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Applications of Interactive Planning Methodology

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Submitted to the Program of Organizational Dynamics in the Graduate Division of the School of Arts and Sciences in Partial Fulfillment of the Requirements for the Degree of Master of Science in Organizational Dynamics at the University of Pennsylvania.

Advisor: Dr. Alan M. Barstow

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Applications of Interactive Planning Methodology

Abstract

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Disciplines

Organization Development

Comments

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APPLICATIONS OF INTERACTIVE PLANNING METHODOLOGY

by

Donna Aura A. Lumbo

Submitted to the Program of Organizational Dynamics
in the Graduate Division of the School of Arts and Sciences
in Partial Fulfillment of the Requirements for the Degree of
Master of Science in Organizational Dynamics at the
University of Pennsylvania

Philadelphia, Pennsylvania

2007

APPLICATIONS OF INTERACTIVE PLANNING METHODOLOGY

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ABSTRACT

This thesis examines the evolution, rationale and application of the Interactive Planning Methodology described by Russell Ackoff (1981). It focuses on the facilitator, particularly on the competencies required, for one to successfully facilitate the methodology. Data were gathered from direct observation of an interactive planning exercise at GlaxoSmithKline in Philadelphia, PA, and interviews conducted on select practitioners and clients of the methodology. Results indicated that an effective facilitator must possess excellent communication skills, a high degree of analytical skills, and considerable people skills. In addition, one must be able to: (1) understand group dynamics and the differences in personalities of individuals, and must know how to use this knowledge to guide the group in a productive way; (2) establish an atmosphere in which the participants are willing to share their ideas and build on others' ideas; (3) maintain the energy level of the participants and enable them to stay focused on the task; and (4) connect their previous knowledge and experience to the current situation. Lastly, a facilitator of the Interactive Planning Methodology must be creative. Creativity is manifested by expressing unusual thoughts and being interesting and stimulating.

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CHAPTER 1

SYSTEMS THINKING

Introduction

This thesis concerns the applications of Interactive Planning Methodology; in particular, it explores the characteristics and role of the facilitator in the successful use of an Interactive Planning Methodology to manage an organizational problem. Chapter 1 provides background on systems thinking and its evolution. Chapter 2 covers the contemporary systems thinking approach. Chapter 3 introduces Russell Ackoff's Interactive Planning Methodology (1981), describes the operating principles behind it and the rationale for conducting it. Chapter 4 illustrates in detail the Interactive Planning Methodology, and Chapter 5 provides its use in different organizational scenarios. Chapter 6 focuses on the facilitator of the methodology, particularly the competencies, as well as the personality traits required of one. Chapter 7 offers a summary and conclusion for this organizational intervention.

What is a System?

A system is a set of interrelated entities, of which no subset is unrelated to any other subset (Kramer, 1977). This means that a system, as a whole, displays properties which none of its parts or subsets has and that every entity in that system is either directly or indirectly related to every other entity in it. According to Ackoff (1981), one type of system that is most familiar is the human body. Each of our organs affects the functioning of the entire body. In addition,

the way an organ behaves and the way it affects the whole body depends on the behavior of the other organs. The heart continues to pump blood because the lungs and the rest of the organs continue to do their work. Because of the interdependence of the different parts or subsets, every part of a system has properties that it loses when separated from the system, and every system has some properties that none of its parts do (Ackoff, 1981). The hands cannot feel if not connected to the body. The person, however, can read a book, play the guitar and sing that none of the individual parts can do by themselves.

Jackson (2003) identified different types of systems: (1) physical, such as river systems; (2) biological, such as living organisms; (3) designed, such as automobiles; (4) abstract, such as philosophical systems; (5) social, such as families; and (6) human activity, such as systems to ensure quality of products.

The most important thing to remember about a system is this: The essential properties of a system taken as a whole derive from the interactions of its parts, not from their actions taken separately.

Derived from Euclidean geometry where one central axiom is that the whole is equal to the sum of its parts, reductionism is a traditional, scientific method of studying our world, including systems. This approach seeks to understand the whole by identifying, analyzing and understanding the individual parts. The difficulty with applying reductionism to a system is that the whole is oftentimes not recognizable from the parts, as it emerges from the interactions between the parts through complex networks of relationships. Because reductionism often fails to address the complexity and diversity of problems, as

well as how changes in a complex system affects how to solve problems within them, an alternative for studying systems called holism gained acceptance (Jackson, 2003).

Holism looks at complex problems as more than the sum of its parts; it is interested in the network of relationships between the parts, especially in terms of how they give rise to and sustain in existence an entity that is the whole. This alternative view of understanding our environment and activities developed in parallel with academic disciplines such as the humanities, psychology, biology, which eventually gave birth to what we now refer to as systems thinking.

History of Systems Thinking

Systems ideas can be found in the writings of classical Greek philosophers. For example, Aristotle asserted that the parts of the body only make sense in terms of the way they function to support the whole organism, and he used this biological analogy to consider how individuals need to be related to the State (Jackson, 2003). Philosophers such as Kant and Hegel in the past 200 years were also instrumental in promoting early ideas of systems thinking. Jackson (2003) noted that Kant believed that it was helpful for humans to think in terms of wholes emerging from and sustained by the self-organization of their parts. Jackson (2003) noted, as well, that Hegel introduced considerations of process into systems thinking with his concepts of thesis, antithesis and synthesis.

In 1924, German physicist Wolfgang Kohler, described the concept of *gestalten* (wholes) from physics, and introduced an extension of gestalt theory into new domains, including psychology, to ensure the broad impact of his ideas and approach. This proved to be one of the firsts attempts towards what could be called a general systems theory (Kramer, 1977).

Another significant development happened during the transition from molecular biology to organismic biology. Between the 1920s and 1930s, several holistically inclined biologists wrote about the behavior of the organism and argued that it cannot be explained by the properties of the parts in isolation (Jackson, 2003). Kramer (1977) cited Alfred North Whitehead who wrote about organic mechanism to describe his vision of process in all things in 1925; Walter Cannon who wrote on mechanistic explanation for homeostasis in 1929 and 1932; and Ludwig von Bertalanffy, who asserted that organisms should be studied as complex wholes. Von Bertalanffy wrote about the distinction between open and closed systems and suggested that the sorts of behavior he witnessed in open systems in biology could be seen demonstrated by open systems in other domains. In order to gain acceptance and support for their ideas, Bertalanffy, together with the economist Kenneth Boulding, the mathematician and biologist Anatol Rapoport, and the physiologist Ralph Gerard, founded the Society of General Systems Theory, which was renamed to the Society for General Systems Research in 1957 (Kramer, 1977). Kramer (1977) further noted that this society published in its yearbooks various contributions to general systems theory in various sciences since 1956.

Parallel to these developments, there were also contributions before 1950 in the fields of cybernetics¹, thermodynamics and information theory (Kramer, 1977). In 1929, Szilard introduced his observations on the concept of entropy; the relationship between entropy and information and their opposite effect. According to Jackson (2003), the most influential figure, acclaimed as a founding father of systems thinking as a transdiscipline alongside Bertalanffy, is Norbert Wiener, a mathematician and control engineer. In his book *Cybernetics* (1948), Wiener argued that cybernetics was likely to have fruitful applications in many fields because it dealt with different laws that governed control processes whatever the nature of the system under consideration. Wiener's most important concepts were control and communication. According to Wiener, negative feedback is necessary to understand control as it allows a proper, scientific explanation to be given of purposive behavior, i.e., action directed to the attainment of a goal. Positive feedback has also become significant for systems thinking. While negative feedback counteracts deviations from a goal, positive feedback amplifies them (Jackson, 2003).

William Ross Ashby's Law of Requisite Variety in 1958 greatly influenced cybernetics and systems theory. The law states that systems can only be controlled if the controller can command the same degree of variety as the system (Jackson, 2003). The concept is still applicable, as systems today are complex; they exhibit high variety.

Early attempts to combine holism with organization and management theory came in two main forms. The first was by combining basic systems

¹ Wiener defined cybernetics as the science of control and communication in the animal and machine

concepts and the prevailing scientific management tradition to yield optimizing approaches; the second was by transferring the biological analogy to yield systems models of organization, emphasizing the importance of subsystems to overall organizational effectiveness and the significance of the organization-environment fit (Jackson, 2003). The problem with these attempts is that none recognized that the people, who make up these social systems, are in fact, purposeful (i.e., they can generate their own purposes from inside the system). Addressing this issue requires: (1) the use of a different kind of terminology to describe and work with purposeful systems; (2) attention to the different mental models that people bring to their roles; (3) understanding resistance or appreciative systems to change necessary to successfully manage purposeful systems to intervene or manage change; and (4) recognition of the impact of resources and interests, power and politics on purposeful systems especially in defining the system's boundary (Jackson, 2003).

The physical sciences also had a great influence in systems thinking especially after they underwent their own systems revolution. Quantum physics' notion of indeterminacy gave new meaning to the concept of relationships. Chemistry brought about the idea of self-organization and a reinforcement of the process view of the systems. Complexity theory complemented the normal systems concern for order by being equally concerned with disorder.

