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## **Flexibility: the Strategic Paradox of Change versus Preservation**

*In this article, it will be argued that organizational flexibility is a strategic paradox. In this regard, the focus is not only placed on planning and control, but also on developing a capacity for strategic thinking and learning, which means being open and responsive. A clearer formulation of the paradox of flexibility can be derived based on some insights drawn from systems theory of control. In this approach flexibility is perceived as a management and as an organization task. This two-dimensional conception of flexibility can be portrayed in a conceptual model or variance model. This model explains which organizational and environmental factors generate variations in organizational flexibility. Furthermore, clinical understanding of the activities of skilled practitioners in improving organizational flexibility resulted in a process model for guiding the transition process.*

*By connecting the conceptual model (variance approach) and the process model (longitudinal approach), the Flexibility Audit & Redesign method was developed. Subsequently, the method was applied in a multi-case longitudinal study, consisting of three different organizational units operating in different, changing environments. The empirical claim of the method, consisting of propositions derived from the conceptual model and from the process model resulted in an organizational typology and effective trajectories for improving flexibility.*

### **1. Introduction**

The issue of organizational flexibility has recently received much attention from researchers and practitioners. In general, the term 'flexibility' has a positive connotation. We intuitively understand flexibility to mean mobility, responsiveness, agility, suppleness, or liveness. By contrast, its meaning in relation to the functioning of an organization is still ambiguous. We may rightfully ask ourselves if flexibility is used as a magic word or belongs to a new business fad (Boot, Gilhaus et al., 1986; Kickert, 1982). Nevertheless, fifteen years ago, Steers (1975) demonstrated in an ASQ article based on seventeen organizational effectiveness studies that flexibility was the evaluative criterion mentioned most frequently.

In June 1988, the former reflections resulted in the start of the Flexibility Audit & Redesign Project (FAR project), a research project of the Faculty of Management and Organization of the University of Groningen in cooperation with GITP/management consultants. In this research project, flexibility is considered as a question of management and organization from a strategic perspective. In this context, the usefulness of the concept of strategy is re-examined as a decision heuristic for choosing the external interface with the environment, formulated through anticipation of trends in the environment. The FAR project had to provide new insights into the organization concept of strategy, in situations in which anticipation is impossible and strategic surprise likely.

## 2. Organizational Flexibility as a Strategic Paradox

Whereas the speed of environmental change was such as to permit deliberate formulation and execution of strategy, in many situations today strategic surprises do not give sufficient warning to permit advanced strategic planning (Ansoff, 1978). Attempts to adopt rigorous planning would only paralyze the organization (Burton, 1984). Planning and analyses are necessary but not sufficient and need to be understood as mechanisms for problem and opportunity identification and strategy evaluation, rather than mechanisms for radical changes (Johnson, 1988).

In these situations, the use of traditional action strategies (planning concept of strategy) will be increasingly supplemented and sometimes replaced by a flexible configuration strategy (organization concept of strategy): how do we configure the resources of the firm for effective responses to strategic surprises? The organization has to incline towards 'emergent planning,' because the environment is fundamentally unpredictable, and this renders many routines useless. This implies a process of the management of 'unintended order' (Mintzberg & Waters, 1985) or 'controlled chaos' (Quinn, 1985), in which change as well as stability is possible. In this regard, the focus is not only placed on planning and control, but also on developing a capacity for strategic thinking and learning, which means being open and responsive. A better understanding of this strategic paradox between change and preservation is of crucial importance for our ability to organize in a manner that promotes flexibility.

## 3. A Definition of the Paradox of Flexibility

A clearer formulation of the paradox of flexibility can be derived based on some insights drawn from systems theory of control. In this approach flexibility is treated as a two-dimensional concept (see Figure 1). First, flexibility is perceived to be a management task. In this connection, the concern is with the quality of the 'steering capacity' or the competence of the management. Second, flexibility is perceived as an organizational task. The concern here is with the 'steerability' of the organization under different conditions: is it possible to implement different types of flexibility within the organizational context. These two dimensions result in the following definition (Volberda, 1990; Volberda & Cheah, 1991):

*Flexibility is the degree to which an organization possesses a variety of actual and potential procedures, and the rapidity by which it can implement these procedures, in order to increase the steering capacity of the management and improve the steerability of the organization.*

### 3.1 The Management Task

As a management task, flexibility is concerned with the creation or promotion of the organization's steering capacity, especially in situations of unexpected disturbance. Core components of this management task are:

