

## **An After-action Review: Creating a Matrix Organizational Design Model for Online Education at a Tier-1 Research University**

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# An After Action Review - Creating a Matrix Organizational Design Model for Online Education at a Tier 1 Research University

## **Abstract**

Creating a matrix organizational design model, at the highest level, is a three-step process. While not difficult to understand in theory, it can be quite difficult in practice. The reasons for this difficulty are the multiple opportunities for failure. Meaning, if the sequence of methodology is not followed, or any of the formal steps minimalized in favor of expediency, then significant rework or possible failure will occur. Failure to create a matrix organization when one is needed comes at the expense of operational efficiency, resource effectiveness, and engaged people. As academic institutions increasingly face complex operational challenges, the benefits of a matrix organizational model will become more and more evident.

The first step in creating an efficient and effective matrix model is to recognize the many disciplines of the organization. In business/industry, these disciplines include engineering, human resources, operations, finance, legal, and as many as 17 others.

Once the disciplines have been defined, the second step is to recognize each discipline as a separate body of knowledge. If the discipline does not have a body of knowledge, then it may be the discipline is not a discipline, but in fact, a subset of subsidiary activities of a parent discipline. If a discipline is determined to possess an identifiable body of knowledge, then it is critical to express the discipline as a process, with logical, sequential, or recurring activities. Within the process, each activity is associated with one or more outputs or products. The process, then, can be defined in terms of a hierarchy of processes, procedures, methodologies, and practices. Each discipline process should have interfaces to other disciplines defined with proactive and re-active key process indicators (KPIs).

Once disciplines have been identified and defined, the third and final step is to allocate human resources to the vertically identified disciplines/functions. To avoid later significant restructuring rework and cultural upheaval, this step must occur as the final step.

## **Context**

Understanding the basic building blocks of matrix organizational model design and process management is the science and increasingly the art of creating an efficient and effective matrix organizational model. As important, however to the blocking and tackling of understanding the many phases, activities, and processes, are the cultural activities related to people. Even the best at blocking and tackling, will fail if people processes are not fully accounted for during the change management process.

There are many opportunities for introducing inefficiencies and unnecessary cost drivers. Common mistakes are centered not only on an improper matrix model implementation, but the manifestation of power and ego in the process. Below highlight mistakes commonly made within higher education, in what routinely can be a highly emotional experience.

- ❑ Failing to recognize the horizontal businesses/colleges are in fact the profit/loss centers, and the vertical functions/disciplines are support organizations.
- ❑ Not fully understanding the fundamentals of change management in organizational matrix model development.
- ❑ Not fully understanding the science of process management.
- ❑ Not fully understanding the art of technical performance measurement.
- ❑ Ignoring the people issues of change management.
- ❑ Lacking the imagination to identify and plan for the risks involved.
- ❑ Overcoming leadership emotional immaturity during the highly emotional organizational design process.

### **What is a Matrix Organizational Design Model?**

Theorists have devised many ways to partition an organization into subunits, with the intent of improving efficiency [1]. Additionally, the intent of partitioning an organization is to decentralize authority, responsibility, and accountability. The mechanism through which partitioning is accomplished is called “departmentalization.” In all cases, the objective is to arrive at an orderly arrangement of interdependent components.

Many basic management courses refer to the three-variable formula below:

- ❑  $\text{Accountability} = \text{Authority} + \text{Responsibility}$

Authority is the power granted to individuals (possibly) by their position in the company, so they can make decisions for other individuals to follow.

Responsibility is the obligation incurred by individuals in their roles in the formal organization to effectively perform assignments.

Accountability is being totally answerable for the satisfactory completion of a given assignment.