Complexity theorists discovered "the edge of chaos" in their pursuit of research on the order and disorder in complex systems. The edge of chaos is defined as a "narrow transition zone between order and chaos where systems

become capable of taking on new forms of behavior, of self-organization and particularly innovative activity” (Jackson, 2003). Complexity theory became useful for systems thinkers as they came to realize that despite the chaos and turbulence that organizations face, being in the edge of chaos enables these organizations to behave more creatively.

Systems thinking, as we conceive it today, is an amalgam of concepts and ideas from theories, models and disciplines that came before it. These influences precipitated the evolution of the concept of system from being mindless and mechanical, with no ability to restructure by itself, to being purposeful by itself, and consisting of purposeful parts. Aligning the interests of the purposeful parts with each other and with the whole is the main challenge of the system (Gharajedaghi, 2006), particularly in a social organization, the most common human system.

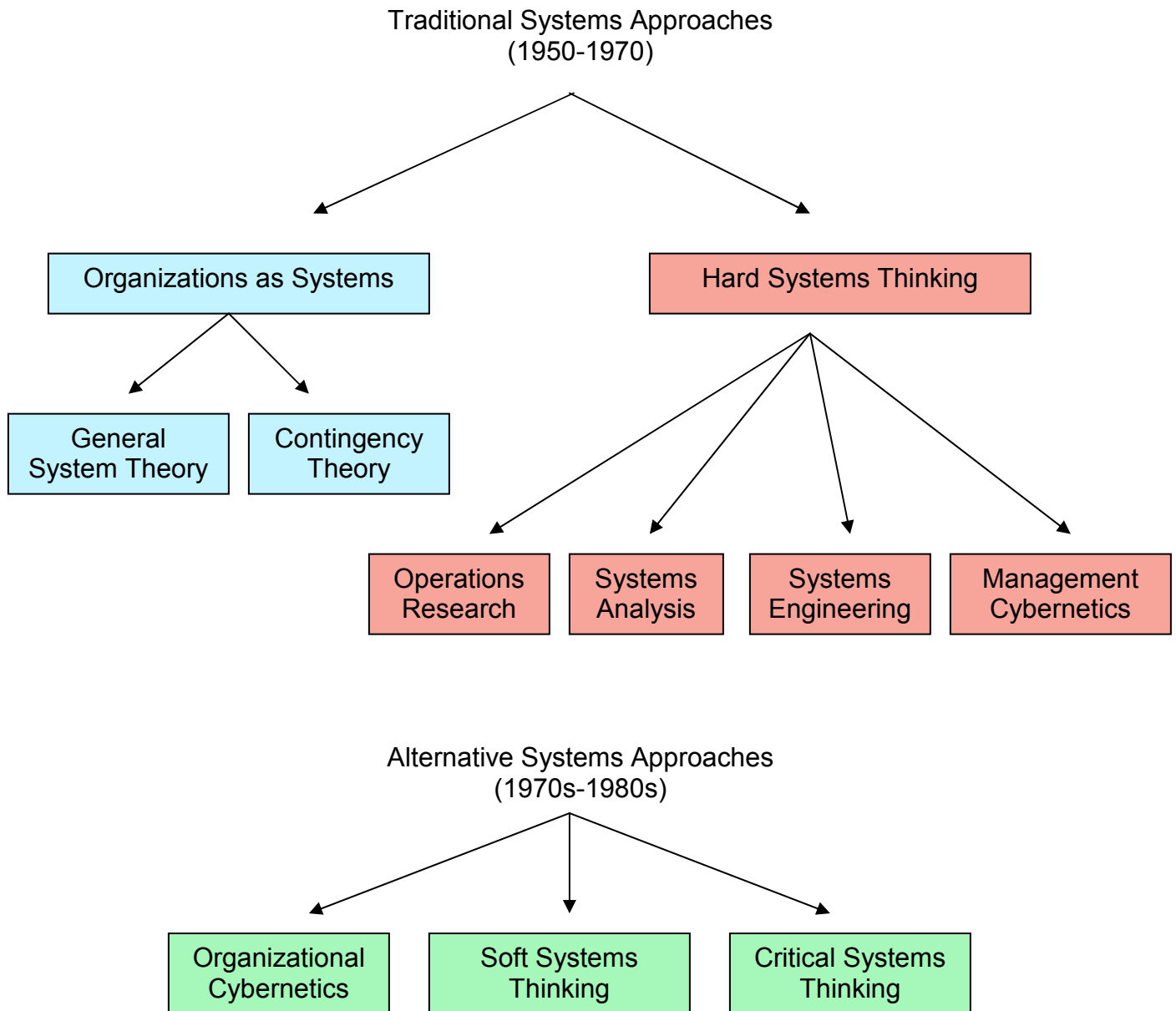
CHAPTER 2

CONTEMPORARY SYSTEMS THINKING

Until the 1970s there was considerable agreement among systems theorists about the assumptions for the nature and application of a system and about the meaning and use of systems terms. It was accepted that systems of all types could be identified by empirical observation of reality and could be analyzed by the same methods that had brought success in the natural sciences (Jackson, 1991). This type of systems thinking is called the traditional systems approach. According to Jackson (1991), the traditional systems approach can be further categorized into: (1) “organizations as systems” tradition, comprised of general system theory and contingency theory; and, (2) “hard systems thinking”, comprised of operations research, systems analysis, systems engineering, and management cybernetics.

As systems thinking evolved and systems concepts developed, questions were raised as to its applicability in the real world. During the 1970s and 1980s, traditional systems’ thinking was thought to be ill equipped to handle ill-structured and strategic problems. This caused the development of alternative systems approaches, which had different philosophical/sociological assumptions and put different emphases on the subject matter and key concepts of the field. Three of these alternative systems are organizational cybernetics, soft systems thinking and critical systems thinking (see Figure 1).

FIGURE 1. Systems Approaches



Organizational Cybernetics

In the field of cybernetics, there arose two different models of the organization; namely, management cybernetics and organizational cybernetics.

Management cybernetics treats organizations like machines and organisms

congruent with the philosophy of hard systems thinking. It is criticized because of its inability to deal with subjectivity, with extreme complexity of organizational systems, and for its inherent conservatism (Jackson, 1991). Organizational cybernetics, on the other hand, is concerned with management and organizations that break from the mechanistic and organistic thinking, and is able to make full use of the concept of variety. It offered progress over hard systems thinking along a dimension concerned with the nonhuman aspects of complexity. Its most popular proponent was Stafford Beer redefined cybernetics as the science of effective organization (Jackson, 2003), and developed the Viable System Model (VSM). According to Beer, a system becomes viable after it has achieved a requisite variety that enables it to respond appropriately to various threats and opportunities presented by its environment and that the exact level at which the balance of varieties should be achieved is determined by the purpose that the system is pursuing (Jackson, 1991). He reasoned that to understand further the principles of viability underpinning the behavior of complex organizations, it would be useful to take a known-to-be-viable system as a model (Jackson, 2003). The VSM, composed of five subsystems, feedback loops, and information flows derived from the original cybernetic laws, is generally applicable to all systems and to organizations large and small.

The advantages of organizational cybernetics are the following: (1) it can be applied to all types of system and organization and to systems at different levels in the same enterprise; (2) it is regarded as an extremely rich representation of organizations; and (3) it offers a scientific justification for

empowerment and democracy in organizations. Jackson (1991) summarized that critics of organizational cybernetics argue that: (1) it does not indicate how individuals can be motivated to perform and how participation and democracy can be arranged; (2) while the intent is to promote decentralization and autonomy, VSM in fact offers to the powerful an extremely efficient means of increasing control and consolidating their own positions; (3) organizational cybernetics is about ensuring an organization's viability, efficacy and efficiency but does not give much attention to effectiveness; and (4) culture, political system, psychic prison, instruments of domination and carnival metaphors are underplayed in cybernetics. The last point indicates that although organizational cybernetics tries to address the issues of purposeful systems, it still emphasizes systemic and structural design to the neglect of the requirement to manage processes of negotiation between different viewpoints and value positions (Jackson, 1991).

Soft Systems Thinking

While hard systems thinking ignores the issue of subjectivity, soft systems thinking embraces multiple perceptions of reality and aims to help analysts deal with this. It is neither functionalist like the "organizations as systems" and many hard systems, nor structuralist like the organizational cybernetics. Soft systems thinking deems it necessary to see the social world by trying to understand subjectively the point of view and the intentions of the human beings who construct the social systems. Some of the influential proponents of this view

were C.W. Churchman (1968), who developed the Social Systems Design; Mason and Mitroff (1981) and their Strategic Assumption Surfacing and Testing (SAST); Russell Ackoff (1974) with his Social Systems Sciences and Interactive Planning Methodology; and, Peter Checkland (1976) with his Soft Systems Methodology (SSM).