(a) *the existence of actual and potential procedures* --- not only the actual arsenal of procedures is important, but also the collection of potential flexibility-increasing procedures. The possible emergence of opportunities or threats require management to have some potential procedures to rely upon as an insurance against risk (see

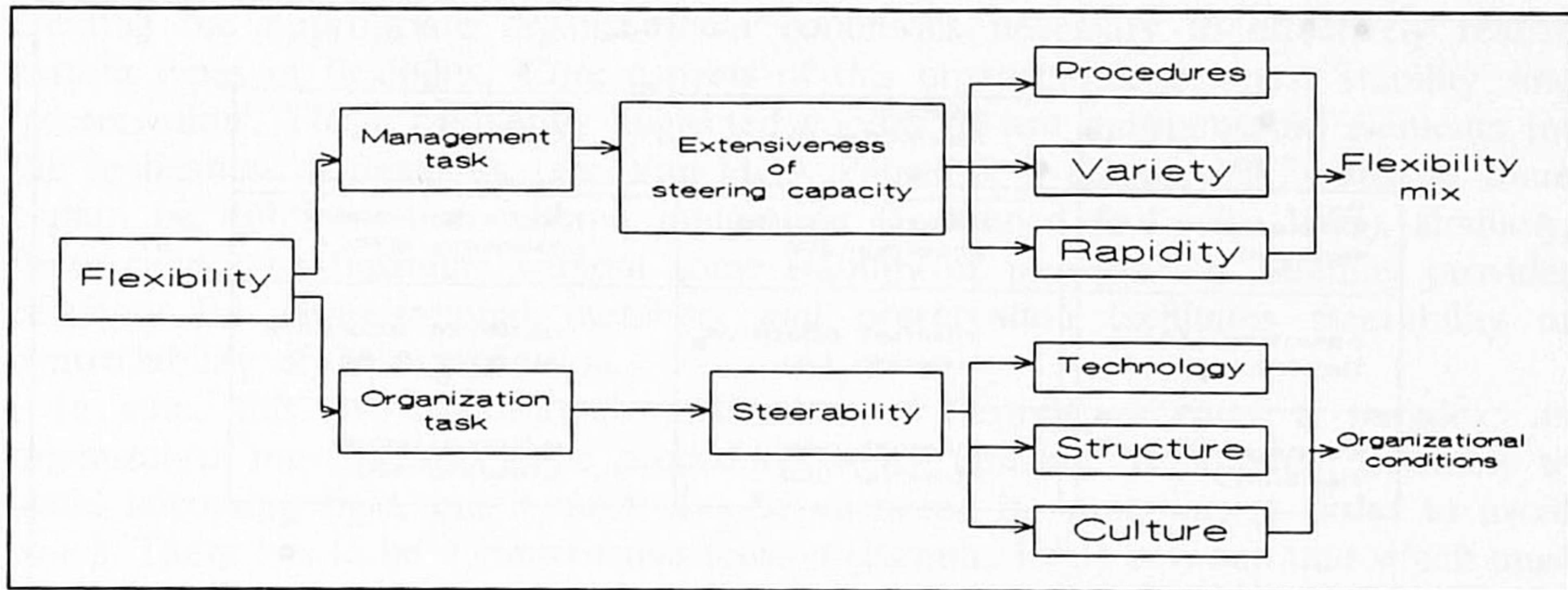


Figure 1: Flexibility and the Associated Management and Organization Task

Scott, 1965);

(b) *the variety of procedures in the organization* --- Ashby (1964) demonstrated that the required variety of procedures within the organization must, at a minimum, be equal to the variety of disturbances in the environment. The variety of procedures within the organization can be in terms of either the quantity, that is the number of procedures, or the quality of the procedures (such as one-off versus durable flexibility-increasing procedures). For instance, the training of multi-skilled personnel results in a more durable mode of flexibility, while the contracting out of certain peripheral activities or 'hire and fire' employment practices tend to result in a one-off improvement in flexibility;

and (c) *the rapidity by which an organization can implement its procedures* --- an organization may possess the right procedures, but this does not necessarily mean that the management can implement these measures in time. Flexibility is not a static condition, but it is a dynamic process. Time is a very essential factor of organizational flexibility.

The management task is manifested in the organization's '*flexibility-mix*'. This refers to the collection of flexibility increasing procedures that an organization possesses, and the rapidity by which an organization can implement these procedures. The flexibility-mix consists of three types of flexibility (see figure 2): operational flexibility, structural flexibility, and strategic flexibility (Ansoff & Brandenburg, 1971; Eppink, 1978; Volberda & Van der Stelt, 1988).

