

CHAPTER 1

THE ORIGIN OF HIDDEN COSTS

Research work carried out by ISEOR in the mid-1970s revealed the links between dysfunctions, hidden costs and the enterprise's economic performance. Enterprises that implemented our method of assessing hidden costs were able to subsequently plan rationally for their reduction. This social demand influenced ISEOR researchers to conduct in-depth analysis of hidden cost sources and origins, which in turn led to constructing, through experimentation, a method of socio-economic analysis. It was at this stage that the "fundamental hypothesis" of socio-economic analysis, which will be discussed in this chapter, was formulated.

The chapter is divided into two sections. The first part is devoted to the analysis of the underlying causes of hidden costs—*structures* and the *behaviors* of company actors. The second part presents the general characteristics of the *socio-economic method of enterprise analysis*, through the introduction of its three essential tools: dysfunction analysis, hidden cost assessment and study of training-job adjustment.

THE ENTERPRISE: A COMPLEX AGGREGATE OF STRUCTURES AND BEHAVIORS

How is it possible to account for dysfunctions and the hidden costs they generate? If we refer to existing doctrines in social sciences, two major currents dominate: the structuralist approach and the behavioralist approach. Simply stated, structuralism affirms the predominance of structure over behavior and explains the results obtained by organizations by the deterministic relationship of structure over behavior. From this perspective, only the modification of structure is likely to deflect the results of productive organizations (i.e., Structures → Behaviors → Results).

The study of dysfunctions in enterprises, however, shows that, in a given unit, thus within identical structures, individuals adopt differentiated productive behaviors, which result in different individual performances, whether this is a matter of absenteeism, direct productivity or quality. This clinical analysis shows the importance of the behavioral factor. Thus, the *behavioralist current* considers human behavior as the principal factor for explaining levels of attained results. In this theory, determinism is shifted to the relation of Behavior → Results. Management modes inspired by the behavioralist current mainly utilize “psychological manipulation” techniques under the guise of such “noble” notions as responsibility, motivation, and professional conscientiousness, that is, they resorted surreptitiously to coercive principles borrowed from certain morality or value systems.

ISEOR studies on the actual functioning of enterprises once again contradicted this determinism. Indeed, the same individual confronted with different work structures is capable of behaving professionally in very different ways; hence the need to keep the importance of structures in mind. Based on this criticism, we constructed an explicative theory of dysfunctions, recognizing two driving forces in enterprise operation: structures and behaviors *interacting with one another*. This explicative hypothesis, which is referred to as the *fundamental hypothesis*, is schematically expressed in Figure 1.1.

This fundamental hypothesis suggests that every enterprise and every work unit should be conceptualized as a set of structures interacting with a set of human behaviors, the sum of which drives economic activity. This activity can be segmented into two groups: *orthofunction*, which is the functioning sought, expected and/or desired by actors; and *dysfunction*, which is the variance be-

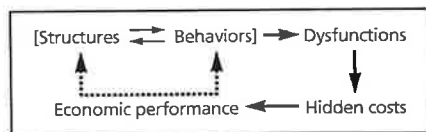


Figure 1.1 The fundamental hypothesis.

tween actual functioning and orthofunctioning. This explicative hypothesis further calls for two important remarks. First, the concept of structures is envisaged in the wider perspective compared with the classic conception in management literature. Second, it also leads to practical consequences: if one is to improve the level of the enterprise’s economic performance, it is necessary to conduct *synchronized actions* both on structures and human behaviors.

DYSFUNCTIONS: STRUCTURAL AND BEHAVIORAL INDICATORS

Hidden cost assessments, carried out since 1973, have shown that the five indicators of dysfunction, summarized in Table 1.1, are simultaneously in-