These four approaches differ in some respects; however their similarities are striking: all are concerned with addressing ill-structured problems, or messes at the strategic level, not by the method of reductionism, but by working with the different perceptions of systems that exist in peoples' minds (Jackson, 1991). These similarities have elicited consistent criticisms of the soft systems methodology. According to Jackson (1991), soft systems methodologies are based on a one-sided view of social reality in that they deny the existence of deep-seated conflict inherent in organizations and society. In addition, soft systems thinkers downplay the obstacles to full and effective participation and that "their belief in a consensual social world and in the efficacy of participation is only sustained because they artificially limit the scope of their projects so as not to challenge their clients' or sponsor's fundamental interests" (Jackson, 1991, p.163). Lastly, Jackson (1991) asserted that soft systems thinking is criticized for its subjectivism or its idealism and for its consequent failure to come to terms with structural features of social reality such as conflict or power.

Critical Systems Thinking

Critical systems thinking is dedicated to human emancipation. It seeks to

demonstrate critical awareness by closely examining the assumptions and values entering into actually existing designs or any proposals for systems design. It shows social awareness by recognizing that there are organizational and societal pressures that lead to certain systems theories and methodologies being popular for guiding interventions at particular times. It is committed to the complementary and informed development of all the different strands of systems thinking at the theoretical level, as well as to the complementary and informed use of systems methodologies.

Flood and Jackson (1991) developed a methodology that can be used by those who follow the principles of critical systems thinking called Total Systems Intervention (TSI). There are three phases, namely: creativity, choice, and implementation. In each phase, the tasks to be accomplished are identified, as well as the tools provided by TSI to realize the task and the outcome or results expected from the phase.

After having established where Ackoff's model and methodology lie in the spectrum of systems thinking approaches, I will now discuss in detail the methodology that is called Interactive Planning.

CHAPTER 3

INTERACTIVE PLANNING METHODOLOGY

Background and Rationale

The organizational climate in 2007 is characterized by increasing rate of change, complexity, and uncertainty, conditions that make it hard to plan for the future. However, while we are all faced with similar environmental conditions, our perceptions and responses are often individualized. According to Ackoff (1981), planners and problem solvers can be loosely categorized into “reactivists,” “inactivists,” “preactivists,” and “interactivists.” based on their temporal orientations.

Reactivists like the past, so they seek to return to a previous state by unmaking relevant intervening changes. They dislike technology, as they believe it to be the primary cause of change. Reactive planners deal with problems separately, not systematically, which leads them to overlook the essential properties of the whole and many of the important properties of the individual parts. When faced with a problem, reactivists respond by resolving (i.e., selecting a means that yields an outcome that is “good enough”).

Inactivists are satisfied with the present and are unwilling to return to a previous state or to the future. They value survival and stability, hence try to prevent change. Inactive planners rely heavily on gathering facts, which can sometimes lead to an endless process, as no decision is made until all the facts are in. Inactivists deal with a problem by absolving (i.e., ignoring, denying or hoping it will go away or solve itself).

Preactivists are unwilling to return to a previous state or to settle for things as they are. Because they believe the future will be better than either the present or the past, they seek to accelerate change and exploit the opportunities that it brings. Proactive planners try to predict the future and prepare for it by taking steps to minimize or avoid future threats and take advantage of future opportunities. Preactivists solve a problem by selecting a path that optimizes, i.e., the one that they believed to yield the best possible outcome. They do this with the help of quantitative science-based techniques such as linear programming, risk analysis, and cost-effectiveness studies.

Interactivists are not willing to return to a previous state, to settle for things as they are, or to accept the future that appears to confront them. They believe that the future can be created and is dependent upon what one does between now and then. In planning, the process, not the plan, is the most important product. Interactivists dissolve a problem by changing the nature of either the entity that has it, or altering the environment in order to eliminate the problem entirely. They idealize by designing a desirable future and inventing ways to bring it about.

Interactive Planning Methodology is derived from the concept of interactivism. It is a participative method of dealing with a set of interrelated problems when it is believed that unless something is done, a desirable future is not likely to occur; and that if appropriate action is taken, the likelihood of such a future can be increased (Ackoff, 1981). This methodology acknowledges the interdependence of the problems constituting a system. It proceeds from a

treatment of the whole to the interaction of the parts and then finally to the parts themselves.

Operating Principles

Ackoff discussed in detail the Interactive Planning Methodology in **Creating the Corporate Future, Plan or Be Planned For** (1981). The methodology aims for the participants to collaboratively and collectively design an ideal-seeking system based on the fundamental premise that the “system (with the problem) was destroyed last night.” The purpose of this is to free the participants from the trap of just improving the limitations of the current system. Rather, they are encouraged to be as creative as possible in coming up with out-of-the-box ideas that lead to innovation. The idealized system should be technologically feasible, operationally viable, and have the capacity to learn and adapt quickly.

The Interactive Planning Methodology is guided by three operating principles: the participative principle, the principle of continuity, and the holistic principle.

The participative principle implies that no one can plan effectively for someone else. Professional planners and planning units should provide whatever motivation, information, knowledge, understanding, wisdom and imagination required by others to plan effectively for themselves. Indeed, participating in interactive planning promotes the development of the members of an organization. Development, as opposed to growth, is defined by an increase

in competency and one's desire and ability to satisfy one's own desires and those of others. Interactive Planning enables members to acquire an understanding of the organization, making it possible for them to serve organizational ends more effectively.

Plans, no matter how carefully prepared, need to be continuously reviewed and, if necessary, modified as there are events that cannot be foreseen. Changes in facts also alter the value we place on such plans. Interactive Planning is a system that allows continuous monitoring, evaluation, and modification of plans.

The holistic principle illustrates the importance of planning simultaneously and interdependently across all levels of the organization and all parts of a system. This principle has two parts, coordination and integration, each focusing on a different dimension of the organization. The principle of coordination implies that all units at the same level should be planned for simultaneously and interdependently. A threat or an opportunity that appears in one unit may best be treated in another unit or in several units simultaneously. For example, a marketing problem may best be solved by a change in production or sales or vice versa. The principle of integration asserts that planning done independently at any level of a system cannot be as effective as planning carried out interdependently at all levels. Conflicts between and within levels of organization can be avoided if planning is done in a coordinated and integrated fashion, as everyone is aware of the effects of what one level or unit does on other levels or units.

Why Use the Interactive Planning Methodology?

There are at least seven advantages to using Interactive Planning Methodology:

First, it gives all stakeholders of an organization an opportunity to create their own future. They do not plan for the future using forecasts that are oftentimes unrealistic and inaccurate, but by using assumptions and possible scenarios about the future. Using current assumptions builds enough flexibility and responsiveness into the design of the system, which enables it to withstand change rapidly. This gives the organization more control over what lies ahead.

Second, it considers all the subsystems of the organization, as well as the systems surrounding it to be part of the problem and the solution. The methodology enables the participants to look into and be aware of the intricacies and the web of relationships within and outside their organization. This makes them mindful of the impact of their future decisions on the organization in its entirety. Involving all concerned parties in the decision-making process ensures that all parties are heard and all issues are covered. This leads to better, more informed decisions.

Third, it promotes participation. A participative climate helps employees believe that they are important assets in the organization and that they can make a difference (Spreitzer, 1996). Participants of the interactive planning process are the employees, top management, shareholders and clients. This endorses a bottom-up approach as opposed to the typical top-down approach to decision-making. Letting the front-line employees participate in the decision-making

process is advantageous for their in-depth knowledge and expertise at the operational level brought about by direct exposure to the customers. The inputs of the clients and shareholders outside of the organization are also needed in creating a holistic view of the problem.

Fourth, it supports an environment that facilitates employee empowerment. Employee empowerment involves an individual's sense of self-determination and autonomy in influencing work outcomes (Thomas and Velthouse, 1990). Empowered employees see themselves as integrated into the key political channels for getting work done in organizations (Spreitzer, 1996). This gives them a sense of personal and professional satisfaction, which leads to increased productivity.

Fifth, it acknowledges creativity and appreciates out-of-the-box thinking. Participants are encouraged to be as creative as possible in coming up with the idealized design. Since the premise that the system was destroyed last night requires that the new system design start from nothing, participants are not confined to making incremental improvements for the existing system. Rather, they are encouraged to be as imaginative and creative as possible in designing their ideal system. This can lead to breakthroughs for the organization and the entire industry.

Sixth, it facilitates ease of implementation. Important aspects of the IP methodology are transparency and awareness of the project. Being transparent addresses and manages the employees' feelings of apprehension and fear of the unknown. This lessens the resistance and facilitates buy-in. Moreover, since the

people who made the plan are also the ones responsible for its implementation, they already know what to do and how to go about it from the start.

Seventh, it is flexible and applicable to a variety of purposes. It can be used for a specific project within a particular department, as well as for the strategic goals of an entire organization. It can also be used for initiatives of private organizations, non-profit organizations, government agencies and cities all over the world.

Despite the listed advantages of the Interactive Planning Methodology, many organizations are hesitant to use it for at least five reasons:

First, the concept of a clean slate, of having a “system was destroyed last night” is not appealing to some organizations, as it entails a paradigm shift. The methodology forces the participants to move out of their own comfort zones and create another reality for the company. This can be difficult for companies that are at the top of their game and believe they have already established “tested-and-proven” ways of doing things.

