ORGANIZATIONAL DIAGNOSTIC MODELS
AN INTEGRATIVE REVIEW & SYNTHESIS

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Organizational Diagnostic Models: An Integrative Review & Synthesis

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Introduction

As cliché as it sounds – globalization, rapid change, and disruptive technology have left organizational leaders dazed and confused in terms of adapting to the new normal of the 21st century workplace. Nonetheless, renewed attention to innovation, speed, customer and service quality, and efficiency of operations have forced organizations to rethink, redesign, and reimage their business and human resource strategies to remain competitive. These organizational dynamics support the use of diagnostic models or frameworks for assessing organizational effectiveness, change, and renewal.

The purpose of this integrative review is to examine several organizational diagnostic models that have been conceptualized in the literature, including the Organizational Intelligence Model (Falletta, 2008a and 2008b). To understand these models, a brief explanation of organizational surveys and diagnosis is warranted as well as a review of open systems theory (Katz & Kahn, 1978). Lastly, causal modeling procedures such as path analysis and structural equations modeling are reviewed as techniques for assessing the validity of organizational models.

Organizational Surveys

To measure organizational effectiveness and behavior, more and more organizations are using surveys (Kraut, 1996; Falletta & Combs, 2002). Organizational surveys can be used to measure employees’ and/or customers’ attitudes, opinions, perceptions, beliefs, or intentions (Schmitt & Klimoski, 1991; Borg & Mastrangelo, 2008). A very popular type of organizational survey is the employee satisfaction survey, which is used to assess employees’ attitudes and opinions on various aspects of organizational life, such as employee concerns, perceptions of workplace conditions, management practices, employee engagement, equity issues, or reward systems, to name a few. Many businesses collect employee survey data annually to allow for the identification of trends over time. While the purposes of organizational surveys vary, the survey method is an economical way to gather information for planning interventions and improvement (Church & Waclawski, 1998).

The Notion of Organizational Diagnosis

Many organization development (OD) strategies exist for improving an organization’s effectiveness (Beer & Spector, 1993; McLean, 2006; Cummings & Worley, 2009; Rothwell, Stavros, Sullivan, & Sullivan, 2010). One of these strategies, organizational diagnosis, involves “diagnosing” or assessing an organization’s current level of functioning in order to understand problems, identify underlying causes, and/or design appropriate interventions for change and improvement (Harrison & Shirom, 1999). Organizational diagnosis also plays a role in determining an organization’s readiness for change (Armenakis & Harris, 2009).

Metaphorically, the concept of diagnosis in organization development is used in a manner similar to the medical model. For example, the physician conducts tests, collects vital information on the human system, and evaluates this information to prescribe a course of treatment. Likewise, the organizational diagnostician uses specialized procedures to collect vital information about the organization, to analyze this information, and to design appropriate organizational interventions (Tichy, Hornstein, & Nisberg, 1977). Like the physician, the organizational diagnostician views the organization as a total system. In the field of medicine, this is considered to be holistic medicine, while in the field of OD, the total system view is considered to represent open systems theory (Katz & Kahn, 1978).
Like the patient visiting the physician, the process of collecting data during organizational
diagnosis can serve to motivate organizational members to learn about and participate in the
change process or the intervention in the medical scenario. The diagnosis, either medical or
organizational, usually confirms that a problem or an opportunity for improvement actually
exists. Within an organization, the diagnostic process often facilitates an admission by top
management that the organization does indeed have problems that should be addressed
(Argyris, 1970; Harrison, 1987; Manzini, 1988). Further, a variety of data collection techniques
and/or procedures are often used to rule out presenting problems and to search for the
Finally, within the organizational diagnostic process, the results of the data collection are fed
back to organizational members within the organization in order to begin the process of
organizational development and change (French & Bell, 1999; Cummings & Worley, 2009).

In viewing organizations as systems, organizational diagnosticians direct their attention to those
activities and processes within the system that are considered to be vital to organizational life.
However, the scope of a diagnosis may be either narrow and symptomatic or broad and
systematic. For example, a narrow and symptomatic diagnosis involves a very quick scan of the
organization, focusing on trouble spots (Tichy, 1983). The problem with this type of diagnosis is
that, all too often, the problem keeps reoccurring. Therefore, it is important to systematically
examine the entire system when conducting organizational diagnosis, rather than focusing on
rapid “assessments” and “quick fixes” (French & Bell, 1999; Harrison & Shirom, 1999).

A Word about “Diagnosis” and Strength-Based Paradigms

In recent years, the term “diagnosis” has taken on a negative connotation by some OD
practitioners who subscribe to Appreciative Inquiry (AI) and other positive psychology
approaches (e.g., The Positive Model, Strength-based Paradigm, Social Constructivism)
(Cooperrider, Whitney, & Stavros, 2008). Scholars and practitioners in this camp take issue
with the classical medical model and problem-centric view of organizations; they criticize the
idea of diagnosis because it too easily implies that organizations are somehow sick or
inherently dysfunctional (Cummings & Worley, 2009). They suggest that OD practitioners
concentrate on the strengths of an organization through positive inquiry and dialog to
understand the organization’s history, best-practices, and lessons learned (Cooperrider,
Whitney, & Stavros, 2008).

Despite decades of research in organizational theory, behavior, and psychology, AI proponents
view organizations as unique and unknowable “mysteries to be embraced” (Watkins & Stavros,
2010, pg. 169) rather than human and organizational systems to be examined and fully
understood. Mystifying organizational phenomena, magical thinking, and reaffirmation alone
may not identify and solve an organization’s most pressing problems (e.g., narcissistic or toxic
leaders, organizational politics, dysfunctional teams, corporate cultism, symbolic or ineffective
practices). However, the appeal of AI lies is its politically palatable proposition. All you have to
do is appreciate what’s working well, envision what might be, dialog on what should be, and
innovate on what will be in an iterative fashion, and presto the human and organizational
system will change (Watkins & Stavros, 2010).

After all, it can be a risky proposition for an OD practitioner to uncover and communicate the
dark side of organizational behavior – particularly when dealing with powerful, narcissistic
leaders who have a vested interest in maintaining the status quo. Hence, the medical metaphor
and view of organizational diagnosis does not accept the implicit assumption that something is
inherently wrong with the organization, but it does reject the false promise of the strengths-
based approach and magical thinking offered by AI proponents. Organizational diagnosis also
advocates for an evidence-based approach (McFillen, O’Neil, Balzer, & Varney, 2013). In short,
organizational diagnosis is a collaborative, systematic, and evidence-based process for
assessing how an organization is currently functioning to design interventions for change and improvement regardless of whether the change itself is planned or emergent (Cummings & Worley, 2009).