*Operational flexibility* or routine maneuvering capacity consists of routines that are based upon existing structures or goals of the organization. This most frequently occurring type of flexibility relates to the volume of activities rather than the kinds of activities undertaken within the organization. These routines are primarily directed at the operational activities and are reactive in nature. The time horizon involved is often short term. Even though the variety in the environment may be high, the sort of combinations is reasonably predictable so that the organization, on the basis of experience and extrapolation, is able to develop certain routines to reduce this uncertainty. An example of internal operational flexibility is the variation of production volume in the organization. Examples of external operational flexibility are the contracting out of certain peripheral activities or obtaining resources from more than one supplier.

*Structural flexibility* or adaptive maneuvering capacity refers to the capacity of the

	internal flexibility (I)	external flexibility (E)
Operational (R) flexibility	internal routine steering (IR)	external routine steering (ER)
structural (A) flexibility	internal adaptive steering (IA)	external adaptive steering (EA)
strategic (G) flexibility	internal goal steering (IG)	external goal steering (EG)

Figure 2: Forms of Flexibility

management to adapt the organization structure, and its decision and communication processes, to suit changing conditions, as well as the rapidity by which this can be accomplished (Krijnen, 1979). Examples of internal structural flexibility are the application of horizontal or vertical job enlargement, the creation of small production-units or work cells within a production line, or the transformation from a functional grouping to a market oriented grouping, with personnel and equipment that is interchangeable. Examples of external structural flexibility are forms of 'JIT-purchasing,' 'co-maakerschap,' 'co-design,' or even 'joint-ventures' and other co-alignments.

*Strategic flexibility* or non-routine steering capacity refers to procedures related to the goals of the organization or the environment (Aaker & Mascarenhas, 1984). This radical type of flexibility is much more qualitative and goes together with changes in the kind of organizational activities, such as the creation of new product market combinations (external strategic flexibility) or the application of a new technology (internal strategic flexibility). Strategic flexibility is, by definition, unstructured and non-routine; the scarce information is very 'soft' and fuzzy. Totally new values and norms are required and past experience is more of a disadvantage rather than an advantage (Newman et al., 1972). The creation of new activities in new situations has great importance.

Besides these three different types of flexibility, we can distinguish the *meta-flexibility* of an organization, that is, the supporting monitoring or learning system of the organization. Meta-flexibility involves the processing of information to facilitate the continual adjustment of the composition of the organization's flexibility-mix in line with changes in the environment. This requires the creation, integration and application of flexibility increasing procedures in a flexible way.

### 3.2 The Organization Task

The ability to initiate these flexibility increasing procedures is dependent upon the organizational conditions, namely the organization's technology, structure, and culture. These determine the volume and composition (operational, structural, strategic) of the flexibility-mix, and its limitations. The creation of specific organizational conditions constitutes the organization task. This second dimension of flexibility, namely the 'steerability' of the system, is an organizational task which involves

creating the appropriate organizational conditions necessary to effectively realize certain types of flexibility. Core aspects of this organization task are 'stability' and 'preservation'. These frequently neglected conditions are indispensable elements for the realization of flexibility (see Van Ham, Pauwe & Williams, 1987). Just as there cannot be differentiation without integration (Lawrence & Lorsh, 1967), similarly, there cannot be flexibility without some stability or preservation. Stability provides certainty for organizational members and preservation facilitates steerability or controllability of the organization.

In sum, this two-dimensional conception of flexibility creates a paradox: an organization must possess some procedures which enhance its potential flexibility to avoid becoming rigid, but it must also be anchored in some way in order to avoid chaos. There has to be a constructive tension (Kanter, 1983) between that which must be changed and that which is necessary to preserve. This anchoring can be a result of the identity or mission stemming from the organizational culture, the organizational structure, or the operational technology.

The *operational technology* refers to the hardware (means of transformation, like machinery and equipment) and the software (knowledge) by which and the configuration in which the organization transfers materials and/or information. The characteristics of the technology can range from routine to non-routine.

By the *organizational structure* is meant not only the actual distribution of responsibilities and authority among the organization's personnel, but also the planning and control systems and the processes of decision-making, coordination and execution. The former is related to the construction of the organization in functions and units (organizational form or 'Aufbau' [Kieser & Kubicek, 1978]). The latter is related to the organizational regulations of processes ('Ablauf'). The structure of the organization can range from mechanistic to organic (Burns & Stalker, 1961) corresponding to the opportunities for adaptive procedures.