Second, the democracy of the process is not often welcome in organizations with top management that have been used to making top-down decisions. Senior or executive leaders may not be willing to give up their power.

Third, it requires a lot of coordination. The methodology entails an active flow of information. Since the participants may not be able to commit to an uninterrupted five-day session, many activities may have to be made outside the workshop room. Before an idealized design is finalized, various iterations need to be drafted, routed for comments, and redrafted until everyone is satisfied with

it. This requires a very dedicated and motivated individual to serve as a point person. Furthermore, it needs a top-level executive who believes in the methodology and is enthusiastic about what it can do for the company.

Fourth, it can be time consuming. The time it takes to complete the Interactive Planning Methodology depends on the complexity of the goal/project, and the availability of the participants. Because of its potential to extend to a long period of time, the executive sponsor or champion might find it necessary to ensure that the excitement and anticipation for the project do not wane. Moreover, the organization that is in deep trouble yet seeks only a quick fix might forgo this methodology because of time constraint.

Fifth, it requires a skilled and experienced facilitator to obtain favorable results. Facilitating the interactive planning approach is not an easy task due to the very nature of its methodology. Ackoff (2006) indicated that facilitating the interactive planning methodology is more of an art than a science. There are certain knowledge and skills required of a facilitator of the methodology that other consultants might not necessarily possess. Finding a systems consultant who knows how to successfully conduct interactive planning might be harder than finding a consultant who uses other methodologies.

CHAPTER 4

THE INTERACTIVE PLANNING PROCESS

The process or phases described in this chapter do not come in any particular order, as “they are interdependent aspects of a systemic process, each feeding and fed by the others, particularly in continuous planning. Adjustment of the output of any one phase may be required by the output of any other” (Ackoff, 1981, p.74). However, I describe two parts. The first part is Idealization, which entails “formulating the mess” and “ends planning.” The second part is Realization, which entails “means planning,” “resource planning,” “design of implementation” and “design of controls.”

Idealization: Formulating the Mess

A “mess” as defined by Ackoff (1981) is something that an organization is bound to face in the future if it continues to behave as it does at present, and if its environment does not significantly change or alter its directions. Formulating the mess is aimed at identifying the nature of threats that are oftentimes concealed, and coming up with changes that can increase the organization’s ability to survive and thrive. It requires four subsets of activities: systems analysis, obstruction analysis, reference projections, and the reference scenario.

Systems analysis is a detailed description of the current state of the organization and its environment. It formally defines the system and the environment (e.g., stakeholders, competitors, and others such as government)

under which the organization operates, as well as its formal and informal structure and organization, current policies, strategies, practices and tactics.

Obstruction analysis is the identification and definition of the obstructions to organizational development. Discrepancies and conflicts in the organization are identified as those that obstruct an organization's development. Discrepancies may involve organizational ends, the means employed to pursue these ends, the resources available for such pursuits, the way these pursuits are organized, managed and carried out, and external stakeholders and other aspects of the environment. Conflicts may happen within individuals who are part of the organization, between such individuals, between individuals and the organization or parts of it, within units, between units at the same level of the organization, between units at different levels or between units and the organization and within the organization as a whole.

Reference projections are extrapolations of organizational performance from its recent past into the future assuming no significant changes in the behavior of either the organization or its environment. These are usually done using the principal measures of performance employed by an organization, such as market share, return on investment, and earnings. Projections are helpful since they uncover the critical assumptions on which corporate expectations of the future are based on, as well as the supply and consumption of critical resources.

The combination of system and obstruction analyses and reference projections makes up a **reference scenario** that best reveals the mess that an

organization is in. For a scenario to be effective, it should be well written interesting, provocative and even shocking, yet believable. A well-written reference scenario will make it apparent that the current mess is at least as much a consequence of what the organization has done and is doing as of what had been done and is being done to it (Ackoff, 1981). The purposes of a reference scenario are to reveal the implications of an organization's current behavior and assumptions, to focus attention on the right problems, to produce a shared perception of the nature of these problems and their interactions, and to motivate all participants to make changes.

Ends Planning

Ends planning entails specifying the ends to be pursued. This is accomplished through three subsets of activities: idealized design, design of management systems, and organizational design.

An ***idealized design*** is a conception of the system that its designers would like to have right now. The product of an idealized design is not an ideal system, rather it is the most effective idealized seeking system of which its designers can conceive (Ackoff, 1981). Three properties are required of such a system: (1) technological feasibility, which means that the design must not incorporate any technology that is not currently known to be usable; (2) operational viability, which means that the system must be capable of surviving if it were brought into existence; and, (3) the capability to adapt and learn rapidly. The third requirement specifies that the system must be open for continuous

improvement and that all decisions made within the system designed should be subject to control.

Three activities are involved in the idealized-design process. One is to select a mission. The second is to specify desired properties of the design. The third is to design the new system. Selecting a mission involves determining what type of product or service a company most wants to provide and to whom it wants to provide it. Having a mission gives the idealized design process a focus that enables the company to attain cohesiveness and harmony, and the ability to plan for itself in an integrated way. Specifying the desired properties of the design is important since it facilitates the design process. Designing a system requires the determination of how a specified property should be obtained and what should be done to endow the organization or its activities with that property.

The product of an idealized design should be an ideal seeking system that must be capable of learning and adapting. Since a system cannot learn and adapt unless its management can, an ideal system must have a management system that can learn how to do both. The management system should consist of a management information sub-system and three other interacting subsystems that does each of three functions: (1) identification of actual and potential problems, threats and opportunities, (2) decision-making and (3) maintenance and improvement of performance under changing and unchanging conditions. Ackoff (1981) suggested that it is better to design a complete management system for a part of management (or unit) then extend the service by adding

similar systems for other parts of management (or units). This leads to having a comprehensive and completely integrated management system.

The idealized design of a system should also consider how to structure a system to make one that is ready, willing and able to modify itself when necessary in order to make progress toward its ideals (Ackoff, 1981). Structure defines how work is divided, how responsibilities are assigned, how authority is allocated and how separate activities are coordinated.

Means Planning

Means planning involves the selecting or creating the means by which the specified ends are to be pursued. In this phase, ways of approximating the desirable future are invented.

After the completion of the idealized design, it is then compared with the reference scenario to identify the gaps that must be filled in the subsequent planning process. The selection of a means to fill a planning gap is a planning problem and, as discussed in chapter 3, can be treated by resolving, solving, absolving or dissolving it. Absolving is the least preferred. Of the other three ways, improvements obtained by resolving problems tend to have shorter lives than those obtained by solving them, which in turn have shorter lives than dissolving. Because problems are almost never permanently resolved, solved, or dissolved, it is advisable to establish a monitoring mechanism, which looks out for new problems that have been generated by the previous solution.

The next part of means planning involves the formulation of alternative ways of completely or partially closing the gaps between the reference scenario and the idealized design. This entails the identification and removal of self-imposed constraints, and the exploration of the consequences of doing so. In formulating an attack on any problem, the following should be considered: (1) the relevant uncontrolled and controlled variables; (2) the constraints that these variables are subject to; and, (3) how the relevant variables interact to produce the outcome.

Once the alternative ways have been formulated, they should be evaluated and one of them can be chosen. A well-conducted evaluation of means can often suggest how to formulate new and better means than the previous ones and how to formulate means that can be improved with use. The evaluation can be done by means of a well-designed experiment, although this can be costly and time-consuming. Another way is by the use of models (i.e., simplified representation of reality). Models, however, are only useful and informative if they describe or explain the relevant phenomenon. The amount of effort that should go into the comparison should depend on the potential cost of selecting less than the best of the set, how apparent the relative effectiveness of the alternative is, and the cost of carrying out a sufficiently careful evaluation (Ackoff, 1981).

Resource Planning

Resource Planning entails the determination of what resources will be required,

when they will be required, and how to obtain those that will not otherwise be available.

Resources are of four types: inputs (e.g., materials, supplies, energy and services), facilities and equipment, personnel, and money. Planning for inputs requires consideration of their potential shortages and high costs, while effective personnel planning requires developing personnel input-output functions that show the causal connection between number and type of personnel assigned to a task and their output. Mathematical models and procedures, complemented with some judgment, are usually utilized when planning for facility and equipment. Planning for money, on the other hand, is facilitated by the use of a corporate financial model, which usually covers capital requirements, costs and expenses, sales, and capital availability.

Design of Implementation and Control

This last phase is concerned with the execution of the decisions made in the prior phases and the control of the implementation and subsequent performance.

In this phase, prior decisions are translated into a set of assignments and schedules, such as who should do what and when. It is important for the people who will be responsible in the implementation, their superiors, and subordinates to be actively involved in the development of these schedules. The planning board should be in charge of the coordination of assignments and schedules. The corporate planning staff should be kept informed of all the assignments and

schedules so that it can maintain a comprehensive description and assessment of the plan's implementation.

