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**HOW FAR CAN INTERNAL MARKETS REPLACE OPERATING
PLANNING SYSTEMS?
– MARKET INTO HIERARCHY AS LAST RESORT –**

by

Erich Frese

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Prof. (em.) Dr. Erich Frese, University of Cologne, Department of Business Administration,
Albertus-Magnus-Platz, 50923 Köln, Germany, E-mail: frese@wiso.uni-koeln.de.

1 Introduction

2 Conceptual and theoretical foundations of the study

- 2.1 Perspective of organization design
- 2.2 Operating planning system
- 2.3 Non-hierarchical and hierarchical control

3 Operating planning systems in the light of coordination and motivation requirements

- 3.1 Basic design principles
- 3.2 Coordination and economies of overview
- 3.3 Motivation and the influence of trust

4 Internal markets as non-hierarchical control measures in planning systems

- 4.1 Design rationale of internal markets
- 4.2 Coordination and motivation effects of internal markets

5 Overcoming planning failures by building internal markets

- 5.1 Internal markets: Coping with deficiencies in information and trust
- 5.2 Fictitious internal markets: Exploiting the best-practice reservoir of the invisible hand
- 5.3 Real internal markets: Assigning allocation power to the invisible hand

6 Conclusions and directions for further research

Abstract

Despite long-lasting scholarly and managerial interest in the role that market elements can play in hierarchically structured firms, much of what we know about internal markets is still inadequate. Triggered by this insight the article investigates whether and why internal markets contribute to overcoming deficiencies in firms' plan-based control systems. Drawing from a theory of organization design the study focuses on the coordination and motivation requirements of operating planning systems and the manifestation of planning failures. The inquiry assumes a substitute relationship between plan-based and market-based devices. Referring to a principal-agent-framework, planning deficiencies in firms inspiring principals' particular interest on non-hierarchical governance structures are revealed. It is claimed that for the principal a low state of information on the given planning task or low trust in the competence and goodwill of the agents represent deficiencies of the planning system which set limits for the convincing solutions of the perceived problems in hierarchical monitoring. In this problem context the developed typology of planning failures allows to elaborate fields of application for internal markets. As a main result the article concludes that introducing internal markets often imply a radical change of firms' prevailing control system that must be valued as last resort in hierarchical control.

Introductory Remarks for the Reader

This paper inquires operating planning activities in situations where the principals perceive deficiencies in their task-oriented information and do not trust in the competence and goodwill of their agents. The question is raised whether the introduction of internal markets provides an approach to cope with these problems of control.

1. Theoretical foundation

Drawing from the theory of organization design the study focuses on coordination and motivation requirements. Coordination requirements are seen as task-oriented and result from the split of information caused by the interpersonal division of labor. Motivation requirements are seen as person-oriented and result from the tension between actors' individual goals and firms' superordinate goals.

2. Organization-theoretical description of markets and hierarchies

The paper assumes that in organizational systems with interpersonal division of labor markets and hierarchies are the basic features of control; they are described by referring to the constructs "actor", "transaction", "exchange of information" and "interdependences" (Fig. 1, Fig. 2 and Fig. 3). When the forms "hierarchical planning" (Fig. 2) and "internal markets" (Fig. 3) are compared, it becomes apparent that applying forms of market-control in firms means to simplify the considered hierarchical planning problem.

3. Planning failures

Planning failures are the core concept analysing the introduction of internal markets in the following sections. A typology of planning systems and of planning deficiencies (Exhibit 1) allows the conclusion that internal markets find managers' particular interest when they perceive extraordinary planning failures.

4. Forms, domains, and effects of internal markets

The undertaken inquiry of internal markets focuses on forms (fictitious and real markets), domains of application (primary and secondary value adding activities) and effects strived for (benchmarking and change effects).

Fictitious and real internal markets

Internal markets, aimed at exclusively generating motivation effects are called fictitious markets. When coordination effects aimed at allocating scarce internal resources in firms are strived for, real internal market are established.

Primary and secondary value adding activities

Primary value adding activities are transactions comprising value steps from upstream activities beginning with contacts to external suppliers and downstream activities ending with deliveries to external customers. Secondary value adding comprise transactions with external customers only to a limited extent; their main task is to ensure the effectiveness and efficiency of primary value adding activities.

Benchmarking and unfreezing effects

There are various approaches to overcome operative planning failures. The following inquiry focuses on internal markets striving for change effects.

1 INTRODUCTION

The study explores governance concepts aimed at introducing market elements into the hierarchical structure of firms. Examining this problem and trying to develop the state of theory raises first of all the crucial question about the existing deficiencies of the prevailing hierarchical planning system.

The building of comprehensive planning systems in firms marks an important stage in the development of modern management theory. In meeting the challenge of the emerging enterprises during the early phases of industrialization planning advanced as the cornerstone of ambitious management and became the distinctive feature of the firm. Therefore, improvements in management techniques for many years expressed itself in the development and implementation of more capable methods of coping with complex planning problems. The first engineering-based approaches of scientific management (Nelson 1980; Shenhay 1999), the management innovations of US companies in the first half of the last century (Chandler 1979; Johnson 1978), and the mathematical models of Operations Research (Whinston 1966) share the same goal of strengthening planning capabilities in methodological terms.

When such a paradigm of progress is positioned in the center of scholarly reasoning, disputes on the state of the discipline and on the prospects of new theories inevitably questioned the role of planning. Controversially debated are the benefits of planning when managers based on their practical experience try to appraise the effectiveness and efficiency of comprehensive corporate plans. It is revealing that objections to planning, criticizing both shortcomings as well as exaggerations, have been raised since the first corporate-planning systems were established in the US (Chandler 1965). *Daniel McCallum*, manager of the *Erie Railroad*, was early (1866) concerned about the merits of comprehensive, detailed planning (see McGraw 1988, pp. 6). Another example is *Donaldson Brown*, one of the architects of *General Motors's* planning system in the 1920s, who felt compelled to warn against bureaucratic tendencies (Brown 1927). These critiques of corporate-planning systems, deploring the “maladies” of bureaucracy (Ellig 2001, p. 229), continue to the present (see for critical surveys of the state of planning Huff/Reger 1987; Mintzberg 1992; Eliasson 1996; Bogsnes 2008).

The discussion on the limits of operating planning, arising early and still lasting, has led in managerial practice and scholarly research to a large number of proposals how to overcome the perceived planning failures. Most of them do not question the basic design rationale of the hierarchical operating planning system (see for example Bogsnes 2008). However, even in the early phases of the emergence of corporate planning managers saw in far reaching changes of the design rationale a solution for the perceived planning deficiencies. Particular consideration

found in this context the idea to transfer governance principles established in external markets into the firm. There are several historical examples demonstrating the application of such a principle of “market into hierarchy”. Worth mentioning is the phase of transition from manual to industrial production when the underdeveloped planning capability led managers to try the simple solution of the market by practicing “inside contracting” (see Buttrick 1952). The spread of market-based control concepts in US railway companies in the middle of the nineteenth century can be traced back to the same managerial beliefs about organizational effectiveness (Chandler 1952, p. 269). Managerial interest in transplanting market principles into firms continues unabated. In recent times, for instance, the rise of private providers in the European television market has spurred public broadcasting companies to implement internal markets to cope with increasing competition and extraordinary organizational problems (see Wegg-Prosser 1998 for Great Britain, Frese 2004 for Germany).