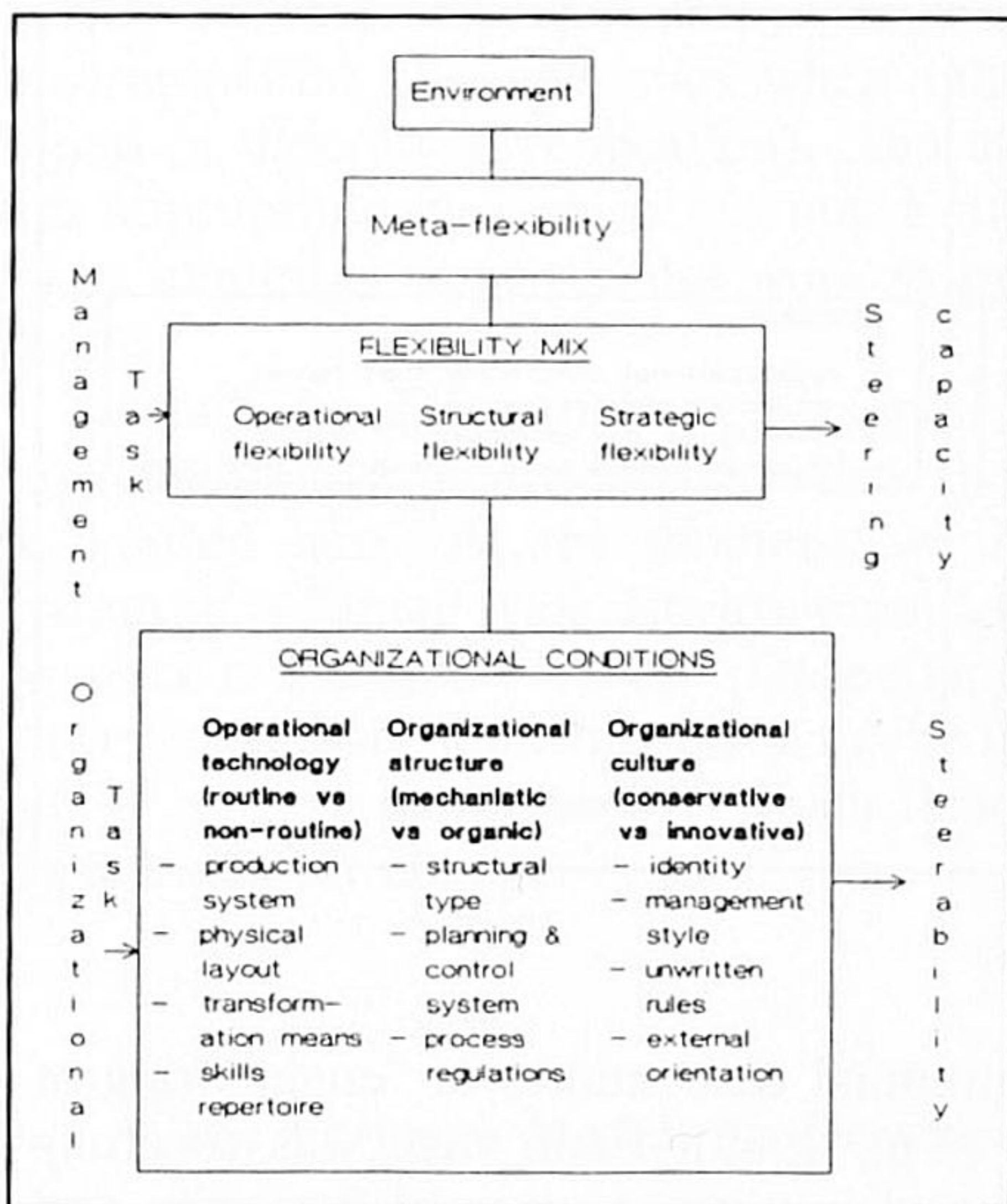


Figure 3: Conceptual Model of Organizational Flexibility

The *organizational culture* can be defined as the shared interpretations about the kind and usefulness of work and cooperation. It is the idea system of the organization, which is contained in the minds of the organization members (Hofstede, 1980). As a consequence, culture cannot be observed directly, but can only be felt. It can range from conservative to innovative depending upon the slack within the existing norms and value systems.