CHAPTER 5

CASE STUDIES

One of the advantages of the Interactive Planning Methodology is its applicability to a wide variety of situations. It can be used to promote organizational change, as well as to embark on strategic planning, product development and process improvement of any type of business enterprise, non-profit organization, or government agency. To illustrate the methodology in action, consider the experiences of three companies that utilized the Interactive Planning Methodology.

Alcoa Tennessee

In August 1979, a consultant was hired by a subcommittee of the Tennessee Operations Management of the Aluminum Company of America (ALCOA) to assist in formulating a plan that would help justify capital improvements in the Alcoa Tennessee Operations in order to cut labor costs.

The mess formulation team that was established found out that the problem of high labor costs was just one of the many problems that Alcoa was facing. These problems included an aging plant and equipment, poor quality control, restrictive work practices, incongruent strategies and poor communication between Alcoa Tennessee and Corporate Headquarters, and intense and frequent conflict between labor and management. The team also identified external factors such as the nationwide energy shortage and the saturation of the aluminum industry. The surfacing of these problems propelled

Alcoa Tennessee Management to change its strategy and instigate a process to meet its goals through labor-management cooperation. The team presented the Reference Scenario by arranging a special hypothetical issue of the local newspaper, dated April 1, 1984, about five years into the future, announcing the closing of the installation and describing the factors that led to it (Ackoff, Magidson & Addison, 2006). This proved to be a wake up call for everyone.

Management prepared to begin the ends planning phase and to design an idealized future with a shared mission and vision. They agreed that it was possible to manage people with a high quality of work life and with participation that could result in a better working environment and increased effectiveness (Barstow, 1990). It sought representation from the United Steel Workers of America, Local 309, in the interactive planning process.

The initial meeting was attended by eight managers and eight union officials. For a day and a half, participants indicated their frustrations and listed the problems they had faced over many years. Management presented its perception of the economic problems that faced Alcoa Tennessee, while the union focused on the quality of work life. After a consensus was reached, the union president and the chief operations manager prepared a joint press release indicating the concerted efforts of both parties in planning for a positive future for the Tennessee operations and its workforce. A joint steering committee was formed to initiate a plant-wide cooperation project. Each of the 35 departments in the Tennessee Operations was asked to form a union-management Trust and Cooperation Committee, which was tasked with producing at least one project

that would improve trust and cooperation between labor and management. Said committee was to report on its project to the joint steering committee.

This process elicited a structure for union-management cooperation. The structure consisted of four levels: Top Union-Management Steering Committee; Plant Steering Committee; Department Trust and Cooperation Committees; and Sub departmental Trust and Cooperation Committees. This new approach and design resulted to a complete turnaround of Alcoa's previous situation. More than 1000 employees participated in the effort, which contributed to millions of dollars of cost savings, 70% reduction in grievances, 90% reduction in disciplinary proceedings, and 50% improvement in the safety record (Barstow, 1990).

The case showed the intricacies of systemic problems. It emphasized the importance of exploring and understanding the root cause of a problem, since oftentimes, the underlying problem is not what it appears to be. The systems consultant was hired to find a solution to an identified problem. But, after the comprehensive mess formulation, it became clear that there were more complex forces present and new goals were needed. If an accurate picture had not been presented during the mess formulation stage, Alcoa management would have addressed only a part of the problem, and they would not have likely achieved the desired results.

This case also demonstrated that the interactive planning methodology was non-threatening enough to pave way for both management and union to consider their differing views and agree on a course of action. This built trust

between the two parties. Their openness and cooperation greatly contributed to the success of the endeavor.

Super Fresh

For more than a dozen years, the Great Atlantic and Pacific Tea Company (A&P) supermarket chain had been experiencing losses resulting in numerous management changes and massive reduction of stores. From 1980-82, the company closed 60 of its 100 stores in Philadelphia, citing high labor costs of its unionized workforce as its major problem. Citing that its labor costs were 15% of its operating revenues, while the industry averages 10%, it instituted layoffs. However, due to seniority clauses in the union contracts, those affected were mostly part-time, younger, and less costly workers. The impending closing of most, if not all, of the A&P stores was expected.

In the early part of 1982, the president of Local 1357 of the United Food and Commercial Workers (UFCW), Wendell Young, sought the help of external consultants to explore a possible solution to the closing of the Philadelphia stores. Local 1357 represented most of the employees of A&P and Young knew he had to do something to remedy the situation. He intended to come up with a large sum of money and buy 21 of the soon-to-be closed stores.

Under the guidance of systems consultants, the union used mess formulation in outlining the issues facing the proposed plan. Participants indicated the need to reform management policy and practice, regardless of who was managing. The external consultants also assisted union leadership in

educating its members to the need for the union to expand its role beyond the traditional roles of organizing, bargaining and pension administration in the face of the changing environment. In March 1982, the union made a bid to buy several stores.

When two owned and operated stores became successful, A&P management considered alternatives to mass closings. A&P recognized that the workers had a great deal of relevant knowledge that previous owners had never tapped and became receptive to the concept of worker participation in management. It also considered shared earning that might be realized by revising provisions in the existing labor contract concerning wages, hours and benefits. Together with the union, the company initiated the "Quality-of-Work-Life Plan." Included in the plan were: (1) reopening at least 20 stores under a new subsidiary of A&P called Super Fresh; (2) shorter vacations and pay cuts; (3) workers to receive 1% of gross sales if labor costs were at 10% of operating revenues; and, (4) company commitment to Quality-of-Work-Life Programs.

To ensure development and success of the plan, the company utilized the ends planning phase of the Interactive Planning Methodology. In the middle of June 1982, approximately 30 people were assigned to three design teams. These included corporate employees from A&P and Super fresh employees from all levels (e.g., president, store managers, full-time, and part-time employees) and staff from union locals. The three groups generated an idealized design of a supermarket chain. The groups were then reshuffled into two groups, which then produced a synthesis of the design. The two designs were further synthesized

by a small working group and then presented their ideas to the original 30, who modified, and approved the final design. The final design was printed in a pamphlet entitled “Quality of Work Life for United Food and Commercial Workers Local 56 and Local 1357 with Super Fresh Food Markets.” A system of planning boards, formed at every level of management, was proposed, to coordinate the activities within its unit. Planning boards provided the employees an opportunity to participate in the planning of the organization by means of a structured management system throughout the organization (Barstow, 1990).

A year after, on April 3, 1983, Jan Shaffer wrote an article in the *Philadelphia Inquirer*, which hailed the Super Fresh Supermarket a “breakthrough in employee participation in management” (Ackoff, Magidson & Addison, 2006). Today, in 2007, some 76 Super Fresh stores are still in operation in Pennsylvania, New Jersey, Delaware, Maryland, and Virginia.

This case illustrated how Interactive Planning Methodology was used to assess and enhance the feasibility of a plan. Since the use of consultants was initiated not by management but by the union, this paved the way for the expansion of duties. The success of the group’s efforts made management realize the importance of worker participation in store management. As a result, management and union worked together to solve the problem, which produced a successful outcome.

GlaxoSmithKline

The Global Group of the Procurement Processes section of GlaxoSmithKline, a

multinational research-based pharmaceutical company, is responsible for creating and implementing systems and processes that support overall procurement process. Its activities include, among others, management of contracts, placing orders, analyses of expenditures, preparation of requests for proposals and quotations, assuring continuity of supply, and monitoring supplier contracts.

In 1999, Gregg Brandberry, the newly appointed Vice President and head of the group, learned that internal customers believed that the systems in place were irrational, time-consuming and unresponsive to their needs. For example, the system for managing supplier contracts was so difficult to use that most of the procurement staff prepared their own contracts and kept them themselves. Without proper coordination, they experienced great difficulty in tracking down contracts that led to the embarrassment of having to ask for copies from suppliers. Furthermore, as there was no standard template for a contract, the procurement staff drafted many contracts without consulting its legal staff, which resulted in backlogs in the legal department due to the heavy workload of correcting these contracts.

Brandberry asked a member of his management team, who was educated in systems consulting, to conduct the Interactive Planning Methodology to improve the process systems in his department. For the first part, half-day design sessions were conducted with three groups of ten users. Then, a group of five core people initiated mocked up display screens for computers and representations of flows, and arranged for review sessions where users were

invited to provide their inputs into the design process. After twelve weeks, a new web-based contracts-management system had been programmed and implemented. The new system included features such: a standard summary page for every contract that could facilitate quick review of contract coverage; template contracts for every transaction; automatic alerts about upcoming contract expirations and automatic renewals; and, a globally accessible search engine where users could quickly find specific contracts.

The success of the initial project created such enthusiasm that management encouraged the use of idealized design in other processes within the procurement department. Between 2000 and 2003, the set of systems developed using idealized design helped the procurement department exceed its goal of saving more than \$1 billion (Ackoff, Magidson & Addison, 2006). In 2003, GSK was awarded the “Best Use of Technology Award” by the Chartered Institute for Purchasing and Supply (UK) for having the best procurement systems platform of any company operating in the United Kingdom. The advantages that the procurement department gained from the interactive planning approach led other departments within the GSK family to adopt the methodology in various planning, process and product improvement initiatives.

