Handbook of Organizational Creativity

Organizational Development

by

Min Basadur, Tim Basadur and Goran Calic

Key words: organizational development, open systems, innovation, creativity, creative thinking., creative problem solving, cognitive style, change, adaptability, efficiency, effectiveness, motivation, climate, strategy, transformation, commitment, competency.

Abstract

Our review of the field of Organizational Development (OD) reveals an extensive range of tools which attempt to help organizations improve performance. We believe that OD should be studied differently: As a *continuous process* of change making or innovation. How this innovation process enables organizations to operate as a successful open system achieving both social and economic outcomes simultaneously without trade-offs is explained and modelled. The innovation process is a continuous flow beginning with engaging employees in proactively seeking problems inside and outside the organization as possibilities for valuable new changes. This is called *problem finding* and is followed by *problem defining, solving and implementing*. Individual and team cognitive skills and styles that enable the process are described. The process is integrated into classic organizational effectiveness research requiring mastery of both efficiency and adaptability performance. Finally, the effects of the innovation process on climate perception, motivation and strategy are discussed.

1. CONCEPTIAL BACKGROUND

Organizational Development (OD) is a broad, loosely defined field of practice and inquiry that espouses the goal of improving organizations and making them more effective. Recently, this goal has become more complex and challenging to achieve, as we experience an era of rapidly accelerating change and frequent major discontinuities and interruptions to the world in which we work. Many organizations that prospered during more stable times—times that rewarded routinized efficiency—now find themselves poorly adapted. While OD interventions have been used to support creative efforts, overall, the field of OD has not made a strong research connection with creativity, probably because creativity, even among researchers, has not been fully understood as a *process* with requisite skills, as opposed to an *outcome*. Furthermore, in practice, creativity is relevant only when it is applied. As such, in this chapter, we will refer to applied creativity and innovation interchangeably.

In this chapter, we show that while OD has gradually evolved to understanding itself as a discipline of change management, virtually no one in the field of OD has yet envisioned OD as a *continuous process* of change making as opposed to discrete single or multiple organizational interventions at a single point in time or as an ongoing insertion of interventions over time. As well, such change making has been relegated to outside consulting firms administering various tools and interventions, leaving organizations devoid of these skills and dependent on external experts. Thus, to integrate the fields of OD and creativity, we present Organizational Creativity as a change making process that includes a set of change making attitudinal, behavioral and cognitive skills. We show that, just as the field of creativity has many discrete creativity *tools* which can be employed within our creativity process, many OD interventions are also tools that can be employed within the same creativity process. However, we distinguish between a discrete *tool* and a complete *process*, and between a tool skillfully and unskillfully *applied*.

That once successful companies are finding that their sure-hit formulas no longer work is an outcome predicted by Miller's simplicity theory (Miller, 1993), which suggested that some organizations become so overwhelmingly focused on a single goal, activity, department or worldview that they are incapable of considering other issues. It is not surprising that organizations whose main virtues during previous times were predictability and reliability should find it difficult to adapt to this increasingly dynamic environment. Their employees, too, are struggling to deal with these changing times as the vast scale of change has resulted in an unprecedented need for information processing and problem-solving skills.

This chapter addresses the need for organizations to develop more creative ways of thinking and behaving to succeed in a turbulent world. While many organizations possess ample efficiency and analytical capability, successful organizations must also learn to integrate adaptability and creative capability into their repertoire. Business and engineering schools have provided managers with extensive training in analytical thinking and problem solving. While useful for solving efficiency and optimization problems, such training is insufficient for developing tacit-level competencies in adaptability or creative problem-solving.

Tacit competency is developed through 'learning by doing,' to the extent that codification is not required. Polanyi (2009) referred to such a degree of competency as subsidiary level tacit knowledge – "we can know more than we can tell" - meaning skills are so integrated into an individual's repertoire that they become second nature. We argue that creativity attitudes, behaviors, cognitive skills and process must be learned, and developed such that they are second nature if organizations are to survive and thrive. We argue that capability in implementing specific creative behaviors, attitudes, cognitive skills and process are necessary foundations for successful organizational development efforts. Such efforts ultimately all focus on implementing valuable changes that build more effective organizations. Our goals are to enable a helpful unification of OD research and practice as a subset of Organizational Creativity, and to help apply the field of creativity to real world work.

1.1 Review of open systems theory and organizational effectiveness research

Prior to the advent of organizational development research in the mid-20th century, the external environment was perceived as the primary determinant of a firm's performance. This was the standard industrial organizational (IO) neo-classical economics viewpoint (Porter, 1980, 1980; Caves and Porter, 1977; Caves, 1980). According to the IO perspective, the source of a firm's profits was ultimately determined by its market position and the structure of the industry to which it belonged, and protected by barriers to entry into the market. This perspective led to the notion that leaders need only to design appropriate organizational structures and continue to make well reasoned decisions (Edmondson, 1996) in order to achieve continued economic success. The field of OD has been built upon the opposite viewpoint, which perceives that the source of superior profitability lies inside the firm. Known as the resource-based view, this perspective regards the firm as a bundle of resources not dependent on external market and industry structures (Ambrosini, 2003). This view suggests that resources are primarily responsible for a firm's sustainable competitive advantage, as they can be adapted to changing external circumstances.

Beer (2001) supports this need for companies to become capable of continuous adaptation but points out that there is little agreement on *how* that can be achieved. Our approach focuses specifically on the resources within people inside the firm and how they can use their creativity to manage internal and external change, in order to continuously develop and sustain organizational performance.

1.2 Open system organizations

One of the basic tenets of OD is the view of an organization as a transformational engine comprised of people, equipment, and processes which continuously convert changing inputs from the external environment into changing outputs to the external environment. The extent to which organizations pay heed to their external environments is said to be a measure of how "open" or "closed" they are. The external environment includes things like customers, the ecology, the government, competitors, suppliers, technology and society as a whole. Closed-system organizations ignore environmental changes while open system organizations continuously transform internal processes in response to environmental changes. A closed system is efficient, but survives only if the external environment remains stable or changes in a fortuitous way, allowing the organization to endlessly take in the same unchanging inputs and produce the same outputs.

Effective organizations achieve strong relationships with both their external and internal environments. Internal environments can be considered to have three main components—dominant coalition, structures, and culture—which shape the behavior of its employees (Beer, 1980). The dominant coalition (or thought leaders) are a group of key decision makers whose influence on the system is greatest. The coalition usually includes senior management, but can also include others whose collective job experiences, skills, cognitive orientations, personalities and values define the internal environment. They are individuals outside the formal structure of power who have considerable influence on decision making (Wilson, 2016).

Structures, such as training, job design and performance evaluation, are the formal aspects of an organization which signal to people that certain behaviors are desirable and that rewards are likely to result if they practice them. Culture means the composite perception employees have of their internal environment, expressed by such concepts as open, risk-taking, warm, soft, impersonal, informal or rigid. Culture can also be defined as the shared values, beliefs and norms which form an informal set of ground rules about what is expected and what will be rewarded (Groysberg, Lee, Price and Yo-Jud Cheng, 2018).

An open systems model that includes the effects of the internal and external environments on the organization as a *transforming engine* is shown in Figure 1. It recognizes that the organization is both an economic and social system with multiple purposes and outcomes, and that the people and economic inputs and outputs must filter through both environments. Financial indicators such as profit and return on investment are typical economic criteria of organizational performance. People criteria are often summarized as quality of work life and include things like job satisfaction, equitable pay, meaningful work, and a compatible social environment. Beer (1980) suggested organizations must provide a satisfactory quality of work life or will ultimately be unable to attract, motivate and retain employees and that these two sets of criteria create conflicting demands. Managers often feel forced to trade off one objective against another, such as reducing profits to pay people more, or declaring a dividend while laying-off employees to reduce costs. One purpose of this chapter is to demonstrate how these two outcomes can be accomplished simultaneously without trade-offs.

*Figure 1. An Organization Operating as an Open Economic and Social System*
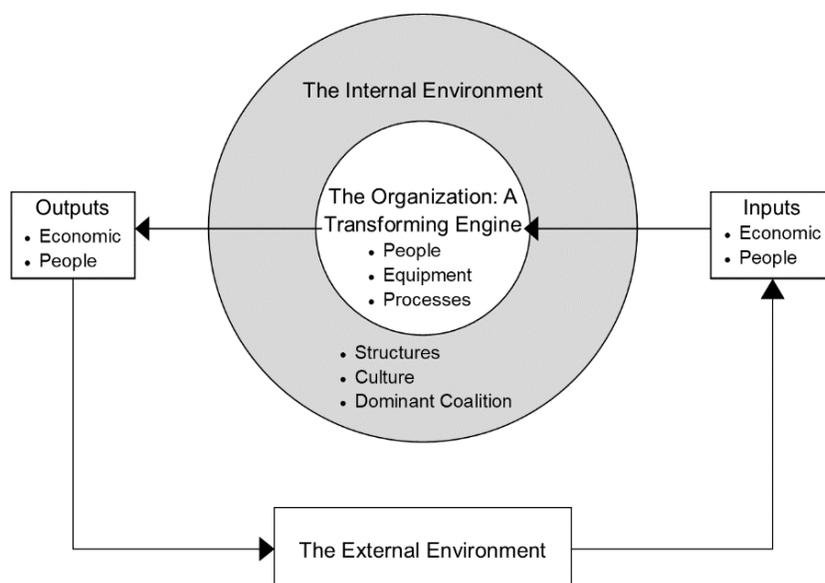
1.3 Organizational effectiveness, adaptability and creativity

Mott's (1972) field research showed that effective organizations have two major but very different characteristics: efficiency and adaptability. Efficiency means optimizing, stabilizing, and perfecting current methods or routines to attain the highest quantity and quality for the lowest possible cost. High efficiency means mastery of routine, or standard, prescribed methods by which the organization carries out its main tasks. The efficient organization follows well-structured, stable routines to deliver its products or services in high quantities with high quality and at low cost. On the other hand, adaptability means continually and intentionally changing routines and finding new things to do and better ways to do current work. Called opportunistic surveillance by Simon (1977), adaptability means scanning the environment to anticipate new opportunities and problems and deliberately changing methods to attain new levels of quantity, quality, and cost. Adaptability yields both new methods and new products and services. High adaptability means a high rate of positive change of routine. A closed-system organization works diligently to master the routine and focuses only on efficiency. An open-system organization also works diligently to deliberately change the routine to capitalize on its changing environment and focuses on both internal efficiency and external adaptability.

In a stable world, efficient organizations may be successful. But in a changing world, organizations need adaptability to anticipate problems and opportunities, and develop timely solutions and new routines. The people in adaptable organizations accept new solutions promptly and the acceptance is prevalent across the whole organization. While adaptability is a *proactive*

process of looking for ways to deliberately change in a planned way, it also includes *reacting* quickly to unexpected events to maintain routines, with minimal disruption, as well as creatively capitalizing on such occurrences. According to Mott's research, the most effective organizations are both efficient and adaptable simultaneously, while the least effective organizations lack the right amount of either or both attributes. This general insight is presented in Figure 2.