Uses of Organizational Models

The use of organizational models facilitates the collaborative and systematic diagnosis of organizations. An organizational model is a representation of an organization that helps us to understand more clearly and quickly what we are observing in organizations. Burke explains the many ways in which organizational models are useful (in Howard and Associates, 1994):

1. Models help to enhance our understanding of organizational behavior.
2. Models help to categorize data about an organization.
3. Models help to interpret data about an organization.
4. Models help to provide a common, short-hand language.

The model provides a systematic way to collect data on the organization and to understand and categorize the data. Models often identify vital organizational variables which are hypothesized to exist based on prior research. Models also depict the nature of the relationships between these key variables (e.g., one organizational variable impacts another). Without a model to guide the collection of data and to interpret the data, a diagnostician must instead collect data based on hunches and analyze it for themes. While many practitioners have intuitive models in their minds, an explicit model greatly aids the diagnostic process, given the complexity of organizations and the massive amount of information available for analysis (Combs & Falletta, 2002).

Open Systems Theory

Many of the organizational diagnostic models to be discussed rely upon the abstract notion of open systems theory as a basic assumption, thus, warranting a brief discussion of open systems theory. The premise of the theory is that organizations are social systems which are dependent upon the environment in which they exist for inputs (Katz & Kahn, 1978). Open systems theory allows for repeated cycles of input, transformation (i.e., throughputs), output, and renewed input within organizations. A feedback loop connects organizational outputs with renewed inputs (see Figure 1).

![Figure 1. OPEN SYSTEMS THEORY](image)

Traditional organizational theories have viewed organizations as “closed” systems which are independent of the environment in which they exist (Katz & Kahn, 1978).
**Descriptions of Organizational Diagnostic Models**

The 12 models selected for this review are presented in the chronological order in which they first appeared in the literature. The models reviewed in this section include:

1. Lewin’s Force Field Analysis (1951)
2. Leavitt’s Model (1965)
3. Likert’s System Analysis (1967)
4. Weisbord’s Six-Box Model (1976)
5. Nadler and Tushman’s Congruence Model for Organization Analysis (1977)
12. Falletta’s Organizational Intelligence Model (2008)

**Lewin’s Force Field Analysis (1951)**

In 1951, Lewin developed a model for analyzing and managing organizational problems which he has termed Force Field Analysis (French & Bell, 1999; Fuqua & Kurpius, 1993; Lewin, 1951). This model is relatively simple to understand and easy to visualize. A depiction of the model (see Figure 2) identifies both driving forces and restraining forces within an organization. These driving forces, such as environmental factors push for change within the organization while the restraining forces, such as organizational factors (e.g., limited resources or poor morale), act as barriers to change. To understand the problem within the organization, the driving forces and restraining forces are first identified and, hence, defined. Goals and strategies for moving the equilibrium of the organization toward the desired direction can then be planned.

The model relies upon the change process, with the social implications built into the model (e.g., disequilibrium is expected to occur until equilibrium is reestablished). The general goal of this model is to intentionally move to a desirable state of equilibrium by adding driving forces, where important, and eliminating restraining forces, where appropriate. These changes are thought to occur simultaneously within the dynamic organization.

**Figure 2. Lewin’s Force Field Analysis**

![Diagram of Force Field Analysis](image-url)
Leavitt’s Model (1965)

Sometime after Lewin conceptualized Force Field Analysis, Leavitt designed another relatively simple model. This model does specify particular variables within organizations, rather than driving forces; these variables include: task variables, structure variables, technological variables, and human variables (Leavitt, 1965) (see Figure 3).

![Figure 3. LEAVITT’S MODEL](image)

The structure variable refers to the authority systems, communication systems, and work flow within the organization. The technological variable includes all the equipment and machinery required for the task variable; the task variable refers to all the tasks and subtasks involved in providing products and services. Finally, the human variable (i.e., people/actors) refers to those who carry out the tasks associated with organizational goals (i.e., products and services). The diamond shaped arrows in the model emphasize the interdependence among the four variables. Leavitt has postulated that a change in one variable will affect the other variables. For example, with a planned change in one variable (e.g., the introduction of advanced technology), one or more variables will be impacted. Such interventions are typically designed to affect the task variable (e.g., to affect positive changes in products or services). In this example, the other variables would also likely change, as morale (i.e., people) might increase and communication (i.e., structure) might be improved due to the new technology.

Although Leavitt describes the variables within his model as dynamic and interdependent, the model is too simple to make any direct causal statements regarding the four variables. Similar to the Force Field Analysis model, Leavitt suggests that a change in one variable may result in compensatory or retaliatory change in the other variables; this notion is similar to the opposing forces in Lewin’s model. However, unlike Force Field Analysis, Leavitt does not address the role of the external environment in bringing about change in any of the variables.

Likert System Analysis (1967)

The organizational dimensions Likert addresses in his normative framework include motivation, communication, interaction, decision making, goal setting, control, and performance (Likert, 1967). While Likert did not use an illustration to depict his framework, like the earlier models reviewed thus far, he describes four different types of management systems within organizations, which take into account the organizational dimensions he identifies (see Figure 4).
Figure 4. **LIKERT’S SYSTEM ANALYSIS**

In order to determine the management system operating in any given organization, Likert developed a 43-item survey instrument with questions related to the seven organizational dimensions. The purpose of the instrument was to measure employees’ perceptions (e.g., upper management, supervisors, and staff) of the organizational dimensions within the organization.

Interestingly and contrary to popular belief, Likert’s original scale did not have standardized scale labels such as “strongly agree,” “agree,” “neither agree nor disagree,” “disagree,” and “strongly disagree.” Instead, Likert provided customized scale labels for each item stem (i.e., for all 43 items). The first response alternative, in this case “provides minimum information,” represents Likert’s System 1: Exploitative-Authoritative. The second response alternative, “gives subordinates only information superior feels they need,” represents System 2: Benevolent-Authoritative, and so forth. To determine the perceived functioning of the organization, the responses of various employee groups are averaged across items and dimensions. A profile is graphically plotted, indicating the current management system level for each of Likert’s seven dimensions.

The terminology and system devised by Likert have been adapted and/or changed by other researchers over the years. For example, Nelson and Burns (1984) have introduced a version of Likert’s framework with the following terminology: the reactive organization (System 1), the responsive organization (System 2), the proactive organization (System 3), and the high-performing organization (System 4). These changes have been made to reflect more modern terminology and contemporary theory. Nelson and Burn’s High-Performance Programming framework will be discussed in greater detail later in this review.

**Weisbord’s Six-Box Model (1976)**

Weisbord (1976) proposes six broad categories in his model of organizational life, including purposes, structures, relationships, leadership, rewards, and helpful mechanisms. The purposes of an organization are the organization’s mission and goals. Weisbord refers to structure as the way in which the organization is organized; this may be by function – where specialists work together – or by product, program, or project – where multi-skilled teams work together. The ways in which people and units interact is termed relationships. Also included in the box of relationships is the way in which people interact with technology in their work. Rewards are the intrinsic and extrinsic rewards people associate with their work. The leadership box refers to typical leadership tasks, including the balance between the other boxes. Finally, the helping mechanisms are the planning, controlling, budgeting, and information systems that serve to meet organizational goals. The external environment is also depicted in Weisbord’s model, although it is not represented as a “box” (see Figure 5).
Weisbord identifies as inputs the money, people, ideas, and machinery which are used to fulfill the organization’s mission. The outputs are products and services.

