Challenges and Strategies of Matrix Organizations:

Top-Level and Mid-Level Managers' Perspectives

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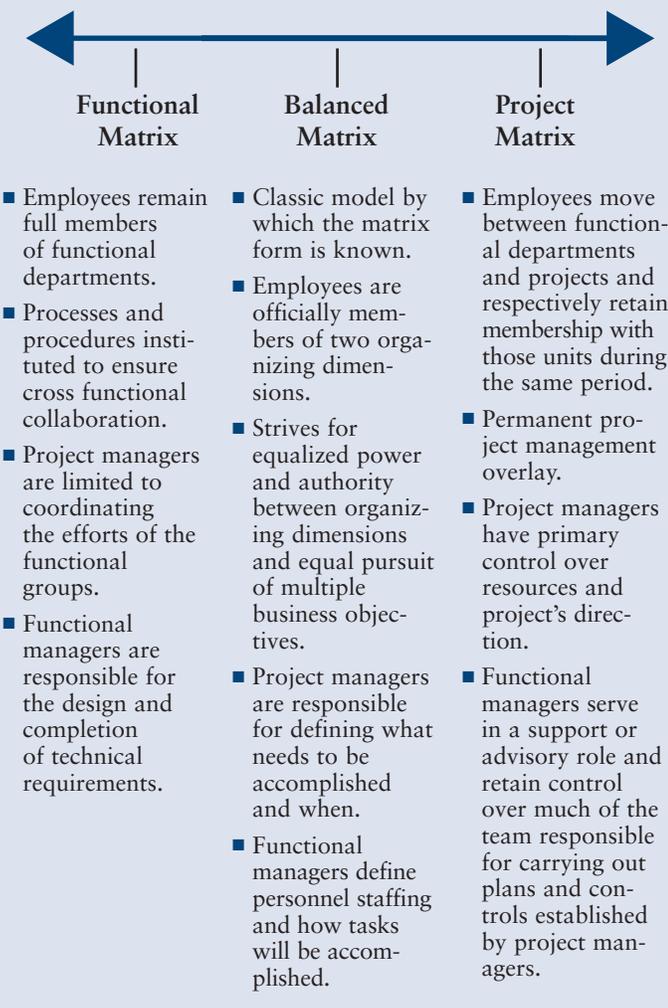
Using surveys, interviews, and workshops with 294 top-level and mid-level managers from seven major multinational corporations in six industries, we identified the top five contemporary challenges of the matrix organizational form: (1) misaligned goals, (2) unclear roles and responsibilities, (3) ambiguous authority, (4) lack of a matrix guardian, and (5) silo-focused employees. We also provide managers with the best practices that will improve their matrix organizations.

Interest in matrix organizational structures peaked during the 1970s and 1980s. Since that time, research and literature on the matrix have dropped noticeably. Simultaneously, organizations continue to adopt the matrix as a viable alternative to deal with their increasingly complex

Matrix Forms

Functional Matrix	Balanced Matrix	Project Matrix
■ Employees remain full members of functional departments. ■ Processes and procedures instituted to ensure cross functional collaboration. ■ Project managers are limited to coordinating the efforts of the functional groups. ■ Functional managers are responsible for the design and completion of technical requirements.	■ Classic model by which the matrix form is known. ■ Employees are officially members of two organizing dimensions. ■ Strives for equalized power and authority between organizing dimensions and equal pursuit of multiple business objectives. ■ Project managers are responsible for defining what needs to be accomplished and when. ■ Functional managers define personnel staffing and how tasks will be accomplished.	■ Employees move between functional departments and projects and respectively retain membership with those units during the same period. ■ Permanent project management overlay. ■ Project managers have primary control over resources and project's direction. ■ Functional managers serve in a support or advisory role and retain control over much of the team responsible for carrying out plans and controls established by project managers.

businesses as evidenced by its proliferation in a variety of industries, such as aerospace, automotive, banking, chemical, communications, computer, defense, electronics, financial, energy (Davis & Lawrence, 1977; Galbraith, 2000). The continued proliferation associated with the use of the matrix confirms a need for information on the challenges and best practices. In this article, we report the findings of our research on contemporary issues of the matrix. To date, few studies have examined the human side of the matrix (some exceptions are Bartlett & Ghoshal, 1990; Lawrence, et al., 1977). Most topics on the matrix focus on its structure and its variant forms (e.g., Goold & Campbell, 2002), rather than the human side—issues concerned with *managing and operating* in the matrix. In this study, we focused on the human side of the matrix as the findings provide actionable steps that managers can implement to improve the functioning of their organizations. We begin with a brief overview of the matrix. We then identify the top five challenges reported by participants (top-level and mid-level managers) and provide best practices to address them.