Figure 2. Balance of efficiency and adaptability appropriate for a rapidly changing, unstable environment.
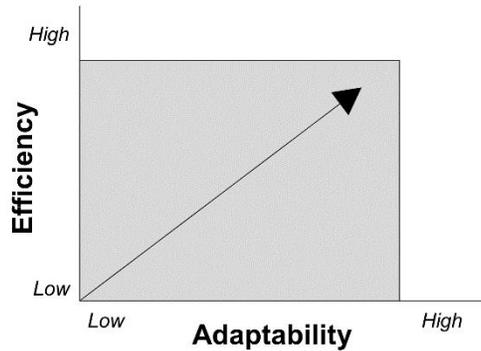
The simultaneous importance of adaptability and efficiency is demonstrated by the environmental change resulting from the Covid – 19 pandemic pf 2020 – 2021. Although many business segments were transformed worldwide, the restaurant industry was particularly affected by government lockdowns and changes in dining behavior. Restaurants must be efficient to stay in business, but many were forced to become highly adaptable, as well, to survive. Adaptable businesses quickly made changes, including new services such as patio/outdoor dining, drive-in/drive through and curbside pick-up, take out, delivery and/or delivery partnerships with delivery companies, community involvement with food banks, staffing and menu changes – all contributing to surviving and even prospering. A large per centage of restaurants, unfortunately, were unable to adapt and closed (Gonzalez, 2020).

Many organizations whose success was built on predictable technologies, markets, or other environmental factors learned to become highly efficient but neglected to build capacity for adaptability. Examples include Research in Motion's failure to adapt the leading smartphone at the time, the Blackberry, to compete with Apple and Android devices. As another example, Kodak, a technology company that dominated the photographic film market in the 20th century, failed to adopt to the popularity of digital cameras, a technology they themselves pioneered. An emphasis on efficiency is presented in Figure 3.

Figure 3. Balance of efficiency and adaptability appropriate for a predictable, stable environment
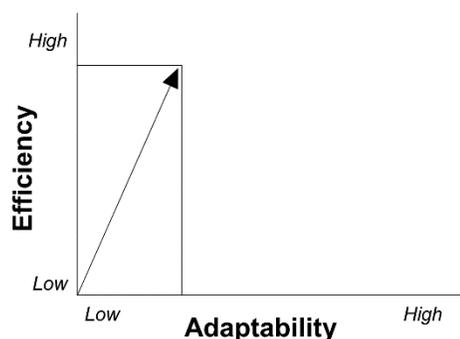
It is also possible for an organization to be too adaptable but not sufficiently efficient, as graphically presented in Figure 4. Some highly successful organizations—such as 3M, which is famous for continuously creating new products—carefully monitor their own activities so as not to overemphasize adaptability at the expense of efficiency (which would be an appropriate balance only in the most extremely turbulent environment). For instance, Microsoft has been criticized for introducing new products too hastily, such as Windows 8 (Whitney, 2019), before ensuring they have been optimized and are error free.

Figure 4. Balance of efficiency and adaptability overemphasizing adaptability at the expense of efficiency (inappropriate except in the most extremely unstable, unpredictable environments).
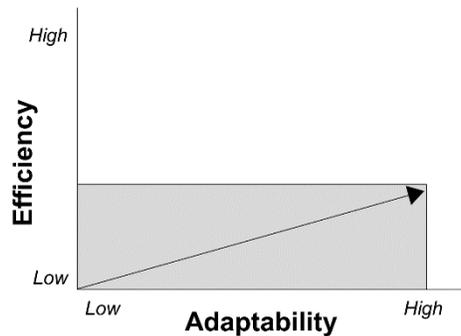
In a rapidly changing, unstable environment, both high efficiency and high adaptability are necessary. While all organizations need skills in both efficiency and adaptability in order to be effective, most organizations understand the concept of efficiency better than that of adaptability. One of the most important factors in determining the appropriate ratio between efficiency and adaptability is the volatility of an organization's environment. Burns and Stalker (1961) suggested that, in rapidly changing environments, organizations with more organic structures (favoring creativity and innovation) would be more effective than organizations with more mechanistic structures (favoring adherence to rules and procedures and routine). In less volatile environments, the reverse was true. The current business environment, characterized by continuous change, requires organizations to become highly competent in adaptability. Adaptable organizations introduce change to both their internal and external environments. An internal focus can include efforts toward innovating new routines or technologies, while an external focus can include developing competitive actions to rattle the stability of competitors. Whether focusing adaptability efforts internally or externally**,** changes should be planned and deliberate, with an organization regularly setting innovation goals and working toward them. While the former is planned transformational change, including discovering previously undetected customer problems to solve, the latter results in a planned, steady flow of incremental improvements in the quantity, quality and cost of current products and services. Basadur and Basadur (2011), suggested that organizations can readily learn how to create this steady flow by making it attractive for people to devote time to discovering new opportunities instead of rewarding only successfully optimizing and implementing current products.

1.4 How has organizational development attempted to support creative efforts and adaptability?

1.4.1   OD interventions

While it is generally understood that the purpose of the field of OD is to make organizations more effective, there are many different approaches to defining and understanding OD. Beer and Walton (1987) described one view of OD as comprising a set of actions undertaken to improve organizational effectiveness and employee well-being by applying theory from psychology and organizational behavior (such actions are often called "interventions"). This represents the

traditional organizational development approach, which was to provide organizations with tools or interventions designed to solve specific concerns or problems. Unfortunately, these were sometimes prescribed without adequate diagnosis or singly, without supporting interventions. Often, they were solutions developed in isolation before problems were adequately defined, and when such interventions failed to make any significant impact, the organization was encouraged to simply reach for another "solution.

The specific intervention called total quality management (TQM) has often failed to live up to expectations (Mosadeghrad, 2014), partly because it has been introduced as a grab-bag of tools (and management rhetoric) without any change making skills or process. However, TQM has succeeded when installed not only as a tool (intervention), but as part of a continuous process of change-making supported by a comprehensive, well- planned system of skill training, additional tools, management leadership and employee engagement towards well understood, specific, strategic goals (Basadur and Robinson, 1993). We will expand this process and skills view later in this chapter.

Traditional individual OD interventions may be classified into families of tools in Table 1 (Beer, 1980; French and Bell, 1984) and summarized as follows:

1. Diagnostic interventions, used primarily to gather data about the organization or its parts and to create a setting for sharing and problem diagnosis
2. Process interventions, which affect organizational behavior and process by enabling employees to examine, become dissatisfied with, and change their behaviors, and improve their relationships with others
3. Structural interventions, which enable the organization to create new designs and systems to address problems and changes in people and environment.
4. Individual interventions, including strategies and methods for selecting, training, and developing individuals, which are intended to change employees

Table 1. A Classification of Traditional OD Interventions

DIAGNOSTIC INTERVENTIONS	PROCESS INTERVENTIONS
• Survey Feedback	• Processing Meetings
• Confrontation Meeting	• Group Development/Team Building
• Sensing Meetings	– Goal Model
• Manager's Diagnostic Meeting	– Role Model
• Family Group Diagnostic Meeting	– Interpersonal Model
• Organization Mirror	• Inter-group Meetings
• Diagnostic Task Force	• Interpersonal Peacemaking
STRUCTURAL INNOVATIONS AND INTERVENTIONS	INDIVIDUAL INTERVENTIONS
• Organization Design	• Counselling and Coaching
• Job Design	• Training and Development
• Reward Systems	• Replacement and Termination
• Performance Management Systems	• Recruitment and Selection
• Control and Accounting Systems	• Career Development

Each of these interventions is intended to work in a different fashion. Following Lewin's well-known paradigm for the change process called "unfreeze-change-refreeze" (Schein, 1961), by nature, *diagnostic interventions* unfreeze organizational members, i.e., prepare them for change by providing data and identifying problems. *Process interventions* and *individual interventions* provide new attitudes, behaviors, skills, and processes to groups and individuals leading to creativity and innovation, and cause both unfreezing and changing. *Structural interventions* are often designed

to refreeze changes, ensuring that new, appropriate behaviors solidify. Structural interventions include changing appraisal and reward systems, jobs (e.g. job enrichment), and organizational designs (e.g. moving from functional design to matrix management or adhocracy) that support the new behaviors learned.

The early work in OD featured diagnostic survey feedback interventions introduced by researchers such as Baumgartel (1959) and Marrow (1969), while Lewin (1947) and Blake and Mouton (1964) became known for their pioneering work in process and individual interventions in developing training groups. As the field of OD has evolved, additional interventions almost too numerous to mention have emerged. Training interventions such as Appreciative Inquiry (Srivastva and Cooperrider, 1990), Emotional Intelligence (Mayer, Barsade, and Roberts, 2008), and Six Thinking Hats (de Bono, 1999 are aimed at increasing individual effectiveness. At the organizational level, terms such as Knowledge Management and Intellectual Capital are now common in the management literature. Practitioners attend seminars on concepts and tools such as "Workout", popularized at General Electric Corporation by Jack Welch (Bunker and Alban, 1996). Welch's disciples, Jeff Immelt, Jim McNerney and Bob Nardelli continued his management style at GE, Boeing, Chrysler and Home Depot. Organizational Learning (Argyris and Schon, 1978; Levitt and March, 1988; Senge, 1990; Garvin, 1993; Edmondson, 1996), Re-engineering (Hall, Rosenthal, and Wade, 1993); and Six Sigma and Lean Manufacturing (Martin, 2014). Major consulting companies offer sophisticated information systems for knowledge management, and many organizations have established knowledge management or learning systems departments headed up by a "Chief Knowledge Officer".

However, virtually all of these more recent (and perhaps, more sophisticated, interventions) are designed to address increased efficiency rather than adaptability and are usually seen as different and separate from organizational creativity and innovation. One purpose of this chapter is to show how the various disconnected concepts of knowledge management may fit together. We differentiate between the *apprehension* of knowledge and knowledge *utilization* and unite them into a single framework. We argue that this framework allows organizations to do three things:

1. detect errors and implement changes to restore or improve routines
2. make sense of sudden unexpected events and crises and convert them into opportunities for innovation, and
3. anticipate and seek out new information, and emerging opportunities to develop new products, services, and routines.

Many Organizational Development efforts are focused on addressing the first of these three goals—essentially the issue of efficiency. For organizations struggling with issues of adaptability, as expressed in the latter two goals, these OD efforts are inadequate and require creativity.

For example, Levitt and March's (1988) review of the literature shows that Organizational Learning is widely viewed as routine based. Routines include the procedures and technologies around which organizations are constructed and through which they operate. Argyris and Schon (1978) define two levels of organizational learning, both of which involve detecting and correcting errors in routine. Single-loop learning occurs when the error is corrected without changing the organization's existing norms, policies, or objectives. Double-loop learning occurs when the error is corrected by modifying an organization's norms, policies, or objectives. Thus, both single- and double-loop organizational learning are concerned with organizational efficiency—the maintenance, improvement, and mastery of routine. Single-loop learning restores routine (efficiency), while double loop learning improves or modifies it.