Two premises which are not apparent in Weisbord’s model are crucial to understanding the boxes in the model. The first premise refers to formal versus informal systems. Formal systems are those policies and procedures the organization claims to do. In contrast, informal systems are those behaviors which actually occur. The bigger the gap between the formal and informal systems, the less effective the organization is consider to be. The second premise concerns the fit between the organization and the environment, that is, the discrepancy between the existing organization and the way the organization should function to meet external demands. Weisbord defines external demands or pressures as customers, government, and unions.

Weisbord poses diagnostic questions for each box of his model. For example, he suggests that OD consultants determine whether organizational members agree with and support the organization’s mission and goals within the purposes box. This question refers to his premise regarding the nature of the formal and informal systems within the organization. A sample of some of the questions he poses is as follows in Table 1:
### Table 1. Sample Questions for Weisbord’s Six-Box Model

<table>
<thead>
<tr>
<th><strong>Purposes</strong></th>
<th>Do organizational members agree with and support the organization’s mission and goals?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Structure</strong></td>
<td>Is there a fit between the purpose and the internal structure of the organization?</td>
</tr>
<tr>
<td><strong>Relationships</strong></td>
<td>What types of relations exist between individuals, between departments, and between individuals and the nature of their jobs? Is their interdependence? What is the quality of relations? What are the modes of conflict?</td>
</tr>
<tr>
<td><strong>Rewards</strong></td>
<td>What does the organization formally reward, and for what do organizational members feel they are rewarded and punished? What does the organization need to do to fit with the environment?</td>
</tr>
<tr>
<td><strong>Leadership</strong></td>
<td>Do leaders define purposes? Do they embody purposes in their programs? What is the normative style of leadership?</td>
</tr>
<tr>
<td><strong>Helpful Mechanisms</strong></td>
<td>Do these mechanisms help or hinder the accomplishment of organizational objectives?</td>
</tr>
</tbody>
</table>

In summary, Weisbord’s model focuses on internal issues within an organization primarily by posing “diagnostic questions” which have to do with the fit between “what is” and “what should be.” The questions he poses are not predicted by the model; rather, they appear to be based on his OD practice. These questions serve to convolute the model because they do not flow from the logic of the model. Moreover, Weisbord omits many interconnections between the boxes of the model. Finally, Weisbord only tangentially addresses the impact of the external environment in the model.
Nadler and Tushman's Congruence Model for Organization Analysis (1980)

The Nadler-Tushman Congruence Model is a more comprehensive model, specifying inputs, throughputs, and outputs, which is consistent with open systems theory (Katz & Kahn, 1978). This model is very similar to Leavitt’s model; it also retains the formal and informal systems of the Weisbord six-box model (see Figure 6).

The model is based on several assumptions which are common to modern organizational diagnostic models; these assumptions are as follows:

1. Organizations are open social systems within a larger environment.
2. Organizations are dynamic entities (i.e., change is possible and occurs).
3. Organizational behavior occurs at the individual, the group, and the systems level.
4. Interactions occur between the individual, group, and systems levels of organizational behavior.

These assumptions have been used in some of the previous models examined, although only implicitly.

The inputs within the Nadler-Tushman Congruence model include such factors as the environment, resources, history (i.e., patterns of past behavior), and organizational strategies. Nadler and Tushman are explicit in their conceptualization of each of the factors (see Table 2). For example, they describe the resources available to the organization as human resources, technology, capital, information, and other less tangible resources. While strategy is an input in the model, it is the single most important input to the organization and is depicted by the arrow from the input box to the organization.

The system components of the whole organizational transformation process are informal organizational arrangements, task, formal organizational arrangements, and individual components. Similarly, the outputs of the model include individual, group, and system outputs: products and services, performance, and effectiveness. While outputs such as products and services are generally understood, specific examples of organizational performance and effectiveness are identified by Nadler and Tushman in Table 2.
Table 2. Inputs, System Components, and Outputs of the Congruence Model

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Environment</th>
<th>Resources</th>
<th>History</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>All factors, including institutions, groups, individuals, events, and so on, that are outside the organization being analyzed, but that have a potential impact on that organization</td>
<td>Various assets to which the organization has access, including human resources, capital, information, and so on, as well as less tangible resources (recognition in the market, and so forth)</td>
<td>The patterns of past behavior, activity, and effectiveness that may affect current organizational functioning</td>
<td>The stream of decisions about how organizational resources will be configured to meet demands, constraints, and opportunities within the context of the organization’s history</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>System Components (i.e., throughputs)</th>
<th>Task</th>
<th>Individual</th>
<th>Formal Org. Arrangements</th>
<th>Informal Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The basic and inherent work to be done by the organization and its parts</td>
<td>The characteristics of individuals in the organization</td>
<td>The various structures, processes, methods, and so on that are formally created to get individuals to perform tasks</td>
<td>The emerging arrangements, including structures, processes, relationships, and so forth</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outputs (e.g., performance and effectiveness)</th>
<th>Individual behavior and affect</th>
<th>Group and Intergroup Behavior</th>
<th>System Functioning (i.e., organizational)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absenteeism, lateness, turnover, levels of satisfaction, drug usage, and off-the-job activities which impact performance</td>
<td>Intergroup conflict, collaboration, and quality of intergroup communication</td>
<td>Attainment of desired goals of production, return on investment, etc.; utilization of available resources; adaptability to external environmental demands</td>
<td></td>
</tr>
</tbody>
</table>

Source: Nadler & Tushman, 1980

Nadler and Tushman apply the concept of congruence to their model. They describe congruence, or fit, as “the degree to which the needs, demands, goals, objectives, and/or structures of one component are consistent with the needs, demands, goals, objectives, and/or structures of another component” (i.e., how well pairs of components fit together). For example, a task demands a level of skill and knowledge and likewise, the individuals available to perform the task possess varying levels of skill and knowledge. Nadler and Tushman (1980) explain that the greater the skill and knowledge match between the task and the individual, the more effective the performance will be. Six paired comparisons within the system are possible based on the four components. Through analysis of the congruence between the system parts, the whole organization is diagnosed (Nadler & Tushman, 1980).

The McKinsey 7S Framework was named after a consulting company, McKinsey and Company, and first introduced in 1980 (Waterman, Peters, & Phillips 1980). The McKinsey 7S Framework was created as a recognizable model for business and industry and largely popularized through two best-selling books namely, *The Art of Japanese Management* (Athos & Pascale, 1981), and *In Search of Excellence* (Peters & Waterman, 1982). The seven variables, which the authors term “levers,” all begin with the letter “S” (see Figure 7).