The assumed design benefits of simple and apparently effective market rules are reflected in a broad literature. Various strands of economic theory have scrutinized the mechanisms of markets and explained their genuine control attributes. Highly influential are constructs like “economizing on information” and “coordination without coordinator” pursuing an information processing view (see v. Hayek 1945; Nelson/Winter 1982). The metaphor “economizing on information” denotes that in markets only a limited amount of easily accessible information has to be acquired and processed because the price includes most of the information actors need. This argument is substantiated and elaborated from v. *Hayek* (1945). In a similar manner, *Simon* argues that there is a decoupling effect when prices are introduced as coordinating devices (Simon 1983, p. 89). These descriptions of the information function of markets put forth a large part of the positive evaluations of markets. Of particular importance for the organizational design perspective is the metaphor “coordination without coordinator,” which *Lindblom* (2001, p. 20) uses in reference to the famous “invisible hand” metaphor from *Adam Smith* (1937, p. 423). *Lindblom* subjects *Smith*’s often-cited principle to close scrutiny and identifies sequential problem solving combined with the universal principle of mutual adjustment as the focal organizational concept (Lindblom 2001, pp. 30).

The idea of utilizing the design potential of market does not only find its expression in establishing intrafirm price mechanisms – representing the object of the following inquiry. There are various approaches utilizing elements of the market governance in a selective manner in order to generate incentive and information effects in firms. The present state of research on penetrating hierarchy with market-based incentives is highly influenced by *Williamson*’s comparative analysis of “market” and “hierarchy” (*Williamson* 1985; 1991b) claiming that

markets provide high-powered and hierarchies low-powered incentives. The high power of market incentives is first of all traced back to the autonomy of the actors allowing the comprehensive covering of transactions and the assignment of the resulting monetary benefit to the responsible actors. Examples explored in the literature are “self-directed work teams” (Zenger/Hesterley 1997; Zenger 2002) or output-oriented incentive measures, such as “piece-rate employment” (Makadok/Coff 2009). Penetrating hierarchy with market information is aimed at fostering market-sensitive autonomous activities along the value chain. This concept found particular interest, when in the 1980s the challenge of global competition advanced the development of “new organizational forms” aimed at changing the distribution of market-relevant information in the firm (e.g., Badaracco 1988; Kanter 1989; du Gay/Salaman 1992; Magidson/Polcha 1992). When pursuing this design approach, the problem of market-averted units needs particular attention. On the one hand reorganizations reducing the number of market-averted units by practicing market-oriented business segmentation disaggregating large firms into small, autonomous units are suggested (for the state of research, see Zenger/Hesterley 1997; Hitt 1999; Schilling/Steensma 2001; Sahaym/Steensma/ Schilling 2007).¹ On the other hand an outsourcing of market-averted activities is recommended to come in closer contact with external suppliers and customers (see Venkatraman 1997; King 1995 and 2001).

Turning to internal markets, an extensive literature explores this form of market into hierarchy. Current theories and research activities spring from different scholarly ideas that have led to various strands of reasoning mainly in organization theory, accounting, and economics (for an overview, see McAulay/Tomkins 1992; Emmanuel/Otley/Merchant 1990; Spicer 1988).²

For many years literature on internal markets has been dominated by formal models aimed at ensuring the efficient allocation of resources in the firm through “optimal” prices. At the beginning of this research stands the idea to establish price mechanisms that turn corporations into miniature economies (Hirshleifer 1956). The progress in applying mathematical methods of operations research in the 1960s stimulated the elaboration of decentralized price-based procedures (Dantzig/Wolfe 1961; Hass 1968). The explicit modelling of agency problems (Amershi/Cheng 1900; Holmström/Tirole 1991; Vaysman 1998) gave research on transfer prices in accounting new importance. When the state of research in these fields is evaluated, it

¹ For disaggregating market-averted production activities, see Clark/Fujimoto 1991; Lei/Hitt/Goldhar 1996; Sanchez/Mahoney 1996)

² Micro-economic research has developed a construct entitled “internal markets” (Doeringer & Piore 1971; Williamson 1975) that does not use the term in the same way we do. Rather, “internal market” is a general label for the intra-firm allocation of labor and capital resources (e.g., Liebeskind 2000; Stein 2003).

turns out that a large part of the models are concerned with proving that a price guaranteeing optimal solutions does exist, not so much whether the market-based solution is superior to the plan-based solution (see Weitzman 1974 for an elaboration of these perspectives).

More important for the following inquiry are contributions reflecting, that management appraises internal markets as a promising way to overcome perceived limitations of planning. In forceful attacks on the bureaucratic excesses engaged proponents of internal markets make a plea for priced-based control (e.g., Ackoff 1993; Cowen/Parker 1997; Halal/Geranmayah/Pourdahnad 1993; Halal 1994; Magidson/Polcha 1992). Most of the recommendations for internal markets are derived from economic reasoning. On the one hand they are driven by the feeling that planning contingencies in a dramatic way set limits to control in large companies. In criticizing the “maladies” of bureaucracy (Ellig 2001, p. 229) usually a rather broad description of planning failures is given. On the other hand, there are firm beliefs based in the economic wisdom that markets will help, because “all truly vital economies have been market economies” (Ackoff 1993, p. 15)³ and that these principles also apply to firms (Halal 1994, p. 78). As a result, strong support is given for price-based exchanges in firms.

The foregoing review allows the conclusion that the multi-faceted research on internal markets addresses the organizational question whether and when managers are good advised to establish internal markets only to a limited degree. These limitations can first and foremost be traced back to the fact that the building of internal markets is seldom conceptualized and analyzed from the perspective of a comprehensive theory of organization design. A certain exception to this state is the work of *Eccles* (1985). When examining the impact of different strategies (vertical integration, diversification) on the setting of transfer prices, he raises genuine organizational questions. However, when and why internal markets can be qualified as a superior organizational form remains unsettled. Just as little to the appraisal of internal markets do inquiries contribute, which, by referring to subjective beliefs, assume in a rather undifferentiated manner the superiority of market solutions as given.

To improve the understanding of the role internal markets can play in firms the paper poses two research questions: (1) How can the construct of internal markets be integrated into an organizational model of operating control and (2) to what extend the elaborated control effects of internal markets contribute to the overcoming of the deficiencies of firms’ operating planning systems?

³ The economist *Thomas Marschak* claiming general validity articulates the following generalization: “a design using prices is superior to other possible design” (1987, p. 757).

The paper is structured as follows. After this introduction, the second part specifies the conceptual foundations of the inquiry: The use of the theory of organization design as methodical approach is explained, the structure and process of operating planning systems are described, and the differences between the forms of market and hierarchy governance are elaborated. The third part outlines the coordination and motivation requirements which form the basis for exposing planning failures. In the fourth part internal markets as non-hierarchical control complements in hierarchical planning systems aimed at overcoming planning deficiencies are introduced. The basic design principles of internal markets and the generated coordination and motivation effects are inquired. The fifth part reveals the role internal markets can play in firms and examines the fields of application – with the insight, that the range of applications is limited on situations where the principal faces a low state of task-oriented information and a distinctive lack of trust in the competence and goodwill of the agents severely hamper the exercise of hierarchical monitoring. Finally, conclusions are presented and directions for further research are inquired.