Overview of the Matrix

By its simplest definition, the matrix is a grid-like organizational structure that allows a company to address multiple business dimensions using multiple command structures. The matrix organizational form emerged in the aerospace industry during the 1960s as government contracts required a project-based system linked directly to top management (Knight, 1977). While the matrix can take many forms, three common variants are the functional matrix, balanced matrix, and project matrix (see Exhibit 1) (Burns, 1989; Galbraith, 1971, 1973; Kolodny, 1979; Larson & Gobeli, 1987). Matrix organizational structures are comprised of multiple business dimensions. Basic matrix structures have two dimensions (e.g., function by product matrix, geography by product matrix). More complex matrix structures could encompass three or more dimensions. For example, a company could be structured not only to focus on product and function, but also to deal with geographic differences. In this study, we focus on organizations that operated in a two-dimensional matrix structure.

The matrix boasts many traits that are necessary in managing global organizations (Bartlett & Ghoshal, 1998; Galbraith, 1994; Kramer, 1994). Exhibit 2 highlights the strengths and weaknesses of the matrix organizational form.

The matrix allows companies to leverage vast resources while staying small and task-oriented. The matrix encourages innovation and fast action, and speeds information to those who know how to use it. Conversely, the matrix can be complex and unpredictable. It violates the traditional principles of authority, tending to breed ambiguity and conflict. The matrix also can require more managerial and administrative support at a time when companies appear to be cutting back.

Although all matrix forms have inherent flaws, CEOs adopt the matrix because they believe the strengths outweigh the flaws. Matrix organizations are adopted for four primary reasons (Burns & Wholey,

Matrix Strengths and Weaknesses

STRENGTHS	WEAKNESSES
■ Leverages functional economies of scale while remaining small and task-focused ■ Focuses employees on multiple business goals ■ Facilitates innovative solutions to complex, technical problems ■ Improves employees' companywide focus through increased responsibility and decision-making ■ Allows for quick and easy transfer of resources ■ Increases information flow through the creation of lateral communication channels ■ Enhances personal communication skills	■ Violates principle that authority should equal responsibility ■ Violates the principle that every subordinate should be assigned to a single boss ■ Can create ambiguity and conflict ■ Increases costs resulting from the need for additional management and administration ■ Increases likelihood of resistance to change as employees may attribute the matrix with loss of status, authority, and control over traditional domain

1993; Corporate Strategy Board, 1998; Galbraith, 2000; Kilmann, 1985; Knight, 1977; Sy & Cote, in press), as the matrix:

1. Allows companies to focus on multiple business goals;
2. Facilitates the management of information;
3. Enables companies to establish economies of scale; and
4. Speeds response to environmental demands.

Research Methodology

The current study is based on the authors' work with several matrix organizations. The primary research consisted of surveys, interviews, and workshops with 294 mid-level and top-level managers from seven major U.S.-based corporations in six industries: automotive, chemical, computer hardware and services, financial, oil and gas, and technology products and solutions. Companies selected for the study had operated within a matrix structure from three years to more than 20 years, and were either in the initial stage of implementing a matrix structure (i.e., two companies in the process of transitioning from a traditional hierarchical structure to a two-dimensional matrix), in the process of restructuring their matrix structure (i.e., three companies reorganizing their matrix structure to focus on different business dimensions—e.g., shift from focusing on region and function to region and product), or recognized as a high-performing matrix organization (i.e., two companies identified as high-functioning matrix organizations by industry experts and the organizational literature). On average, companies had over $70 billion in yearly revenue, employed over 170,000 employees, and all operated in a two-dimensional matrix. Companies agreed to participate in the study because they would benefit from the findings, using the best practices to improve the functioning of their matrix. Exhibit 3 describes the participating companies.

Participants were top-level managers (109 participants at or above the rank of vice president, e.g., VP of Sales, VP of North American Operations, and VP of Human Resources) and mid-level managers

(185 participants below the rank of vice president, e.g., Human Resources Manager, Customer Service Manager, Field Manager). All top-level managers held the rank of "officers" of the firm, whereas mid-level managers did not. On average, we recruited 42 participants from each company, and participants' tenure with their current company was 13.4 years. We used two approaches in the data collection process. In phase one, we sent participants a survey designed to identify the major challenges and best practices of working in the matrix. Each survey was followed by approximately an hour-and-a-half-long interview to clarify points of confusion, and allow for deeper analysis and understanding of the issues. Exhibit 4 identifies the top five common challenges across all corporations.

In phase two, we conducted an in-depth case study with a North American automotive manufacturer to further deepen our understanding of the issues. The case study included interviews and workshops with key leaders at all levels of this matrix organization, including the top leadership, matrix managers, and two-boss managers and their subordinates (Kolodny, 1979). Furthermore, participants represented the major geographic and functional areas of the organization. Each interview lasted about an hour and a half, and followed similar methodologies as in phase one (i.e., survey followed by an interview). In the workshops, we used the nominal group technique to identify matrix challenges and best practices (Delbecq, et al., 1986). The four-hour workshops had four stages: generating, recording, clarifying, and evaluating the matrix challenges and best practices.