TABLE 1.1 Dysfunction Indicators

Dysfunction indicators	Structures	Individual and collective behavior
Absenteeism	Interest of the work relationship with colleagues working hours	Human causes: <ul style="list-style-type: none"> • individual perception of collective norms “got to be there at work” • individual need to be psychologically regulated outside the workplace • perception of fairness at the abusive absenteeism practices of certain employees
Work accidents	“Technical” causes: material, occupational accident prevention, security information and training	Accidental human causes or attributable to various reflexes, both individual and collective, with respect to security
Personnel turnover	The enterprise’s capacity to attract, motivate and retain personnel	Human instability: evasion behavior or refusal of conditions imposed by professional work (limit: positive aspects of mobility)
Non-quality	“Technical” causes: control organization, remuneration modes, definition of production objectives, training and information system	Human causes: attention, dexterity, professionalism, degree of perfectionism
Direct productivity variance	<ul style="list-style-type: none"> • material, technological • remuneration mode • work methods and procedures • training and operational information systems 	Human causes: <ul style="list-style-type: none"> • professional agility • rapidity of reflex action • concentration • capacity to adjust to unforeseeable events

dicators of structures and behaviors. Interaction between structures and behaviors, however, is not symmetrical. Structures are relatively permanent elements of the organization and characterized by their stability and their forcefulness. In terms of their stability:

- Their principal attributes' capacity endures over time;
- Their principal attributes' capacity *slowly, progressively* and *autonomously evolves*; and
- They have a high level of social (both individual and collective, more or less conscious), material and financial *energy expenditure* necessary to achieve faster development.

Structures thus carry degree of *inertia*, not only with respect to actors, but also with respect to time. Who has not experienced difficulties relative to the implementation of a new organization chart?

The second major characteristic of structures is their *forcefulness*, i.e., their capacity to influence human behavior. This property is identifiable through relatively constant elements of behavior (apparently complex and multi-form), produced through a relatively asymmetrical interactive bond:



The "*structuring*" effect consists in the fact that certain (*structural*) elements exert a conditioning influence on human behavior. For example, payment by piecework constitutes a structural element because it leads to behavior that does not heed product quality.

Structures

The set of elements in the organization that exhibit the two properties of persistence and cogency, typical of structures, can be classified into five categories (see Table 1.2) illustrating the different categories of structure: physical, technological, organizational, demographic and mental structures.

Physical Structures

These can be identified directly by their particular characteristics of space, volume, and physical atmosphere, or indirectly by certain indicators of their impacts, such as certain physiological nuisances (e.g., noise, heat, excessive physical fatigue, mental stress, illnesses, accidents). The efficiency of human activity is connected to physical structures, among other factors.

Technological Structures

These include different types of equipment classified according to specific criteria, such as their degree of complexity or sophistication (simple,

TABLE 1.2 Principal Elements of an Organization's Structure

Physical	Technological	Organizational	Demographic	Mental
1. Physical space 2. Office and workspace configuration 3. Nuisances: <ul style="list-style-type: none"> • noise • heat • toxic conditions • lighting 	1. State of use and upkeep, recent or old equipment 2. Sophistication, complexity, degree of automation 3. Adaptability of equipment to the activity's requirements 4. Incidence on training-job adjustment 5. Nuisances in connection with materials	1. Organization chart 2. Sociogram 3. Work division 4. Operating methods 5. Work hours and rhythms 6. Procedures 7. Communication-cooperation system 8. Operational and functional information system	1. Adjustments in the number of employees 2. Age pyramid and population structure 3. Instances of representation and coordination 4. Employment basin 5. Initial training structures 6. On-going training 7. Qualification structures 8. Professional and promotional channels 9. Recruitment policy	1. Executive management style 2. "Company ethic" (organizational culture) 3. Micro-climates 4. Dominant socio-cultural conceptions (professional ideologies)

Note: This grid is not exhaustive; it is notably susceptible to being adapted in function of organizations.

mechanical, automated) and/or their economic value. For example, heavy equipment constitutes an economic stake in itself, and tends to be highly controlled by the organization. At the opposite extreme, "light" tools are mainly seen as accessories to human work. These structures can also be analyzed through certain objective effects they exert on human behavior, such as the degree of "human dependence on the machine," or other ergonomic constraints such as high frequency repetitive gestures or activity devoid of stimulation (e.g., surveying an automated process requiring little human initiative).

Organizational Structures

These factors result from the division of labor in the enterprise and functional relationships (in the etymological sense) among different units and individuals. The distribution of major functions, tasks and responsibilities has an incidence on the content of the work, and consequently, on the adjustment of the employee's training (e.g., potential competency from initial and on-going training, professional experience) and that person's job. The degree of adjustment has significant effects on the degree of interest in the work.