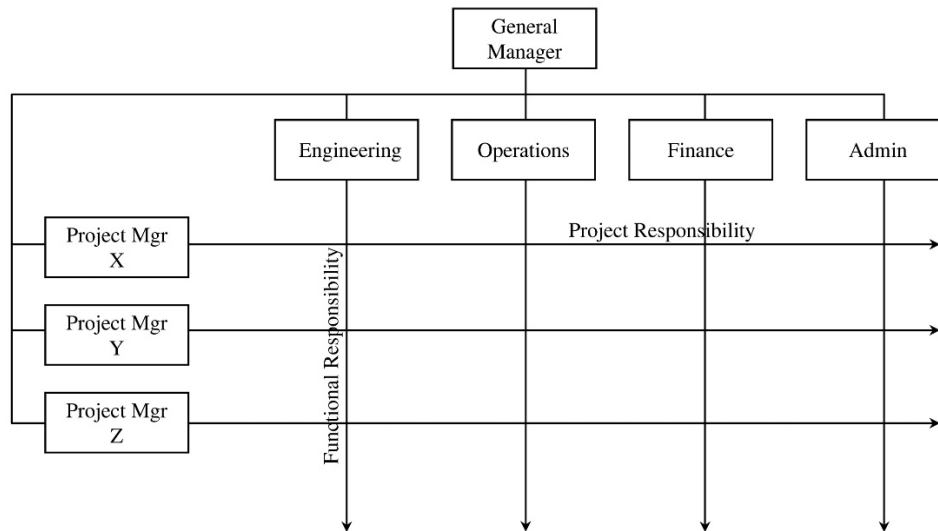
In the above formula, when given any two variables without the third, there is a high probability of some form of failure. For example, the results would be obvious when someone is given responsibility and held accountable but has no formal authority to execute. Likewise, authority and responsibility, without accountability, promote subjectivity in decision making.

The matrix structure is a hybrid organization that attempts to balance the use of human resources as people are shifted from one project to another. It can be viewed as a project organization superimposed over a functional organization. Figure 1 is an example of a typical matrix organizational structure.

The matrix structure is more complex than either the traditional or product-oriented structures. To this end, it requires some basic ground rules to be successful:

- ❑ Participants must spend committed time on a project; this ensures a degree of loyalty.
- ❑ Horizontal as well as vertical channels must exist for making decisions.
- ❑ There must be quick and effective methods for conflict resolutions.

- ❑ There must be good communication channels between managers.
- ❑ All managers must have input into the planning process.
- ❑ Both horizontal and vertical managers must be willing to negotiate for resources.
- ❑ Horizontal line must be willing to operate as a separate entity except for administrative purposes.



**Figure 1. Matrix Organizational Design Model**

Organizational change should be viewed and treated as a formally chartered project. Because of the people involved and the transactional nature of the integrative process, project management is often more behavioral than quantitative. Interpersonal and communicative skills are extremely important attributes of the project manager and should be used as criteria in the selection of the project manager.

In a matrix organizational structure:

- ❑ There should, ideally, be no disruption due to dual accountability.
- ❑ A difference in functional management judgment should not delay work in progress.

Advantages of this type of organizational structure are:

- ❑ Combines the strengths of both project and functional organizations.
- ❑ Provides a good interface with the outside customer.
- ❑ Promotes effective interdisciplinary task integration.
- ❑ Promotes an efficient use of production resources.
- ❑ Promotes effective project control, as programmatic concerns are assigned to a single individual.
- ❑ Promotes career continuity and professional growth, as each functional individual has a home after project completion.

- ❑ Perpetuates technology. By this, functional resources gain the benefit of a functional strength, which can be transferred to the program of the day.
- ❑ Functional knowledge is available for all projects on an equal basis.

Disadvantages of this type of organizational structure include:

- ❑ Dual accountability of personnel. This is perhaps the biggest threat to this type of structure. Personnel will generally favor whoever it is that completes their performance review and subsequently has control over their income adjustments. Confusion here can derail a unified effort.
- ❑ Conflicts between project and functional managers. This issue will be discussed in more detail below.
- ❑ Profit and loss accountability is more difficult.
- ❑ There are continuously changing priorities, especially on the part of the functional managers, who control the resources.
- ❑ The balance of power between functional and project managers must be watched.
- ❑ Functional managers might be biased toward their own priorities.
- ❑ Because of the duality of authority, employees may not feel a strong commitment to a single source.
- ❑ Employees may feel confused about loyalty.

### **Creating a Matrix Organizational Design Model**

Creating a matrix organizational design model is a three-step process. While not difficult to understand in theory, it can be quite difficult in practice, with multiple opportunities for failure. Meaning, if done out of sequence, or steps minimized in favor of expediency, then significant rework will occur, this at the expense of efficiency, effectiveness, and cultural implications.