Some companies struggle with innovation, wondering why their continuous improvement programs seem to work smoothly to increase efficiency, while they are unable to sustain meaningful innovation programs. Some researchers and practitioners focus on topics such as

"management of technology", viewing information technology as the main source of innovation. However, an organization's success in new technology development and adoption is heavily stymied not by its technical ability, but its managerial incompetence: its inability to deliberately change its routines as necessary to make the new development or adoption an implemented success, that is, demonstrate adaptability. Among consulting companies, knowledge management is largely synonymous with knowledge *sharing*. Here, knowledge management consists of converting tacit knowledge (knowledge in individuals' heads) into explicit knowledge (code-able information suitable for electronic storage and transmission) and developing IT systems to spread this knowledge organization-wide so everyone has access to it. Such knowledge sharing systems require organizations to abandon the "command and control" method of managing, in which knowledge is the cherished and jealously guarded property of managers, and where employees are told exactly what to do, and are provided with the minimum amount of information they need to do it. However, although knowledge sharing makes more knowledge available to more people, the mere availability of information is insufficient if the goal is to increase efficiency, flexibility, and adaptability. Information must also be put to use, and additional information beyond what is coded in the IT system may be required. We suggest that this requires the adoption of a shared thinking process for using knowledge innovatively. This approach is consistent with Weick and Roberts' (1993) concept of "collective mind" in which members of an organizational system correlate their actions with those of all the others in the system to achieve optimal results.

Superior organizational performance—whether based on efficiency, adaptability or flexibility—is becoming increasingly dependant on superior thinking. While assets such as labor, capital, processes, and technology continue to be important, the organization's ability to think is now widely recognized as crucial. Innovative organizations make a habit of *using* knowledge creatively. It is true that some organizations derive competitive edge by being superior in efficiency—in continuously restoring and improving routines. Toyota, for example, employs total quality management efficiency tools such as six-sigma and lean manufacturing to find root causes of errors and reduce waste. Others have their own methods; Procter and Gamble is famous for its willingness to devote years of painstaking analysis to understand what went wrong with company routine procedures when rare failures occur (Swasy, 1993). The methodology we propose offers the opportunity to *operationalize* organizational learning, to make it more than just an academic concept. That is, one might ask, "just how do you *do* double-loop learning?" We suggest people can learn how by becoming skilled in the innovative thinking process and tools we describe.

1.4.2   OD interventions supporting creativity efforts

Skilton and Dooley (2010) suggested that structural interventions, such as introducing new members into teams working together over several projects, can support ongoing creativity. Butler (1981) distinguished between two different types of dominant coalitions that top organizations may structure. One is more rigid, permitting little room for the expression of deviant points of view, while the other is looser and allows more risk taking and the emergence of new idea leaders, which are required for innovation. Group development process interventions, which build cohesiveness, also support creativity. Cohen, Whitmyer and Funk (1960) demonstrated that more cohesive groups produced more unique ideas on work related problems than non-cohesive groups. However, Angle (1989) suggested that unless an open confrontive climate for conflict resolution exists within an innovation team, group cohesiveness is negatively related to the level of innovation. Organizational development interventions have also helped ensure the successful development and implementation of new technology innovations. For example, Wang, Chou and Jiang found that group cohesiveness significantly improved group performance in organizations that underwent ERP (Enterprise Resource Planning) implementation (Wang, Chou & Jiang, 2005).

1.4.3 OD supporting adaptability

Many of these interventions can improve organizations in the short run. But many seemingly successful and permanent changes regress or disappear within a relatively short time after their implementation. This is sometimes called the fade-out effect (Hinrichs, 1978). This suggests that, beyond changing a single organizational unit or introducing a single, successful intervention, a large organization must understand several strategic considerations in starting, orchestrating and sustaining an OD effort. For example, training as an individual or team process intervention succeeds only when managers institutionalize the implementation and daily use of the new skills trained by providing appropriate counseling, coaching, and, above all, modeling of the new skills. Top managers must look at what they practice versus what they preach (Beer, Eisenstat, and Spector, 1990). They must be proficient at the new skills. New organizational designs, reward systems, performance management systems, and control and accounting systems must also be implemented to ensure employees will use these skills on the job. One of the most obvious examples of the lack of understanding of this systems approach to managing is the inconsistency between organizational rewards and desired behaviors. Kerr's classic articles (2014, 1995) described these inconsistencies, as shown in Table 2.

Table 2. Examples of Inconsistencies Between Desired Behaviors and Reward Systems.

We hope for…	But we reward…
• Long term growth; environmental responsibility	• Quarterly earnings
• Setting challenging "stretch" objectives	• Achieving goals; "making the numbers"
• Commitment to total quality	• Shipping on schedule, even with defects
• Teamwork and collaboration	• The best team members
• Innovative thinking and risk-taking	• Proven methods and not making mistakes
• Development of people skills	• Technical achievements and accomplishments
• Employee involvement and empowerment	• Tight control over operations and resources
• High achievement	• Another year's effort

Early OD approaches centered on embedding humanistic ideals and values, including personal development, interpersonal competency, participation, commitment, satisfaction, and work democracy (French and Bell, 1999; Mirvis, 1998), into the workplace. Sinangil and Avallone (2001) describe the key defining words most often used during the early years of OD as change of beliefs, attitudes and values. Some early researchers nevertheless recognized that OD should be viewed from a broader perspective. Bennis (1969) defined OD as a complex educational strategy intended to change the beliefs, attitudes, values and structure of organizations so they can better adapt to change. Burke (1982) viewed OD as a planned process of change in an organization's *culture* through the utilization of behavioral science technology, research, and theory. Austin and Bartunek (2012) described OD as an evolving field, and emphasized that OD, at its core, involved the promotion of change and was really one of many approaches to the larger field of study now called planned change. Recent literature contains several definitions which emphasize OD's focus on planned, systematic change, based on the behavioral sciences, with the ultimate goal of improving organizational performance and effectiveness. For Woodman (2015), OD means creating adaptive organizations capable of repeatedly transforming and reinventing themselves as needed to remain effective. Church (2007) defines OD as a field of professional practice focused on facilitating organizational change and improvement. Beer (1980) defined organizational development as a "system-wide process of data collection, diagnosis, action planning, intervention, and evaluation aimed at developing the organization's self-renewing capacity". In addition, several authors have suggested the need for OD to address the larger business environment and help businesses accomplish strategic goals (e.g., Seo, Putnam, and Bartunek, 2001).

We believe OD experts have not developed a clear, definite and complete change-making process to assist in organizational adaptability and to understand change-making as a learnable skill. While there is some recognition that individual interventions are not sufficient to create sustained change, and while there is some evidence that progress is being made by organizational and management scholars, the organizational development and change literature remains largely underdeveloped, particularly with regard to its connection to organizational creativity (Pettigrew, Woodman and Cameron, 2001).

2. APPLICATIONS

2.1 Organizational creativity—A different approach to adaptability

Pettigrew, Woodman and Cameron (2001) concluded with two calls for future OD research. The first is a call to study change as a continuous process rather than as detached episodes. The second echoes Simon's call to deliver more "how-to" knowledge as opposed to "what is" knowledge. We present a process of organizational creativity that addresses both.

Organizational Creativity can be defined as a system of knowledge, process, skills needed to make the process work, tools (such as OD interventions and creativity techniques such as brainstorming) and appreciation of process style differences (Basadur and Gelade, 2006). Unlike the traditional OD approach, which lacks a strategic perspective and relies on single or multiple interventions to change-making, Organizational Creativity involves highly skilled employees at all levels constantly executing a process of finding relevant internal and external problems, solving them, and implementing the solutions. In effect, this defines organizational creativity as "implemented change." Such a change making process is shown in Figure 5, beginning with problem finding then cycling through problem defining and solving and solution implementing.

Figure 5 outlines a continuous circular process that begins with the deliberate seeking out (*generating*) of new problems and opportunities. The second stage of the process is *conceptualizing,* or formulating, defining, and constructing a newly generated problem. In the third stage, *problem solving,* evaluation and selection of solution ideas takes place, while the fourth stage results in *solution implementation*. The process then begins anew, as every implemented solution (action) results in the opportunity to discover (generate) new problems and opportunities. For example, the automobile's invention provided not only a new solution to an old problem (improving transportation) but created many brand-new problems (e.g., pollution, energy and accidents). Each stage of the process requires specific attitudinal, behavioral and cognitive skills in order to be successfully completed.

Figure 5. Creative activity in an organization.
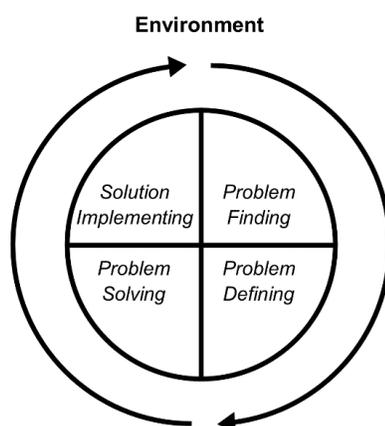
The most effective organizations know that creative attitudes, behaviors and cognitive skills and a creative process are necessary for successful sustained implemented change (Calic and Helie, 2016; Kriegesmann, Kley, Schwering, 2005; Stein, 1974). Real sustained organizational change comes as a result of a structured process of applied creativity and attitudinal, behavioral and cognitive skills employed by organizational members and modeled by leadership (Calic, Mosakowski, Bontis and Helie, 2020).

Discussing creativity can be quite difficult because no single, agreed-upon definition exists and researchers have taken vastly different approaches to its understanding (Hennessey and Amabile, 2010). We focus on demonstrating a circular process of creativity that integrates attitudinal, behavioural and cognitive skills as part of a continuous system of adaptability (Figure 5). We describe creativity in organizations as a continuous process of deliberate problem finding, problem solving, and solution implementation (Kabanoff and Rossiter, 1994; Perry-Smith and Mannucci, 2017) and attitudes, behaviors and cognitive skills that enable the process to work (Basadur, Graen and Green, 1982; Basadur, 1994, 2004).

Problem finding means continuously finding new problems to address. This includes addressing things that are going wrong, but also anticipating and seeking out current or future changes, trends, challenges, and opportunities. Problem finding also includes taking the time to explore problems in depth rather than merely finding quick solutions or "fixes" (Senge, Kleiner, Roberts, Ross and Smith, 1994). This permits the discovery of not only underlying issues but also new opportunities and recognition of the interconnectedness of decisions within the organization. This recognition is the essence of systems thinking and the starting point for making long-term, permanent improvements (Smith and Lewis, 2011). Problem solving means developing new, useful solutions to identified problems. Solution implementation means making new solutions succeed. Implementation usually leads the organization to find new problems to solve. As Runco (2004) noted, creativity is not only reactive—a response to problems and challenges—but also proactive, as a contributor to change. Thus new problems arise as the system and its environment react to each newly implemented solution. Therefore, organizational creativity can be understood as the fundamental driver of, and virtually synonymous with, adaptability, including a circular process of continuously finding, defining, and solving important problems and implementing new solutions which represent valuable changes that enable the organization to succeed.

This approach also removes any distinction between creativity and innovation (Hülsheger, Anderson and Salgado, 2009), despite views of some researchers who distinguish between creativity as the generation of an idea and innovation as its implementation (Anderson, Potočnik and Zhou, 2014; Baer, 2012). Here, creativity is defined as a multi-stage complete and continuous process driven: by attitudinal, behavioral and cognitive creativity skills in each stage, including problem generation and formulation, idea (solution) generation, and solution implementation. These skills are discussed in detail later in this chapter.

In addition, there are various creativity tools which can be applied in the various stages. However such tools are of little value, and may even be harmful, without the pre-requisite creativity skills to apply them. An example of such a tool is "brainstorming" which is frequently misused (Basadur and Basadur, 2009). We position most OD interventions as tools which can be employed within our organizational creativity process, but which are not, in and of themselves, useful for creating permanent change.