The nature and quality of work relationships further constitute structural elements, both in terms of operational communication (i.e., circuits of information indispensable for performing the task) and in terms of the emotional dimension of work relations. These relational structures explain the existence of a propensity for tension and conflict, and include tension-regulation procedures. Furthermore, it is noteworthy that organizational structures largely find their justification in socio-cultural factors, stemming from conceptions inherited from the organization's history, rather than in application of scientific laws on the functioning of human organizations, which are of the same nature as those that explain the functioning of the physical universe.

Demographic Structures

These structures can be defined as the characteristics of the working population in terms of professional, hierarchical position, age, seniority, gender and education categories (initial, on-going and professional experience). They can also be examined through certain impacts they exert on human behavior, such as unsatisfied professional ambitions or a lack of know-how and competency.

Mental Structures

These include elements that durably characterize the organization's mindset, whether they are management styles imposed by executives, dom-

inant conceptions that influence management decisions, or the state of mind and work atmosphere prevailing among personnel.

Limits of the Differentiation Between Structures

It should be underscored that, in all rigor, these different structures are closely interrelated. For example, technological choices can be tied to certain conceptions of decision makers (mental structures), in the same way that the configuration of office space can influence work organization. Yet, despite the limits of differentiation between the multiple structures, it is useful to adopt a classification of structures in function of their nature in order to facilitate analysis of the organization's operation. Also, from a more paradigmatic viewpoint, hierarchical classification of structural problems facilitates defining priorities for action. Nevertheless, it remains important that the interrelations among different structures be fully perceived in the last phase of the analysis, especially during the implementation of the solutions destined to remedy the observed dysfunctions.

Behavior

Behavior is actually the *observed* human action that has an incidence on the physical and social environment. Behavior is distinguished from attitude, which constitutes potential behavior or relatively permanent personality traits. Attitudes are translated into observable behavior when confronted with events. In this sense, attitudes constitute elements of individual psychological structure. Behavior is downstream from structure-sets, including attitudes, and is characterized by its *conjunctural* and relatively *instable* nature. The same individual, for example, can follow five behavior rationales (or logics) depending on the situations in which he or she is placed and on the nature of the problems that person is faced with:

- *Individual logic* refers to personality as well as the professional and extra-professional characteristics (especially family) of the individual that lead him or her to behave in a relatively autonomous manner.
- *Group activity logic* in which the individual's behavior is conditioned by the fact that he or she belongs to a certain department, workshop or agency. For example, one may adopt production-personnel behavior when faced with sales personnel, or behave like a head-office agent as opposed to a branch-office member.
- *Categorical logic* that reflects one's belonging to a given professional category and conditions the person's behavior. One acts like a supervisor when faced with certain types of problems that affect the

professional category as a whole (e.g., questioning one's authority or style of command). The category may be hierarchical, in the sense of an organization chart, or in a professional sense (e.g., engineer/non-engineer; doctor/nurse/administrative personnel-service personnel, in a hospital; "artists"/administrative personnel in a television studio; sales personnel/administrative personnel within the same bank agency).

- *Affinity group logic* in which the individual's behavior is explained by membership in an affinity group, either inside or outside the enterprise. This affinity can stem from academic backgrounds (e.g., in certain industries, one can observe strong solidarity among managers from the same graduate schools), or from shared moral, religious or political convictions, or from trade-union affiliation.
- *Collective logic* which is captured when all company employees behave as though they were literally "one single person." This behavior rationale is rare, and one typically encounters it when serious events threaten the survival or development of the enterprise or establishment (e.g., risk of closing down the unit, a new law perceived as a threat to the company).

Behavior results from four main factors: a) the individual's characteristics, b) the structural characteristics of the individual's environment (professional and extra-professional), c) the individual's personal chronobiology,¹ and d) the environment's conjunctural phenomena. Just as with structures, different behavior rationales can interact. Still, this classification is useful for practical application to the analysis of dysfunction causes and solutions. It is also useful in the adaptation of intervention strategy to each firm or unit.

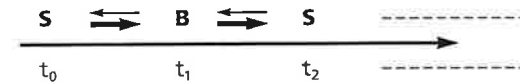
The Boundary between Structure and Behavior

Certain behaviors seem relatively permanent in the first analysis, lending them properties close to those of structure, especially in terms of their relative stability and influence on other behaviors. In an organization, such relatively stable behavior eventually becomes genuine mental structure. Thus, in order to clarify our analysis, we classify the constant portion of human behavior under structure, whereas the more conjunctural portion, more susceptible to fluctuation, and which actually constitutes an exterior sign of interaction between the organization and individuals, constitutes behavior *stricto sensu*.