![McKinsey 7S Framework](image)

Figure 7. *McKinsey 7S Framework*

The shape of the model was also designed to illustrate the interdependency of the variables; the illustration of the model has been termed the “Managerial Molecule.” While Waterman, Peters, and Phillips thought that other variables existed within complex organizations, the variables represented in the model were considered to be of crucial importance to managers and practitioners (1980).

The seven variables include structure, strategy, systems, skills, style, staff, and superordinate goals (i.e., share values). Structure is defined as the skeleton of the organization or the organizational chart. Strategy is described as the plan or course of action in allocating resources to achieve identified goals over time (Waterman, Peters, & Phillips 1980). The systems are the routinized processes and procedures followed within the organization. Staff are described in terms of personnel categories within the organization (e.g., engineers), whereas the skills variable refers to the capabilities of the staff within the organization as a whole. The
way in which key managers behave in achieving organizational goals is considered to be the style variable; this variable is thought to encompass the cultural style of the organization. The shared values variable, originally termed superordinate goals, refers to the significant meanings or guiding concepts that organizational members share.

Peters and Waterman (1982) have concluded that American companies tend to focus on those variables which they feel they can change (e.g., structure, strategy, and systems) while neglecting the other variables. These other variables (e.g., skills, style, staff, and shared values) are considered to be “soft” variables. The original creators of the model have concluded that a company can not merely change one or two variables to change the whole organization. For long-term benefit, they feel that the variables should be changed to become more congruent as a system (Waterman, Peters, & Phillips 1980).

The external environment is not mentioned in the McKinsey 7S Framework, although Waterman, Peters, and Phillips do acknowledge that other variables exist and that they depict only the most crucial variables in the model. While alluded to in their discussion of the model, the notion of performance or effectiveness is not made explicit in the model.

**Galbraith’s STAR Model (1982)**

Introduced in 1982, Galbraith’s Star Model is one of the most widely-used organizational design frameworks. According to Galbraith (1982; 1995), the Star Model is a framework for making design choices and decisions on organizational strategy and execution. The model includes five design elements or variables that leaders can use to influence behavior and performance outcomes in an organization. The Star Model is depicted in Figure 8 below.
The model depicts five design elements: strategy, structure, processes, rewards, and people (Galbraith, 1982). These design elements affect the overall direction of the organization, the nature of leadership, the flow of information, and the competencies and motivation workers. Strategy is a multi-dimensional concept which can be defined in a number of different ways. In general, strategy is the means by which an organization intends on achieving its objectives and goals with respect to improving or innovating for competitive advantage. Leaders, in turn, develop and reinforce the organizational capabilities need for strategy attainment (Galbraith, 1995; Kates & Galbraith, 2007). Questions related to each of the variables in the model are shown in Table 3.

Table 3. Sample Questions for Galbraith's Star Model

<table>
<thead>
<tr>
<th>Strategy</th>
<th>What is the formula for success? How do we differentiate ourselves from our competitors?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>How are we organized? What are the key leadership roles? How is the work managed? Who has power and authority?</td>
</tr>
<tr>
<td>Processes</td>
<td>How are decisions made? How does work flow between roles? What are the mechanisms for authority?</td>
</tr>
<tr>
<td>Rewards</td>
<td>How is behavior shaped by the goals? How do we assess progress?</td>
</tr>
<tr>
<td>People</td>
<td>What skills are needed? How do we best develop our talent?</td>
</tr>
</tbody>
</table>

The Star Model does not specify a specific performance outcome (e.g., organizational culture, performance, or effectiveness). However, Kates and Galbraith (2007) explain that the model is merely a framework for decision making on crucial design elements that can be directly controlled by upper management. Culture, for example, is vitally important for any organization, but cannot be directly controlled by management. Rather, culture is a manifestation or outcome of the specific design choices made in an organization. Likewise, individual, group, and organizational effectiveness and performance are considered a byproduct of the variables in the model. In short, the Star Model depicts the organizational design variables that can be directly controlled by the leadership in an organization.

Kates and Galbraith (2007) emphasize the importance of alignment among the variables in the Star Model. They recommend conducting an assessment to determine whether the variables are aligned to support the overall strategy and execution.

The Star Model and the notion of alignment suggest interdependencies among the design elements in the model. However, there are no implied causal relationships or directionality among the variables in the model. Rather, the variables are complimentary in that a change in one design element may affect another variable in the model.
Tichy’s Technical Political Cultural (TPC) Framework (1983)

Similar to some of the previous models, Tichy’s model includes inputs, throughputs, and outputs, which is consistent with the open systems perspective discussed earlier. Tichy identifies key variables in the model which are important to the change management process (Tichy, 1983). The environment and history, broadly construed, are two major categories of input to the organization whereas resources are a third category of input. The throughput variables, or change levers, identified in the model include mission/strategy, tasks, prescribed networks, people, organizational processes, and emergent networks (see Figure 9).

![Figure 9. Tichy’s Technical, Political, Cultural Framework](image)

Tichy defines the mission/strategy variable as the organization’s approach to carrying out its mission and strategy and criteria for effectiveness (i.e., the organization’s purpose). The tasks variable refers to the technology by which the organization’s work is accomplished. The prescribed networks (i.e., the formal organization) have to do with the designed social structure of the organization, such as the organization of departments and the communication and authority networks. The people variable refers to the characteristics of organizational members, including their background, motivation, and managerial style. The mechanisms which enable the formal organization to carry out the work are termed the organizational processes; these include organizational communication, decision-making, conflict management, control, and...
reward systems. The final throughput variable, emergent networks, refers to the structures and processes in the organization, which emerge informally.

The focal point of Tichy’s model is the output variable, which he terms organizational effectiveness. Of course, the output is dependent upon the input and throughput variables. All of the variables, including the input and output categories, are considered to be interrelated in the model. While some variables have a strong influence on other variables, other variables have a weaker, or reciprocal, relationship on other variables – as denoted by the straight and dashed lines.

In considering the variables in the model, Tichy applies an overlay which is vital to his theorizing. This overlay concerns the technical, political, and cultural dynamics going on within the variables of the model (abbreviated as TPC). The TPC overlay raises four questions which are vital to organizational diagnosis. These questions address the technical, political, and cultural dynamics of the organization. These questions follow:

1. How well are the parts of the organization aligned with each other for solving the organization’s technical problems?
2. How well are the parts of the organization aligned with each other for solving the organization’s political problems?
3. How well are the parts of the organization aligned with each other for solving the organization’s cultural problems?
4. How well aligned are the three subsystems of the organization, the technical, political, and cultural?

The technical dynamics are those aspects of the organization which are knowable, such as production processes or available resources. The political dynamics are the views of dominant groups, including bargaining by powerful organizational groups. The cultural dynamics constitute the shared symbols and values which make up the organizational culture. As depicted in the illustration of the model, Tichy uses a rope metaphor to emphasize the strategic importance of the three strands (i.e., technical, political, and cultural) in the change process. The three strands must be managed together, or realigned, for effective change.

