

to be increased, the culture responded, explicitly and implicitly, by saying "So we'll have to go out and get some more business".[9]

More appropriately, the accounting literature ought to indicate that accounting systems are *potentially useful as tools of control in an appro-*

Years ending September 30,

Sales
Cost of Goods Sold

GROSS PROFIT ON SALES

OPERATING EXPENSES:

Advertising
Bad debt provision
Car expense
Commissions
Contributions
Data processing service
Depreciation
Entertainment
Freight out
Insurance – officer's life
Insurance – general
Insurance – group
Interest
Medical and dental
Office expense
Postage
Professional fees
Profit sharing
Rent
Repairs and maintenance
Salaries – officers, manager
Salaries – office
Salaries – sales
Salaries – warehouse
Shipping supplies
Taxes – payroll
Taxes and licenses
Telephone
Travel
Utilities

TOTAL OPERATING EXPENSES

INCOME FROM OPERATIONS

Other income (Expense)

INCOME BEFORE INCOME TAXES

**Fig. 5. Industrial abrasives, Inc. Income statement before income taxes.**

*Implications.* In the kind of culture that characterizes the industrial abrasives firm described above, the notion of using accounting as a control mechanism is something alien. This observation of the actual low degree of use of accounting in its organizational setting is in sharp contrast to the statements sometimes found in accounting literature that accounting systems *are* tools of control.

*priate organizational culture.* This suggests that accounting must be viewed more as a component of a socio-technical system rather than merely as a technological control mechanism that operates in isolation of an organization's particular values, beliefs and norms. An accounting system can exist in an organization and not function as a control mechanism. In a culture characterized as

[9] Indeed, in late 1980 when a profit budget had been prepared for the first time and the President was advised of a projected loss the possibility of personnel layoffs was proposed. The president responded: "Why don't we just go out and get some more business". Although this response was quite typical, it was not appropriate to the current economic environment.

entrepreneurial which emphasizes informal relationships and freedom from restraints, the idea of accountability may be alien. Similarly, the idea that accounting can be a useful tool of organizational control may be perceived as not relevant to entrepreneurial managers. Thus, the mere existence of the accounting systems does not insure that it *will* be used in control. As a prerequisite, it may be necessary to change the organization's culture so that the idea of accountability is incorporated as a positive value. Once this cultural change has occurred, there may be an increased readiness to utilize accounting as a control mechanism. In this sense, the use of accounting as a control mechanism is part of a socio-technical system, becuase it involves change in the social or cultural system which interacts with the accounting technology. This, in turn, also supports the broader concept of control argued for in this paper.

*Organizational culture and zero based budgeting as a control mechanism*

In the two previous sections we have examined some aspects of accounting, budgeting and control in the context of small and medium-sized organizations. This section presents a study of a quasi-experiment designed to implement the notion of "zero-based budgeting" (ZBB) as a mechanism of organizational control in the context of a very large U.S. corporation.

Our purpose is to provide another test of the question of whether: (1) budgeting *per se* is a control system or (2) budgeting is merely a component of an overall control system and therefore does not influence behavior unless it is linked to other critical system components. A related purpose is to study the effects that cultural traditions play in relation to more formal mechanisms of control such as the budget in influencing the behavior of people in an actual organizational setting.

In addition, the size of the particular firm used here as a research site provides an interesting complement to the prior two studies. For it will permit us to assess, at least to some extent, whether the phenomena described previously operate only in firms of relatively small size, or whether they can be generalized to organizations irrespective of size.

*Nature of zero-base budgeting.* The term "zero-base budgeting" refers to proposals by Pyhrr (1973); Cheek (1977) *et al.* to modify the traditional budgeting process in organizations in which budgeting is to a great extent an *incremental* process in relation to the prior year's actual expenditures. Under the traditional or conventional process, managers are not required to justify their total budget; rather, they are merely required to justify the *incremental* portion that exceed the actual expenditures or budget from prior years.

In contrast, the proposed ZBB process requires each manager to justify his/her budget request as though the organizational functions were starting from "ground zero". Hence the term "zero-based budgeting". The process requires clarifying the goals of an organizational unit as well as identifying the functions and projects it proposes to perform in order to achieve its goals. These activities are then ranked in order of importance. Ranking of activities (functions and projects) priority is intended to be a representation of the organizational unit's management's judgement of their relative importance. Then if higher levels of management desire to reduce the total budget request, they are rationally able to choose the projects with the greatest relative degree of perceived value to the firm.

*The research study.* The study was intended as an action research project to test the applicability of ZBB on a pilot basis in one department. There were several related objectives: (1) to develop a budget for the personnel department from the ZBB process; (2) to obtain information on the benefits and problems of applying ZBB and (3) to make recommendations as to future uses of ZBB in the firm.