Our study has strengths and weaknesses. On a positive note, it includes participants from several Fortune 500 companies, as well as participants at different management levels, and represents several industries. Furthermore, we employed multiple methodologies in our research (i.e., surveys, interviews and workshops) that strengthen the validity of the findings and provided both breadth and depth of insights. The study also has limitations. Primarily, our sample size (i.e., number of companies and participants) could be larger; however, the
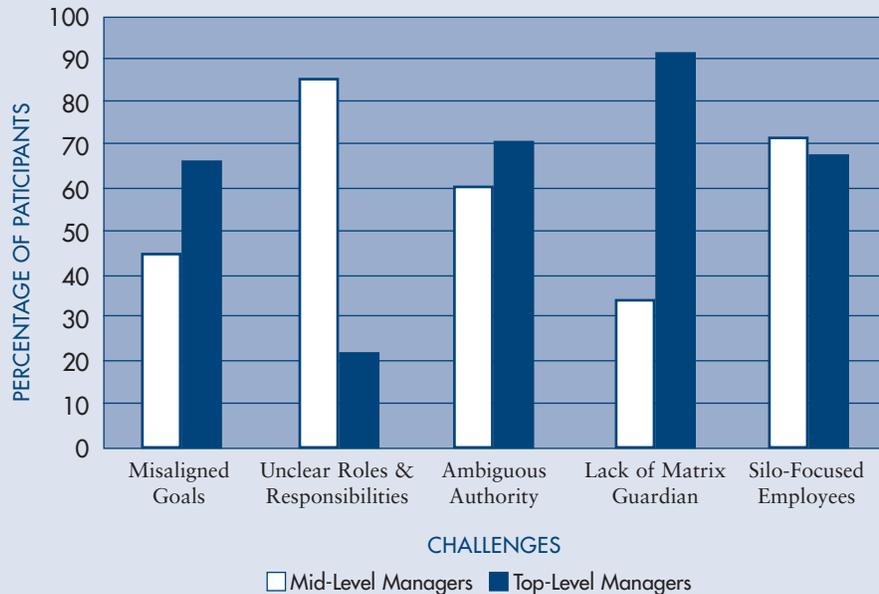

EXHIBIT 3

Overview of Companies in Study

COMPANY	ANNUAL REVENUE	NUMBER OF EMPLOYEES	NUMBER OF MATRIX DIMENSIONS	STUDY PARTICIPANTS: MANAGERS/EXECUTIVES
Oil & gas company that provides oil, natural gas, and chemical products and services	$100 B	90,000	2	19/14
Financial company that provides credit card, banking, insurance, and investment services	$100 B	200,000	2	19/15
Computer hardware and services company that provides computers, imaging and printing peripherals, software, and computer-related services	$7 B	80,000	2	22/15
Chemical company that provides adhesive and bonding products	$10 B	70,000	2	23/14
Technology product and solutions company	$80 B	300,000	2	21/15
Two global automotive manufacturers of cars and trucks[1]	$150 B	300,000	2	59/21

[1]Automotive companies were combined to protect participant confidentiality. Higher number of participants as one of the automotive manufacturers was the focus of the case study.

EXHIBIT 4

Challenges Identified by Participants

Comparison of Challenges Identified by Top-Level and Mid-Level Managers

challenges relevant to mid-level managers might differ from challenges relevant to top-level managers.

Misaligned Goals

A primary challenge of operating in matrix organizations is aligning goals among many different dimensions (Knight, 1977). Dimensions can refer to functions, products, customers or geographic regions, among others. As Exhibit 4 indicates, 47 percent of mid-level managers and 67 percent of top-level managers cite "misaligned goals" as a common dilemma. Chi-square statistics (see Exhibit 5) show a significant difference in how mid-level and top-level managers view goal alignment: More top-level managers cite misaligned goals as a challenge, in comparison with mid-level managers. We also assessed the frequency of occurrence for misaligned goals by asking participants: "How often do issues related to misaligned goals occur?" Participants responded using a 5-point Likert scale, with 1 anchored with "not often," 3 anchored with "sometimes," and 5 anchored with "often." We used the same methodology to assess frequency of occurrence for all top five matrix challenges identified in our study (i.e., misaligned goals, unclear roles and responsibilities, ambiguous authority, lack of a matrix guardian, and silo-focused employees). A t-test reveals that top-level managers report a higher frequency of occurrence for issues related to misaligned goals (M = 3.97, SD = .91) than do mid-level managers (M = 2.55, SD = 1.00), t(1, 292) = 12.51, p < .001. This finding suggests that misaligned goals are perhaps more relevant for top-level managers than for mid-level managers. This finding corroborates past observations that most business goals and objectives are developed at top management levels (Bartlett & Ghoshal, 1993; Chandler, 1962). Overall, participants cite the following difficulties in goal alignment:

- Competing or conflicting objectives between matrix dimensions
- Inadequate processes to align goals and detect possible misalignments
- Lack of synchronization, coordination, and poor timing of work plans and objectives
- Insufficient communication and consultation between matrix dimensions

Many participants talked about the confusion that occurs when a functional objective conflicts with a regional requirement. For example, when the leader of the engineering function at a chemical company outlined training objectives for her people, she did so without first talking to the vice president of Human Resources. As all training expenditures are paid by the human resources function, the ensuing conflict should not have been a surprise.