According to Tichy’s model, organizational diagnosis is quite complex. An OD consultant would begin by collecting data relevant to the four questions for each variable represented in the model. The data may be collected by document analysis, interviews, questionnaires, and interviews. In order to determine where alignment is needed, summary data would be included in a matrix and analyzed for alignment and action planning.

Nelson and Burns’ (1984) high-performance programming framework assesses the current level of performance of an organization in order to plan interventions to transform the organization into a high performing system (Fuqua & Kurpius, 1993; Nelson & Burns, 1984). Similar to Likert System Analysis, Nelson and Burns describe four organizational systems which are more or less effective. These systems, or frames, as Nelson and Burns call them, include the high-performing organization (level 4), the proactive organization (level 3), the responsive organization (level 2), and the reactive organization (level 1). Each of these levels is conceptualized in Table 4. To diagnose an organization, a survey instrument is used with questions related to Nelson and Burns’ (1984) eleven dimensions or variables. These eleven variables are time frame, focus, planning, change mode, management, structure, perspective, motivation, development, communication, and leadership. The variables are measured on a standard Likert-type scale such as “strongly disagree,” “disagree,” “neither agree nor disagree,” “agree,” and “strongly agree.”

Table 4. Nelson and Burns’ High-Performance Programming

<table>
<thead>
<tr>
<th>Organization (Level)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The High-Performing Organization (Level 4)</td>
<td>Leaders in the high-performing organization are fully invested in empowering organizational members. There is a common focus on organizational excellence. Communication throughout the organization is relatively unrestrictive. The organization is in a constant state of evolution guided by a common vision. Organizational members prize highly their identity with the organization, and opportunities for self actualization are substantial.</td>
</tr>
<tr>
<td>The Proactive Organization (Level 3)</td>
<td>The proactive organization focuses on the future. Leadership has become focused on developing purpose for the organization. Members focus on the quality of their contribution to organizational successes. The organization is actively involved in planning and development strategies.</td>
</tr>
<tr>
<td>The Responsive Organization (Level 2)</td>
<td>The responsive organization is more functional, having achieved some clarity of purpose and goals. The organization has some capability to adapt to changing environmental circumstances. Leaders actively coach members in the direction of organizational goals, and some cohesion has developed among work teams.</td>
</tr>
<tr>
<td>The Reactive Organization (Level 1)</td>
<td>The reactive organization is one badly in need of renewal. The organization lacks shared focus, and management is preoccupied with assigning blame for poor outcomes. Members spend a disproportionate amount of time avoiding aversive consequences, and leaders spend much of their time enforcing policies that often lack relevance to any common purpose.</td>
</tr>
</tbody>
</table>

Source: Adapted from Nelson & Burns, 1984

The leadership activities associated with the four levels of performance in the high-performance programming framework is as follows: the high-performing organization is associated with “empowering” leadership, the proactive organization is associated with “purposing” leadership, the responsive organization is associated with “coaching” leadership, and the reactive organization is associated with “enforcing” leadership. To clarify, “purposing” leadership activity refers to leadership behavior which maintains an integrated, focused purpose for the organization. Nelson and Burns describe these leadership behaviors to emphasize the importance of empowerment and support for individuals' growth and development within the organization (1984).
Harrison (1987) has devised a model for diagnosing individual and group behavior within organizations. The model which was later refined as a framework for diagnosing group behavior (Harrison & Shirom, 1999) is somewhat unique in that it focuses on outputs such as organizational effectiveness, quality of work life (QWL), and individual well-being. The model represents an open systems perspective with minimal boundaries between the organization and external environment. However, the external environment is not represented by anything other than resources and feedback loops (see Figure 10).

The variables accounted for in the model are conceptualized at the organizational, group, and individual levels. The organizational level of effectiveness appears to represent a more abstract level of effectiveness, which is a function of the outputs associated with organizational goals, culture, structure, technology, behavior, and processes. Whereas, the variables which influence group level effectiveness are the group composition, structure, and technology of the organization, as well as group behavior, processes, and culture. Notice that these variables are very broad. In contrast, the variables which affect the individual level of effectiveness including QWL and individual well-being are the individual, job, and tasks as well as individual behavior, attitudes, and orientation (Harrison & Shirom, 1999).

The inputs to the model are the resources, including human resources, which are available to the organization and feedback loops from prior organizational outcomes. Since there is no definitive boundary around the organization, it is not clear whether all the resources are derived from the external environment, the organization itself, or a combination of the two. The outputs at the organizational level are the products and services the organization produces. The outcomes associated with group performance within the organization are the solutions, plans,
and tactics devised during operations. At the individual level, outcomes include the quality of individual members’ work efforts, their initiative, cooperation with others, and commitment to their work; negative outcomes are related to absenteeism and tardiness at the individual level. Lastly, perceptions of job security, working conditions, the meaningfulness and challenge of work, and the degree to which work contributes to the psychological well-being of members are all related to QWL outcomes (Harrison, 1987).

Harrison denotes the lines of influence in the model as either main lines of influence or feedback loops. However, not all of these relationships are reciprocal, as some of the other models have suggested. The extensive number of lines of influence and feedback loops in the model makes it difficult to determine the relationships among variables.

The Burke-Litwin Causal Model (1992)

The Burke-Litwin Causal Model of Organizational Performance and Change (B-L model) was developed by Litwin and others (Litwin & Stringer, 1968; Tagiuri & Litwin, 1968) and later refined by Burke in the late 1980’s (Burke & Litwin, 1992). This model includes several key features which go beyond the models discussed earlier. First, the B-L model includes 12 theoretical constructs (i.e., organizational variables or factors). Second, it distinguishes between the culture and the climate of an organization. Third, the B-L model distinguishes between transformational and transactional dynamics in organizations. Lastly and of significance, the B-L model specifies the nature and direction of influence of organizational variables.

The 12 organizational variables in the B-L model are external environment, mission and strategy, leadership, organizational culture, structure, management practices, systems, work unit climate, task requirements and individual skills, motivation, individual needs and values, and individual and organizational performance. With the representation of the external environment as a variable, it is evident that open systems theory underlies the B-L model. The external environment variable is considered to be the input to the system with the individual and organizational performance variable representing the output (see Figure 11)
The feedback loops on the right and left sides of the model go in both directions. For example, the performance variable affects the external environment through its products and services, and likewise, the individual and organizational performance is affected by demands from the external environment. The remaining variables represent throughputs in open systems theory.

As is evident through the climate and culture variables, Burke and Litwin make a distinction between organizational climate and culture. Climate is defined as individuals’ perceptions of how their work unit is managed and how effectively they and their colleagues work together (Burke & Litwin, 1992). People are much more cognizant of organizational climate than culture (i.e., climate is in the foreground, whereas culture is in the background). In contrast, culture has been defined as the relatively enduring set of values, norms, and beliefs that underlie the social system of the workplace (Burke & Litwin, 1992). These values, norms, and beliefs related to organizational culture are not entirely available to one’s consciousness.