Some of the above intervention tools are compatible with the problem finding and problem definition stages of our organizational creativity process; others within the problem solving and implementation stages. For example, diagnostic interventions like survey feedback or the confrontation meeting are tools for problem generation and formulation: used regularly, they help anticipate and unearth organizational issues that might otherwise remain buried. Other tools, such as group development or team-building process interventions, help solve identified

problems, such as slow project completion, by improving the way people work together. If employee development is an important problem to solve, structural interventions such as job enrichment may be useful. Structural interventions can also help implement other intervention solutions. For example, installing a new reward system like the Scanlon plan (White 1979), a tool intended to encourage employees to use their creativity by sharing the profits from their productivity improvements, can cement the transfer of creativity skills learned in training to the job. Finally, individual interventions such as counseling and coaching help in the implementation phase of the organizational creativity process. For junior managers who have been given creativity leadership training (individual intervention) to work in a flattened organizational design (structural intervention), it can be helpful for senior managers to provide counseling and coaching (individual intervention) to "cement" the training and ensure implementation.
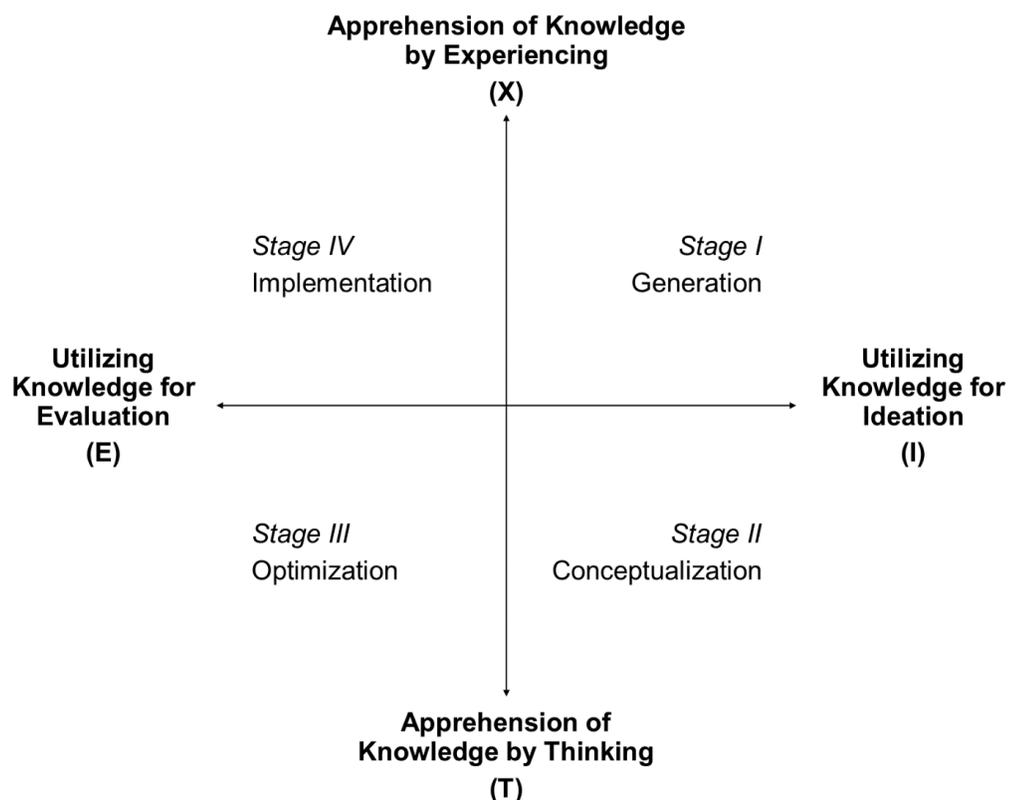
2.2 Measuring innovation styles

The Basadur Innovation Profile (IP) is an instrument that enables people to measure their method of dealing with problems. This is called their innovation style. Based on our research we have discovered that there are 4 unique styles which correspond to the four stages of tackling problems from beginning to end.

While effective innovation requires strong performance in each of the four stages of the creativity process, research has found that all individuals, teams and organizations prefer some stages of the creative process more than others. Effective leaders must learn to synchronize these different creativity preferences with the appropriate stage of the innovation process. For example, in team members must learn to combine their individual styles to collaborate in complementary ways. Basadur and Head (2001) showed that heterogeneous teams (composed of people with different styles) performed more innovatively than homogeneous teams (composed of members with the same styles).

Creative problem-solving styles are measured using the Basadur Innovation Profile (or Creative Problem Solving CPSP) Profile) which was first published by Basadur, Graen and Wakabayashi, (1990) and subsequently further refined through research and application experience (Basadur, Gelade and Basadur, 2014; Basadur, Gelade, Basadur, and Perez, 2016).

As shown in Figure 6, the CPSP measures two bipolar, orthogonal, dimensions of cognitive activity underlying the Simplexity process. The first dimension, shown on the vertical axis, represents the *apprehension* of knowledge and measures two opposing ways of apprehending knowledge (Experiencing vs. Thinking). Experiencing is a more open, non-rational, experiential, and divergent form of gaining understanding. It is learning by doing, or by "physical processing." In contrast, thinking is more closed, rational, theoretical, and convergent.

**Apprehension of Knowledge
by Experiencing**

(X)

Stage IV
Implementation

Stage I
Generation

**Utilizing
Knowledge for
Evaluation**

(E)

**Utilizing
Knowledge for
Ideation**

(I)

Stage III
Optimization

Stage II
Conceptualization

**Apprehension of
Knowledge by Thinking**

(T)

It is a method of gaining knowledge through detached, abstract thinking (pondering), or by "mental processing". All individuals and organizations gain knowledge in both ways but the relative amounts (ratios) differ from those of others. Following is a description of each of the stages, broken down into four quadrants.

The Quadrant I. stage is called *Generation* and involves Apprehension by Experience and Utilization for Ideation. Here, physical contact with, and involvement in, real world activities (X) alerts the individual to inconsistencies and difficulties. This knowledge is then used to suggest new problem areas, to identify opportunities for improvement, and to propose projects that might be worth undertaking (I). At this stage, problems and opportunities are recognized, but are not yet clearly articulated or understood.

The Quadrant II. stage is called *Conceptualization* and involves Apprehension by Thinking and Utilization for Ideation. Here, a proposal, problem, or opportunity identified in the previous stage is systematically thought through (T) to create a sound conceptualization or model of the problem domain. Here, understanding of the problem area is gained not by direct experience but by abstract analysis. This conceptual knowledge is then used as the basis for ideation whereby one or more plausible solutions are developed (I).

The Quadrant III. stage is called *Optimization*, and involves Apprehension by Thinking and Utilization for Evaluation. In this stage the conceptualizations of stage II are critiqued (T) against real world constraints in order to identify practical difficulties. Alternatives are systematically examined in order to select (E) an optimal plan for implementing the solution that can be executed with existing resources.

The Quadrant IV. stage, *Implementation,* completes the creative process, and involves Apprehension by Experiencing and Utilization for Evaluation. Creative activity in this stage consists of experimenting with the new solution (X), evaluating the outcomes (E), and making adjustments if necessary to successfully implement them.

Individuals in organizations have varying preferences for each of the stages in the creative process because they have varying preferences for the bipolar modes of apprehension and utilization. Generating ideas for new products, services, and methods must start somewhere. Individuals inclined toward generating are continually experiencing and scanning the environment, picking up data and cues from customers, suppliers, and others, and suggesting possible opportunities for change and improvement. Thus, the generation stage is where new information and possibilities are raised—usually not fully developed but in the form of starting points for new projects. People with dominant conceptualizer styles lead in compiling facts and idea fragments from the generator stage into well-defined, insightful problems and challenges and more clearly developed ideas and projects worth further evaluation. Skilled conceptualizers give sound structure to fledgling ideas and opportunities. People inclined toward optimization usually lead in taking these well-defined ideas and finding a practical best solution and detailing efficient plans for proceeding. Finally, implementers lead in carrying forward the practical solutions and plans, including convincing colleagues or customers of the worth of the changes, and adapting the solutions and plans to make them fit real-life situations and conditions.

2.3 How organizations can become skilled in Simplexity Thinking

2.3.1 Climate for creativity

Organizational creativity has also been studied in terms of perception of climate, motivation and strategy. Organizational climate has been defined in several ways. Ivancevich, Konopaske, and Matteson (2005) suggest that it is a set of properties of the work environment, perceived directly or indirectly by employees, that is assumed to be a major force in influencing employee behavior. According to Reichers and Schneider (1990), the concept of climate can be understood as an individual perception and cognitive representation of the work environment and also as a

set of shared perceptions of "the way things are around here". Hunter, Bedell and Mumford (2007) have reviewed numerous approaches to climate assessment for creativity. For example, KEYS is an employee opinion survey that assesses the climate for creativity and innovation that exists in a work group, division or organization (Amabile, Conti, Coon, Lazenby, and Herron, 1996). It measures specific management practices that impact the work environment. It can be used in a number of ways including to jump start creativity, to communicate the importance of creativity and innovation within an organization and as an assessment preceding any type of innovation or change intervention. KEYS assesses six managerial practices that support the work environment: organizational encouragement: an organizational culture that encourages creativity through the fair and constructive judgment of ideas; reward and recognition for creative work; supervisory encouragement; work group support; sufficient resources: access to appropriate resources; challenging work: a sense of having to work hard on challenging tasks and important projects; freedom: deciding what work to do; a sense of control over one's work. In addition, KEYS assesses two management practices that inhibit the work environment: organizational impediments and unrealistic workload pressure.

Ekvall (1996) developed *CCQ, Creative Climate Questionnaire,* to explain creativity within an organization. Studies utilizing CCQ confirmed that innovative organizations in terms of products, services methods and policies exhibit a different climate than those that are conservative. Furthermore, Ekvall (1996) showed that the change-oriented leadership style of managers within an organization influence the climate thus promoting creativity.

Both the CCQ and KEYS surveys can be considered discrete organization development interventions under the diagnostic classification of Table 1 and as tools for the problem finding and problem definition stages of the organizational creativity process in Figure 5.

In 2004, Kwasniewska and Necka demonstrated that the level an employee occupies in the organizational hierarchy plays a role in the way he or she perceives the climate for creativity in the organization. It was concluded that managers perceive the organizational climate as significantly more conducive to creativity than non-managers do.

Basadur and Hausdorf (1996) and Basadur, Taggar and Pringle (1999) identified three specific attitudinal variables that help describe an organization's climate for creativity. Scales to measure these organizational attitudes were labelled "Valuing New Ideas", "Belief that Creativity Is Not Only For A Select Few", and "Not Feeling Too Busy For New Ideas". These scales measure the extent to which organizations are perceived to truly value new ideas, avoid creating negative stereotypes of "creative people", and prevent employees from feeling too busy for new ideas, respectively. This research suggested that employees are more likely to engage in creative thinking and to try to improve their creative performance if they value new ideas, believe that increased creative behaviour and performance is not the sole domain of a select few, and feel they are *not* too busy for new ideas.