Such misalignment struck a similar chord for a major automotive manufacturer in which brand managers report to the vehicle program manager, who is responsible for profit and loss. The brand managers also report to a functional manager, who is responsible for the

study was conducted in the context of an applied setting where access to key managers is difficult because of time constraints. Nevertheless, the strengths of the study and the insights from the findings outweigh the study limitations.

Managing in the Matrix

Companies face a host of challenges when adopting a matrix structure (Bartlett & Ghoshal, 1990; Burns & Whorley, 1993; Davis & Lawrence, 1977; Knight, 1977). Although each company in the study experienced unique obstacles, many challenges were common to all. The top five common challenges reported by participants were misaligned goals, unclear roles and responsibilities, ambiguous authority, lack of a matrix guardian, and silo-focused employees. For each challenge, we provide empirical data as well as anecdotes from study participants to illustrate the challenges. More specifically, we present a managerial perspective (Bartlett & Ghoshal, 1993), focusing on the issues of *managing* in a matrix. Theorists (e.g., Bartlett & Ghoshal, 1993) have suggested that there are often disconnects between management levels in organizations that result in different experiences for leaders at different organizations levels. That is, the experiences of mid-level managers within a matrix organizational structure could be different from those of top-level managers. These differences could be a result of the management functions (e.g., planning, organizing, leading, and controlling) required of managers at the different organizational levels. For example, top-level managers are often required to focus more on the planning function (i.e., strategy development), whereas mid-level managers are often required to focus more on the function of organizing (i.e., implementing the strategy). The management functions emphasized at different organizational levels could result in different challenges faced by managers in matrix organizational structures. As such, we compare the views of mid-level managers with those of top-level managers (see Exhibit 4), because

EXHIBIT 5

Chi-Square Table Comparing Differences Between Top-Level and Mid-Level Managers on Matrix Challenges

CHALLENGES	TOP-LEVEL MANAGERS (n = 109)	MID-LEVEL MANAGERS (n = 185)	CHI SQUARE
Misaligned Goals	73	85	12.20***
Unclear Roles & Responsibility	25	160	118.74***
Ambiguous Authority	77	114	2.45
Lack of Matrix Guardian	100	65	89.25***
Silo-Focused Employees	75	135	.58

Note: *** p < .001

number of vehicles sold. Recently, a brand manager initiated a sales incentive program. While the incentive program helped achieve his functional goal, to increase the number of vehicles sold, it had a negative effect on the vehicle program manager's goal to achieve a profit. The incentives reduced the profit potential for each vehicle sold.

How do matrix organizations handle conflicting goals? Participants say they establish processes to ensure that their goals and metrics are aligned. For example, a manager at another automotive manufacturer in our study uses "cascading spreadsheet planning" charts (Galbraith, 2000) to align goals. The company begins each planning year by setting goals and cascading them vertically and horizontally throughout the organization (see Exhibit 6 for an illustrative example). When performed properly, the goals add up both horizontally and vertically. Thus, the goals of one unit will always reinforce or augment the goals of other units.

In addition to cascading goals and metrics, senior leaders say the secret to success is to communicate constantly their company vision and objectives to employees. As employees strive to achieve contradictory objectives, a certain amount of discord is bound to filter through the rank and file. Constant communication of company vision and objectives helps to minimize this discord and clarifies any lingering ambiguity because the communication serves as a beacon in aligning goals and objectives.

Unclear Roles and Responsibilities

Confusion over roles and responsibilities is a problem in almost all matrix organizations (Lawrence, et al., 1977). Exhibit 4 indicates that 87 percent of mid-level managers and 23 percent of top-level managers cite "unclear roles

and responsibilities" as a major issue. Chi-square statistics show a significant difference in mid-level and top-level managers' clarity on roles and responsibilities: More mid-level managers cite unclear roles and responsibilities as a challenge, in comparison with top-level managers. That is, more mid-level managers are confused about their roles and responsibilities, in comparison with top-level managers. A t-test further reveals that mid-level managers experience a higher frequency of occurrence for issues related to unclear roles and responsibilities (M = 3.24, SD = 1.21) than do top-level managers (M = 2.16, SD = 1.08), t(1, 292) = -7.68, p < .001. While our finding corroborates past research, it further reveals that ambiguous roles and responsibilities are particularly vexing to mid-level managers. Generally, participants cite the following issues concerning unclear roles and responsibilities:

- Unclear job descriptions and guidelines for roles and responsibilities
- Ambiguous roles and responsibilities create tension among employees
- Confusion over who is the boss
- Not knowing whom to contact for information