2 CONCEPTUAL AND THEORETICAL FOUNDATIONS OF THE STUDY

2.1 Perspective of organization design

Exploring the introduction of market elements into firms implies reviewing and evaluating theoretical concepts being highly influenced by economic reasoning. Therefore, it could seem likely to utilize for the present article an organization theory embedded in micro-economic constructs, especially in *Williamson's* (1975) transaction-costs theory. The micro-economic organization theory, an epistemological offspring of the neo-classical price theory, focuses on the existence of incentive conflicts in economic transactions that cause „costs of using the price mechanism“ (Coase 1937, p. 390). In line with this perspective, *Williamson* (1975) analyzes actors' opportunistic behavior as source of market failures and elaborates under what conditions firms more efficiently deal with incentive conflicts than do markets. The claim of micro-economic strands of organization theories, therefore, rests less on thoroughly inquiring about firms' organizational structures and more on explaining why firms exist. Just because the vertical and horizontal segmentation of tasks causes independently from incentive problems specific organizational requirements (see Foss 2000, pp. lii), the micro-economic view only offers a selective approach to organization design (see the critical review in Simon 1991). The present article pursues a broad organization design perspective, bundling design-relevant insights of theories from various disciplines, especially from decision theory (Marschak/Radner

1972), design theory (Simon 1965), management theory (Galbraith 1977), sociology (Thompson 1967), and psychology (Locke/Latham 2002). This design concept addresses the goal-oriented deployment of control instruments and focuses on means-end relations managers have to evaluate. Heuristics, coping with complexity play an essential role in this concept of design.

The following survey applies primarily the heuristic of modularization (Simon 1965; Baldwin/Clark 2000); two forms of modularization are utilized. The *first* modularization differentiates between the strategic and operating design view. Firms consider design as a strategic problem when organizational structures are explored, that enhance the development of a firm's future capabilities. They pursue an operating design view when structural solutions are developed that effectively exploit a given resource and market potential. This article considers control devices aimed at realizing operating effectiveness and efficiency. The *second* modularization being widely adopted in organization theory distinguishes between measures of coordination and motivation (see Thompson 1967; Galbraith 1977; Milgrom/Roberts 1992; Austin 1996; Frese/Graumann/Talaulicar/Theuvsen 2019). Coordination is defined as a task-oriented activity aimed at overcoming the split-up of information in systems with interpersonal division of labor. In fading out the motivation requirement the coordination perspective pursues a selective view on organization design issues (see Marschak/Radner 1972). Solving the coordination problem means implementing rules for retrieving, transmitting, and processing information to ensure that the interpersonal separation of information activities and the existence of horizontal interdependencies (Thompson 1967, pp. 54) are adequately considered. Activities of actors *A* and *B* are interdependent when the contribution of *A* to the firm's goals depends on the activities of *B*. A resource interdependency exists for example, when actor *A* and actor *B* utilize the same scarce resources. Motivation activities are person-oriented devices addressing the problem of commitment in view of the tension between individuals' personal goals and the overall goals of the firm (Locke/Latham 2002). Decomposing the overall design problem in coordination and motivation sub problems allows in a first step to derive solutions independently from each other. In a second step trade-offs between the solutions are considered. The present article does not review the iteration process in detail. As far as the iteration is addressed the inquiry views motivational instruments as supplemental measures creating economic benefits if based on effective coordination.

The outlined theory constituting the basis of the following inquiry pursues a task-oriented approach focusing on contextual factors like the state of information and trust. Less attention is paid to the examination of managers' subjective preferences for organizational measures, in our

study for internal markets. It would go beyond the scope of the present article when, for example, the cognitive theory of interactive complexity (Streufert/Streufert 1978, Suedfeld/Tetlock/Streufert 1992) addressing planning processes in firms and assigning a central position to the construct of market-ideological orientations would be incorporated in the study.

2.2 Operating planning system

Operating planning systems strive on the methodological basis of the analytical decision theory to exploit firms' given market and resource potential. They involve two tasks to realize organizational goals: First, management has to ensure the effectiveness and efficiency of the human and physical infrastructure of the firm (e.g., measures of personnel development). Second, the ongoing added-value activities have to be configured in a manner that ensures the effective and efficient use of the infrastructure (e.g., distributing scarce production capacities among business units). The following inquiry takes the infrastructure as given and focuses on primary and secondary added-value activities. Primary, added-value activities are defined as delivering directly value for external customers. To meet the space restrictions of this article the following sections explore traditional manufacturing firms that sequentially transform physical inputs into products (long-linked technology, according to Thompson 1967). Secondary, added-value activities ensure the effectiveness and efficiency of primary-added-value activities. One example are internal services granting know-how to ensure the planning of business units.

2.3 Non-hierarchical and hierarchical control

An inquiry aimed at exploring to what extent the design concept of internal markets can address the deficiencies of firms' planning systems can refer to an impressive body of literature pursuing a variety of theoretical frameworks. As a consequence, terminological ambiguity exists with many terms. This is even true for the "market" holding a prominent and central position in both scholarly discourses and in practice (see the overview in Hodgson 1988, pp. 172; Swedberg 1994). Whereas the definition of hierarchy will likely mean the same to most scholars because of the widely shared graph-theoretical features of asymmetric and transitivity relations (Radner 1992, p. 1390; Miller 1992, p. 16), and the plan is widely understood as an instrument to exert hierarchical influence („non-market means of coordination and commitment“, Rumelt/Schendel/Teece 1991, p. 19), there is by no means consensus on the meaning of the "firm" (see the overview in Hodgson 1988, pp. 194; Miller 1992, pp. 3).

This article considers markets and firms as constructs governing the interactions between actors (e.g., the exchange of information) aimed at coping with transactions, mostly defined as physical operations (e.g., the delivery of material from steel mills to ship yards; see Hodgson 1988, pp. 148). Market and firm differ in the evolving interactions. In (pure) markets governance has a non-hierarchical character; the core concept is governance by prices (see Marschak 1987). Autonomous actors fuelled by individual motives and judgements pursue personal goals without prescribing others' actions. They can only try to influence other actors' goal-oriented behavior by defining the modalities of the service offered, especially by setting prices. Under this regime activities result from actors' individual perceptions of the environmental context and their autonomous problem-solving activities. Different to markets, in firms the core concept is governance by plan. That means, exercising hierarchical influence in order to attain the individual goals of the actors. Establishing hierarchies implies the introduction of an inter-individual dimension into the interactions. Actors agree on overarching goals (e.g., increasing overall monetary performance) in addition to their personal goals. In the place of autonomous, individual goal seeking hierarchically imposed mandatory rules for interactions define control requirements. These binding prescriptions restricting discretionary individual acting find their concise expression in plans encompassing the entire firm.

The foregoing conceptual elaboration allows the conclusion that the shape of interactions in markets and hierarchies differs in the structure of the *action domain* and the *pattern of interaction*. The most-important feature of the action domain is the degree of autonomy, defining the range of discretion granted to the actors (Hackman/Oldham 1980). The pattern of interaction describes the interplay between actor *A* and actor *B* comprising information and decision activities.

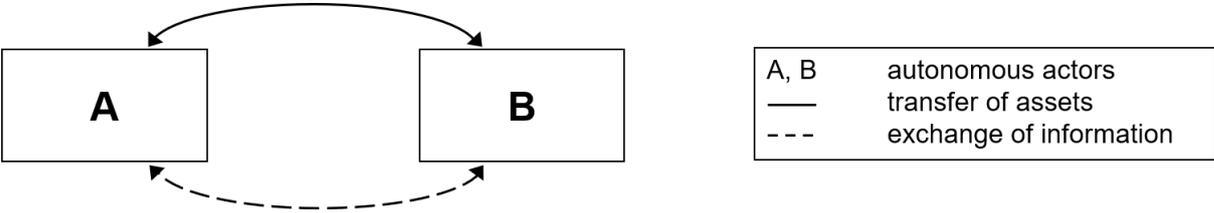


Figure 1: Organizational model of markets

In the market model (Figure 1) action domain and interaction pattern are characterized by a pronounced degree of autonomy. All interactions are performed to assure congruence with the personal goals of the actors. Information activities are the most-important category dominating two groups of interactions (for a broader classification, see Dahlman 1979). On the one side, A

(B) transmits information to B (A) addressing the availability of resources, or A (B) strives to get information on the potential resource demand of B (A). On the other side, information activities are parts of negotiation processes, where A (B) tries to influence the transaction behavior of B (A) for his interest.