2.3.2 Motivation

Research has also been conducted explaining creativity in terms of motivation. Amabile's componential model of creativity (Amabile, 1983; 1988) consists of three components—domain-relevant skills, creativity-relevant skills, and task motivation—that are all essential for creative performance. Each of the three components is necessary for creativity, and as the amount of the components present increases so does the creative output. In Csikszentmihalyi's concept of *flow*, when individuals are completely absorbed in the tasks they are working on, creativity resides in the degree to which individuals find the task challenging but within their skill level (Csikszentmihalyi, 1990, 1992; Early evidence suggested that intrinsic motivation is conducive to creativity and extrinsic motivation is detrimental (McGraw, 1978; Hennessy and Amabile, 1988; Rigby, Deci, Patrick and Ryan, 1992) and therefore organizations that foster and support intrinsic motivation will encourage creativity by providing the necessary resources, support and create a work environment that develops and implements creative ideas.

Although some studies have found evidence that extrinsic rewards undermine creativity (Amabile, Hill, Hennessy, and Tighe, 1994), Eisenberger and colleagues (Eisenberger & Armeli, 1997; Eisenberger & Rhoades, 2001; Eisenberger & Selbst, 1994) demonstrated that the promise of reward can have a positive impact on creativity. In these situations, the extrinsic rewards may act in concert with one's intrinsic motivation, resulting in what Amabile (1993) calls *motivational synergy*. While many researchers continue to believe individuals must be inherently interested in the problem or opportunity in question and intrinsically motivated to generate a solution (Shalley & Zhou, 2008), the question of the role of extrinsic motivation and whether rewards promote or inhibit creativity in the workplace is still not clear (Zhou & Shalley, 2003).

In their review, Hill and Amabile (1993) concluded that that the most effective motivation may depend upon multiple factors, including the stage of the creative process that the work is in, and the nature of the person doing the work. According to self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000), a person's motivation to perform a particular behavior can range on a continuum from *amotivation* (unwillingness), through external motivation (passive compliance), to intrinsic motivation (active personal commitment). What determines individual motivation is the degree to which the meaningfulness of the activity has been internalized and integrated into the individual's sense of self (Ryan and Deci, 2000). It may be that various types of motivation would be helpful to move people through the four stages of the organizational creativity process that we propose (Figures 5 and 6). Within this process, it is likely that most individuals are naturally interested in performing some of the necessary process behaviors but not all of them . Basadur, Beuk, and Monllor (2010) proposed that individuals prefer to spend their time and energy in the profile stage where they are most comfortable**.** They are intrinsically motivated in their preferred stage and they are reluctant to leave their preferred stage until they "feel ready". It also appears that extrinsic motivation is required to move individuals to stages where they are less comfortable. This being the case, any external reward given for performance of activities in their preferred stage would seemingly add little motivational value. If so, then the creative process activities they prefer are done for their own sake.

It is also likely that individuals are naturally more closely inclined towards being *amotivated* by some of the process activities. In order to motivate individuals to perform these activities conscientiously, it may be necessary to use extrinsic rewards. It may also be that when people are extrinsically motivated to perform tasks for which they already have a pre-existing intrinsic predisposition, creative output can increase through an additive mechanism, as suggested by activity engagement theory (Higgins & Trope, 1990). It is perhaps best to consider the relationship of intrinsic and extrinsic motivation to creative performance is not "either-or", but rather a combinative relationship where both are required if one is to optimally execute the multi-stage creative process.

2.3.3   Motivation and Commitment are Outcomes of Creative Activity

Creativity as a means for motivation is an important idea. Establishing adaptability as a daily, continuous process of problem finding and defining, problem solving, and solution implementation to complement efficiency increases employees' commitment and motivation. Early animal research and later studies on humans showed that curiosity, activity, and exploration are enjoyed by organisms for their own sake. People develop negative attitudes toward repetitive tasks and experience fatigue and boredom. Permitted to engage in finding and solving problems, workers become motivated and desire even more participation in creative activity. They also work harder at perfecting their routine jobs to increase quality and quantity and reduce costs, thus increasing organizational efficiency and short-term organizational effectiveness. Creative activity also stimulates team-building as people help each other to solve problems. This connection between creative activity and employee motivation is supported by motivational literature in industrial and organization psychology. For example, two important motivational need sets—the need for competence and the need for curiosity and activity—

provide the most direct explanations of how creativity motivates people (White, 1959; Berlyne, 1967). When people face new, challenging situations, their need for competence can be satisfied by performing creatively. Many people find that exercising their curiosity and exploring new things is intrinsically motivating. Herzberg, Mausner and Snyderman's (1959) research also suggested that the way to truly motivate people at work was 'job enrichment' or redesigning jobs to require creativity. Neher (1991), although critical of Maslow's motivation theory, supports Maslow's (1954) contention that although lower level motivations can provide important fulfillments and satisfactions, offering people the opportunity to satisfy their higher level needs for self-esteem and for self-actualization through work accomplishment is the best way to motivate them. Encouraging organizational members to use their creativity to seek out work related challenges of their own (problem finding) and achieve them successfully (problem solving and solution implementation) helps satisfy both higher level needs.

McClelland (1951; 1961) identified the need for achievement as a primary driving force for motivating people in organizations. McClelland showed that a high need for achievement is characterized by a strong desire to assume personal responsibility for finding solutions to problems and can be increased by stimulating people to set challenging work goals for themselves. Thus, by giving employees the encouragement and opportunity to find and solve their own challenging problems, and implement their own solutions, organizations can provide intrinsically rewarding work and tap into the need for achievement for motivation.
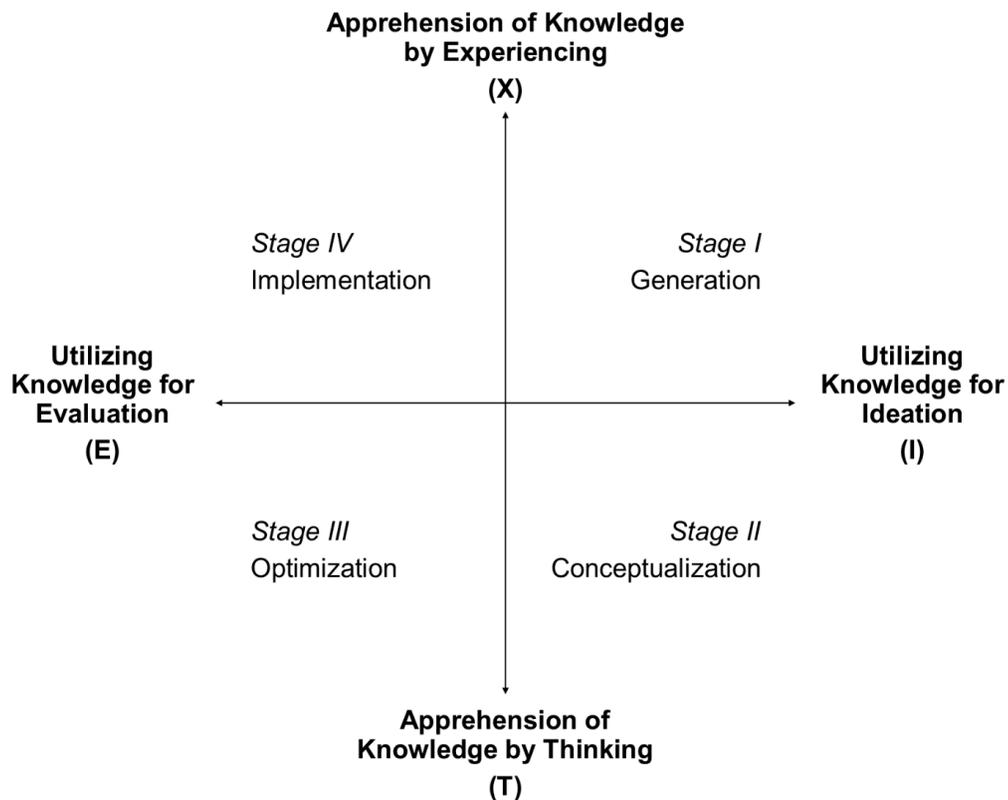
2.3.4 Strategy

Ettlie, Bridges, William and O'Keefe (1984) argued that unique strategy and structural arrangements are necessary for radical innovation and Kao (1997) emphasized that strategy and creativity must be interconnected permanently. Innovation and innovative capabilities have become important aspects necessary in formulating the business strategy in an organization (Mumford, Scott, Gaddis & Strange, 2002). These things require top-down impetus and strategic alignment. Basadur's (1992) field research found that some Japanese companies use training and a well-developed infrastructure to make creative activity important and strategically align it with organizational goals. Programs such as a reward-based Employee Suggestion System (E.S.S.) reinforce the importance of creative activity to the company, while clearly articulated company goals result in a close alignment of the system's activity with strategic corporate needs. Managers learn how to influence their subordinates toward including problems which are related to specific goals and objectives for their departments. Managers' performance appraisals are also based in part on their ability to get their subordinates to perform well in the E.S.S. Other systems, including Quality circle group activity and Management by Objectives (M.B.O.), are integrated with the E.S.S. Typically, a manager's objectives will include helping people create and implement suggestions. This emphasis on involving subordinates in creating new ideas is part of the long-range process of management. The belief is that if people are encouraged to use their thinking power on a habitual daily basis, major tangible benefits will accrue to the organization in the long run.

A discovery of Basadur's (1992) research is that Japanese organizations demonstrate a great deal of knowledge about inducing employee creativity through deliberate strategic means. Japanese organizations recognize, emphasize, support, and induce problem finding which is elevated to at least equal priority as problem solving and solution implementation. They recognize all three as separate important activities which is consistent with research that suggests that all three activities need to be nurtured and managed to achieve organizational creativity. Later in this chapter, we discuss how organizations can induce creativity by setting strategic measurable goals requiring creativity and including these goals in a program by which the creativity process and skills described in this chapter are learned by employees and applied to achieve the goals within an infrastructure which makes the application possible.

Similar to the OD and creativity interventions described in the earlier part of this chapter, the climate, motivation and strategy approaches to creativity described above will not result in

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permanent change unless they are embedded within a process of change making with the attitudinal, behavioural and cognitive skills that are required to implement the process. We are making a strong argument that organizational creative performance requires mastery of skills to execute a complete creative process as in Figure 5.

Figure 6. The cognitive activities in the four stages of the Basadur Innovation Profile

```
                    Apprehension of Knowledge
                        by Experiencing
                             (X)
                              ▲
                              │
         Stage IV             │            Stage I
       Implementation         │           Generation
                              │
 Utilizing                    │                    Utilizing
 Knowledge for                │                    Knowledge for
 Evaluation    ◄──────────────┼──────────────►     Ideation
    (E)                       │                       (I)
                              │
         Stage III            │            Stage II
        Optimization          │        Conceptualization
                              │
                              ▼
                       Apprehension of
                     Knowledge by Thinking
                            (T)
```

2.4 How organizations can become skilled in organizational creativity

In order to be considered a resource, an asset has to be *controllable* by an organization (Barney, 1991). Given the creativity "cottage industry" described by Mumford (2000), and the fact that the existing "best practice" for developing creativity in organizations is to screen for and hire creative individuals and "hope for the best", it is fair to say that creative ability is far from a controllable asset for most organizations. Many shortcomings in attitudinal, behavioral and cognitive creativity skills plague individuals, teams and organizations. As detailed in Basadur and Basadur (2011), problem finding is a foreign concept for many people.