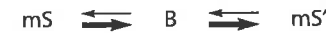
Relatively stable behaviors—in essence elements of mental structure—can be linked to the probable existence of genuine behavioral algorithms,

susceptible to being distinguished by a certain precision of behavior. These behavioral algorithms show the external signs of instability and, consequently, are in function of a conjunction of relatively haphazard or uncertain events. The feasibility of such a distinction, however, does nothing to resolve the problems involved in defining boundaries: enduring individual or collective behaviors can progressively acquire all the fundamental properties of structures and insidiously slide from the behavior pole to that of structures.

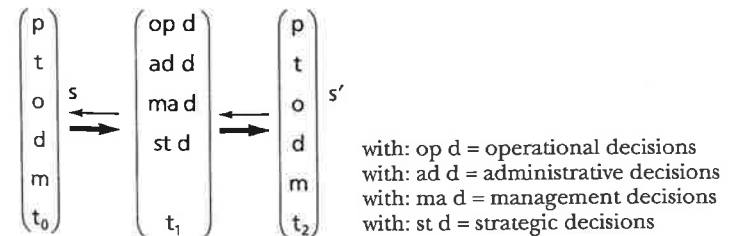
From a descriptive point of view, such an evolution of behaviors would be considered as the appearance of a new structure inflecting actors' playing rules. From a more analytical point of view, the conversion of certain behaviors into structures creates a collective referential, from notions such as precedent, jurisprudence, usual customs and practices of units, which acquire the status of rules. Such conversion results from the collective recognition of a practice that becomes relatively stable. The transformation cycle of behavior into structure is of systemic nature and results from the alternation of asymmetrical relations between structures and behaviors:



This cycle applies, in the first case, to previously-mentioned transformation phenomenon of certain behaviors into mental structures (mS), when certain common, daily behavior has progressively become instituted:



The more widespread second case leads to a renewal of decision-making theory (decision theory), which we are developing with ISEOR's experimental research work. In this case, the behavior pole includes a particular category of behavior that is qualified as decisions. Hence, the structure set (pS: physical; tS: technological; oS: organizational; dS: demographic; mS: mental) impacts the entire structure set thus inflected:



Analysis of this relation (Structure \leftrightarrow Behavior) has made it possible to underscore the *double responsibility*, individual and collective, of individuals in the creation of hidden costs. Indeed, we have noted that individual responsibility in the creation of dysfunctions (e.g., evasion-of-work behavior, “slowdown” on the part of an employee) does exist, but that it is much rarer than collective responsibility. A sort of solidarity exists in the creation of dysfunctions and especially in setting up regulations. We sometime employ the expression of “unconscious actor complicity” to indicate the fact that dysfunctions, especially when they are recurrent, are rarely the responsibility of one single individual, contrary to a certain dominant ideology that stems from the theories and practices of classic Fayol-Taylorist management.

The practical consequences of these results are that, if one is to take action on hidden costs, this implies action on individual behavior and especially collective behavior, and on mental structures. In sum, hidden costs result from the *permanent and complex interaction* between company structures and human behaviors, which create both orthofunctions and dysfunctions.

If the deep-seated origin of hidden costs is to be found in these complex connections between two groups of variables, another level of observation is possible. Indeed, interactions between structure and behavior manifest themselves in a certain number of “territories” or domains of the organization’s operation. There are six of these domains: working conditions, work organization, communication-coordination-cooperation, time management, integrated training, and strategic implementation. These six domains, explained in detail in the following chapter, constitute the classification grid utilized for taking stock of dysfunctions and for seeking solutions. This nomenclature of dysfunction and action domains is indispensable for conducting hidden cost reduction actions. It corresponds to the fourth group of variables composing the socio-economic analysis model, represented schematically by a four-leaf clover (see Figure 1.2). This model gave rise to the creation of basic tools for the socio-economic analysis of organizations.