The management task (§ 3.1) and the organization task (§ 3.2) can be portrayed in the following conceptual model (see Figure 3). In this conceptual scheme the flexibility-mix represents the actual flexibility of the organization (extensiveness of steering capacity). Because of changes in the environment, the management must continuously change

the composition of the flexibility-mix in line with the environment. The preservation of this dynamic fit is called the meta-flexibility. The possibilities to implement these flexibility increasing procedures depend on the organizational conditions; they create the design limitations of the flexibility-mix.

## 4. The FAR Method

After developing the conceptual model, twenty-two interviews with management consultants were conducted in order to examine the process of diagnosing and improving flexibility and the organization of this process of change. The resulting clinical understanding of the change process was integrated in a process model (see Figure 4). Together with the conceptual model, the former activities resulted in a method for diagnosing flexibility and for guiding the transition process.

Subsequently, the method was applied in a multi-case longitudinal study, consisting of three different organizational units operating in different, changing environments, namely an administrative, a production, and a professional service unit. In each case we scanned the environment on three dimensions, namely dynamism (frequency and intensity of changes), complexity (number of factors and relatedness) and unpredictability (predictable, unpredictable as a consequence of ignorance of data, fundamentally unpredictable). The results were presented in a turbulence profile. We also measured the flexibility-mix, which resulted in a flexibility profile indicating the relevant types of flexibility. Finally, we measured the characteristics of the organizational conditions of flexibility, namely the organizational technology (routine/non-routine), the actual organizational structure (mechanistic/organic) and the specific idea-system or culture of the organizational unit (conservative/innovative).

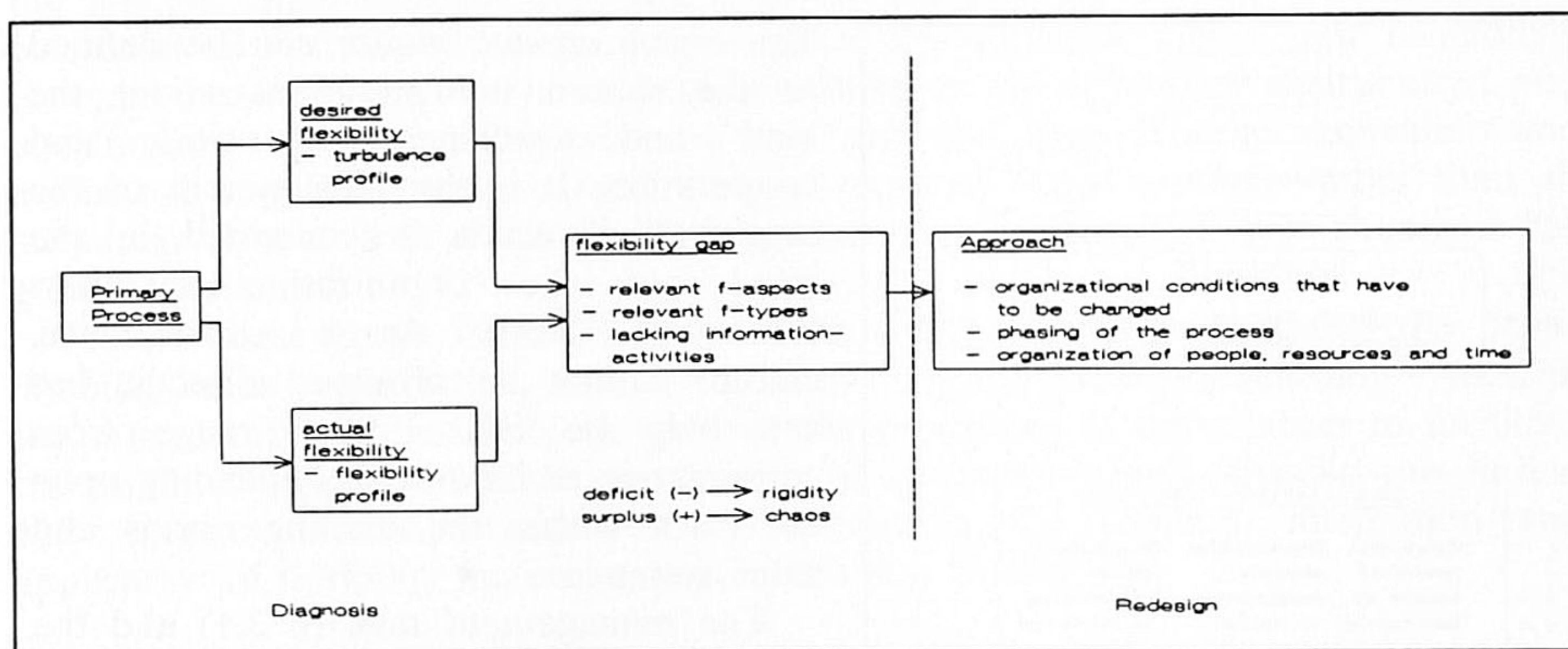
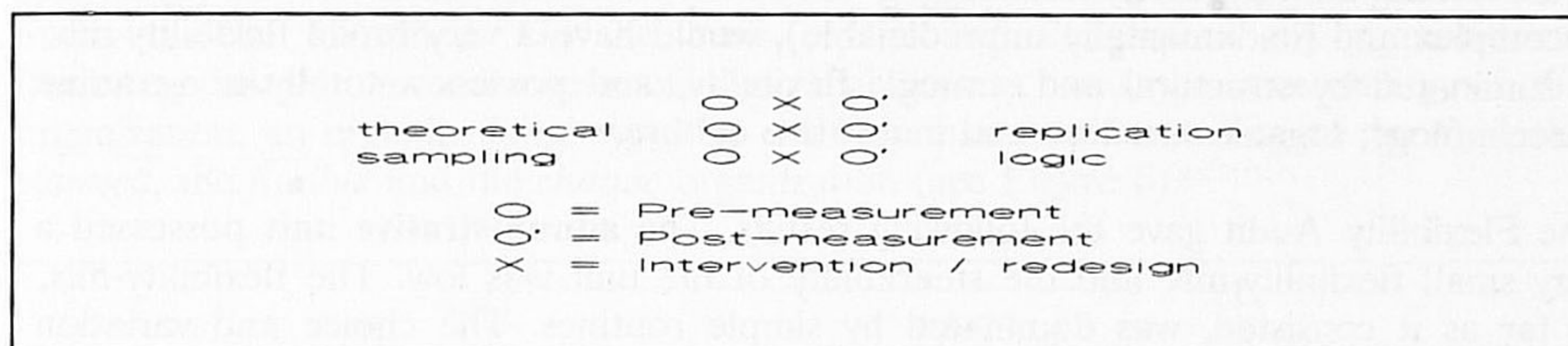