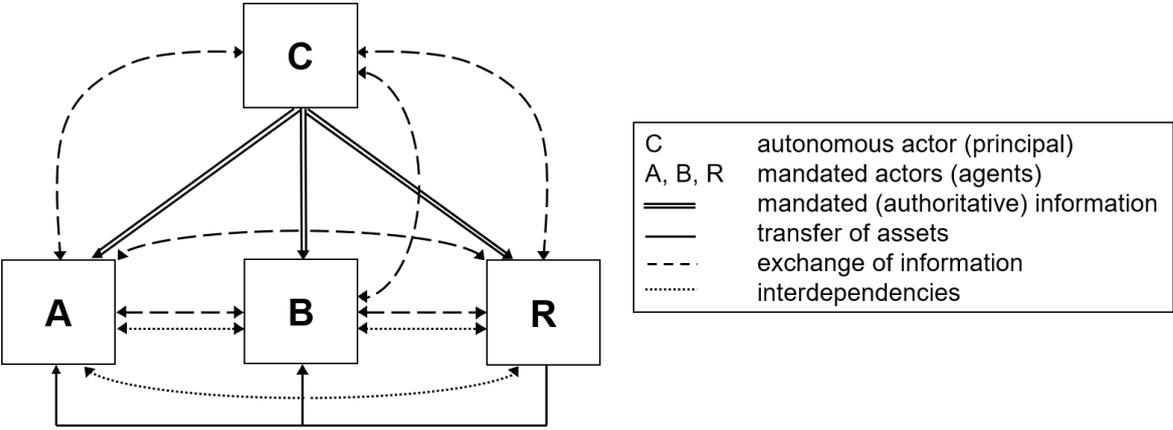


Figure 2: Pattern of plan-based control in firms

In the firm model (Figure 2) the very introduction of the autonomous actor *C*, the principal, exerting hierarchical influence on the business units *A*, *B* and the service unit *R*, the agents, through authoritative instructions implies a fundamental change in the pattern of interaction. *C* constrains *A*'s, *B*'s and *R*'s autonomy and restrains the pattern of interaction. Introducing the hierarchical actor has consequences for motivation and for coordination. As far as *motivation* is concerned, *A*, *B* and *R* have to put aside their personal goals to conform to collective ones. The divergence between personal and collective goals marks the fundamental difference between the hierarchical model and the market model; it constitutes a motivation problem that does not exist in the market model. Coping with this problem is a challenging task, because *C* cannot constrain the actions of *A*, *B* and *R* in a way that leaves no discretionary space, otherwise the premise of interpersonal division of labor would be abolished (Marschak/Radner 1972; Radner 1992, p. 1404). As far as *coordination* is concerned, the very fact that the information and decision activities are assigned to different agents causes interdependencies and thus the need for coordination, regardless of whether *A*, *B* and *R* accept the collective goal without reservation or not (see in detail the team theoretic model of Marschak and Radner (1972)). In making decisions, every agent has to consider whether and how the action-relevant situation is changed for other agents as a consequence. To take these coordination requirements into account means to pursue a perspective comprising the activities of *A*, *B* and *R* alike. Only *C*, being an individual person or a group comprising *A*, *B* and *R* can assure this requirement by

building a planning system that defines mandatory action rules aimed at achieving the collective, overarching goal.

3 OPERATING PLANNING SYSTEMS IN THE LIGHT OF COORDINATION AND MOTIVATION REQUIREMENTS

3.1 Basic design principles

Restricting action domains and interaction pattern in firms implies the formulation of hierarchical specifications („decision premises“, according to Simon 1957, p. xxxii) that frame the actions of *A* and *B* toward the situation (resources, markets) to be considered, the procedure to be applied, and the outcome to be strived for. The firm-wide hierarchical planning system provides the control structure to assure that the activities conform to the overall goals of the firm. The control principles of the planning system can be elaborated in reference to the model described in Figure 2, where *C* directs and monitors the activities of *A* and *R*. Though *C* is in charge of managing the planning process, because of the split-up of information in the firm all units are more or less involved in joint information activities.

The planning system has to fulfill two basic requirements. *First*, planning must be responsive to external needs. However, the dynamic of markets and the given capacity for information processing set limits to the realization of this principle. Therefore, parts of the internal value-adding activities are separated from the external market. This separation principle (building an internal core, according to Thompson 1967, pp. 19) explains why firms consist of market-committed (outside-oriented) and market-averted (inside-oriented) units. Both units differ in their goal structure. While market-committed units consider the cost and revenue effects of their value-adding activities, market-averted units only take account of cost-oriented subgoals, thus neglecting revenues. *Second*, to handle complexity the planning system must be decomposed into “*C*-planning” and “*A/B*-planning”.⁴ The *C*-planning defines firm-wide plan objectives and sets the discretionary framework for the *A/B*-planning. The planning tasks for *A* and *B*, being to a certain degree decoupled from the *C*-perspective, imply two goals: (1) *A* and *B* have to assure jointly that cooperative activities with a unit-spanning view consider existing interdependencies (cooperative *A/B*-planning) and (2) *A* and *B*, both separately and with an unit-focused view, strive for the efficient use of the assigned resources (self-contained *A/B*-

⁴ To separate activities in this manner is a widely adopted principle in planning literature. See Anthony and Govindarajan (1995), who distinguish between “management control” and “operational control”.

planning). To design organizational forms supporting the fulfillment of these goals, the *C*- and *A/B*-perspective must be subjected to a coordination-related and a motivation-related analysis.

3.2 Coordination and economies of overview

The key features of plan-based coordination can be exemplified in the case where *A* and *B* use the scarce capacity of a marketing-research unit (*R*) of a firm to substantiate their marketing decisions.⁵ Solving this control problem by planning (see Figure 2) means first of all considering resource interdependencies between *A*, *B* and *R*. In principle, to fulfill this coordination task, all units (*C*, *A*, *B* and *R*) work forward the overall goals of the firm.

C-planning coordination ensures that economies of overview are realized, which lead to more comprehensive planning. *Economies of overview* imply positive effects resulting from exploiting *C*'s wide-ranging information and his or her comprehensive view of interactions (see Mintzberg 1979, pp. 181). Striving for such an effect implies the tendency to prescribe activities (plan objectives) as fine as possible. The more detailed the plan specifications for *A* and *B* are the fewer is the number of decisions that have to be made on site, where information about interdependencies is limited. The increased "fineness of information structure" (Marschak/Radner 1972, pp. 45) allows considering additional interdependencies and, thus, improving coordination.

The essential coordination requirements for *A/B-planning* result from the fact that the *C*-planning only sets the framework and gives leeway for cooperative and self-contained planning activities on behalf of *A* and *B*. Unit-spanning cooperative planning considers overview effects and assigns a crucial role to coordinating interdependencies (e.g., using the scarce resources of an internal service unit). Unit-focused self-contained planning strives for the efficient use of resources (e.g., ensuring cost efficiency of a production unit).