Conceptual skills in defining problems are lacking and much time is wasted "working on the wrong problem". One of the most difficult creative skills to master for most managers is to define problems accurately before impatiently leaping to action. This includes new IT projects, where often insufficient effort is devoted to defining the main business problem that the IT solution is intended to solve or the how the project supports the company's strategic objectives. Skills in engaging the potential users of the new IT solution in defining the problem in their own terms are often lacking, leading to a great deal of reworking of the solution when the gap is subsequently discovered between what was really wanted and what was actually delivered. The lion's share of the effort is usually devoted to developing the solution (the new IT system) and then insufficient effort is also devoted to implementation, ensuring that the employees are capable of using the new IT technology. Even after finding and defining problems, some people find it difficult to solve them creatively and imaginatively. Some individuals are also critical of new ideas, which can prevent productive thinking. While many people may be able to implement

routine solutions to routine problems, few can implement creative solutions to new, non-programmed problems.

Teamwork is also often uncreative. Group members are unable to communicate clearly in simple terms, for example. Unaware of variations in individual thinking styles, groups fail to synchronize these differences, jump into "solving the problem" without first considering what the real problem is, and then flounder. Meeting leaders steer toward their own points of view rather than facilitating the group to work open-mindedly and cohesively. The design of many organizations remains along bureaucratic, functional lines - a design that itself minimizes creativity. Jobs are programmed for maximum control, highest quality, and lowest cost per unit. Creativity skills and change-making are limited to short-term quick-fixes during emergencies.

For organizations without a positive mindset toward creativity, problems and changes stemming from new technology, customer tastes, and foreign competition are viewed as irritants that disrupt well-functioning, established routines, despite the fact that the essence of adaptability and the first phase of the creative process is problem finding. Basadur, Graen, and Green (1982), demonstrated that many of these shortcomings can be overcome by developing specific skills. Training to build these skills is based on two central concepts.

1. **Change-making is a process with distinctly different stages:** In practice, it is useful to break the four-stage change process shown in Figure 5 into a circular process of eight smaller steps as shown in Figure 7. These steps include problem finding and fact finding, which collectively make up "problem generation", or Stage 1; problem definition and idea finding ("problem formulation", or Stage 2); idea evaluation and selection, and planning for implementation ("problem solving", or Stage 3); and gaining acceptance and taking action ("solution implementation", or Stage 4).
2. **An Ideation-Evaluation process occurs in each stage:** It is vital to use an ideation-evaluation mini-process within each of the eight smaller steps across all four stages as shown in Figure 7. The mini-process is shown in Figure 8.

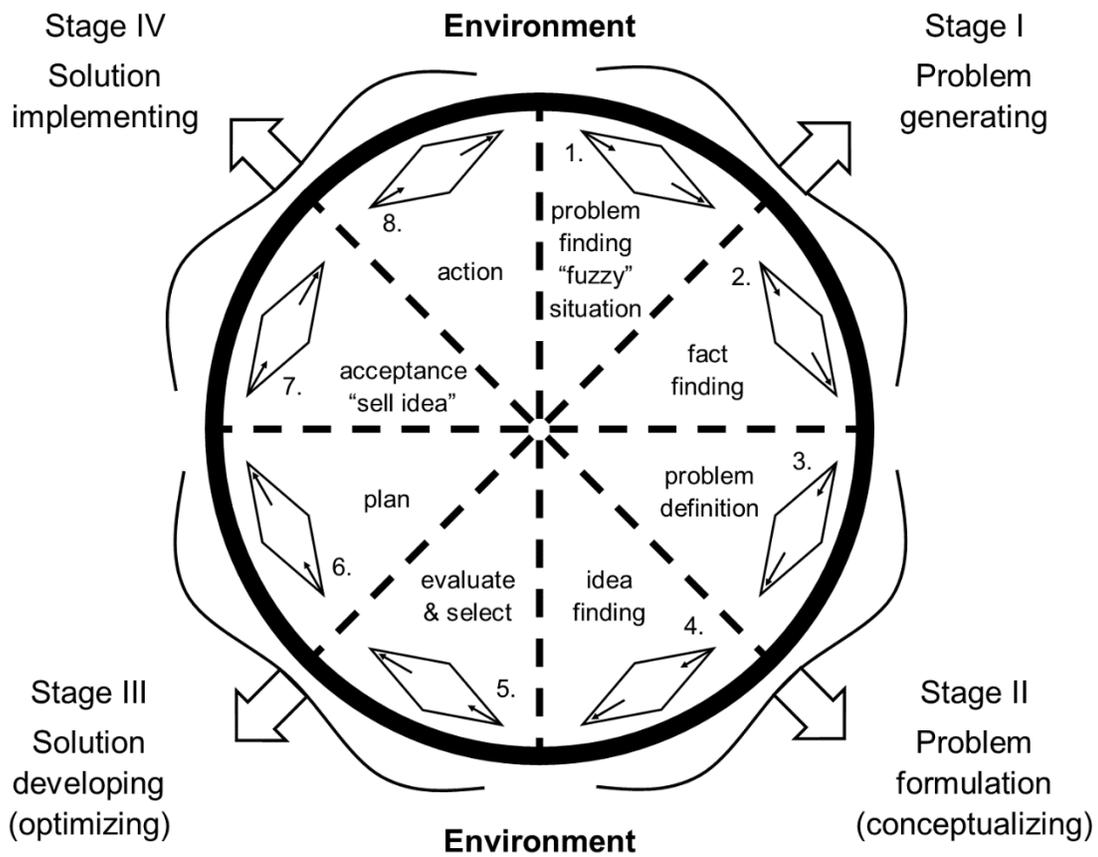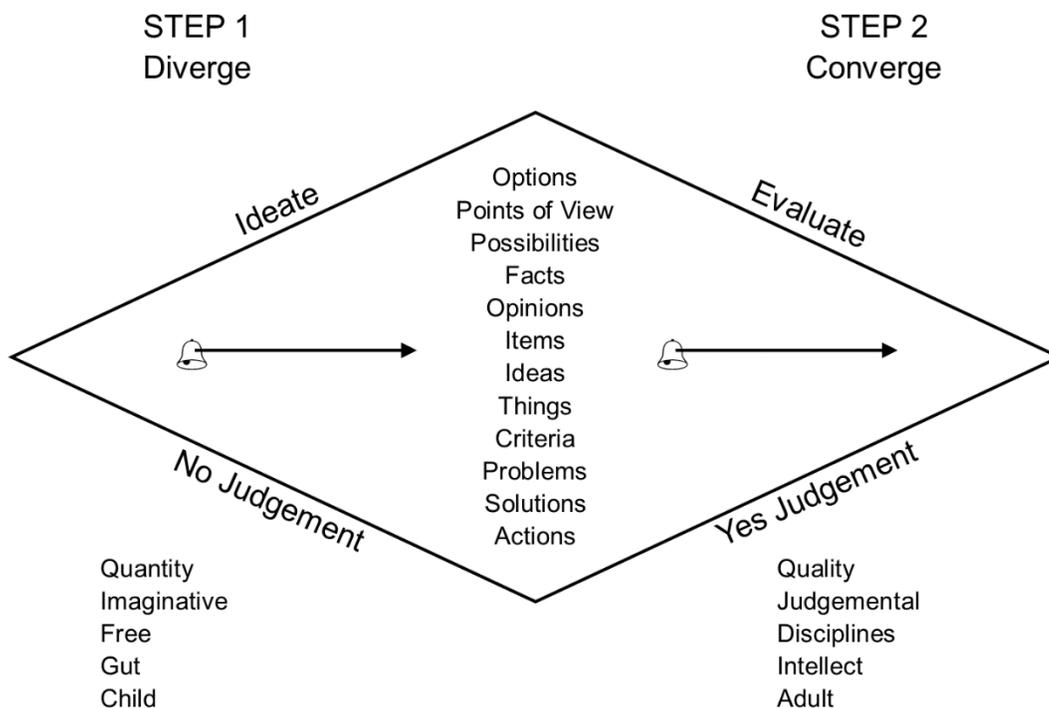*Figure 7. The organizational change-making process.*

Stage IV
Solution
implementing

Environment

Stage I
Problem
generating

1.
problem
finding
"fuzzy"
situation

8.

action

2.

fact
finding

7.

acceptance
"sell idea"

problem
definition

3.

plan

6.

evaluate
& select

idea
finding

4.

5.

Stage III
Solution
developing
(optimizing)

Environment

Stage II
Problem
formulation
(conceptualizing)

Figure 8. Ideation-evaluation: A sequential creative thinking mini-process.

STEP 1
Diverge

STEP 2
Converge

Ideate

Evaluate

Options
Points of View
Possibilities
Facts
Opinions
Items
Ideas
Things
Criteria
Problems
Solutions
Actions

No Judgement

Yes Judgement

Quantity
Imaginative
Free
Gut
Child

Quality
Judgemental
Disciplines
Intellect
Adult

Three distinct skills are needed to execute the two-step mini process described in Figure 8 effectively (Basadur & Finkbeiner, 1985): deferral of judgment, active divergence, and active convergence. By separating divergent thinking from convergent thinking, deferral of judgment resists the tendency to prematurely evaluate and select options and encourages active divergence. Deferral of judgment also prevents people from leaping to solutions before properly formulating problems, and helps them separate assumptions from facts. Active divergence enables generation of many options without judging or analyzing them. Active convergence, which resists the tendency to linger in divergent thinking, then selects and acts on the options that ultimately lead to implementation of change. These three skills all have attitudinal, behavioral, and cognitive components.

2.5 Becoming Competent

It is easier to understand the need for a systematic process to achieve organizational creativity and adaptability (as modeled in Figure 7) than it is to become skilled in using such a process. Learning how to use the process involves developing skills in finding, defining, solving and implementing new opportunities. Most managers have undergone rigorous training in analytical, optimizing and efficiency thinking processes. However, creativity requires a different set of skills in which competency must now be built belatedly. Building competency has three main components: (1) Competency in executing the process as a whole; (2) Competency in respecting and helping synchronize different styles in the process and (3) Competency in executing each step and stage of the process. Organizations which have successfully achieved this set of competencies are described in Basadur (1995) and the competencies are described more fully as follows.

Competency in executing the process as a whole includes being able to distinguish the different steps from each other; for example executing, communicating and separating (1) problem finding activity from (2) problem defining activity and from (3) solution development activity and from (4) implementing activity. It also includes avoiding unconsciously leapfrogging the process steps, such as jumping backwards from discovering a fresh new problem (step 1) into immediate action (step 8) only to discover later that the problem was not what it seemed to be at all and regretting the time wasted by not permitting the process unfold naturally from 1 *through* 8.

Competency in respecting and synchronizing different process styles includes understanding how the creative process depends upon different ways of apprehending knowledge and understanding and utilizing knowledge, however apprehended. Not only are both necessary for creative performance, but frustration and inefficiency in working together can be avoided. For example, if some individuals on a team prefer stage 2, conceptualization, while others prefer stage 4, implementation, it is important that these individuals understand and respect each others' opposite preferred ways of apprehending knowledge (experientially and concretely vs. theoretically and analytically) and of utilizing knowledge (creating options divergently vs. evaluating options convergently).