In addition to the distinction between culture and climate, the B-L model distinguishes between transformational and transactional dynamics within organizations. Burke and Litwin’s (1992)
consideration of transformational and transactional dynamics is rooted in leadership theory and specifically, in the differences between leaders and managers. In the model, transformational change is associated more with leadership, while transactional change is associated more with management. Hence, transformational dynamics represent fundamental changes in behaviors and values that are required for genuine change in organizational culture. In terms of management, transactional dynamics are the everyday interactions and exchanges in work life related to organizational climate (Burke & Litwin, 1992).

As mentioned, the model has been revised over time by Burke and his colleagues in a series of organizational studies (Bernstein & Burke, 1989). Burke and Litwin have welcomed further empirical investigation of the validity of the organizational model (Burke & Litwin, 1992; Burke, in Howard, 1994). To date, however, only a handful of applied research studies have been conducted on the model (e.g., Falletta, 1999; Combs & Falletta, 2002; Di Pofi, 2002; Martin & Coetzee, 2009). These studies largely focused on assessing the B-L model’s predictive or statistical conclusion validity, reliability and internal consistency (e.g., Cronbach’s α, alpha), and/or usefulness in terms of facilitating organizational diagnosis, development, and change.

Organizational Intelligence Model (2008)

The final organizational diagnostic model is a relatively new model, the Organizational Intelligence Model (OI Model), that was originally developed by Falletta in 2004 and later refined and published (Falletta, 2008a; Falletta, 2008b). The OI model is a diagnostic framework for OD purposes as well as an analysis framework in the design and interpretation of employee and organizational survey efforts.

The OI model includes 11 variables (see Figure 12 and Table 6). The model includes several elements that are similar to the B-L model. For example, it depicts a top-down causal chain, making some tentative assertions with respect to cause and effect. The variables in the upper part of the model, such as environmental inputs, affect the organization from the outside. Within the organization, the strategic drivers (i.e., leadership, strategy, and culture) affect key indices which represent organizational capability and execution. These include the organization’s structure and adaptability, information and technology, quality of direct managers, measures and rewards, and growth and development opportunities.

The five key indices directly influence employee engagement and in turn the performance outputs variable (i.e., the key indices serve as the primary drivers of employee engagement and performance). Lastly, the performance outputs variable influences the environmental inputs variable and vice versa (i.e., there is a reciprocal relationship between these variables) which serves as a feedback loop with respect to open systems theory (see Table 5).

Unlike the other models presented, the OI model squarely depicts the emerging construct of employee engagement despite the healthy debate that is underway about how it differs from other well-research constructs such as employee satisfaction, involvement, commitment, and motivation (Macey & Schneider, 2008; Macey, Schneider, Barbera, & Young, 2009; Shuck & Wollard, 2010; Shuck & Reio, 2011; Shuck, Ghosh, Zigarmi & Nimon, 2012). The use of employee engagement as a key variable in organizational research is gaining momentum (Gibbons, 2006; Falletta, 2008a; Shuck, Ghosh, Zigarmi & Nimon, 2012).
Table 5. Hypothesized Relationships among the Variables in the OI Model

<table>
<thead>
<tr>
<th>Strategic Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>External Inputs influences Leadership, Strategy, and Culture</td>
</tr>
<tr>
<td>Leadership and Strategy (reciprocal relationship)</td>
</tr>
<tr>
<td>Leadership and Culture (reciprocal relationship)</td>
</tr>
<tr>
<td>Strategy and Culture (reciprocal relationship)</td>
</tr>
<tr>
<td>Leadership influences → Key Indices of Employee Engagement and Performance*</td>
</tr>
<tr>
<td>Strategy influences → Key Indices of Employee Engagement and Performance*</td>
</tr>
<tr>
<td>Culture influences → Key Indices of Employee Engagement and Performance*</td>
</tr>
</tbody>
</table>

Figure 12. **FALLETTA’S ORGANIZATIONAL INTELLIGENCE MODEL**
Organizational Capability & Execution: Key Indices (i.e., Primary Drivers)

<table>
<thead>
<tr>
<th>Structure &amp; Adaptability influences</th>
<th>Employee Engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information &amp; Technology influences</td>
<td>Employee Engagement</td>
</tr>
<tr>
<td>Direct Manager influences</td>
<td>Employee Engagement</td>
</tr>
<tr>
<td>Measures &amp; Rewards influences</td>
<td>Employee Engagement</td>
</tr>
<tr>
<td>Growth &amp; Development influences</td>
<td>Employee Engagement</td>
</tr>
<tr>
<td>Employee Engagement influences</td>
<td>Performance Outputs</td>
</tr>
<tr>
<td>Performance Outputs and Environmental Inputs (i.e., a reciprocal relationship and feedback loop)</td>
<td></td>
</tr>
</tbody>
</table>

*Note: Leadership, Strategy, and Culture could influence the Employee Engagement variable directly (i.e., as a primary driver), but these strategic factors are likely to affect Employee Engagement through the Key Indices (i.e., in a secondary fashion) as hypothesized in the OI Model.*

Table 6. Factor Descriptions of the Organizational Intelligence Model

<table>
<thead>
<tr>
<th>Factor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Inputs</td>
<td>The outside conditions or situations that affect the organization (e.g., government policy, competitive intelligence, customer feedback, the economy).</td>
</tr>
<tr>
<td>Strategy</td>
<td>The means by which an organization intends on achieving its objectives and goals with respect to improving or innovating for competitive advantage.</td>
</tr>
<tr>
<td>Leadership</td>
<td>The most senior level of executives (VP and above) in the organization.</td>
</tr>
<tr>
<td>Culture</td>
<td>The underlying values, beliefs and norms that drive team and organizational behavior.</td>
</tr>
<tr>
<td>Structure &amp; Adaptability</td>
<td>The structure is how the organization is designed (i.e., levels, roles, decision rights, responsibilities and accountabilities) to execute on the strategy. Whereas, adaptability refers to the extent to which the organization is ready and able to change.</td>
</tr>
<tr>
<td>Information &amp; Technology</td>
<td>The business systems, practices, and capabilities that facilitate and reinforce people’s work (e.g., communication, IT infrastructure, knowledge sharing).</td>
</tr>
<tr>
<td>Direct Manager</td>
<td>The relative quality and effectiveness of an employee’s direct manager or supervisor.</td>
</tr>
<tr>
<td>Measures &amp; Rewards</td>
<td>Measures refer to the ways in which individual and team performance and accomplishments are measured and managed. Rewards are the monetary and non-monetary incentives that reinforce people's behavior and actions, including advancement and promotion.</td>
</tr>
<tr>
<td>Growth &amp; Development</td>
<td>The practices, resources, and opportunities available for employee skill development and enhancement, including development planning, training and learning, and stretch assignments.</td>
</tr>
<tr>
<td>Employee Engagement</td>
<td>Employee engagement involves the cognitive, emotional and behavioral relationship employees have with their jobs and organizations, and effort and enthusiasm they put into their daily work (i.e., the extent to which employees contribute their discretionary energy and effort on behalf of the organizations they serve).</td>
</tr>
<tr>
<td>Performance Outputs</td>
<td>The outcomes and indicators of individual and organizational achievement and results.</td>
</tr>
</tbody>
</table>

Table 23 | P a g e
While the Organizational Intelligence Model is similar in some respects to other top-down, causal models (e.g., the B-L model), it differs in the following ways.