3.3 Motivation and the influence of trust

Different from the foundation of coordination measures, which draw on general, widely accepted principles of the analytical decision theory, the state of motivation theory represents a complex of fragmented concepts (for an overview, see Mitchell/Daniels 2002). Implementing motivational measures in practice, therefore, often relies on acting managers' own beliefs about institutionalized solutions (Powell/DiMaggio 1991) or subjective theories (Argyris 2003). The

⁵ It is assumed that firms' boundaries are strategically defined and given. *A* and *B* do not decide on outsourcing; using the intra-firm resource capabilities is valued as a source of competitive advantage.

space restrictions of this article exclude a broader discussion of this basic design problem. The inquiry considers the design requirements of close *C*-planning in the context of a discretionary *A/B*-planning and refers to motivation concepts based on theories of goal setting and mutual trust.

The goal-setting model, as developed from *Locke* and *Latham* (Locke 2001; Locke/Latham 2002), provides insights into the motivational requirements of *C*-planning; it assigns focal importance to the constructs of plan acceptance and goal-oriented discretionary task behavior. According to *Locke* and *Latham* the degree of commitment to the plan depends on how *A* and *B* perceive the importance of the targeted goals and on their perceived capability to realize these targets. Goals, which are specific and demanding, are claimed to exert positive effects on the degree of goal attainment. In so far, the motivation-oriented proposition of detailed *C*-planning is in accordance with the elaborated coordination economies of overview. However, in dynamic task situations hampering detailed *C*-planning and urging to grant discretionary behavior the *Locke-Latham* model offers only limited insights how to design motivation measures. Viewed from this perspective one of the salient deficiencies of the prevalent planning systems has to be seen in *C*'s propensity to overrate her or his planning capabilities, leading to over-planning and excessive detailedness. As a consequence, discretionary *A/B*-planning is impaired because rigid budgeting reduces autonomy. This tendency interferes with plan acceptance because continuous revisions raise doubts about the validity of plan figures.

For managers facing dynamic task environments, the complexity of planning limits a comprehensive analytical covering of firms' activities. Under these conditions, granting *A/B*-planning autonomy and at the same time controlling discretionary behavior are both at odds and challenge the conventional organizational design of planning systems. When trying to solve this problem the construct of trust plays a pivotal role (see for the state of theory Kramer/Lewicki 2010 and for practical experience Hope/Fraser 2003; Hope/Bunce/Röösli 2011, pp. 121). Trust as confidence in *A*'s and *B*'s task competence and goodwill (Ring/Van de Ven 1992; for an overview, see Bachmann/Zaheer 2006) comprises positive expectations regarding *A*'s and *B*'s behavior. In the case of given mutual trust granting autonomy and loosening hierarchical control will be a low-risk design option. Under low-trust conditions, however, *C* has to examine which motivation devices can ensure the hierarchical monitoring of complex *A/B*-planning.

4 INTERNAL MARKETS AS NON-HIERARCHICAL CONTROL MEASURES IN PLANNING SYSTEMS

This part explores the coordination and motivation effects of internal markets in situations where managers believe that the prevalent principles of planning do not offer convincing solutions for the perceived problems of hierarchical monitoring.

4.1 Design rationale of internal markets

Internal markets are complementary constructs established in hierarchical planning systems with complex monitoring tasks to ensure the alignment of *A*'s and *B*'s discretionary activities with the overall goals of the firm. Due to the fact that internal markets are hierarchically embedded, action domain and goal structure take a specific shape.

As far as the action domain is concerned, there is no internal market encompassing the entire firm. The objects of design are always selected *A/B*-activities, for example using the scarce capacities of the service unit. Under this limiting design principle autonomy depends on vertical and horizontal decoupling effects. Vertical decoupling results from the global nature of the *C*-planning, which only coarsely defines activities for *A* and *B*. Horizontal decoupling results from neglecting horizontal interdependencies by introducing internal prices as coordination devices (for solutions in practice, see Tang 1993). To elaborate the goal structure of internal markets, the difference between outcome-oriented and procedure-oriented control (Thompson 1967; Ouchi 1979) and the degree of existing information asymmetry (Hart/Holmström 1987) have to be considered. Under high information asymmetry, procedure-based control becomes less effective and outcome orientation gains importance. This results from the fact that outcome control allows *C* to simplify planning by substituting specifications of procedure (e.g., how to use advertising instruments) with specifications of outcomes (e.g., prescribing monetary performance). When dealing with complex planning problems, *A* and *B* often have a higher amount of information about factors relevant for the problem considered than has *C*. Therefore, seeking to practice control in situations of pronounced information asymmetry by prescribing procedures may provoke objections from *A* and *B*, who might argue (with good reasons) that *C*'s prescription is unfounded and unfeasible. When outcome objectives are taken into consideration, *C* is in a stronger position for two reasons: (1) In most task situations, *C* has more precise ideas about the desired state of outcomes than about the procedures required to realize them – though *C* might know little about a salesman's work, he or she may be able to define a desired outcome, such as the volume of sales. Even if the sales goal is unrealistic, it may nevertheless focus task-related activities, strengthen *A*'s and *B*'s self-control and give their

actions a clear direction (for various outcome prescriptions, especially physical ones, see McAuley/Tomkins 1992, pp. 106; McKinnon/Bruns 1992; Simons 1995). (2) Describing outcome often means referring to benchmarking norms. Setting outcome figures, which consider best practice of firms ranked to be successful, often is more promising than prescribing procedures. When *C* uses an outcome approach that includes market-standard return on investments targets and monetary performance criteria, it is more difficult for *A* and *B* to reject *C*'s outcome specification. Therefore, practicing benchmarking based on outcome is often more feasible than is benchmarking based on procedures.

The following inquiry of the coordination and motivation effects generated by internal markets differentiates between real and fictitious markets (Frese/Graumann/Talaulicar/Theuvsen 2019, pp. 237; see also Cooper 1995, pp. 283, for a similar differentiation). The purpose of this distinction can be easily conveyed when an important difference in the practical use of internal markets is considered. All internal markets exert motivation effects by their very existence; but not all internal markets fulfil coordination functions. Internal markets being established only for motivation intentions are called "fictitious". When coordination effects are intended the market is called "real". In real internal markets, for example in the case of a price-based distribution of services offered by an internal marketing centre to the business units, prices perform an allocation function governing the transaction of resources. In fictitious markets relations between internal "buyers" and "sellers" are only staged to generate motivation effects by exerting market pressure at the *A/B*-level. The units involved in a fictitious market do not determine the allocation of resources; the coordination task remains with the planning system.⁶ Internal prices are only set to assess units' monetary performance figures for motivational reasons.

4.2 Coordination and motivation effects of internal markets

The suspension of overview effects by conceding departmental self-containment can be indicated as the critical control effect of internal markets. Self-containment results from vertical and horizontal decoupling and from installing departmental monetary performance measures. Both design measures imply the attenuation of the overall goal perspective. This far-reaching change becomes apparent when, for example, the distribution of scarce internal marketing-research services, provided by unit *R*, depends on the departmental margins of the business units *A* and *B*. Under the rule of plan-based control (Figure 2) all units jointly strive for the

⁶ See for a design approach separating the coordination and motivation function of price-based control (dual transfer pricing) Eccles 1985 and Kaplan/Atkinson 1989.

overall goal of the firm. When the rule of price-based control is practiced, as described in Figure 3, the units as semi-autonomous agents separately realize their departmental monetary performance.