#### **Step #1 – Defining Disciplines**

The first step in creating an efficient and effective matrix model is to recognize the many disciplines of the organization. In business/industry, these disciplines are well defined. For example, these disciplines may, include engineering, human resources, operations, finance, legal, and as many as 17 others. Even within a broad-stroke discipline such as engineering, there may exist subdisciplines, for example, software engineering, hardware engineering, electrical engineering, chemical engineering, and many more.

Typically, if a discipline is in fact a discipline, there will be significant support in the form of professional associations, entities dedicated to credentialing, and wide-spread recognition that entity being defined is in fact a discipline. On occasion, in the infancy of an evolving discipline, support organizations as those just mentioned may not yet exist. In these scenarios, the authenticity of the discipline will be authenticated as time passes and other individuals or organizations have had sufficient time to perform the necessary analysis of proposed discipline-specific activities and outcomes.

Historically, disciplines align to existing continuums of study, both research and educational. From a research perspective, one can point to Pasteur's Quadrant. Where research has been framed along two coordinates: its consideration for use and its quest for fundamental understanding [2].

Pure research is defined as research that is sought for understanding without thought of use: high in quest for fundamental understanding but low in consideration for use. This type of research is typically employed prior to and during the early concept exploration phase and helps to form an underlying premise for further research and exploration.

Use-inspired research, that which is both high in quest for understanding and high in consideration for use, is concerned with advancing basic understanding while seeking opportunity for an application of such research. This type of research is best suited for concept exploration and the early demonstration and validation phases of the product life cycle.

Pure applied research, low in quest for fundamental understanding yet high in consideration for use, may best be described as the application of existing knowledge. This type of knowledge may be thought of as the utilization of third or fourth generation programming languages set on top of an underlying operating system. Pure applied research is first and foremost the application of previous pure research efforts; for example, programming using Oracle as the underlying database versus designing the underlying database.

## **Step #2 – Identifying Each Discipline-Specific Body of Knowledge**

Once the disciplines have been defined, the next step is to recognize each discipline has a body of knowledge. If the discipline does not have a body of knowledge, then it may be the discipline is not a discipline at all, but in fact, a child subset of activities of yet another parent discipline.

If a discipline is determined to possess a body of knowledge, then that body of knowledge should be expressed as a process [3], with seemingly sequential or recurring activities, where each activity has attendant to it one or more outputs/products.

The process, then, can be defined in terms of a hierarchy of processes, procedures, methodologies, and practices. Each discipline process should have interfaces to other disciplines defined and pro-active and re-active Key Process Indicators (KPIs).

By definition the many activities of a process, when executed successfully, produce a consistent end result. Process management is concerned with making sure the defined process is still efficient and effective, in that it minimizes the activities of the individuals performing the process, and that the end result is still what is desired. Process management is simply managing the existing process.

Creating an efficient process involves the elimination of non-value-added activities. In other words, once we identify all the activities to be performed and the order in which we intend to perform them, we must then look to see if some activities:

- ❑ Are redundant and can be deleted
- ❑ Are best performed in another sequence
- ❑ Can be combined with previous or subsequent activities
- ❑ Are potentially missing, which could enhance the efficiency of the entire process

In business and industry, process management, as characterized by Choyce [4] and Gioia [5], provides management with:

- ❑ A way of thinking systematically about the behavior of people at work in an organizational setting.
- ❑ A vocabulary of terms, concepts, theories, and methodologies that allow work experiences to be clearly analyzed, shared, and discussed.
- ❑ Techniques for dealing with many of the problems that commonly occur in the work setting.

Process management is not a new concept. Process management originated as part of the production-oriented statistical quality control movement in the late 1920s and early 1930s. What is relatively new, however, is the transition of process management methods from a manufacturing environment to a total company orientation.

Process management is a continuous effort that recognizes that the work done in an organization is accomplished through a series of processes and charges the organization's managers with ensuring that these processes are clearly defined, healthy, and competitive. It is a comprehensive approach, the goal of which is to increase the effectiveness, efficiency, control, and adaptability of a given organization.

Business process management represents a break from some of the traditional concepts of organizational authority [6]. It requires a new way of looking at, and thinking about, long-established assumptions concerning hierarchies and organizational structure. For instance, in a conventional organization it would be most unusual for the vice president or director of one group or division to become directly involved in the activities taking place in another group or division.

Because process management involves managing processes across divisional and organizational boundaries, as well as within these boundaries, it requires a more flexible management strategy. It also requires close cooperation among managers in diverse functional and operational units to ensure that the process flow is not interrupted by conflicts over lines of authority [7].