In the course of this study, an opportunity emerged for a quasi-experiment. Specifically, deteriorating economic conditions caused the firm to initiate a request to *all* departments including the personnel department) to recommend reductions in their proposed 1980 budget. This request occurred just after the ZBB pilot study had been completed. Thus, a natural

experimental condition existed in which it was possible to compare the actual proposals for budgetary reductions with the list of priorities included in the ZBB pilot study.

*Nature of the research site.* The organization serving as a research site was a large U.S. bank. At the time of the study the firm's assets exceeded $18 billion, ranking the firm as one of the ten largest U.S. banks.

The study was conducted within the bank's personnel department. This department was thought to be well suited to be a site for pilot testing ZBB, because it had a mix of on-going functions (employment, compensation, etc.) and projects (management development, research, etc.).

Thus this firm is quite different from the entrepreneurships described above. It is a large, professionally managed firm. It provides a variety of banking services ranging from very simple to quite sophisticated. Most members of management, especially senior management, have had formal training. The firm is used to budgeting and has a regular annual profit planning cycle. As part of its budgeting process the Controller's department provides management's assumptions and a set of "guidelines" for justifiable increases in "compensation" and "other operating expenses".

*The firm's culture and budgeting.* In spite of these differences, the firm's culture plays a crucial role in budgeting in this type of organization just as it did in the real estate and industrial abrasives companies. Specifically, one unwritten norm is that "Thy budget request shall not exceed 'guidelines' without punishment". This means that the so-called guidelines for "compensation" and "other operating expense" are quasi-officially sanctioned limits for incremental increases in budget proposals. So long as a budget request stays within guidelines, it is likely to be approved. However, if a request exceeds guidelines, the managers must pay a serious price by undergoing a rigorous budget scrutiny and request for justifications. A corollary to this norm is a tradition that budget proposals within guidelines tend to be approved. Thus the firm's conventional budgeting system was clearly not a zero-based approach.

*Results of the natural experiment.* As part of the pilot test of ZBB, each division head in the personnel department was required to prepare a budget which listed all of the divisions activities, their total cost and rankings. Total cost of the activity included compensation expense and other operating expense, classified separately. For each activity, a "budget allocation request" form was prepared. These forms required the division to specify: (1) the activity's goals, (2) consequences of "non-performance" (failure to perform the activity), (3) alternatives for performing each activity, (4) the recommended alternative, (5) the current method and (6) the costs and benefits of each alternative.

Although each division was required to list its priorities in preparing the budget, when the divisions were faced with an actual request to reduce the budget in the profit planning process, the stated priorities in the ZBB budget were *not* adhered to in making the required budget reductions. As stated in the final report to the company's management: "This means that the priorities developed in the ZBB pilot study were merely nominal and not real priorities. This may be because the bank's history prior to the ZBB study has not tended to result in actual budgetary cuts. The division heads may not seriously have been concerned with establishing real priorities and viewed it (ZBB) as an exercise. It appears that managers at the bank are not used to thinking in terms of real budgetary cuts based on their priorities."

*Implications.* The aim of budgeting, whether zero-based budgeting or the more conventional variety, is typically to provide a mechanism for effective planning and control in organizations. When asked to do an in depth analysis of their operations, to state their goals, and *then* to prepare a budget in relation to those goals, the managers in a large, professionally managed, sophisticated firm executed the process. Yet when asked to make real budget cuts, this analysis was virtually ignored. Clearly, this suggests a great deal about the nature of the firm's culture. It may, for example, indicate that the division heads thought the ZBB budget ought to be prepared in a way

that they perceived would be acceptable to senior management. It strongly suggests that we are naive to presume that the mere act of preparing a zero-based budget will provide top management with the information it needs to exercise effective control over costs.

## CONCLUSIONS

This paper has examined some aspects of the relationship between accounting, budgeting and control in its actual organizational context from a theoretical as well as an empirical perspective. We have seen that the process of exercising control in an organization is significantly more complex than conventional managerial accounting theory would have us believe.

We have also seen that budgeting and even an accounting system can not be viewed as a control system *per se*; rather they must be seen as a part of a carefully designed total system of organizational control. If the linkages between budgeting or an accounting measurement system and the other essential prerequisites of a control system are not adequate, then the system may not fulfil its intended functions.

In addition, we have observed the crucial role not only of the formal core control system but also of an organization's culture as a mechanism of control. If a firm's culture and its core control system are not synchronized, it is not likely that even a well integrated core control system will actually influence behavior in its intended ways.

Our appreciation of the complex process of organizational control is probably still in its infancy. This paper has tried to develop a different orientation to the role that accounting and budgeting plays in the control process as well as a broader concept of control itself. The number of empirical studies of accounting, budgeting and control in action in an organization is relatively few. Although studies of the type presented here are not without difficulties I believe that such studies are an essential prerequisite to future progress in understanding the role of control in complex organizational settings.

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