BASIC TOOLS OF THE SOCIO-ECONOMIC ANALYSIS METHOD

The Socio-Economic method was conceived and developed for the analysis of the relationship:

[Structures \rightarrow Behaviors] Dysfunctions \rightarrow Hidden Costs.

It includes three basic tools: dysfunction analysis, hidden cost assessment, and training-job adjustment (competency grids).

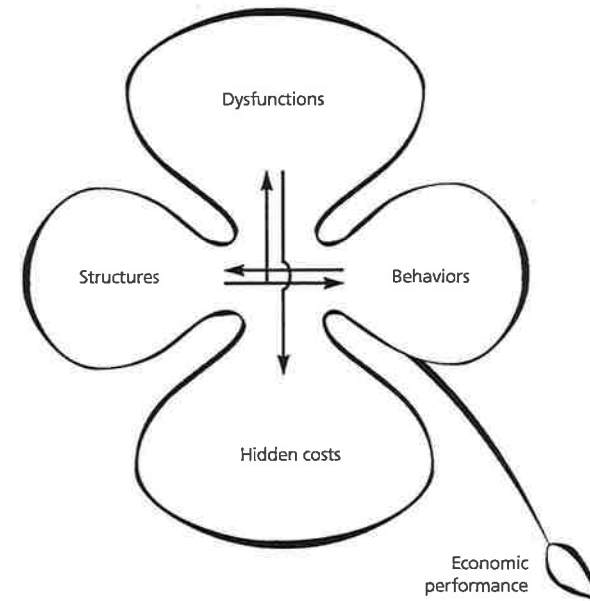


Figure 1.2 The socio-economic four-leaf clover.

Dysfunction Analysis

The basic methodological option is to analyze *only dysfunctions*, without referring to the strong points in company operations at the stage of preliminary analysis (the diagnostic).

Dysfunction analysis is thus the analysis of the operation of the organization, very similar to a study of their weak points (which has been a classic focus). The meaning of the term diagnostic, as we understand it, is much closer to the medical acception (action devised to determine the ailment) than to that currently utilized in management (strong and weak point analysis). At first, this methodological orientation causes reactions of rejection or passiveness among actors, comparable to a “cultural shock.” But these initial reactions are actively engaged in the following phase of researching solutions for dysfunction reduction.

Dysfunction analysis groups together a set of concrete methods with a three-fold objective: a) descriptive study of dysfunctions, b) descriptive study of dysfunction regulations, and c) analysis of dysfunction causes, in terms of structure and behavior.

Chronologically, it is carried out in three phases:



The first two phases (inventory of dysfunctions and of their effects) are carried out essentially in the field-object of the analysis. The third phase is born of a different approach, predominantly explicative, which constitutes the "expert opinion" of the researcher-interveners. This opinion requires critical distance from the opinions of actors. It is founded both on tangible data (collected by means of interviews, direct observation and document analysis) and the intangible *non-dit* (unvoiced comments). The expert opinion consists of identifying the major dysfunctions and causes, classified hierarchically in function of their degree of impact on dysfunctions.

Hidden Cost Assessment

This tool of the socio-economic analysis method is an extension of the dysfunction analysis, since its objective is to assess the cost of regulations. It is a *fundamental tool of the method* in that it enables creating *new information* expressed in monetary form, which produces a particular impact on company actors. In fact, when ISEOR has applied the socio-economic analysis method without assessing hidden costs, we observed significantly different reactions, in the sense that the impact or "cultural shock" was lessened.

Training-Job Adjustment and Competency Grids

The analysis of training-job adjustment in a unit is a tool intended to be both descriptive and explicative of certain dysfunctions. Regarding the causes of dysfunctions, training-job adjustment is a cross-sectional analysis of technological, organizational, demographic and, in certain cases, mental structures. Training-job adjustment analysis aims to explain certain dysfunctions according to the following logic.

A *job* is defined by its capacity to absorb, mobilize and develop the professional competency of individuals. *Training* is defined as the set of competencies acquired during initial training, on-going professional training (retraining and updating), and finally through the individual's professional experience. *Professional experience* includes all professional situations in an individual's history that create knowledge, techniques and methods of work. Thus, professional experience contributes to modifying the mental structures of individuals.