Figure 4: The Process Model of the FAR-Method

The logic underlying the use of multiple longitudinal case studies or "engineering of flexibility" experiments was a *replication logic* (Yin, 1989). Each case was carefully selected so that the use of the method, in terms of important types of flexibility and organizational aspects for redesign, either:

- a) predicted similar results (a literal replication), or
- b) produced contrary results but for predictable reasons (a theoretical replication)

Besides a variance approach comparing the three cases (differentiation between results), within the cases a longitudinal approach was applied by conducting a pre- and post-measurement. In Figure 5, using the notation of Campbell, the multi-case longitudinal study is illustrated.



*Figure 5: The Multi-Case Longitudinal Study*

The study relied on theoretical sampling instead of random sampling (Eisenhardt, 1989). Given the limited number of cases which could be studied, it made sense to choose cases such as extreme situations and polar types in which the process of interest is 'transparently' observable (Pettigrew, 1988). With respect to the outcomes of each longitudinal case, an important step in all of these replication procedures was the development of a rich empirical claim of the FAR method, consisting of propositions derived from the conceptual model (which type of flexibility is related to environmental characteristics and organizational conditions) and from the process model (trajectories for change). The claim stated under which organizational conditions and environmental characteristics certain flexibility types are likely to be found (a literal replication) as well as the organizational conditions and environmental characteristics when other types of flexibility are more likely to be found (a theoretical replication). And also, which trajectories for improving flexibility are appropriate and which are not. Furthermore, just as with experimental science, if some empirical cases did not work as predicted, modifications had to be made to the claims.

It would be going too far to describe in this paper which of the propositions were replicated and which were not. Also, the explanation of the measurement instruments is omitted here. At the moment, we have developed the first phase of an expert system in a "Small Talk Environment," that is, a knowledge-based system in order to conduct a Flexibility Audit (Gazendam, Rutges & Volberda, 1991). In this paper, however, we will limit ourselves to the description of the propositions of the variance model and process model which lead to an organizational typology and some trajectories for change.