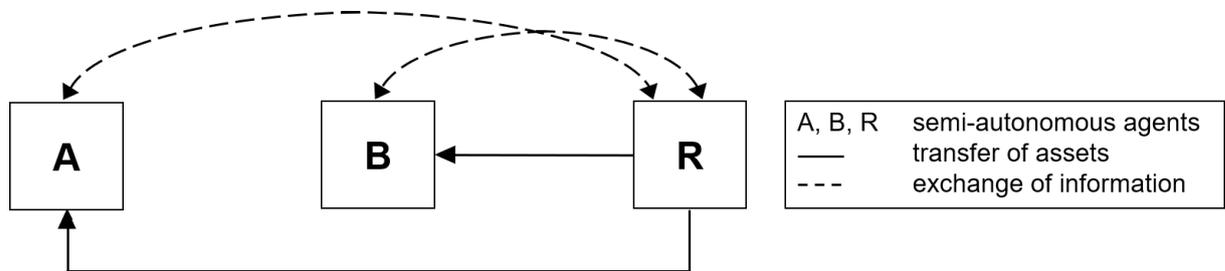


Figure 3: Pattern of price-based control in firms

For the coordination requirements the problematic consequences of such a simplification of the control problem can be revealed in the case where the considered business units face different strategic requirements. The business unit *A* may be responsible for launching a new product still exhibiting a low profit margin, while the business *B* is in charge of a product already established in the market with a high margin. The margin-oriented allocation on (real) internal markets cannot take into account that a new product with a low profit margin has a high need for information. This strategic blindness is the elementary coordination weakness of internal markets.

Scholarly efforts to develop the theoretical underpinning of the motivation effects of internal markets utilize different strands of research (for an economic view, see Hennart 1993 and Austin 1996, for a management view, Merchant 1989 and Eccles 1991). Theoretical appraisals and empirical evidence value the degree of self-containment granting autonomy, whether real or fictitious, as the salient motivational attribute of internal markets (see McAulay/Tomkins 1992, pp. 106; Osterloh/Frey 2000; Egelhoff/Frese 2009; Egelhoff/Frese 2011). When pay-for-performance (see Rynes/Gerhart/Parks 2005) is practiced and personal income goals tend to substitute the goals of the firm, self-containment is even more pronounced. The motivational effects, both of real and fictitious internal markets⁷, are unit-focused. Autonomously striving for units' monetary performance motivates primarily to a careful use of the given resources: *A* and *B* will examine whether the offered service contributes to the quality of the marketing decisions ("information value", according to Marschak/ Radner 1972) and *R* will produce the

⁷ Assuming the same motivation effects means to draw a rather simplified comparison. Further inquiries, which cannot be conducted in this article, are needed to examine whether real internal markets, also encompassing allocation activities, generate stronger motivation effects than fictitious markets only providing benchmarking activities.

offered services in a cost-efficient manner. Cooperative behavior is not induced; instead, the enhanced motivation effects mainly strengthen cost-oriented self-contained *A/B*-planning. While the foregoing analysis of the autonomy effect emphasizes the perspective of *A* and *B*, for *C* the construct of departmental monetary performance provides an attention-directing mechanism fostering the disclosure and perception of problems. However, the comparatively simplicity of this control indicator implies a rather constrained informative content. Plan-based indicators showing deviations from plan allowances generate strong signals. Carefully documented plans allow a step-wise comparison of targeted and realized performance results leading to the source of the problem. Price-based indicators are weaker; even in the case of negative performance figures poor task performance cannot readily assumed.

5 OVERCOMING PLANNING FAILURES BY BUILDING INTERNAL MARKETS

For internal markets, in principle, the field of application is wide. By introducing internal prices as revenue surrogates, the task behavior of any business unit can be measured by the monetary performance realized. However, building internal markets implies such a radical simplification of the considered planning problem that alone this fact calls for a restrictive and well-founded use of this construct. This is especially the case when real internal markets are considered. There can be no doubt that establishing internal markets is only one measure among others to deal with existing planning failures. Notwithstanding, a detailed elaboration and differentiated evaluation of the whole spectrum of design alternatives go beyond the scope of the present paper.

5.1 Internal markets: Coping with deficiencies in information and trust

Internal markets come into play as control complements when plan-based hierarchical control reaches its limits and the prevailing planning activities do not meet the aspired level of the superordinate goal strived for in the firm. How can internal markets contribute to discovering and overcoming these planning failures? This section develops a typology of workable and deficient planning systems that allows elaborating the different control conditions which define *C*'s tasks of hierarchical monitoring. The inquiry utilizes a framework resting on two main assumptions. First, *C* ("principal") and *A/B* ("agents") differ in the state of information on their task requirements (information perspective). Second, agents differ in the degree of goodwill and competence devoted to the realization of the principal's goals (trust perspective).

In the following typology describing planning requirements and planning failures, the interplay between information and trust takes center of the analysis (see Exhibit 1). A planning system is called workable when based on a valid data analysis comprehensive and detailed plan allowances are revealed. When these conditions are not adequately fulfilled, the planning system exhibits deficiencies which in the following are traced back to *C*'s low state of information on solving planning problems and on her or his low trust in the task competence and goodwill of *A* and *B*. Though the prevailing organization design literature pays increasingly interest in the role of information (e.g., Austin 1996) and trust (e.g., Kramer/Lewicki 2010), the interplay between these constructs is less considered (see in this context the discussion on the state of planning in Hope/Fraser 2003; Bogsnes 2008; Hope/Bunce/Röösli 2011). The work of Adler (2001) constitutes a remarkable exception from this wide-spread negligence of the interaction effects.

The information aspect focuses on *C*'s knowledge of the planning task comprising the methodical quests of planning (e.g., methods of anticipating market trends) and the data requirements of the action domain (e.g., capacity and flexibility of the prevalent production equipment). The trust aspect encloses with the principal's appraisal of the agent's competence and goodwill two different factors.

As Exhibit 1 shows the introduction of different states of information and trust allows to differentiate between four types of planning systems and planning failures. Type I and Type II describe workable planning systems. In these types *C* plays an active part in planning.

In the case of Type I monitoring is practiced based on enabled cooperation. There is only a low need to control planning failures. *C* and *A/B* jointly use their respective high state of information to solve the planning problem under a low need for hierarchical intervention. The theoretical grounding of this type refers to the work of *Adler* and *Borys* (Adler/Borys 1996; Adler 2001) who in their inquiry reveal the influence of different degrees of mutual trust on the operating planning system. For the case of high trust, they elaborate the principle of shared control which is embedded in commitment and empowerment. This form of "*enabled budgeting*" mainly unfolds planning activities at the *A/B*-level.

The case of Type III embraces the problem that *C* owns a low state of information about the *A/B*-level, while *A* and *B* exhibits a high state of competence and goodwill. Therefore, the planning activities are with the consequence of a low need for hierarchical interventions primarily assigned to *A* and *B*. This structure is especially justified as *C* can rely on *A*'s and *B*'s capability and willingness to pursue the overall goal of the firm. When the role of internal markets in this problem context is debated one can expect, if at all, arguments for "light versions" of market solutions. At best, fictitious solutions being based on benchmarking approaches will come into consideration. Notwithstanding the given trust relations *C* has to be aware that the truthfulness of *A* and *B* cannot indefinitely taken for granted. From time to time a watchful eye on the *A/B*-level is essential. However, one has to keep in mind that interventions from *C* aimed at reviewing selected aspects of the planning system are critical undertakings. On the one hand *C* will have problems to make sound judgements. On the other hand, *A* and *B* could interpret the control activities from *C* as an act of no-confidence. Considering these problems, the introduction of fictitious internal markets could be valued as an approach avoiding or diminishing these negative effects. The disclosure of departmental performance figures and the recourse to the best-practice potential of markets may open a way for a cooperative handling of the planning failure.