1. The Organizational Intelligence Model includes the emerging construct of employee engagement which is gaining momentum.

2. The Organizational Intelligence Model depicts and emphasizes growth and development (i.e., Human Resource Development) as a key factor for nurturing, engaging, and retaining talent.

3. The Organizational Intelligence Model has been tested in a number of organizational settings with respect to statistical conclusion validity (e.g., multiple regression) and reliability and internal consistency (e.g., Cronbach's $\alpha$).

Summary of Reviewed Models
As is evident from the description of the various models, there are similarities and differences in the ways in which variables are represented in the organizational models. On the one hand, key variables are relatively broad and undefined in some models (e.g., Lewin’s Force Field Analysis) while some models are normative and prescriptive (e.g., Likert’s System Analysis and Nelson and Burn’s High Performance Programming). In other models, the variables represent numerous clearly defined theoretical constructs (e.g., Nadler and Tushman’s Congruence Model for Organizational Analysis and Tichy’s TPC Framework). Some of the same constructs are represented across models, although they are termed differently.

The nature of the relationships between the variables in the various models also differs. For example, some relationships between variables represent direct, one-way influences while other relationships between variables are considered to be reciprocal (i.e., two-way). One-way or two-way arrows are used in models to depict the nature of these relationships. In many of the models, it is not explicit whether variables are merely correlated or whether a cause and effect relationship between variables is thought to exist.

Many of the models rely upon open systems theory as a basic assumption. Additionally, most of the models incorporated the external environment as a factor in organizational functioning. The models do differ in the factors considered vital to organizational functioning or effectiveness (e.g., leadership is considered important in Weisbord’s model, whereas the quality of work life and individual well-being are considered most important in Harrison’s model).

With the exception of the B-L model and Falletta’s OI model, most of the models presented in this review are based on OD consultants’ experience and practice in working in organizational settings. While an understanding of organizational practice is vital to conceptualizing such models, it is imperative that working models have a theoretical and empirical basis to begin with and be validated in a variety of organizational settings over time. Without validation through applied research, those using the models to guide their OD work cannot be sure of the soundness and appropriateness of the model. Most scholars and theoreticians welcome the testing and refinement of their models. Therefore, it is essential to consider the empirical foundations (i.e., theoretical underpinnings) of any model used in OD practice, as well as the empirical research available on the validity of the model. Table 7 identifies the variables represented in each model as well other characteristics of the models.
### Table 7: Summary of Reviewed Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Variables</th>
<th>Variable Interdependency</th>
<th>Major Premise(s)</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lewin’s Force Field Analysis (1951)</td>
<td>• Driving forces and restraining forces</td>
<td>• Driving and restraining forces occur simultaneously</td>
<td>• Disequilibrium occurs during change; then equilibrium is re-established</td>
<td>• Too simplistic for a system-wide diagnosis</td>
</tr>
<tr>
<td>Leavitt’s Model (1965)</td>
<td>• Task, structure, technological, and human variables</td>
<td>• The four variables are interdependent (i.e., a change in one affects the others)</td>
<td>• Change in the variables is undertaken to affect the task variable (i.e., products and services)</td>
<td>• External environment not represented in the model</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Too simplistic for a system-wide diagnosis</td>
</tr>
<tr>
<td>Likert’s System Analysis (1967)</td>
<td>• Motivation, communication, interaction, decision-making, goal setting, control, and performance</td>
<td>• The levels of variables are measured independently on a survey</td>
<td>• Four different types of management systems (i.e., participative, consultative, benevolent-authoritative, and exploitative-authoritative) are identified across the seven dimensions (i.e., variables)</td>
<td>• External environment not directly represented in the model</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Normative view in terms of change</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• System levels too descriptive and assumes equal interval between the levels</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Survey response alternatives and scales are not standardized</td>
</tr>
<tr>
<td>Weisbord’s Six-Box Model (1976)</td>
<td>• Purposes, structure, relationships, leadership, rewards, and helpful mechanisms</td>
<td>• The interconnections between the boxes, or variables, are not explicit</td>
<td>• The larger the gap between the formal and informal systems within each variable, the less effective the organization</td>
<td>• The environment has an influence through organizational inputs and outputs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Too simplistic</td>
</tr>
<tr>
<td>Model</td>
<td>Variables</td>
<td>Variable Interdependency</td>
<td>Major Premise(s)</td>
<td>Limitations</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Nadler and Tushman’s Congruence Model for Organization Analysis (1977) | • Inputs: environment, resources, history, strategy; throughputs: task, individual, and formal organizational arrangements, informal organization; outputs: individual, group, and system | • Organizations are dynamic; interactions occur at the individual, group, and systems levels across the internal (i.e., throughput) variables | • Assumes open systems theory, formal and informal systems, and the fit or congruence between the internal variables | • Although fit and congruence can lead to improved effectiveness and efficiency, it can also promote resistance to change and adaptability  
• Some of the variables and terms are too difficult to understand |
| McKinsey 7S Framework (1980)                                           | • Style, Staff, Systems, Strategy, Structure, Skills, and Shared Values                   | • Variables are interdependent; the illustration is termed the managerial molecule | • Variables must all change to become congruent as a system                      | • External environment not directly represented in the model  
• Legitimacy derived largely from the McKinsey & Co brand and Tom Peters persona rather than through research  
• Looks trendy (e.g., 7S) |
<p>| Galbraith’s STAR Model (1982)                                           | • Strategy, Structure, Processes, Rewards, and People                                   | • Assuming alignment among the variables, there is some interdependency           | • Variables in the model are considered organizational design elements that support an organization’s strategy | • Model does not explicitly specify any behavior or performance outcomes, although recent revisions were made to make these outcomes explicit |</p>
<table>
<thead>
<tr>
<th>Model</th>
<th>Variables</th>
<th>Variable Interdependency</th>
<th>Major Premise(s)</th>
<th>Limitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tichy's TPC Framework (1983)</td>
<td>• Inputs: environment-history, and resources; throughputs: mission/strategy, tasks, prescribed networks, people, organizational processes, and emergent networks; outputs: performance, impact on people</td>
<td>• All variables are interrelated, although some relationships are stronger and some are weaker (i.e., reciprocal)</td>
<td>• All variables are analyzed from a technical, political, a cultural perspective (i.e., the strategic rope metaphor)</td>
<td>• Some of the variables and terms are too difficult to understand</td>
</tr>
<tr>
<td>Nelson and Burns’ High-Performance Programming (1984)</td>
<td>• Time frame, focus, planning, change mode, management, structure, perspective, motivation, development, communication, and leadership</td>
<td>• The levels of variables are measured independently on a survey (similar to Likert’s system analysis)</td>
<td>• Four different levels of organizational performance are identified: high-performing, proactive, responsive, and reactive across 11 variables. These are associated with empowering, purposing, coaching, and enforcing leadership behaviors respectively</td>
<td>• External environment not directly represented in the model</td>
</tr>
<tr>
<td>Harrison’s Diagnosing Individual and Group Behavior Model (1987)</td>
<td>• Inputs: resources, human resources; throughputs at the organizational, group, and individual levels; outputs: organizational, group, and individual effectiveness as well as QWL and well-being outcomes</td>
<td>• Main lines of influence and feedback loops; all relationships are directional with the exception of two reciprocal relationship between two variables</td>
<td>• Assumes open systems theory; emphasis on three levels of performance and effectiveness, including QWL and well-being outcomes</td>
<td>• Minimal boundaries between the organization and external environment</td>
</tr>
</tbody>
</table>