Process management relies on process definition, elimination of non-value-added activities, customer/supplier orientation, and a team approach [8], [9].

Process management processes utilize continuous process improvement (CPI), which assumes that a measurement baseline has been established. Through CPI, the process is measured forever.

CPI accounts for error elimination, innovation, and business changes. All activities of a process are questioned; nothing is sacred.

Process management offers organizations a means of applying to nonproduction functional organizations the same quality improvement and defect reduction techniques used in manufacturing processes. Many engineering, service, and business processes offer an organization the greatest untapped potential for cost savings through quality and productivity improvement [10].

Process management, with its emphasis on business process quality, is the most meaningful way to apply the principle of quality throughout an enterprise [11].

The basic steps in creating an efficient process are:

- ❑ Determine what end product or result is desired.
- ❑ Identify the activities currently used to accomplish this process.
- ❑ Determine how the current activities are ordered (this is the interrelatedness of the many activities). Connecting the current activities provides a flow chart depicting the current condition.
- ❑ From the current flow chart, identify which activities do not seem to add value, could be merged, or seem inappropriately placed in time.
- ❑ Create a new flow chart depicting the ideal scenario (don't worry about who currently does which activities or how).
- ❑ Identify measurement points in the new process that will allow one to determine how well the new process is working.
- ❑ Test the new process. In a business environment, this may mean making people assignments to the activities. It may further mean reassigning individuals or work in a manner not previously assigned.

As stated above, it is only through proper measurement that we can make required changes to an existing process to increase either efficiency or effectiveness. Proper measurement requires that we identify sufficient measurement points throughout our process, and, that these measurement points are reflective of how the process is running.

### **Step #3 – The Assignment of People**

Once disciplines have been identified and defined, the final step is to allocate human resources to the vertically identified disciplines/functions. To be optimal, this step must occur as the final step, after Step #1 and Step #2 above.

Why is the allocation after step #1 and step #2 above important? The answer resides in the cultural implications of change. Change management is premised on the idea change happens all the time and is no more prevalent than when bringing together a new program, in possibly a new business, and generally more often than not with a new team of colleagues. To this end, it is imperative to discuss change management as it impacts individuals involved in a new endeavor.



The impact of this type of change is relatively the same as in any other change involving emotional reactions—and all change involves emotional reaction. While it is critical to understand the vision, goals, and objectives of the change, and the processes, methodologies, practices, and technologies employed to help ensure the change, there is probably nothing more important than managing the emotional impact of the change.

Change is not the same thing as transitioning. Change and transitions are different in that change is an event, situational, and context bases. Examples include such things as receiving a new boss, new office, and implementing new procedures.

Transition, on the other hand, is a process with activities and attendant products. Transitions can be extremely emotional, and potentially generating resistance and possibly upheaval within the organization. Individuals in the transitional phase of change are likely to experience emotions like those experienced during a grieving process.

The basic process for change includes three concepts:

- Letting go of the current and previous state
- Moving through the transitional aspects of the change
- Forging a new beginning

The starting point of letting go of the current and previous state is dealing with the many challenges of leaving the old behind. This includes such things as emotional ties, new infrastructure changes, and the inevitable organizational changes attendant to people, processes, practices, and methodologies. Things as simple as how an employee might fill out a travel expense report become highly emotionally charged process changes.

During this initial phase, we should recognize the potentially crippling personal effect of the process (likened to Kübler-Ross model of grieving):

- Denial—this cannot be happening
- Anger—why do we have to be going through this?
- Bargaining—what if we simply did . . .
- Depression—loss of things past and loss of future differences to current people, practices . . .
- Acceptance—I understand and recognize my limited ability to change it, so let's make do

It is important during this phase to recognize the emotional context of everyone involved.

Leaders must:

- Understand exactly what is changing
- Understand the potential for secondary changes and what they may be
- Understand who is going to be losing something—department heads, line workers
- Recognize the “way things are” is what helps individuals feel comfortable and at home
- Understand that if everyone is going to feel a loss of something big in the “organization's history,” for example, mergers, then a major effort to celebrate the past is important

- ❑ Understand the loss is extremely personal to everyone — it probably doesn't work to suggest, "I know how you feel."