Type IV covers the extraordinary situation that *C* exhibits information deficiencies and assumes that both *A* and *B* face a lack in goodwill and competence. Therefore, neither *C* nor *A/B* can contribute in a remarkable manner to the solution of the planning problem. Under these extreme conditions when in an opportunistic manner *C* "uses any possible means to bring his unit under control" (Mintzberg 1994, p. 13), non-hierarchical, market-based approaches may represent the last resort of control. As an extreme example of this type the situation can be mentioned that resulting from widespread global restructurings of markets and technologies the hitherto existing knowledge in control becomes mostly obsolete. Under these requirements the recourse to best-practice principles are subject of particular considerations. As an example, new concepts of cost accounting (see Atkinson/Banker/Kaplan/Young 2001) show that much is possible that so far was appraised as infeasible. This development questions practised beliefs and principles and urgently requires a "new view on old certainties" (March 1991). The plan-based problem indicators generated by Type IV can only to a limited degree foster the establishment and practising of such new views. Considering these issues, the question has to be raised whether market-based indicators can be valued as being able to deal with the elaborated problems of Type IV. When the distinctive features, especially, the existence of

critical deficits both on the side of principals and agents is considered the introduction of fictitious markets appears to be questionable. In contrast to the solution of fictitious markets the recourse on real internal markets could fulfil the revealed control requirements to a higher degree. Establishing real internal markets would mean that no longer principals and agents with deficits in information and trust were in charge of the control tasks; the invisible hand of the internal market would take over responsibility. The transition from fictitious internal markets to real ones would mean to increase the market orientation of internal structures and processes. Fictitious internal markets expose the actors with market-based best practice information. The aim is to trigger an analysis of the existing value-added activities. Real internal markets exceed the best-practice approach of fictitious internal markets; they take on the responsibility for a part of managing the value chain activities.

The following two sections investigate to what extent fictitious and real internal markets can contribute to master the planning failures existing in planning systems of Type III and IV.

5.2 Fictitious internal markets: Exploiting the best-practice reservoir of the invisible hand

The foregoing inquiry of Type III derives the building of fictitious internal markets from a planning situation where the principal faces deficits in information but has confidence in the competence and goodwill of the agents. Under these restrictions market-based best-practice constructs take over the task of problem indicators. To clarify the practicability of the indicator three questions, have to be answered. 1. Which features of the value-chain does the indicator measure? 2. Does the indicator provide a heuristic facilitating the identification and localization of planning failures? 3. To what degree does the indicator foster the acceptance of the monitoring measures by the agents?

Ad 1: The indicator disclosing departmental performance figures captures all costs and revenues of the value chain considered. Whether planning failures exist can only be discovered when norms for comparison do exist. On internal markets external market prices fulfil this function. Under the assumption of a perfect external market, where prices result from competition, only effective firms realize profits. Therefore, negative performance figures on internal markets can indicate planning failures. When competing on external markets, the department considered would not exploit the existing know-how on best practice.

Ad 2: Fictitious internal markets generate problem indicators with a rather coarse information structure. As a yes-no decision it is resolved whether planning failures exist (negative performance) or not (positive performance). Therefore, internal fictitious markets do not offer to focus the problem-oriented search on selected parts of the value chain; the construct does not

provide a search heuristic. For the identification and localization of planning failures the principal has to refer to his own heuristic. However, for the Type III considered here, one cannot readily assume the existence of such heuristics.

Ad 3: When, as assumed, tasks of Type III can be characterized by the fact, that *C* has confidence in the agents, she or he has all reason to avoid any vote of no confidence. In this quest she or he will succeed the more an independent instance like the market and not the principal is initiating reviewing activities.

Under the restrictive conditions of Type III *C* has primarily the option to reduce the hierarchical monitoring activities to a passive reviewing. This approach will primarily refer to external sources of information and knowledge (e.g., consultants; benchmarking). However, pursuing this concept poses *C* with a basic dilemma. The assumed information deficit of *C* provoking the recourse on external know-how implies the validation of the used external information sources in two different aspects. On the one hand, transfer prices often are derived from external benchmarking data which are difficult to prove. On the other hand, *C* cannot be expected to use the rendered performance indicators effectively in a way which offers insights into the existence and location of deficiencies in the value chain. Facing such serious shortcomings in planning capabilities *C* can only cope with these difficulties for a limited period, when she or he has reason to trust external sources.

5.3 Real internal markets: Assigning allocation power to the invisible hand

The low state of information and trust sets close restrictions for *C*'s operating planning activities in planning systems of Type IV. No responsible principal will on a continuing basis try to fulfil monitoring tasks under such inadequacies. Measures like replacing and qualifying managers or resorting to external know-how will soon be released. To understand the role real internal markets can play in such a phase of transition the features of the concerned value-adding processes need a closer examination. Different to the wide-spread use of fictitious internal markets considered in the foregoing paragraphs the field of applying real internal markets is limited. Assigning the allocation of scarce resources to the invisible hand of markets has to be valued as a radical control measure demanding a careful application of this design concept. Managers have to consider particularly that applying real internal markets bears the risk of break downs in the value chain endangering the delivery of products to external customers.

Real internal markets are explicitly change-oriented. They are instruments preparing the readiness for change by unfreezing existing rigid structures and behavior pattern. Though fictitious and real internal markets both apply market-based monitoring constructs, they differ in

one salient design element. While fictitious internal markets are instruments which are placed at the disposal of the overstrained principal, real internal markets drastically reduce the role of the principal by giving over the value-adding activities to the internal market.

Practicing real internal markets means enabling autonomous actions on the *A/B*-level striving for the self-contained use of given resources. In this context the question arises how the problems of break-down effects are handled. To clarify the occurrence and role of break-down effects it is helpful to distinguish between primary and secondary value chains (see Porter 1985 and Stabell/Fjeld 1998). Primary value-adding processes comprising sequential activities like inbound logistics and operations are directly involved in bringing value to the customer. Secondary (supportive) activities “enable and improve the performance of the primary activities” (Stabell/Fjeld 1998, p. 417); they are indirectly related to the primary chain. Examples for secondary chains are infrastructure management, technology management, and human resource management. Due to the supportive character of secondary activities and their indirect relations to primary activities a certain degree of separation from the external market with a reduced rate of break-down effects can be expected. However, empirical evidence provides also the existence of close relations between primary and secondary chains. This is for example the case for technical repair service activities which are often closely coupled with the operations activities and, therefore, exhibit a high risk of break-down effects. In contrast, delivering data from the market research centre to business units often implies loosely coupled relations enabling autonomous acting. For these activities, disposing *A* or *B* from the delivery of resources may cause no immediate break-down effects. The emergence of this range of discretion can be explained by referring to the construct of plasticity.

When input-output relations of the value chain have a plastic character, the design measures are open to interpretation which cannot definitely resolved according to given rules. In present scholarly research plasticity finds its theoretical underpinning in the construct of ambiguity elaborated from *March* (2010) and in the theory of loosely coupled systems developed from *Weick* (1976).⁸ Under plastic conditions the design of value-adding activities offers leeway for the alignment of processes. When the unit *R* (see Figure 3) provides loosely coupled internal services with high plasticity, excluding a business unit from the delivery of secondary resources must not directly affect the primary activities. For example, interruptions in the delivery of marketing data may impair the quality of *A*'s and *B*'s marketing decisions, but must not necessarily cause a break-down of the corresponding primary process. This applies notably to the control of internal information services, like market research (see

⁸ See Alchian/Woodward 1988, p. 69 for a micro-economic analysis of “plastic” transactions.