The *job sphere* (J) designates jobs that have been codified by the enterprise or unit. Jobs require a certain number of competencies necessary to perform the tasks confided to individuals. Finally, the *training sphere* (T) represents the set of combined competencies possessed by all individuals in the unit. It seems reasonable to associate individuals' potential competencies with their current competencies, i.e., those competencies that could become real without having to invest too much energy.

In training-job adjustment analysis (see Figure 1.3), three zones are identified:

- Zone A, zone of training-job adjustment that represents the competencies required and available. Zone A is a source of efficiency that nourishes orthofunctioning.
- Zone B, *first zone of inadequate adjustment* or discrepancy that represents those competencies possessed by individuals, but not utilized or mobilized by the jobs. Zone B is often a source of frustration and demotivation; it thus potentially breeds dysfunctions.
- Zone C, *second zone of inadequate adjustment* that represents those competencies required for the full achievement of the job, but not possessed by individuals. Zone C is fundamental, for it is a source of the enterprise's inefficiency and under-quality. It plays a crucial role in explaining *poorly-assumed tasks*: an individual is asked to implement competencies that he or she has not developed, either through a lack of initial training nor on-going training or through prior professional experience.

In order to measure training-job adjustment, we have created a visualization grid for competencies available in the unit—the *competency grid* (see Figure 1.4). This table, which is drawn up and filled out by the immediate supervisor (or with that person's assistant), includes: a) the individuals who make up the studied unit (rows), and b) the operations carried out by the unit (columns) classified into two zones—current job content (technical operations, management operations, relationship operations) and the evolution of jobs (i.e., new operations to be accomplished). This zone is largely

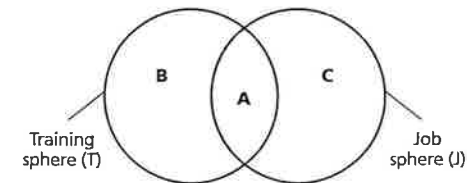


Figure 1.3 Training-job adjustment schema.

technologies, markets and company organization. It is an apparently simple instrument, both in terms of drawing up the table, as well as its application to management decision making. In reality, its use in real-life situations has repeatedly demonstrated that caution is indispensable to its utilization and that a minimum climate of trust is necessary *a priori*. Drawing up a competency grid requires courage, rigor and confidence on the part of intermediary supervisory staff:

- *Courage* to carry out estimates of the personnel's real competencies as close as possible to observed reality, without indulgence. For example, accepting to recognize and indicate through symbols on the competency grid, the fact that one employee is more competent than another, even though the latter might have a higher salary.
- *Rigor* in "measuring" personnel competencies in a very detailed manner, proceeding analytically, operation by operation, and not by an approximate, subjective overall assessment. Rigor, declared and practiced, is a factor in restoring confidence;
- *Confidence* on the part of the personnel assessed by this tool toward their immediate manager that the assessment is to be done rigorously and fairly, that the results will not be utilized for destructive purposes (e.g., choosing which employees to dismiss). The intent is for constructive purposes, such as developing personal competencies and reducing the unit's vulnerability; and
- *Confidence* in the *capacity of individuals to evolve*, in the possibility for each one to find a personal advancement track, usually inside the enterprise, or to better negotiate outside the enterprise when the person's projects are completed or circumstances compel the individual to do so.

This tool does not become truly meaningful until actors are willing to trust one another and accept the need to develop their competencies. This commitment requires confidence on three levels. First, there must be confidence on the part of the department head who accepts to train a collaborator. Second, there must be confidence on the part of the team leader who entrusts a new task to the collaborator, enabling that person to implement and consolidate the newly acquired competency. Finally, there must be confidence on the part of the collaborator in his or her own capacity to learn and assume a new activity, thus improving competencies and professional behavior. The legitimacy of this *a priori* confidence is then "verified" (or invalidated) through competency grid updates.

Integrated Training

Integrated training is based on five principles. First, competencies are acquired through various modes of training and are observable in the practice of activity operations. Second, training stresses dysfunction regulation and prevention, and not exclusively orthofunctioning. Third, the various modes of competency acquisition are initial training, on-going professional training, apprenticeships or conceptualized professional experience, conscious and transmittable. These three modes of competency acquisition are indispensable and inseparable. Fourth, an operation is always carried out in co-operation, involving two or more employees. Finally, training is primarily dispensed within a micro-space, for every operator is a trainer, often without being aware of it. It is a question of lending visibility to this "*de facto* integrated training," not recognized and badly managed, thanks to the internal training plan.