This case illustrated how Interactive Planning Methodology was first used for a small project in one department and how its success led to bigger projects within the organization. Starting small is the surest and fastest way to get people to see the benefits of the methodology, because people are most likely to be accepting and receptive of something that has already been proven to work.

Starting small is less risky and gives everybody the chance to generate his or her interest in the process. The GSK experience also emphasized the flexibility of the methodology. Sometimes, the mess is so obvious to everyone that mess formulation and presentation are not anymore necessary. From the very start, it was obvious to Mr. Brandberry that the procurement “system” was the problem, and based on this understanding, he used a systems solution methodology to improve a specific procurement process.

The three cases illustrated situations where Interactive Planning Methodology could be applied. Although these companies are for-profit, this methodology has also been successfully conducted with non-profit organizations such as the Academy of Vocal Arts (1996) and government institutions such as the White House Communications Agency (1994), and across different industries.

CHAPTER 6

THE FACILITATOR

The facilitator's role is crucial to the success of the Interactive Planning Methodology. It is the facilitator who provides order and structure to the process and ensures that the goals are met. The facilitator aids the process by encouraging and engaging people to contribute their ideas to reach a specific goal, which is, in most case, the idealized design. Dr. Gerald Suarez, an experienced practitioner, stated that the facilitator is the glue that provides continuity and integration to the process. According to Suarez,

The facilitator must have no particular agenda to steer the team and the organization in a specific direction. He must be willing to explore all possibilities and guide the team in making sure that there is balanced participation, that no one is dominating the discussion and that the pieces of information that are coming together to form a holistic design are captured in the proper way. He maintains rigorous information, shares back the documentation, dictates the meeting in setting the agenda, getting the people together, following up, disseminating preliminary documents back to the workforce and back to the attendees of that process (phone conversation, December 14, 2006).

The facilitator of the interactive planning approach should be thoroughly familiar with the methodology and must have sufficient knowledge of systems thinking. Understanding how the methodology works is important since the facilitator needs to explicitly explain the process to the participants. However, being successful at facilitating the interactive planning approach goes beyond just having knowledge and familiarity of the methodology.

This chapter focuses on the competencies required of a facilitator of the Interactive Planning Methodology, as well as other factors that lead to successful

facilitation. Data were gathered from observation of an interactive planning session held at GlaxoSmithKline (December 5, 2006), and by face-to-face and telephone interviews with individuals who have been involved in the use of the methodology, either as facilitators or participants (See Appendix A for all interviewees).

Interview Methodology

Interviews were conducted between November 13 and December 14, 2006. Seven people were interviewed in person: Dr. Russell Ackoff and Dr. Sheldon Rovin were interviewed on November 13, 2006 at the Faculty Club of the Inn at Penn in Philadelphia; Dr. John Pourdehnad was interviewed on November 13, 2006 in his office at the University of Pennsylvania; Mrs. Adele Hebb and Mr. Robert Lyon were interviewed on November 30, 2006 at the Academy of Vocal Arts in Philadelphia; Mr. Russell Force was interviewed on December 5, 2006 at the Inn at Penn in Philadelphia; and Dr. Jason Magidson was interviewed on December 5, 2006 at GlaxoSmithKline in Philadelphia. The rest of the interviews were conducted by telephone: James Leemann on November 20, 2006; Gordon Yonel on November 23, 2006; and, Gerald Suarez on December 14, 2006.

Practitioners of the Interactive Planning Methodology were asked the following questions:

1. How long have you been using Interactive Planning Methodology?

2. For what reason/s , purpose/s did you use the Interactive Planning Methodology?
3. How do you define a successful facilitation of the Interactive Planning Methodology?
4. What are the 5 skills a facilitator should have in facilitating an Interactive Planning Methodology?
5. How does one acquire/develop these skills? How did you acquire/develop these skills?
6. What are some of the rules that you abide by when facilitating?
7. What are the pitfalls that you have to avoid while facilitating?
8. What are some of the challenges that you had to face while facilitating? How did you handle these challenges?
9. How do you engage people to participate?
10. What are the other factors that can contribute to the success of this process?
11. What are the things that can hinder its success?
12. What are the advantages that you saw in using the method?
13. How can this method be improved?

Clients of the Interactive Planning Methodology were asked the following questions:

1. What was your involvement in the interactive planning methodology?
2. How would you describe the Interactive Planning Methodology?

3. How do you define a successful facilitation of the interactive planning methodology?
4. What are the things that you liked about the methodology? What can be improved on?
5. What are the factors that can contribute to the success of the process?
6. What are the things that can hinder its success?
7. What are the things that you liked about your facilitator/s?
8. What could he/they have done better?
9. What were the activities where you found the facilitator to be of most help to you?
10. What were the challenges that your facilitator/s faced while facilitating the workshop?
11. What are the five skills a facilitator should have in facilitating an IP methodology?

All responses were recorded, coded and summarized.

Observation Processes

An Interactive Planning Methodology session was observed at GlaxoSmithKline on December 5, 2006. Six people were in attendance at a conference room at their headquarters in Philadelphia. The facilitator of the session was Dr. Jason Magidson.

The observation was non-disguised (i.e., the participants were made aware of my purpose for observing) and non-structured (i.e., I did not look for

specific facts or actions but rather captured everything that occurred). During the session, I collected data by describing how the facilitator interacted with the participants, keeping in mind the characteristics identified in the previous interviews. After the session, I looked for any inconsistencies between my observation and interview notes, but did not find any. My data I got from the observation process validated the responses I got from the interviews.

Competencies Required

Dr. James Leemann (practitioner) defined successful facilitation of the interactive planning approach as “having the capabilities to be able to get individuals involved in the entire process to be extraordinarily participative and committed to the outcome that one is striving for” (phone conversation, November 20, 2006). The participative nature of the process requires that the facilitator of the interactive planning approach have an understanding of group dynamics and the differences in personalities and ideas of the participants. The facilitator must have the ability to read and analyze group dynamics on the spot in order to guide the group in a productive way. This was supported by Gordon Yonel (client) who noted,

The facilitator almost has to be a psychologist to be able to deal with and read these people’s (participants) minds and anticipate when to soothe them, and reassure them that everything is fine, and everything is for their benefit (phone conversation, November 23, 2006).

Ms. Adele Hebb and Mr. Robert Lyon, both clients of the methodology, agreed and Mr. Lyon indicated that:

The facilitator must be able to cut to the chase. He can allow a little bit of leeway for the participants to get off tangent but must be able to get them back on track. He must be able to keep clear as to the function of the group (large ideas) and keep them on what they're doing, as well as give input for the goals or objectives (personal conversation, November 30, 2006).

Every change methodology needs to have buy-in from the persons involved. When asked how he obtains buy-in from his participants, Dr. Sheldon Rovin (practitioner) stated, "the excitement comes from the process. People are engaged in it, and are generally excited because they are thinking in a way that they're not used to thinking in a typical organization" (personal conversation, November 13, 2006). The challenge, according to Dr. Leemann, is to keep the participants' energy level up and to give them a sense of wanting to stay focused in task in getting to the final product. He asserted,

The facilitator should be able to provide the participants with a sense of ownership in that what they say are brought out into the table and is considered as an aspect of whatever the idealized design is going to end up with. He must be able to create an ownership in the process as opposed to something that they (the participants) just needed to do (phone conversation, November 20, 2006).

As an internal facilitator, Dr. Suarez had more experience arranging incentives to motivate participants. He reported,

In many ways, it was a combination of incentives for participation, mandate from the no.1 person. It was almost as if we have to tell them we have to be autocratic about it, we have to do it and then within that form then we were democratic. They were appointed and were asked to participate. We used a little bit of reference projection to motivate them, e.g., what would happen if we don't change? We provided some data on the decreasing budget...we made a compelling case that technology was really moving faster than we were, that we couldn't keep up with the technology, that

workforce was overworked and that we were losing many of them and we tried to generate a sense of urgency.

We had to ensure that nobody's career would be adversely impacted by the change, and that everybody would benefit from this in terms of professional development (training and so on). We provided opportunities for career development. In one of the efforts, we used the military protocols to reward people based on their dedication and commitment to the process, where they got special commendations and awards for participating, engaging and for going beyond their normal duties (phone conversation, December 14, 2006).

Ownership stems from both understanding the process and believing in it. The facilitator must have good communication skills to be able to clearly explain the rationale and activities of the methodology, as well as the charisma to make the participants believe in its importance. For the methodology to work, the rationale and process should be clearly understood by the participants. It is the responsibility of the facilitator to clearly convey to the participants the steps of the process, what is in it for them, and how it can help the company in the long run. Since the process requires the participants to reframe their mindsets, the facilitator has to be very articulate and compelling to be able to do this. Dr. John Pourdehnad (practitioner) who has undertaken more than 100 systems projects, indicated that "the facilitator must be able to provide and set the participants into a mode of discontinuity- that the system was destroyed last night" (personal conversation, November 13, 2006). This is a daunting task so it requires a little bit of persistence on the part of the facilitator. He has to make sure that everybody is working on the same page all the time.