Choudhury/Sircar/Rao Venkata 1986 and Allen 1987 for these features of internal information services).

The foregoing elaboration of the interconnections between plastic value-adding activities and break-down effects allows drawing the following conclusion: When break-down effects are critical and must be avoided the introduction of real internal markets in deterministic primary value chains (e.g. long-linked technology according to *Thompson*) must be valued as a problematic undertaking. However, in secondary value chains the introduction of real internal markets, albeit in a temporal manner, can be considered, when plastic input-output relations prevail.

The state of organization theory offers only a few studies opening insights in the reasons, managers pursue when they build real internal markets to overcome planning failures. Two case study-like inquiries are worth noting. Both investigations reveal the application of real internal markets in firms which faced in the 1980s extraordinary planning requirements. The study from *Burgelman* (2002 a, b) offers insights in the role real internal markets played for *Intel Corporation (Intel)* in a period of far-reaching strategic restructurings. The planning activities were predominantly focused on primary processes with a deterministic character. The second study from *Garr* (2000) addresses how *IBM (International Business Corporation)* drew on real internal markets when dramatic changes had to be undertaken to control secondary value-adding activities with a predominantly plastic character.

Burgelman develops the construct of an “internal ecology” based on real internal markets, which *Intel* established to master in a period of strategic transition extraordinary control requirements of the upcoming semiconductor technology. The management recognized the need for strategic change, but was ambivalent about the solution. During this enforced “strategy-free” episode the problems of interdependencies marking usually the key challenge of operating planning lost its pivotal relevance. Break-down effects had strategically viewed no salient weight. Planning shrunk to margin-based distribution of given resources. Therefore, the “internal ecology” was not a measure of overcoming operating planning failures, but rather an approach to overcome strategic disorientation by generating strategic options.

IBM established real internal markets as part of a radical change program primarily aimed at rebuilding the infrastructure for internal services. When *John Akers*, former CEO of the planning-minded *IBM*, faced dramatic changes in markets and technologies, he no longer saw the guarantor of its sustainable competitive advantage in the company’s previously undisputed capacity to plan. To meet the need for far-reaching change he established internal markets “where the buying and selling of goods and services from within the divisions was done as if

each unit were independent” (Garr 2000, p. 64; see also Slater 1999). Though the study from *Garr* only offers limited insights into the detailed modalities of the change activities, *Aker*’s restructuring rationale was obviously shaped by the idea of strengthening the readiness to engage in change in a period of far-reaching activities of restructuring. By submitting the delivery of selected internal services (e.g., from corporate staffs) to real internal markets for a limited period, *C* tried to generate at the *A/B* level startling signals, even shocks, triggering the need for drastic changes.

The control problem *IBM* had to deal with primarily concerned the role of internal services, especially of staff services (for example utilizing internal legal advice and distributing room capacities). Most of these transactions had a plastique character. For *C*, facing an exacerbating global competition, the introduction of real internal markets suggested itself as a reasonable measure. Questioning hitherto practised beliefs and principles and developing a “new view on old certainties” (March 1991) meant to initiate far-reaching change programs facing widespread resistance to change. The central task of *C* was to get the *A/B*-level amenable to accepting and supporting change. Suspending the traditional hierarchical planning of resources and distribution of resources and practising market-based control can be valued a drastic demonstration of the seriousness of the situation. Viewed from this perspective the *IBM* management did not only resort to real internal markets to ensure the efficient allocation of scarce resources. Practising real internal markets in a period of transition has in the first line to be seen as generating unfreezing effects (see Schein 2004 and Kotter 2002), to get all actors receptive to drastic change programs.

6 CONCLUSIONS AND DIRECTIONS FOR FURTHER RESEARCH

The primary contribution of the study is a new approach to understand the role of markets in firms. Focusing on coordination and motivation requirements from an organization design perspective, planning failures of operating control are traced back to deficiencies in information and trust being the drivers for the introduction of internal markets. The spectrum of application is revealed by distinguishing between forms (fictitious and real markets) and objects (primary and secondary value chains). The inquiry explores that building fictitious markets requires less extensive changes in the prevailing planning system than establishing real markets.

Fictitious internal markets allow the disclosure of departmental monetary performance figures exerting benchmarking pressure on the task behavior at the *A/B*-level and offer as problem indicators options for selected managerial interventions. For primary as well as for

secondary value-adding activities the application of fictitious markets finds principally no limitation. Building fictitious internal markets allows to design additional motivation devices without changing the existing plan-based coordination system. For *C*, due to her or his managerial capabilities, there are mainly two limits to utilize fictitious internal markets: evaluating the adequacy of the benchmarking criteria (choosing the right internal prices) and deriving from the revealed performance figures the existence and the character of planning failures.

Building real internal markets means leaving the allocation of resources to the market. This implies far-reaching changes in the hitherto practiced planning system and widely abdicating managers' monitoring tasks. Such restructurings have two problematic implications. On the one hand, the margin-oriented allocation excludes the pursuit of strategic accounts. On the other hand, the margin-based exclusion of *A* and *B* from internal deliveries can cause break-downs in the primary value-chain causing conflicts with external customers and impairing the strategic position of the firm. When firms assign high priority to the avoidance of critical break-downs, a price-based distribution of resources in the primary value chain is out of the question. For secondary value-chains, such a strict dictum does not apply. When an agreed delivery of internal services for reason of an insufficient margin is not concluded, a break-down must not be the inevitable consequence. Therefore, the control of internal services can be considered as the exclusive case where real internal markets are applied in practice. The study elaborates in referring to the construct of plasticity why internal services, especially internal information services, play a pivotal role when *C* resorts to real internal markets. Plastic value-adding activities being often to a certain degree separated from the primary chain open discretionary ranges for the application of real internal markets. Theoretical reasoning and (scarce) empirical evidence support the proposition that real internal markets are helpful in situations of far-reaching change processes. They trigger unusual market pressure which strengthens the readiness to engage in change.

The inquiry pursues primarily a conceptual approach. Further research has to reinforce empirical investigations aimed at examining the developed forms of internal markets, the assumed coordination and motivation effects and the revealed fields of application. Careful attention merits the construct of real internal markets; for fictitious internal markets scholarly research on profit centers has already revealed substantial results. Pursuing this perspective and turning to the control of internal services, the construct of plasticity which has been utilized to explore the problem of break-down effects deserves particular inquiries.

The study does not explore managers' subjective preferences for internal markets. This limitation offers opportunities for future investigations. In this context two cognitive constructs, the capacity effect and the filter effect, merit closer attention. The planning-capacity effect claims that managers' preference for internal markets depends on their perceived planning capability (Streufert/Swezey 1986, p. 25/26) and on the pivotal role that simple rules play in this context (Tetlock 1983). The cognitive construct of simplicity supports the conclusion that for managers with a perceived low planning capability internal markets are an attractive solution for their control problems. The cognitive-filter effect claims that managers' market-ideological orientations affect their preferences for internal markets. The construct of simplicity, the "overreliance on simple, easy-to-execute heuristics" (Tetlock 2002, p. 456), is again the basic explanatory element. Managers consistently dealing with problems under an ideological bias are more prone to rely on simple rules when they interpret and evaluate organizational requirements (see Tetlock 2000). To examine this proposition, comparing managers' evaluation of external and internal markets would be instructive. Managers who, based on broad and overarching beliefs about the effectiveness of markets, exhibit strong preferences both for internal and external markets can be seen as simplifying complex problems of organizational design because of their market-ideological orientation.

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