As organizations adapt to changing business environments and customer demands, employees' roles and responsibilities must adapt as well (Bartlett & Ghoshal, 1990; Kilmann, 1985). For employees unaccustomed to change, this constant shifting creates uncertainty and confusion. Poor planning, according to study participants, aggravates the situation. For example, when organizations transition to a matrix structure they generally do a good job of establishing roles and responsibilities at the top levels but fail to address the roles and

EXHIBIT 6

Example of Cascading Goals Across Functions and Regions for Employee Training

	NORTH AMERICA	EUROPE	ASIA	Total
Function 1	Graphic Design $75,000	Structural Architecture $75,000	Quality Audit $50,000	$200,000
Function 2	Leadership 101 $75,000	Matrix Management $50,000	Self-Managing Teams $25,000	$150,000
Function 3	CRM Basics $50,000	Product Branding $75,000	Segment Marketing $25,000	$150,000
Total	$200,000	$200,000	$100,000	$500,000

EXHIBIT 7

RASIC

R – Responsible   A – Approve   S – Supports   I – Informed   C – Consulted

	Executives	Directors	SMS	Analyst/ Experts	Special Studies	PM/Buyer RVT/STA	SCT	GC	Supplier
Address executive management strategic inquiries	S	S	RA			S	S	S	S
Conduct strategy initiative workshops	C	C	RA	C	SI	SI	I	I	S
Collect and perform extended data analysis in support of strategy development	CI	CI	RA	C	SI	SI	SI	SI	SI
Provide solutions, strategies, and actions to management executives	I	I	RA	C	C	SI	S	S	S
Capture intellectual capital	CI	CI	RA		I	SI	SI	SI	SI

responsibilities at the middle and lower levels of the organization. Executives expect employees at these levels to adapt to change as necessary, and often expect employees simply to take the initiative when a new situation calls for a reaction. Employees, on the other hand, expect clarity from senior managers during times of change. The disconnect between the two parties creates ambiguity, which can be exacerbated when organizational goals are either unclear or misaligned.

Findings in the study reveal that companies must have four fundamental elements when establishing roles and responsibilities:

1. Clear guidelines and descriptions on roles/areas of responsibility;
2. Assignment of accountability for business objectives;
3. A single point of contact for information or approval for areas of responsibility;
4. A set plan for communication and information sharing (e.g., monthly townhall meetings, newsletters, quarterly company/unit performance).

RASIC. Besides the four fundamental elements, participants continue to use the RASIC tool (Galbraith, 1973, 1994, 2002; Gilmore & McCann, 1983) to help employees clarify their roles and responsibilities (see Exhibit 7). Once tasks and responsibilities are identified, employees go through a process of completing the chart using letters from the RASIC acronym: R=Responsible, A=Approval, S=Support, I=Inform, C=Consult.

Clearly, RASIC cannot anticipate every task or situation that will occur. Employees must continue to take the initiative when new situations arise; however, going through the RASIC process provides employees with a good idea of the types of roles and responsibilities to expect, and what is expected of them with each new situation.

As the matrix organization matures and employees gain experience working within the matrix, there is less need for an explicit RASIC chart, and employees begin to function with a "mental" RASIC. One top-level manager at a financial company explained why his company no longer depends heavily on the RASIC or any other tool. "We have evolved to the point where the company only addresses problems on an exception basis, and only those that could impact the larger organization," he explains.

When the company encounters a problem, it first makes sure that the problem is relevant to more than a few business units. The company forms a committee to investigate and solve the problem. It then creates a policy that addresses the issue for the entire organization to prevent it from happening again. The committee is led by the unit that is most affected by the issue, and committee members are from all affected units. Once the problem is resolved, the committee is dissolved. According to a leader at this company, they can operate in this manner because the company has instilled a culture of urgency. When problems surface they are resolved immediately.

There is one snag. Organizations that swear by RASIC in the beginning rarely revisit the chart once it is completed. Only 29 percent of participants said they regularly update the RASIC chart; however, revisiting the chart when tasks change, or when employees change, is part of the reason for its success. RASIC does more than just clarify roles and responsibilities. It involves employees in the process and empowers them to act in unfamiliar situations. As a result, it is important to keep RASIC as a fundamental part of a matrix organization.

Ambiguous Authority

In a traditional hierarchal structure, leadership rights are quite clear: Authority equals responsibility (Fayol, 1949). Leaders generally view their roles as taking charge and making the tough calls and are not accustomed to sharing decision rights. This lack of experience in collaborative decision-making creates ambiguity that results in tension and conflict as leaders jockey for power and control.

In the matrix, leaders can have responsibility without authority as a result of the dual reporting structure. For example, in a matrix, the HR function could have responsibility for instituting a global policy but have no authority for implementing it at regional levels. It is not unheard of for a regional leader to rebuff the decisions of the HR leader. A dual reporting structure has all of the ingredients to trip up any smoothly running organization. Dual reporting is particularly difficult for organizations evolving from a traditional single-report hierarchical structure to a matrix structure (Lawrence, et al., 1977).