• Some of the variables have lengthy, complicated titles and appear to lack unidimensionality
<table>
<thead>
<tr>
<th>Model</th>
<th>Variables</th>
<th>Variable Interdependency</th>
<th>Major Premise(s)</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Burke-Litwin Causal Model of</td>
<td>• Open systems model depicting 12 variables or factors</td>
<td>• All variables are interrelated, depicting reciprocal relationships. However, the model</td>
<td>• Assumes open systems theory; emphasis is on diagnosing transformational and as transactional</td>
<td>• Complex and intricate model with a lengthy, concomitant instrument (90 core items)</td>
</tr>
<tr>
<td>Organizational Performance and Change</td>
<td></td>
<td>implies a top-down causal chain</td>
<td>dynamics</td>
<td></td>
</tr>
<tr>
<td>(1992)</td>
<td></td>
<td></td>
<td>• The first model to assert causality</td>
<td></td>
</tr>
<tr>
<td>Falletta's Organizational Intelligence</td>
<td>• Open systems model depicting 11 variables or factors</td>
<td>• The top part of the model depicts strategic factors that influence key indices which</td>
<td>• It's not enough to measure employee engagement alone. The model serves as an system-wide</td>
<td></td>
</tr>
<tr>
<td>Model (2008)</td>
<td></td>
<td>in turn drive employee engagement and performance.</td>
<td>conceptual framework to assess both the strategic factors (i.e., secondary drivers) as well as</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• While the variables are interrelated, the model asserts a top-down causal chain</td>
<td>the primary drivers of employee engagement and performance</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</tbody>
</table>
Assessing the Validity of Organizational Diagnostic Models

All of the models in this review vary with respect to their level of specificity and sophistication. The B-L model (Burke & Litwin, 1992) and Organizational Intelligence Model (Falletta, 2008a, 2008b) are approximate representations of an organization. Both models make tentative assertions about the cause and effect. In pictorial form, these models are termed a path diagram because they depict a network of relationships among variables (Hunter & Gerbing, 1982). To test the validity of diagnostic models, causal modeling procedures are used (Falletta & Combs, 2002). Causal modeling procedures can estimate both the direction of the relationships between variables and the magnitude of those relationships (Williams & James in Greenberg, 1994). Two common statistical procedures used for such purposes are path analysis and structural equations modeling (SEM).

Path analysis is a statistical procedure employing multiple regression techniques in the analysis of a path diagram (Williams & James in Greenberg, 1994). Path analysis provides more information than simple correlations between variables (Gable & Wolf, 1993). In path analysis, the researcher specifies both the independent and dependent variables and the direction of the effect between the variables. Two of the assumptions required of path analytic procedures are fairly restrictive; one is that no measurement error may exist and second, that the path represents a one-way, directional flow between variables (Bollen, 1989; Bollen & Long, 1993).

SEM, on the other hand, goes beyond classical path analysis and is less restrictive in the assumptions that are required to use the statistical procedure (Gable & Wolf, 1993; Williams & James in Greenberg, 1994). While SEM is more difficult to run and interpret than simple path analysis, it is often preferred over path analysis (Gable & Wolf, 1993). The technique was developed in the 1960’s from an integration of econometric and psychometric methods. The approach combines both structural equations from economics and factor analytic techniques from psychology. One purpose of SEM is to determine whether a pattern of relationships in data matches the predictions in a hypothesized model (Gable & Wolf, 1993). Hence, SEM is appropriate for measuring the validity of an organizational diagnostic model.

SEM also requires that a distinction be made between theoretical constructs and measurement indicators (Hunter & Gerbing, 1982). The theoretical constructs in a model are the latent variables (i.e. a hypothesized theoretical construct) that are hypothesized to exist from a review of the research literature. In contrast, the measurement indicator, often an item on a survey instrument, is termed the manifest variable (i.e., an observed variable that measures a latent variable).

In short, the application of SEM has increased dramatically in organizational research over the past 20 years (Hoyle, 2012; Stone-Romero, Weaver, & Glenar, 1995) and has provided researchers with a powerful tool for assessing the validity of organizational diagnostic models and their concomitant survey instruments.

Conclusion

There are a number of alternative models and frameworks (e.g., Kotter 1978; Porras, 1987; Bolman & Deal, 1991; Cummings & Worley, 2009) and certainly countless unpublished, proprietary models in use. Hence, this wasn’t meant to be an exhaustive description and analysis of all organizational diagnostic models in the literature. Rather, the purpose of this integrative review of organizational diagnostics models was to gain insight into the most widely
used organizational diagnostics models, how these models have evolved overtime and what the future holds.

No particular model is superior or better than another model. Burke does warn organizational diagnosticians about rigidly adhering to one model, despite evidence that the model may not be appropriate for the organization (in Howard, 1994). He suggests that is possible to become trapped by one’s chosen model. For example, an organizational diagnostician may design data collection methods based on the limited variables in the model, thereby failing to collect important information on other possible variables.

To select the right model for an organization, Burke suggests that organizational diagnosticians choose a model that (1) they are comfortable with, (2) fits the client organization’s culture, and (3) is sufficiently comprehensive enough to capture all of the factors and variables of interest without overwhelming or confusing the client.

Organizational models, even when rigorously tested through SEM, may not be generalizable across all organizations, sectors, and industries. Any model, whether tested or not, is merely an approximate representation of an organization. A model may fit well in one organization but not another. Hence, it is recommended that organizational diagnosticians be open and willing to customize the chosen model to meet the specific needs of the organizations.
References