Competency in executing each step of the process includes competency in executing the ideation-evaluation mini process described previously which combines the three necessary creativity thinking skills within each step: (1) creating options within the step (divergent thinking); (2) evaluating and selecting the most important options within the step (convergent thinking); and (3) skill in separating divergent from convergent thinking within each step (deferral of judgment). Integrated into early creative problem-solving theories and models, including Osborn (1953), Guilford (1967), and Parnes, Noller and Biondi (1977), these skills in the mini-process have been more deeply explored in more recent empirical research which has described them more completely and identified their attitudinal, behavioral and cognitive components. For example, in a multi-method, multi-measure field experiment, Basadur et al (1982) identified attitudinal, behavioral and cognitive effects of training which were readily observable back on the job (along with performance effects). The effects included:

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- **Attitudinal:** More openness to new ideas; more positive reaction when confronted with new unusual ideas.
- **Behavioral:** More likely to pause to try new, unusual approaches to solving problems; less time spent in negative evaluation while creating options; less likely to jump to conclusions as to the nature of the real problem.
- **Cognitive:** Increased quantity and quality of options created; more time spent in divergent thought prior to evaluating; more options created prior to selecting one as best.

In a follow-on study, Basadur and Finkbeiner (1985) developed scales to measure two attitudes that they labeled "preference for ideation (preference for active divergence)" and "tendency to (not) make premature evaluations of fledgling ideas (preference for deferral of judgment)". Field research by Runco and Basadur (1993) and Basadur, Runco and Vega (2000) demonstrated how creativity attitudes and behaviors were associated with cognitive active convergence skills. Puccio, Firestien, Coyle, and Masucci (2006) provided a summary of creativity research relating to attitudes, behaviors and cognitive skills.

Additional examples of the attitudinal, behavioral, and cognitive components of each of the three process skills throughout the complete eight step process are provided in Tables 3, 4 and 5 (Basadur and Robinson, 1993; Basadur, Pringle, Speranzini and Bacot, 2000). It should be noted that there is considerable overlap across attitudinal/behavioral/cognitive distinctions and also across the three process skills distinctions. We do not believe these distinctions are as important as recognizing the various skill components.

Table 3. Examples of Deferral of Judgment Skill.

ATTITUDINAL

Tackle problems with an optimistic "can do" attitude.

Enter meetings open to ideas that might disrupt one's own department's routine.

BEHAVIORAL

Visibly value, appreciate, and welcome other points of view.

Avoid making premature, negative judgements of fledgling thoughts.

COGNITIVE

Recognize hidden, unconscious, unwarranted assumptions.

Maintain an awareness that some facts are more difficult to perceive than others.

Understand that some problems require a longer time to solve, and do not expect immediate results.

Table 4. Examples of Active Divergence Skill.

ATTITUDINAL

Deliberately push oneself to create unusual, thought-provoking ideas.

Turn premature, negative evaluations of ideas into positive challenges to keep the creative process flowing; when others say "We can't because... " counter with, "How might we...?"

BEHAVIORAL

Show leadership in pinpointing changes, trends, problems, and opportunities for improvement throughout the organization.

Share information and ideas freely with other people and departments.

Share "bad news" as quickly as "good news" to aid organizational problem solving.

Facilitate teams to formulate problems in ways that transcend departmental considerations.

COGNITIVE

Search out many different facts and points of view before attempting to define a problem.

Define problems in multiple and novel ways to get a variety of insights.

Table 5. Examples of Active Convergence Skill.

ATTITUDINAL

Be willing to accept and participate in consensus decisions and move on in the change-making process.

Accept ownership of measures of success of new ideas being implemented.

Take the risk of failing or being criticized for implementing new ideas.

BEHAVIORAL

Take reasonable risks to get action taken within time limits rather than waiting for the "perfect" option to emerge.

Follow up on implementation; do whatever it takes to ensure successful installation of a chosen solution.

COGNITIVE

Select, clarify, and focus on the most significant facts available prior to attempting to define a problem.

Develop unbiased criteria for selecting from among options rather than letting preconceptions or hidden motives sway decisions.

Understand how clear, simple, and specific implementation plans motivate action and overcome inertia.

Understand the importance of including both long- and short-term decision-making criteria.

The field research by Basadur et al (1982), provided evidence that unless creativity training was sufficiently impactful to successfully *unfreeze and change* participants, no improvement in creativity skills and performance would be achieved. In other words, the impact of training must be sufficient to increase acceptance and practice of the attitudinal, behavioral and cognitive creativity skills within the multistage creativity process. However, the research also suggested that to *refreeze* the acceptance and use of the new skills, specific strategic structural organizational factors must be established to reinforce and motivate on the job practice (Basadur, 1994). Basadur, Graen and Scandura (1986) found that the training effects in creativity process and skills as shown in Figure 7 on manufacturing engineers were more permanent when they were trained together in intact teams.

2.6 Setting Up the Internal Environment to Encourage Competency

In the study of the development of expert performance and deliberate practice, the role played by coaches and teachers, and family members in facilitating the eventual success of performers is acknowledged as crucial (Ericsson, 2003; Ericsson, Krampe & Tesch-Romer, 1993; Salmela & Moraes, 2003). Researchers in this field make clear that while the commitment to deliberate practice on the part of the individual is the prerequisite for the development of expertise, the access to knowledgeable and demanding instructors, and parents who re-shape their own personal and social lives to accommodate the demands associated with enabling the continued growth of the performer, is critical. Coaches and teachers structure learning situations so that the performer is always focused on attaining a higher level of performance, and family members make considerable time and financial commitments to ensure the performer remains in an appropriate learning environment (Ericsson, 2003; Salmela & Moraes, 2003).

In terms of the development of creative competency in employees, the internal environment of the organization and its managers must act like the coaches, teachers, and parents

studied in athletic and artistic expert performance. While the motivation and drive of employees to develop creative thinking skills is critical, management plays the critical roles of instructor and the head of the family. Sacrifices have to be made to structure the environment to enable the continuous growth of employees' expertise, and leaders must monitor the performance and instruct employees using methods that challenge them to reach ever higher levels of competence.

2.6.1 Getting Two for the Price of One

Organizations which provide the right skill training, create the right infrastructure, and participate in and reward continuous problem finding and solution implementing, achieve several outcomes. Some creativity outcomes are directly economically oriented and others are not. As described earlier in this chapter, creativity leads directly to new and improved products and methods; these are economic outcomes associated with adaptability. However, creativity also leads to specific people outcomes which serve as intermediate steps leading to economic outcomes associated with efficiency (Basadur, 1993). Many of these people outcomes are the same as the fundamental aims of the field of OD from its early beginnings. The rest of this chapter will identify these intermediate outcomes, and describe the economic outcomes that result. The first of these people outcomes is motivation.

Despite research showing that most people at work are multi-motivated, the majority of global business is still organized and managed on the overly simplistic "scientific management" concept made popular in the early 20th century by Frederick Taylor (1967). Taylor believed that employees are motivated by one dominant factor—money. Fortunately, using creativity as a formula for motivation can be almost as simple as using money. There are many straightforward ways to encourage people to be creative on the job and achieve a motivated organization. Japanese organizations manage their employee suggestions systems to induce creative behavior and to drive creative output including cost savings and new products and procedures. The primary objective of these suggestion systems is not to improve economic outcomes directly but to motivate people and increase their commitment (Basadur, 1992).

2.6.2 Creativity for Job Enrichment

Proactive creative activity, or adaptability, leads to a continuous flow of new methods and new products. However, acceptance of change by employees is assured because they are taking ownership of finding and solving their own problems, and implementing changes themselves. In effect, they are redesigning their own jobs, which is consistent with a well-documented axiom of social psychology: people do not resist change; they do resist being changed (Coch & French, 1948). Employees enrich their own jobs by being creative.

2.6.3 The Organizational Creative Process as the Transformational Engine

Institutionalizing Organizational Creativity accelerates the identification and solution of problems and opportunities across an organization. These problems and opportunities may originate in either the external or internal environments of the organization, and as they are moved through fact finding, problem definition and then solution optimization and implementation, the organization is operating as a true open system. How the Organizational Creativity process acts as the transformational engine for an open social and economic system is modeled in Figure 9, which inserts the process and skills as the transforming mechanism.

Figure 9. How the Organizational Creativity process enables an organization to operate as a social and economic open system.
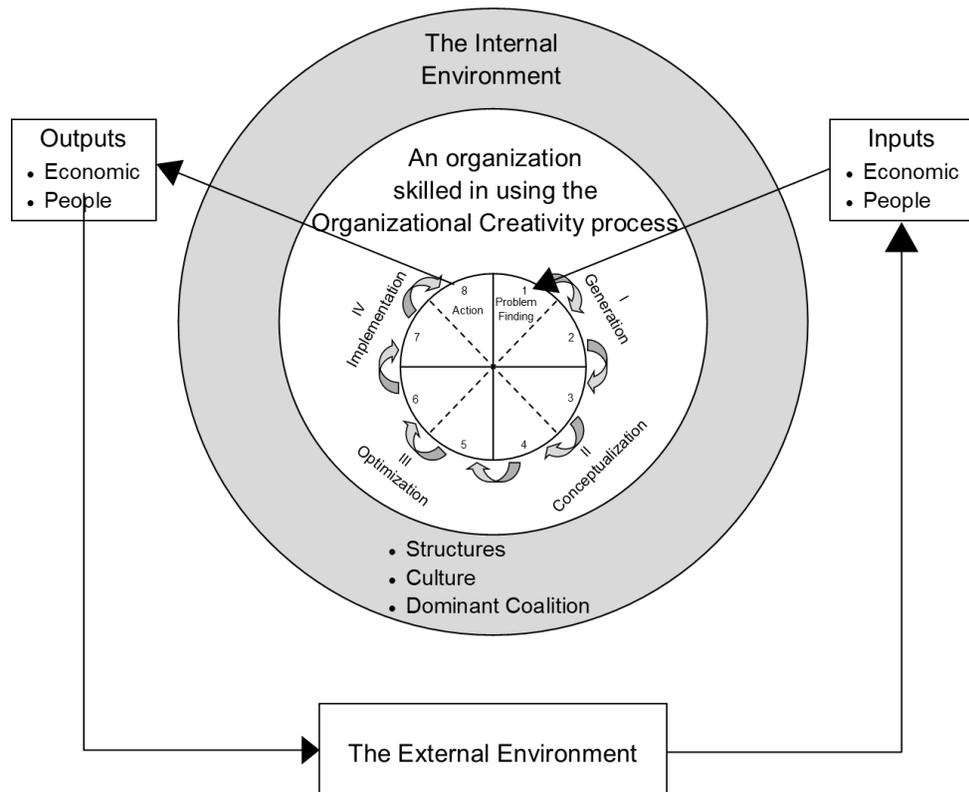

Figure 9 illustrates how the Organizational Creativity process provides both economic and people outcomes. As problems and opportunities for change are "inhaled" into Step 1 and then "spun around" the wheel, the resulting implemented change (Step 8) is projected out into the environment as economic and people changes to be mixed in with the environment and cycled back through step 1. Although some of the economic outcomes result directly from creative activity, the majority are valuable by-products of achieving people outcomes. Creativity leads to such direct economic outcomes as a continuous supply of new and improved products and methods for the organization. It also leads to intrinsically motivated, committed, and job-satisfied people. These people outcomes are valuable in themselves but more importantly, they lead to the desired economic outcomes.