Communication skills should also be coupled with strong analytical skills. The facilitator must know what questions to ask, when to ask them, and how to structure these questions to elicit good answers without making the participants feel uneasy or defensive. He or she must know how to redirect questions, as well as probe and ask for more information when the initial answers are not sufficient. He or she must also know how to rephrase or reframe statements to enhance understanding, and to highlight areas of agreement and disagreement as they develop. According to Dr. Rovin:

A good facilitator will intervene when necessary and push the group to think differently. When the group comes up with ideas, which are no different than any other ideas, this can be rationed with by the facilitator. The facilitator doesn't give the idea but pushes the people to think differently... When someone throws out an idea that is not any different, he/she asks that person 'how is that idea different from what we already have? To be able to do this, the facilitator should have some knowledge about the company and the industry. This is easier for an internal consultant. When an external consultant is brought in, you would have to prepare that person by letting him or her know your organization. The facilitator has to be able to determine when their (the participants') response is not being very creative so he/she has to understand something about the organization (personal conversation, November 13, 2006).

Knowledge of the organization and the industry are necessary in evaluating the creativity of the responses of the participants. It also allows the facilitator to select from a myriad of successes of other companies those experiences that are relevant to the client company and that the participants can relate to. When asked what a facilitator of the IP methodology can do more of, Mr. Yonel indicated,

He must be able to connect exercises in different companies and relate one company with another. In giving examples, the facilitator

must be able to explain to the participants, in their own industry, in their own language, how other companies have benefited from it (phone conversation, November 23, 2006).

The facilitator must also manifest critical thinking in terms of his or her ability to process everything that has been covered and ensure that it is consistent and coherent. For Mr. Yonel, it is important for the facilitator to have “the ability to boil down the things that are being said by different mouths into a very concise statement; synthesize the responses to one or two common points, and make it one coherent sentence” (phone conversation, November 23, 2006). Dr. Jason Magidson, practitioner, stated that it is likewise important for the facilitator to be “quick and precise in capturing the ideas presented by the participants” (personal conversation, December 5, 2006). He or she must be efficient in recording the responses of the participants, be it on the board or on flip charts. He or she has to make sure that the participants can see his notes all the time. This is one way of confirming to the participants that all ideas are listened to. It also enables them to easily build on each other’s ideas.

A good facilitator has to have strong interpersonal or “people” skills. He or she needs to establish an open and non-threatening atmosphere where the participants are not judged based on what they say. Ms. Hebb and Mr. Lyon agreed,

The facilitator should be interested in people’s ideas, should welcome ideas and encourage people to build on ideas not squash them. A good facilitator should be able to get the participants to meld their different approaches and get them to agree on the way to do things (personal conversation, November 30, 2006).

One corollary to having people skills is for the facilitator to be able to quickly establish rapport with the participants. Dr. Ackoff indicated that the facilitator has “to get along well with people and that they have to listen to him.” According to Dr. Leemann, “the facilitator has to get in front of people, develop a level of trust, rapport and work with them over a period of time to have them comfortable with what you’re doing” (phone conversation, November 20, 2006). Some facilitators conduct IP sessions in teams since there are times where, for some reason, one of the facilitators is unable to establish rapport with the participants. When this happens, the other facilitator steps in.

It is imperative that the participants have respect for the facilitator. According to Dr. Rovin, “for the facilitator, rank is not important inside the group but authority is... with that, respect follows.” The facilitator does not have to be a high-ranking officer in his/her organization, but he or she has to command authority for conducting the exercise.

Some of the greatest challenges that the facilitators have to face are unwilling participants, domineering participants, and those who do not believe in the process. Facilitators handle these challenges differently, exercising judgment all the time. In dealing with participants with domineering personalities, some facilitators are direct enough to call their attention, while others use indirect strategies such as calling the silent ones instead. Dr. Suarez handles it by:

Providing various forms and formats so that everyone has a chance to be heard. For example, one of the things that we did, there were occasions in which team discussions were not the traditional sit down and talk but we apply tools like affinity diagrams where everybody wrote down some of their ideas and recommendations that would make the organization better and with those tools like

those, the benefit of it is that everybody has the same kind of opportunities and every idea counts as equal as anyone else's. In a way, we provide forums so people who are more introvert are still have a chance to express their ideas and people who tend to dominate are encouraged to write things down where they were not as vocal. It's a combination of techniques ranging from brainstorming to nominal group techniques and some of the basic methodologies for gathering language data (phone conversation, December 14, 2006).

The facilitator must also have highly developed negotiation skills.

Negotiation skills refer to one's ability to influence a group to quickly reach a decision. For Dr. Suarez, having negotiation skills come in handy when:

There are incompatible ideas and there is discussion of which idea should prevail. Someone with good negotiation skills can actually facilitate this in such a way that from these two ideas, a third idea emerges, one that is superior than either of the two taken separately and that conversation is very beneficial in enhancing the final design (phone conversation, December 14, 2006).

Importance of Creativity

Data gathered from the interviews indicated that having the appropriate personality to facilitate the methodology can be as important as having the facilitation competencies. In fact, Dr. Ackoff asserted that the personality of the facilitator is a more important determinant of success. He added that an effective facilitator should understand the rules of being creative. Dr. Mihaly Csikszentmihalyi's (1996) book entitled *Creativity* suggests how creativity can be understood and enhanced. I draw on these ideas to address how to facilitate Interactive Planning Methodology.

Dr. Csikszentmihalyi distinguishes three different avenues where creativity is legitimately manifested: (1) expression of unusual thoughts, of ideas that are

interesting and stimulating; (2) experiencing the world in novel and original ways, who have fresh perceptions and insightful judgments; and, (3) changes in our culture in some important respect. I define creative facilitators as belonging to the first category. They are creative individuals who are considered “brilliant conversationalists, having varied interests and quick minds “ (Csikszentmihalyi, 1996). This is the type of creative individual that the interviewees referred to when they talked about good facilitators for Interview Planning Methodology.

Creative individuals are remarkable for their ability to adapt to almost any situation and to make do with whatever is at hand to reach their goals (Csikszentmihalyi, 1996). What distinguishes creative individuals from others is their complex personality: this means “being able to express the full range of traits that are potentially present in the human repertoire and having the ability to move from one extreme to the other as the occasion requires” (Csikszentmihalyi, 1996, p57). Csikszentmihalyi illustrated this point in terms of ten pairs of apparently antithetical traits that are oftentimes present in such individuals (See Table 1). I will only discuss those that were identified and cited as being most useful for a facilitator of the Interactive Planning Methodology. While Csikszentmihalyi illustrated his point by referring to creative people under the third category (i.e., innovators who have changed, in one way or another, introduced a new concept and changed the culture), my interviews and observations apply to the first as well.

TABLE 1. Characteristics of Creative Individuals

1. They have a great deal of physical energy, but they are also often quiet and at rest.
2. They tend to be smart, yet also naïve at the same time.
3. They possess a combination of playfulness and discipline, or responsibility and irresponsibility.
4. They alternate between imagination and fantasy at one end, and a rooted sense of reality at the other.
5. They exhibit both introversion and extroversion.
6. They are remarkably humble and proud at the same time.
7. They, to a certain extent, escape the rigid gender role stereotyping.
8. They tend to be both traditional and conservative and at the same time rebellious and iconoclastic.
9. Most of them are very passionate about their work, yet they can be extremely objective about it as well.
10. Their openness and sensitivity often expose them to suffering and pain yet also a great deal of enjoyment.

Intelligence and Naiveté

Creative individuals tend to be smart and naïve at the same time. They must have individual IQs that is high enough but not to the point where it gets them to become complacent and secure in their mental superiority understanding of things that makes them lose their curiosity to achieve something new.

Facilitators have to be sufficiently intelligent to grasp the intricacies of the problem and surrounding systems but should not let this intelligence blind them.

They also have to be open to and recognize new ideas, especially other peoples' ideas and learn from it. As Dr. Rovin suggested,

The facilitator must know enough about the method, the (client) company and industry. He has to be creative and has to encourage the others to be creative so that when somebody throws out an idea, which he thinks is not being creative, he should be able ask "How is that idea different from what we already have?" (personal conversation, November 13, 2006).

Furthermore, creativity is also manifested in one's ability to use well two opposite ways of thinking: Convergent thinking, which involves solving well-defined, rational problems that have one correct answer, and divergent thinking, which involves fluency or the ability to generate a great quantity of ideas. As important as divergent thinking is, it is not much use without the ability to tell a good idea from a bad one- a process that involves convergent thinking. A facilitator of the Interactive Planning Methodology who is creative must be comfortable in both ways of thinking. It is clear that divergent thinking is needed in going about the process, particularly in seeking ideas from participants. However, the facilitator must also be a convergent thinker to enable him to ask the right questions to facilitate group decision-making and consensus.

According to Dr. Ackoff:

A good facilitator should be able to put the questions into the group. Divide the client organization into segments and start with something --organization structure, products, services and quick-thinking and must always be prepared to ask critical questions (personal conversation, November 13, 2006).