As Exhibit 4 indicates, 62 percent of mid-level managers and 71 percent of top-level managers cite ambiguous authority as a common

dilemma. Chi-square statistics do not show a significant difference in how mid-level and top-level managers view ambiguous authority. The majority of mid-level and top-level managers agree that ambiguous authority is a major challenge. A t-test further indicates that top-level managers (M = 3.97, SD = 1.05) do not differ from mid-level managers (M = 3.79, SD = 1.12) in their reporting of the frequency of occurrence for issues related to ambiguous authority, t(1, 292) = 1.34, p > .05. Both top-level and mid-level managers experience a relatively high frequency of occurrence for issues related to ambiguous authority. Overall, participants report the following issues concerning ambiguous authority:

- Confusion over who has the final authority
- Lack of clarity on areas of accountability
- Leaders unaccustomed to sharing decision rights
- Delay in decision-making process

Matrix Guardian

Most organizations are keenly aware of the importance of measuring performance. They adhere faithfully to the old adage, "what gets measured, gets done," and with few exceptions they measure ROI, market share, and profitability. Surprisingly, few companies track the performance of their matrix structure to understand how well the company operates. Without performance metrics, leaders will find it difficult to spot problems and take the necessary steps to fix them. Such was the case at a computer hardware manufacturing company. The CEO had received verbal and written feedback from employees citing flaws in the firm's matrix structure and how the flaws were impeding their ability to meet their business objectives. Yet, when the CEO followed up with senior leaders about the matrix problems, the leaders were not able to explain the issues. Without a mechanism in place to measure matrix performance, the senior leaders did not have detailed knowledge of the problems or their impact on the business.

> Surprisingly, few companies track the performance of their matrix structure to understand how well the company operates. Without performance metrics, leaders will find it difficult to spot problems and take the necessary steps to fix them.

Our interviews further reveal that culture appears to play a critical role in resolving ambiguous authority. This finding corroborates past research (Bartlett & Ghoshal, 1993; Dension, et al., 1998; Goodman, 1967; Lippit & Mackenzie, 1976). Although the majority of participants report ambiguous authority as an issue, there were clear differences in how the issue is resolved. In companies with a collaborative culture, employees appear to be more focused on problem solving and were able to resolve the issues through informal negotiations. Negotiation and persuasion skills are critical for matrix performance (Hodgetts, 1968). Where a political culture exists, employees tend to focus on the maintenance of their status and power rather than the resolution of the issues.

Mid-level managers (43%) report that senior leaders often fail to give local leaders the authority they need, either by reversing decisions after the fact or simply not allowing local leaders to make decisions in the first place. The reasons, we discovered, include a lack of trust or senior leaders simply being unaccustomed to delegating decision-making down the ranks. This practice runs counter to the purpose of matrix designs, as one strength of the matrix structure is that it enables decentralized control.

In contrast, executives in high-performing matrix organizations believe that those with the most accurate information make the best decisions. For example, a manager at a technology product and solutions company says the best decision-makers are those who have the best information and argues that local leaders often are more informed. "Depending on the initiative, whoever has the best information leads the decision," he explains. An executive at the oil and gas company estimated that 80 to 90 percent of decisions are made at the lower leadership levels of the organization, while 10 percent are made at the middle level and five percent of decisions are made at the upper levels of the organization.

Exhibit 4 indicates that 35 percent of mid-level managers and 92 percent of top-level managers cite the "lack of a matrix guardian" as a major hindrance to performance. Chi-square statistics show a significant difference in mid-level and top-level managers' views of the matrix guardian: Compared with mid-level managers, more top-level managers believe that the matrix guardian is a key success factor for optimal matrix performance. A t-test further reveals that top-level managers report higher frequencies of issues caused by the absence of a matrix guardian (M = 3.17, SD = 1.02) than do mid-level managers (M = 2.26, SD = .99), t(1, 292) = 7.59, p < .001. The key issues associated with the matrix guardian are:

- Lack of consequences and rewards for matrix performance fails to motivate employees to make the matrix work
- Establishing a monitoring process to detect and identify matrix performance problems (because employees are reluctant to divulge problems associated with their units)
- Ensuring the matrix guardian has senior level support and authority to take action
- Preserving the objectivity of the matrix guardian and preventing undue political pressure

Although few studies discuss the importance of monitoring matrix performance, top-level managers in our study indicate that the matrix guardian is critical for matrix performance. The two high-performing matrix organizations in our study both employ a matrix guardian. This overseer identifies best practices that can be disseminated throughout the company. The matrix guardian should be in a position of influence and well-respected within the organization. The matrix guardians in this study were executives nearing retirement. In one top matrix organization the matrix guardian reports directly to the CEO, alleviating political influences and other obstacles that keep important

issues from surfacing. "Essentially," says one manager, "the matrix guardian needs to be fire proof."