According to Bridges [12], it is important that we make known what is over and what is not. There are three potential side effects of not being clear on this:

- ❑ People will not stop doing anything; they will try to do it all
- ❑ People make their own decisions about what to keep doing and what to stop, causing inconsistency and chaos
- ❑ People toss out all the past artifacts; loss of important items, information, processes, practices, and so forth may occur

Bridges says we should celebrate the endings of the past. Treat the past with respect; do not denigrate the past. Let people keep a piece of the past; create a banner of historical accomplishments and provide a vision of continuity from the past to the future.

## **Conclusion - Major Opportunities for Failure**

*Failure #1 - Failing to recognize the horizontal businesses/colleges are in fact the profit/loss centers, and the vertical functions/disciplines are support organizations.*

Frequently when a new matrix is created, there is a struggle for power between the hierarchical vertical disciplines and the horizontal profit/loss centers. This struggle can produce undesirable consequences.

Horizontal profit/loss centers in business/industry may include business units, divisions, and even company businesses. In higher education, profit/loss centers are typically oriented around colleges, schools, or perhaps academic departments. The horizontal profit/loss centers are where the money, revenue, or operational funds originate.

Vertical disciplines exist to provide the resources and the attendant expertise for each of those resources. This would include discipline-specific processes, procedures, methodologies, and practices.

The vertical discipline component is often without the resources and expertise, because there are few opportunities to generate revenue. The horizontal organizational elements are often without the product or service of the profit/loss center. In the most extreme cases, there would be no need for the discipline resources. Both vertical and horizontal organizational elements are mutually beneficial, needing the other's resources to be successful.

Unfortunately, human nature tends to promote a selfish imbalance in power, authority, and overall sense of self-importance. This imbalance often leads to decisions not in the best interest of the organization and should be avoided.

*Failure #2 - Communicating with people without performing Step #1 and Step #2 above, identifying the disciplines and the discipline-specific processes.*

This usually happens as a “power grab” to initially convey the power and strength of the vertical discipline leader of the newly formed organization. This mistake often leads to unnecessary resistance between the vertical matrix discipline and the horizontal profit/loss center. This type of problem often leads to resolution by the organizational parent.

In this instance, collecting all people creates two primary and potentially enduring negative reactions: (1) people are already performing in one capacity and may be ultimately asked to perform in another, and (2) once the matrix model begins to evolve through step #1 and step #2, significant negative cultural implications occur.

*Failure #3 - Senior leaders not knowing how to create an efficient or effective matrix organizational design model and unwilling to listen to those who do know how to do this. Worse, not wanting to look ignorant or lack knowing how to do their jobs.*

The saying here is “...the only thing worse than ignorance, is ignorance in power...” Thousands of books have been written on the topics of management and leadership. Good leadership recognizes the more we learn, the more there is to learn, and the corollary, the more we learn, the more we recognize how little we know. As individuals gain success in life, their perception of rightness increases. This self-perception of rightness, however, is limited to that which the individual has expertise. Unfortunately, all too often, individuals perceive their success in one area to naturally propagate to another, perhaps where their expertise is less. This is the premise for the modern-day saying “...pride comes before the fall.”

A large part of emotional intelligence is recognizing what we know and what we do not. To this end, building a team of individuals who can help shape an overall success is critical to achieving organizational objectives. The implications of this phenomenon are riddled in the literature of business and industry success stories. This topic is not the topic of this paper and will not be further addressed.

*Failure #4 - Thinking that adding more people to the organization is a solution, when creating an efficient organizational design model more readily supports the growth and continuity of an ongoing concern.*

When senior leaders do not fully understand how to create an efficient matrix organizational design model, they tend to look to hiring those who can help to do so. This frequently leads to increasing staff and hierarchy within the newly created model. These additional staff may, on the surface, appear to be aligned to the intent of how work will be accomplished in the newly created model, but, without having performed the previously defined steps #1 and #2, this logic is flawed.

Without a solid understanding of the disciplines, their processes, and practices, adding people may not be well grounded. In fact, how does a newly formed matrix model perform, if the newly formed model is being evolved in real-time and does not yet resemble the required outcomes of the two steps defined above?

The act of prematurely adding human resources to an ill-defined matrix structure, unjustifiably increases resources and attendant costs. In the end, this approach starts off wrong and is seldom corrected as time passes and the newly formed matrix model evolves.

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