## 5. The Variance Model: An Organizational Typology

On the basis of the conceptual model or variance model we predicted that:

- the administrative unit, formerly functioning in a relatively stable environment (static, simple and predictable), would have a very limited flexibility-mix and possess a routine technology, a mechanistic structure and a conservative culture.
- the production unit, formerly functioning in a reasonably turbulent environment (dynamic and/or complex, but largely predictable) would have a more extensive flexibility-mix, dominated by operational flexibility, and possess a more non-routine technology, a mechanistic structure and conservative culture
- the R&D unit, formerly functioning in a very turbulent environment (dynamic, complex and fundamentally unpredictable), would have a very broad flexibility-mix, dominated by structural and strategic flexibility, and possess a totally non-routine technology, organic structure and innovative culture.

The Flexibility Audit gave the following results. The **administrative unit** possessed a very small flexibility-mix and the steerability of the unit was low. The flexibility-mix, as far as it consisted, was dominated by simple routines. The choice and variation possibilities were limited; improvisation was a taboo in this unit. The mature technology, the functionalized and centralized structure with many hierarchical layers together with an monotonous and narrow-minded culture resulted in a fragile and vulnerable organization.

The **production unit** also had a limited flexibility-mix, but the composition was less limited than the administrative unit, and also the steerability was much higher. The flexibility-mix mainly consisted of specific rules and detailed procedures, which were very sophisticated and complex in nature. For every possible change the production unit had developed a certain routine (operational flexibility). Compared with the administrative unit the mix was much more sophisticated.

The rigidity of this organizational form was not as much a result of the primary structure, but more an outcome of the strong process regulations of the structure, like standardization, formalization and specialization, and very detailed planning and control systems. Also, the shared beliefs and assumptions as a part from the culture gave very little leeway for deviant interpretations of the environment. Dissonance with this idea-system was potentially threatening to the organization's integrity. As long as there were no changes outside the expected repertoire, the steerability of the production unit was high. However, if changes occurred, which were not calculated in the planning repertoire and were threatening to the shared idea-system, the unit resulted in '*strategic drift*'. By the notion of '*strategic drift*' is meant that consciously managed incremental changes do not necessarily succeed in keeping pace with environmental changes (Johnson, 1988). These kind of changes only result in further attempts to perfect the standardization mechanisms and basic beliefs and assumptions, which are the very sources of inertia. Consequently, slowness of response is characteristic of this organizational form.

The **R&D unit** possessed a very large and extensive flexibility-mix, but was totally unsteerable. In this organization the possibilities of variation were unlimited; there was no anchorage. There were innumerable initiatives for innovation, but it was impossible to implement them. Administrative structures and some 'shared values' in the culture were missing. A lack of administrative stability was caused by '*strategic neglect*' (Burgelman, 1983). '*Strategic neglect*' refers to the more or less deliberate tendency not to pay attention to the administrative structure of the organization. As a result, those emerging administrative problems deteriorated from petty and trivial to severe and disruptive. In his study of new internal corporate ventures Burgelman

concluded that this administrative instability is exacerbated by the fact that there is no strong orientation, and there is still a lot of opportunistic behavior on the part of some participants of the venture. The range of possible procedures is so extensive and large, that it is very hard to make a choice. The decision-making capacity of the management strongly reduces (Scott, 1965). Decisions are delayed, while the situation requires a direct decision.

The variance of the findings with respect to types of flexibility, organizational conditions and environmental characteristics suggests that different organizational forms can be identified. On the basis of the two dimensions of organizational flexibility, namely extensiveness of the flexibility-mix and the steerability of the organization, an organizational typology can be constructed consisting of the *rigid*, the *planned*, the *flexible* and the *chaotic* organization (see Figure 6).