One organization in our study initially employed a matrix guardian when transitioning from a hierarchical traditional structure to the matrix structure, but abandoned the matrix guardian six years later when the organization was satisfied with the day-to-day performance of its matrix. A top-level manager from this company cautioned other companies not to commit a similar mistake. "The whole matrix structure went in the ditch after a year and a half," he laments. As this example illustrates, establishment and maintenance of a matrix guardian is critical to matrix performance.

Silo-Focused Employees

Employee behavior is perhaps the most critical challenge that matrix organizations face (Bartlett & Ghoshal, 1990; Butler, 1973; Goold & Campbell, 2002; Joyce, 1986; Kilmann, 1985; Sy & Cote, in press). As companies strive to maintain a constant balance between business dimensions, this balance creates tension among employees. Although the tension is inherent to the matrix structure and desirable (Bartlett & Ghoshal, 1990; Kilmann, 1985), it requires increased levels of collaboration. Organizations must enable their employees to accept the tension and behave as one company.

Unfortunately, we found that most employees in large organizations tend to be silo-focused: They view their membership, and loyalty, as belonging to a certain subunit in the organization. For example, some engineers view themselves as part of the engineering department and may not concern themselves with the cost-cutting measures of other departments. Consequently, they behave in a manner that benefits their subunit, but could be detrimental to the organization as a whole. Such a focus can lead to an "us versus them" mentality that impedes the coordination and collaboration required for a successful matrix (Joyce, 1986).

Exhibit 4 indicates that 72 percent of mid-level managers and 69 percent of top-level managers cite "silo-focused employees" as a major dilemma. Chi-square statistics show no significant difference in mid-level and top-level managers' views on this issue. A t-test further indicates that top-level managers (M = 3.83, SD = 1.15) do not differ from mid-level managers (M = 4.08, SD = 1.13) in their reporting of the frequency of occurrence for issues relating to silo-focused employees, t(1, 292) = -1.75, p > .05. Both chi-square and t-test statistics indicate that the majority of mid-level and top-level managers agree that silo-focused employees hinder matrix performance. Overall participants report the following issues:

- Personal conflicts between leaders hinder collaboration between units
- Withholding resources from others
- Lack of trust between employees in different business units
- Employees lack the requisite skills to function in the matrix
- Insufficient communication between different business units

There are two primary reasons for silo-focused behaviors. First, most employees reside in the same function (and often the same unit within the function) throughout their careers. They tend to interact with the same system and co-workers, and through the years develop an allegiance toward that group. These employees may not have had the opportunity to work with other elements in the organization.

Second, matrix structures require high degrees of collaboration compared to traditional single-report hierarchical structures; therefore, employees have not developed certain interpersonal skills that are necessary to work with other elements of the organization (Bartlett &

Ghoshal, 1990; Kilmann, 1985; Sy & Cote, in press). Even seasoned leaders can stumble with this adjustment in thinking. For example, study findings reveal that leaders who operate with "command-and-control" skills developed in traditional hierarchical organizations have a difficult time functioning in the matrix structure. Several leaders in the financial institutions company were surprised when they tried to use their position and formal authority to order employees to act and no one jumped. Few employees fell under their direct chain of command. Leaders who are well-versed in interpersonal skills and possess a "collaborative" style of managing tend to earn others' trust, and therefore perform much better in matrix organizations.

So what can organizations do to mitigate silo-focused behavior among employees, increase collaboration, and develop a single-firm mindset? The study revealed several best practices adopted by successful matrix organizations.

Define Expectations. The company that defines expectations up-front is better equipped to get employees aboard. For example, one company in the study kicked off its new matrix structure with a whole day orientation in which leaders outlined the expectations and behaviors of the new matrix organization. The day-long event gave managers the opportunity to clarify issues, and even to use computer simulations to illustrate what new behaviors would be required. The hands-on computer simulations mimicked the daily operations for each unit and presented situations that employees would be expected to face as they operate in the new environment. Employees then responded to the scenarios (e.g., deciding on business objectives and dealing with the issues at each stage of the scenario). The scenarios highlight key issues and problems that they will encounter (such as those identified in this study: goal alignment, roles & responsibilities, decision making), and emphasize the desired behaviors and attitudes that facilitate matrix performance. The presence of both the firm's CEO and entire senior leadership team further underscored the organization's commitment to the new matrix structure.

Provide Training. Training is critical for successful operations in a matrix organization (Sy & Cote, in press). Successful matrix organizations provide ongoing training designed to reinforce desired behaviors. The goal of the ongoing training is to infuse a common vision and value system, and broaden employees' perspectives and skills. A mistake that companies make is not training employees on the inherent characteristics of the matrix. Mid-level managers are particularly unfamiliar with how the matrix operates and the requirements for successful operation in the matrix. At its peak of popularity (1970s and 1980s) organizations readily adhered to the recommendation of training employees. Currently, few organizations in this study provide formal training to their employees, as evidenced by the fact that 86 percent of participants indicated they received no formal training. The majority of participants that received any form of training were top-level managers. Training topics that help employees function as "one-company" include, but are not limited to, interpersonal skills, negotiations, issue selling, characteristics of the matrix, and emotional intelligence (Sy & Cote, in press). Providing training to employees so that they develop the necessary skills for managing in the matrix is critical for success (Davis & Lawrence, 1978).