Imagination and Fantasy

Creative individuals alternate between imagination and fantasy at one end, and a rooted sense of reality at the other. To achieve success in facilitating Interactive Planning Methodology, facilitators should be able to activate the imaginative aspects of the participants, and at the same time enable them to stay grounded to the task at hand. For Mr. Yonel:

A good facilitator should be knowledgeable about the process itself so he does not get distracted and dragged away from the task at hand. The interactive planning methodology is an analytical process; it is structured yet it encourages creative thinking. The facilitator should therefore have a strong left-brain to guide the exercise and enough right brain to let people think in abstract terms so that creativity flows (phone conversation, November 23, 2006).

Humility and Pride

Creative individuals are remarkably humble and proud at the same time. Facilitating an Interactive Planning Methodology is no easy task and the facilitator must have the knowledge, experience and the respect of the participants to succeed. However, the facilitator should always be aware that his or her role is not to provide the answers but to encourage people to think for themselves. This was evident in Dr. Pourdehand's words,

The facilitator employing the methodology has to be knowledgeable in everything. He never knows what he will be faced with so he has to be prepared for anything. However, he must be humble about his experience and expertise, otherwise the dynamics of the group changes. This is the difference between consultants employing the IP methodology and those using other methodologies: consultants are there to facilitate and to provide guidance as a resource. They become members of the teams. In no way are their knowledge/expertise greater than those of the other members (personal conversation, November 13, 2006).

Playfulness and Responsibility

Creative people have a combination of playfulness and discipline or responsibility and irresponsibility. A playfully light attitude is typical of creative individuals, but this playfulness does not go very far without a quality of doggedness, endurance and perseverance (Csikszentmihalyi, 2006). Mr. Lyons and Ms. Hebb agreed,

The ideal facilitator is one who is warm and friendly. He must make people feel comfortable. He has to have a good sense of humor. He must be able to cut to the chase. Once in a while, he may allow a little bit of leeway to get participants off tangent but he must be able to get them back on track when necessary (personal conversation, November 30, 2006).

Rebelliousness and Conservatism

Creative people are thought to be rebellious and independent, yet traditional and conservative. The interactive planning approach requires some basic tenets where facilitators cannot deviate from, but facilitators exercise judgment and may handle certain situations differently. For example, the methodology requires active participation of the participants but facilitators have different ways of engaging people. Another example is, while Dr. Ackoff believes that one facilitator should not handle more than ten participants, Dr. James Leemann noted that he has successfully worked with more people.

Typically, I've handled activities that would run anywhere from as high as 30 people to as low as 15. Managing all 30 people at once is hard, there's no question about it—you're basically on your toes the whole time people are engaged. You have to pay attention to what people are saying, to document what they're saying and at the same time you have to look to see if anyone of them is not participating and you have to think of a way to get him to participate. But as far as managing a group of 30 people, I don't

find it to be that difficult. It's a daunting task, there's no question about it, at the end of the day you're absolutely exhausted because you have to pay such close attention to everybody and everything that's going on (phone conversation, November 20, 2006).

To successfully handle the Interactive Planning Methodology, it should be emphasized that facilitating is more of an art than a science. Furthermore, there is no hard and fast rule that will guarantee one's success in such an endeavor. Based on the insights gained from past experiences of the practitioners and participants of such methodology, I conclude that the methodology is highly experiential, and one only becomes proficient at it through practice.

CHAPTER 7

SUMMARY AND RECOMMENDATION

Systems thinking has come a long way since its early Greek philosophical roots. The Interactive Planning Methodology developed by Ackoff is one systems methodology that has gained wider acceptance since it was first developed in the 1970s.

The Interactive Planning Methodology is attractive to employ because it promotes participation and creativity. Furthermore, it considers all the subsystems of the organization as well as the systems surrounding it. The case studies illustrated its flexibility. The methodology can be used for a variety of situations, including product development, strategic planning, and facilities design, and has been successfully applied across different industries, by many organizations and enterprises.

Behind every successful interactive planning exercise lies a competent facilitator. It was suggested that a facilitator of this methodology needs not only knowledge of systems thinking and the methodology but must also understand group dynamics, as well as the differences in personalities of individuals, and must know how to use this knowledge to guide the group in a productive way. He or she must be able to keep the energy level of the participants up and enable them to stay focused on the task. He or she must possess excellent communications and a high degree of analytical skills. He or she must be able to connect his previous knowledge and experience to the current situation. It is imperative to capture everything during the exercise, from making sure that all

the participants' responses are recorded for the participants to see to ensuring that everybody gets to have equal airtime. Lastly, the facilitator has to be well liked and respected by the participants. He or she needs to establish an atmosphere in which the participants are willing to share their ideas and build on others' ideas.

In addition to having the right competencies, the facilitator also has to have the right personality to be successful. It was found that creativity plays a big part in the success of a facilitator. Effective facilitators manifest creativity by expressing unusual thoughts and being interesting and stimulating. Creative individuals stand out because of their complex personalities. The interviewees illustrated how interactive planning facilitators who are creative (1) tend to be smart and naïve at the same time; (2) alternate between imagination and fantasy at one end, and a rooted sense of reality at the other; (3) are remarkably humble and proud at the same time; (4) have a combination of playfulness and discipline or responsibility or irresponsibility; and (5) are thought to be rebellious and independent, yet traditional and conservative.

The purpose of this thesis was not to present a handbook on facilitating the interactive planning approach but to provide an introduction of the Interactive Planning Methodology, its applications, and the competencies necessary to successfully facilitate such methodology. As Professor Russell Ackoff noted, "facilitating the interactive planning approach is not a science but an art." One does not learn how to facilitate by reading a book but from experience. This thesis described the competencies and aptitudes of successful facilitators of the

Interactive Planning Methodology. To promote further use of this valuable technique, it is suggested that further research is conducted, particularly on the competencies necessary for every step of the process, and on how a prospective facilitator can systematically acquire and develop these competencies.

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APPENDIX A

INDIVIDUALS WHO WERE INTERVIEWED FOR THE STUDY

Russell L. Ackoff (Practitioner) holds a Doctorate in Philosophy of Science from the University of Pennsylvania, where he is Anheuser Busch Professor Emeritus of Management Science in the Wharton School and Distinguished Affiliated Faculty, Center for Organizational Dynamics, in the School of Arts and Sciences. His 1957 book **Introduction to Operations Research**, co-authored with C. West Churchman and Leonard Arnoff, appeared as a pioneering text that helped define the field. He has written 23 books and more than 150 journal articles and monographs on topics such as psycholinguistics, measuring consumer interest, exploring personality, corporate planning, the art of problem solving, and leadership.

Russell Force (Facilitator) is currently a student in the MS in Organizational Dynamics graduate studies program at the University of Pennsylvania. He has had the chance to conduct the interactive planning methodology with other practitioners at a session held for the Academy of Vocal Arts in Philadelphia, PA.

Adele Hebb (Client/Participant) is a member of the Board of Directors of the Academy of Vocal Arts.

James Leemann (IP Practitioner) holds a Doctor of Philosophy in Systemic Management, specializing in systems thinking, interactive planning, transformational learning, organizational development and sustainable development. He is President and Founder of Leemann Group LLC, whose project engagements have involved a wide variety of industries dealing with complex interactive problems. He was a manager for DuPont where he planned, directed and managed the global Safety, Health and Environment program for Specialty Chemicals Division.

Robert Lyon (Client/Participant) is the Director of Institutional Advancement of the Academy of Vocal Arts in Philadelphia.

John Pourdehnad (Practitioner) holds a Ph.D. in Systems Sciences from the Wharton School; Affiliated Faculty in the Center for Organizational Dynamics, and Associate Director, Ackoff Center for Advancement of Systems Approaches, and Adjunct Professor, Systems Engineering, in the School of Engineering and Applied Science, all at the University of Pennsylvania. His primary areas of interest include implications of systems thinking in complex problem formulation and systems redesign, knowledge development in creation of new products and services, and the development of socio-technical systems for learning and knowledge-to-wisdom management in complex adaptive systems.

Sheldon Rovin (IP Practitioner) holds a Doctorate in Dental Surgery, and is Emeritus Professor of Healthcare Systems at the Wharton School of Business and past Director of Healthcare Executive Management Programs at Wharton Executive Education and the Leonard Davis Institute of Health Economics at the University of Pennsylvania. Dr. Rovin's publications include over 90 journal articles and book chapters, and 9 books. In 2003, he and Russell Ackoff published **Redesigning Society**, where they used systems theory to develop new approaches to governance, the structure and function of our cities and civic leadership in general.

Gerald Suarez (Practitioner) holds a Ph.D. in Industrial-Organizational Psychology from the University of Puerto Rico and is currently an Executive Education Senior Fellow and Executive Director of the Quality Enhancement Systems and Teams program at the University of Maryland. Previously, he served for 11 years at the White House, as the Director of Presidential Quality, where he initiated efforts to inculcate systems thinking and organizational redesign into the White House Communications Agency, the White House Military Office, and the Executive Office of the President of the United States.

Gordon Yonel (Client/Participant) is the former CEO at North Coast Energy, Inc. located in Twinsburg, Ohio.