While adaptability skills are essential, it would be naïve to believe that all that is needed is to train employees in the Organizational Creativity process and the skills needed to make it work. This would only be one third of the battle. To make adaptability performance a normal way of life, an organization must integrate creativity thinking skills and process with a clear-cut business need and infrastructure to encourage employees to experience success applying the skills and process. Figure 10 illustrates how these three components support each other.

Figure 10. The three necessary components of a successful effort to institutionalize adaptability.
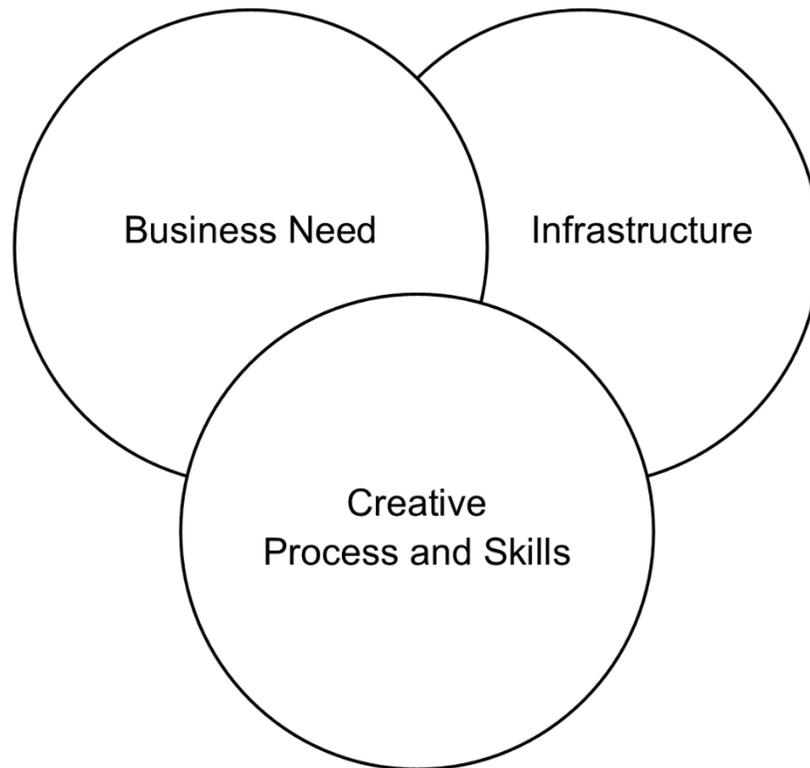
Many worthwhile OD interventions have floundered because the organization lacked at least one of these three components: business need, infrastructure, and change making process and skills (Basadur and Robinson, 1993). If senior leaders wish to introduce an intervention, they must spell out what specific business need they intend to address (i.e., lower costs, higher sales, fewer defects etc.) to ensure that employees buy in to the intervention and can measure success. An effective infrastructure, such as performance appraisal systems or membership on interdepartmental teams, must be established so new philosophies and tools are applied regularly. Organizations must also avoid underestimating the effort required to establish people's change making skills, attitudes, and behaviors, and must provide adequate training.

3. SUMMARY AND FUTURE DIRECTIONS

We have offered a new approach to OD in which deep skill in executing creativity as a standard everyday process is the key, equally important to traditional deep skill in executing traditional efficiency processes. Many executives lack this creative skill and many have turned out to be inadequate leaders, especially in recent times of accelerating change and ambiguity. Some organizations are less effective than others because they value short-term results above all, and reward successful implementers of routines disproportionately. Simply put, organizations favor efficiency at the expense of adaptability.

Many companies still regard innovation as an irritant, something that gets in the way of the 'real work'. They are content to turn out standard quantities of standard products and achieve the sales, cost and profit goals for this month, this quarter, this year. Response to greater competition is often to cut staff, reduce costs, lower service levels and, in some cases, lower quality. Too few respond creatively. Sometimes this is because they simply do not know how to go about it. We have tried to demystify various concepts about creativity and innovation by integrating them into a single simplified approach focused specifically on improving organizational performance short and long term.

Business schools have indoctrinated students with the notion that "maximizing shareholder value" is the holy grail to be pursued. Unfortunately, many managers have taken this to mean "in the short term" rather than "over the long haul". Starbuck (1983) describes such organizations as "action generators" who create behavior programs to repeat their successes and thus are often blind to other events that turn out to be more important. Possibly managers would be willing to attempt to implement Organizational Creativity if they could be shown how it would help achieve even short-term results more efficiently. Future research might focus on strategies to help managers grasp and increase comfort with the innovation process, skills, techniques and style described.

Regardless of the current popularity of creativity and innovation in the media and business publications, most organizations—when given a choice—overwhelmingly favor established routine solutions over unproven novel solutions (Ford & Sullivan, 2005; Mueller, Melwani and Goncalo 2012; Staw, 1995). Such efficiency-oriented organizations do not know how to nurture and reward individuals who are capable generators of new opportunities and ideas that will translate into new products, services and procedures necessary for long term sustainable success. They have learned to design processes for efficiency, but not adaptability. We define Organizational Creativity as a deliberate and continuous change-making system of attitudes, behaviors and cognitive skills driving a process of problem generation, conceptualization, problem solving, and solution implementation, which is virtually synonymous with adaptability. This definition is consistent with field research which has established that effective organizations are those which can mainstream both adaptability and efficiency and strike an appropriate balance between the two (Mott, 1972). It requires attitudinal, behavioral, and cognitive skills in deliberate change-making and incorporates interventions into the process as tools. With this approach, organizations can learn to mainstream adaptability by doing two things: encouraging employees to master new skills which increase their creativity, motivation, and engagement; and creating an infrastructure to ensure these skills will be used regularly.

One obvious area for future research is how to most efficiently achieve an abrupt shift in management education to incorporate creativity skills to balance analytical skills. It would also be interesting to investigate the factors that effective organizations consider when balancing adaptability and efficiency, and how to determine an organization's appropriate balance of adaptability and efficiency for a given set of circumstances. Although North American organizations have taken steps to correct the imbalance favoring efficiency over adaptability, the still overwhelmingly favor the former over the latter (March 1991; Tushman and O'Reilly, 1996). More research is needed to reassure innovating organizations that they are on the right track, particularly when the results of emphasizing adaptability may take considerably longer to appear than the results of an emphasis on efficiency. A clue may be found in Japan: whereas much North American decision-making is driven by the next quarter's results, Japanese organizations favor long-term planning and reporting (Dertouzos, Lester & Solow, 1989).

An additional avenue for further research is to identify factors which enable an organization to effectively alter its "appropriate" balance of adaptability and efficiency rather than being caught unaware by upcoming environmental changes. What are the signals that prompt senior management to request more creativity, that motivate middle managers to act upon a top management requirement for more creativity, and that encourage individuals in the organization to act more creatively (assuming in each case that they know how to do so)? A clue may be found in several North American corporations that had the appropriate balance for an earlier era but had to drastically change that balance during the 1980s in order to react to changes in their environment or circumstances. While suffering through 13 consecutive quarters of huge losses in the early 1980s, Ford made massive top-down training interventions to become a less authoritarian, more innovative and more efficient organization with higher employee involvement. In order to respond to new competition, Xerox reinvented itself from a copier company into a document company and instituted a continuous process to fundamentally change how its employees work and manage. IBM reorganized itself after seeing its stock price plummet when smaller competitors capitalized

on the market shift to personal computers from mainframes. More recently, SpaceX, an aerospace company, performs most design, engineering, and manufacturing in house, in contrast to its competitor Boeing which pursues a strategy of outsourcing. SpaceX has recently successfully outcompeted Boeing on several NASA contracts. An excellent research question would be how these organizations might have recognized the need to shift their balance much sooner than they did.

3.1 Implications for the Field of Organizational Development

In summary, this chapter advocates a new approach to organizational development. OD must be understood as an ongoing continuous change-making organizational creativity management and leadership process, not just a program of discrete interventions and philosophical values of "what's good" for organizations. Effective OD is really implanting and sustaining a system of organizational creativity that can be learned and mainstreamed to provide continuous and deliberate adaptability. Above all, OD must be understood as a change-making process. In order to implement specific OD interventions, one must first obtain skills in change-making. Specific interventions simply follow as tools and techniques to help implement the steps of the organizational creativity process described in Figure 5. These should be attempted as solutions only after careful problem definition and only as part of a complete, system-oriented creativity system. As well, leaders must learn and adopt the corresponding new skills and new ways of thinking and behaving. They must become effective change agents in their everyday work and integrate many of the concepts, values and methods of OD into their own repertoire of capabilities. Team building, employee engagement, high performance system plant designs, task forces, and other OD concepts are becoming an integral part of enlightened management practice (Beer & Spector, 1985). Managers, who may have been accustomed to a command-and-control style will need to learn skills in engaging their subordinates in co-creating strategy. By engaging a wider range of people in the process of developing new strategies, ownership and successful implementation of the new strategy is more likely to occur (Coch and French, 1948). Today's managers must learn to think and behave in new ways and to lead others to think and behave in new ways.

Mintzberg (1973) documented that most managers operate primarily as short term implementation doers. Our research (Basadur and Basadur, 2011) found many managers are especially under-skilled in problem finding and problem definition, which represent the essence of strategic thinking and adaptability. Thus, the training of managers to improve conceptual thinking skills to combine with optimizing and implementation thinking must become an important intervention to improve fundamental managerial skill.

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Author Biographies

Dr. Min Basadur

Educated in Engineering Physics (University of Toronto), Min Basadur began developing his insights about problem solving and innovation "on the ground" at Procter & Gamble. He received three U.S. patents and created a corporate-wide "deliberate change" consulting practice which he integrated into an award-winning doctoral dissertation at the University of Cincinnati. Min became a professor of organizational behavior in the DeGroote School of Business (McMaster University) and founded Basadur Applied Creativity. Applied globally, his work has achieved an enviable record of tangible results. Client organizations include eBay, Goodrich, Frito Lay, Microsoft, Pfizer, John Deere, BASF, Aera, NASA and numerous healthcare and academic institutions. Min is a pioneer in emphasizing that innovation is a disciplined people-centered collaborative process that is energized by individuals with contrasting thinking and problem-solving styles.

Tim Basadur is a certified trainer and process leader with over 25 years' experience delivering and leading applied creativity projects for corporate clients as part of Basadur Applied Innovation. He is also a DBA candidate at DePaul University's Kellstadt Graduate School of Business and an adjunct instructor in Northeastern Illinois University's College of Business and Technology. His broad research interests include individual and organizational creativity, team decision making, motivated cognition, and creative social network analysis. His research has been published in Journal of Applied Behavioral Science, Journal of Product Innovation Management, and Creativity and Innovation Management.

Dr. Goran Calic is an Associate Professor of Strategy, with affiliate membership in Information Systems, at McMaster University's DeGroote School of Business. He holds a PhD in Strategy from Purdue University. Goran Calic's research focuses on understanding why some individuals are more creative and some organizations are more innovative than others. His area of research is primarily concerned with early-stage entrepreneurship and environmental sustainability. His work on creativity in organizations was awarded the 2015 Max Henri Boisot Award. He has written in a variety of academic publications, such as the Journal of Management Studies, Journal of Business Ethics, Rutgers Business Review, the Academy of Management Learning & Education, and The Oxford Handbook of Organizational Citizenship Behavior.