Work Across Functions. Companies that provide cross-functional work experience say their employees grasp the matrix concept more quickly and more effectively. They soon transform from people with a narrow silo-focused view of the company to those with a global, one-company view. When employees' performance is evaluated across

functions, the evaluation process reinforces the importance of working as one-company. An executive at a financial institution says the reason the company evaluates employees cross-functionally is twofold: to establish credibility of all who supervise the employee and to re-emphasize the value of the structure. Similarly, the technology product and solutions company awards bonuses based on *total* company performance rather than unit-level performance.

Build Relationships. Providing opportunities for employees to get to know each other is considered a best practice by participants in this study. Behavioral research indicates that people are more likely to collaborate when a prior relationship has been established (Bartlett & Ghoshal, 1990; Stopper, 1998). Importantly, employees who operate most effectively within the matrix are those who deliberately reach out and create an *informal* network of peers and supporters. Informal networks tend to be more valuable than formal networks because they hasten the job of obtaining buy-in and resources for executing business initiatives (Hodgetts, 1968).

occurrence in comparison with top-level managers. The majority of top-level and mid-level managers agree that ambiguous authority and silo-focused employees are major challenges, and both groups do not differ in their report of the frequency of occurrence for these challenges.

The findings suggest that employees require different training targeted at specific matrix challenges relevant to their organizational level. Just as leadership development programs aim to develop specific skills required at different organizational levels, our findings suggest that it is most effective to target skill development to deal with those specific matrix challenges at the different organizational levels. For example, for top-level managers, the results of our study suggest that organizations should emphasize training and tools designed to deal with issues related to goal alignment. Conversely, for mid-level managers, organizations should emphasize training and tools designed to deal with issues related to unclear roles and responsibilities.

Our study further reveals a potentially damaging gap in employee

> Importantly, employees who operate most effectively within the matrix are those who deliberately reach out and create an informal network of peers and supporters.

Resistance to Change

Although most employees will benefit from the ideas outlined in this study, some will undoubtedly fail to respond despite a firm's most dogged efforts. Companies should not be surprised if employees revert back to old habits and abandon newly developed skills during times of high pressure (Staw, Sandelands & Dutton, 1984).

Some people simply resist change. When resistance to change involves key leaders, the situation must be addressed quickly. Anyone who has achieved a leadership position with the company is obviously successful; however, the behaviors (such as hierarchical command and control behaviors) that created that success could impede performance in the new matrix structure. If attempts to change behavior fail, organizations have no choice but to transfer these leaders to other positions or remove them from the organization. "Organizations must be courageous and make these tough decisions if they are committed to the matrix form," says an executive at a major oil company, which removed 80 percent of its senior leadership in a span of five years.

Conclusion

Our study confirms that mid-level and top-level managers face different challenges in matrix organizations. Specifically, top-level managers, in comparison with mid-level managers:

- Cite misaligned goals as a challenge, reporting a higher frequency of occurrence.
- Report that the matrix guardian is a key success factor for optimal matrix performance.

In contrast, more mid-level managers cite ambiguous roles and responsibilities as a challenge, reporting a higher frequency of their

training, namely, a large proportion of employees may lack the required knowledge and skills to operate in a matrix structure. Given that most organizations' investment in matrix-specific training has dwindled since its apex in the 1970s and 1980s, it is possible that an entire generation (or two) of newer employees lacks any formal training in matrix management skills. Our findings support this possibility. Recall that 86 percent of participants indicated they received no formal training, and the majority of participants who received any form of training were top-level managers. Organizations that wish to operate optimally are well advised to revisit their training curriculum to ensure that all employees are adequately equipped with the necessary skills to function in their matrix structures.

To meet the demands of an increasingly complex global marketplace, companies must adopt equally complex organizational structures. Gone are the days when a simple hierarchical structure could satisfy the needs of a successful business (Overholt, 1997). The matrix organization structure continues to be a viable option, because it provides a blueprint for dealing with complexity (Smith, 1978). In other words, companies are using complexity to battle complexity. Some, in fact, are taking it to unprecedented levels. Rather than managing a two-dimensional matrix, organizations are opting for three-, four- and five-dimensional matrices (Galbraith, 1994, 2000), as well as other variants of the matrix (e.g., structured networks, Goold & Campbell, 2002). To triumph over complexity and succeed, companies must ensure that their employees are well-equipped to fight this battle. In particular, matrix companies must conquer the five key challenges identified in this study to win their fight over complexity.

BIOGRAPHICAL SKETCHES

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