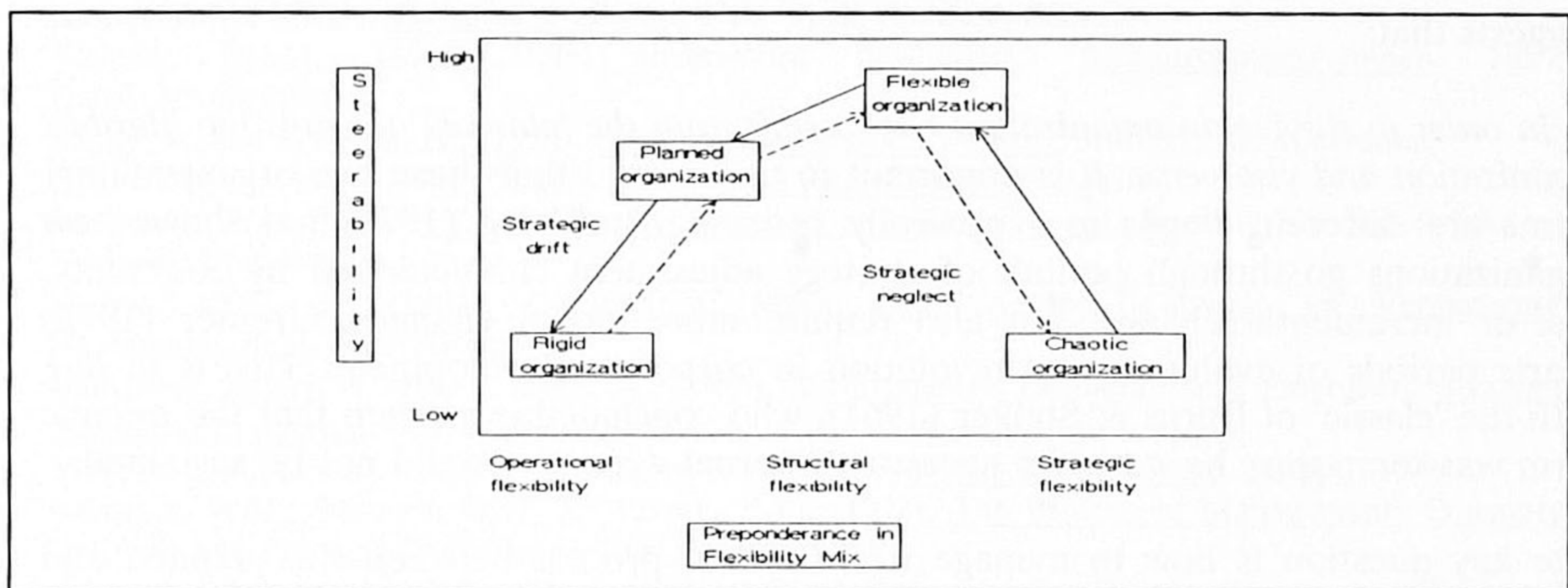


Figure 6: An Organizational Typology

The administrative unit fully corresponds with the rigid form, while the production unit resembles the planned form. In both cases there was a lack of structural and strategic flexibility caused by a preference of preservation over change. The R&D unit is similar to the chaotic form. The surplus of structural and strategic flexibility indicated a preference for change.

Our theoretical sample did not contain a flexible form because of the focus on engineering of flexibility in the FAR project. In this typology, however, the '*flexible organization*' possesses a large and rich flexibility-mix and the steerability is reasonable high. A variety of innovation stimuli can be observed and also implemented with some supple adoptions within the existing structure (Ansoff & Brandenburg, 1971). The paradox between change and institutionalization or preservation is well managed here.

## 6. The Process Model: Trajectories for Change

Besides distinguishing four organizational forms with respect to flexibility on the basis of the variance model, the findings of the process model suggest which trajectories for improving flexibility are appropriate and which are not (Cheah & Volberda, 1989). The major implications are that:

1) *The risks of the 'planned organization' is the transformation into the 'rigid organization' as a result of 'strategic drift.'* The surplus of operational flexibility of the production unit, consisting of simple routines, created inertia in the form of a very mechanistic structure and a very narrow focused culture. The growing resistance to 'deviant' interpretations of the environment reflected a tendency towards 'overbalance' of the production unit.

2) *The risk of the 'flexible organization' is turning into a 'chaotic organization', caused by 'strategic neglect.'* The surplus of structural and strategic flexibility of the R&D unit lead to unfocused actions, resulting in disconstructive ends. The lack of administrative structures and a sense of direction, shared beliefs and institutional leadership was characteristic of a tendency towards 'underbalance' of the R&D unit.

On the basis of the risks of strategic drift and strategic neglect, the process model suggests that:

3) *In order to survive an organization has to shift from the 'planned' towards the 'flexible' organization and visa-versa.* It is important to understand that these two organizational forms are different stages in a cyclically process. Mintzberg (1978) too shows how organizations go through periods of strategy adjustment characterized by continuity, flux or incremental change, but also require more global changes. Greiner (1972) charts periods of evolution and revolution in corporate development. This is in line with the 'classic' of Burns & Stalker (1961), who concluded even then that the organic form was temporary because the necessary internal dynamics could not be sustained.

The key question is how to manage this dialectic process between the planned and flexible modes and their corresponding organizational forms. The management of changes in organizational structure, culture and operational technology to produce the appropriate flexibility-mix is likely to become an increasingly important function as organizations begin to acquire a better understanding of the implications for organizational performance.

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