Integrated Training Stages

The first step is a diagnostic of competencies, carried out employing the competency grid.

This diagnostic determines the unit's personnel training needs, which are initially examined with reference to the objectives of competency evolution for the chosen period. As illustrated in Figure 1.5, based on this assessment an internal training plan can be created. The next phase is to distinguish *collective training needs* and the composition of training groups by levels (e.g., all rated personnel) and *individual training needs* and the choice

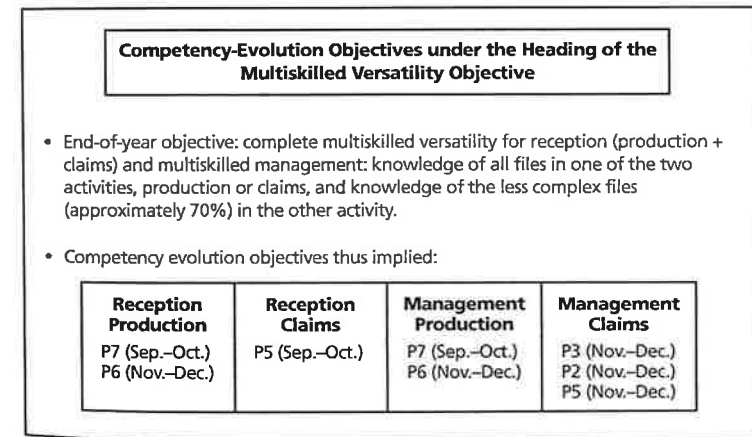


Figure 1.5 Training plan assessment.

of the internal trainer (e.g., P4 trains P1 and P3). Successful training is fully achieved when the acquired competencies are implemented.

The *structure-behavioral* theory of business operation, by stressing *diachronic interactions* (i.e. implying a time lapse) and *asymmetric interactions* (the predominant influence sometime results from structure, sometimes from behavior), leads to a conception of interactions as highly interwoven between structure and behavior, whose boundaries are ambivalent (either mental structure or behavior, depending on the point of view adopted). Beyond the scientific interest for such conceptualization, this theory leads to practical applications in the domain of *transformation actions of the organization's operation*, actions motivated sometimes by social policy considerations (e.g., social development, improvement of work-life conditions, qualification improvement, improvement of professional affiliates within the organization), sometimes by economic objectives (e.g., improving efficiency, the productivity-quality couple), or by actions accompanying the introduction of technological innovations.

The praxeological recommendations this theory provides can be summed up in a general principle, largely experimented in different ISEOR research sites inside businesses and public service agencies: *Organizational improvement actions are efficient when they originate in a project that was drawn up in participative fashion and which provides for simultaneous actions on structure, in the broad sense, and on human behavior*. These actions cannot be carried out by tackling one explicative element after another. Indeed, structures and behaviors produce dysfunctions in different domains simultaneously. These domains of dysfunction constitute the operational contact points where sustainable hidden cost reduction solutions can be researched.

This principle is verified both by the relative or complete failure of monocentric actions addressing only structures or only behaviors and *a contrario* by the success of bi-centric actions of structuro-behavioral nature.

ENHANCING ORGANIZATIONAL PERFORMANCE THROUGH SOCIO-ECONOMIC INTERVENTION

Socio-economic theory, created by Henri Savall and elaborated and experimented with by the ISEOR research team, is based on the premise that improvement of the enterprise's effectiveness and efficiency requires a new and integrated approach to business problems. Major-function approaches have proved their limits and their inefficiency in environments that have become particularly turbulent and complex.

This approach and its underlying theory are not limited to wishful thinking – it proposes an operational procedure with a view to approaching the enterprise globally. This approach, referred to as the socio-economic inter-

vention method, was constructed and verified in numerous enterprises and organizations, from a broad range of business sectors, of different sizes, different legal status and very diverse economic situations.

NOTE

1. Chronobiology studies the biological rhythms of the human being with respect to time periods of the day, month and year. This analogy is borrowed from Reinberg (1974, p. 128).

REFERENCE

Reinberg, A. (1974). *Des rythmes biologiques à la chronobiologie* [From biological rhythms to chronobiology]. Paris: Gauthier Villars.