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# THE SERVICE-ORIENTED ORGANIZATION PEOPLE, POLITICS & PITFALLS

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*As Garrett Hardin noted in **Tragedy of the Commons**, people value more what they own than property held in common. People litter in public parks, when they would never consider messing up their own yards.*

*In a Service Oriented Architecture (SOA)-enabled enterprise, services and servers are a common good; they are not “owned” by a line of business or a technology team. One can solve the technological challenges of SOA and still fail because the organization is not in sync with SOA design; organizational dynamics matter. The share-everything compliance challenge is just the beginning; in fact, the very structure of an organization probably will have to change.*

*Learn how you can transform your company to a Service-Oriented Organization (SOO) to reap SOA success.*

*“I cannot say whether things will get better if we change; what I can say is they must change if they are to get better.”*

- George Christoph Lichtenberg

## **The Tragedy of the Commons**

SOA is inherently a share-everything world. Services and resources are a corporate common good, a significant departure from the way applications were managed in the past. In 1968, Garrett Hardin noted a problem with resources held in common. He used the analogy of a shared grazing pasture – a common – where the value of increasing your own herd outweighs the “cost” to you of over-grazing. The cost of over-grazing is shared by everyone, where the extra cattle only benefit you. But when everyone behaves this way, the commons is exhausted; in IT terms, capacity is exhausted and performance suffers.

“Each man is locked into a system that compels him to increase his herd without limit – in a world that is limited.”  
- Garrett Hardin

A current analogy is the over-fishing of the oceans. What is the incentive for a fisherman or a country to hold back on fishing without assurance that everyone else will? The core of the problem is a conflict between individual interests and the common good.

Without organizational change, services can become an unmanaged “commons,” where benefit accrues to the line of business who really exploits the services (and more importantly, the resources backing them), perhaps skewing development to favor his line of business. And who manages and controls the services? How do you charge back? “Quis custodiet ipsos custodes?” Who watches the watchers? Long before Hardin formulated his theory, Aristotle noted one of the problems that can arise; “That which is common to the greatest number has the least care bestowed upon it.” Remember the problems that arose soon after CICS regions became a shared resource. This is a much bigger and more complex problem. When CICS MRO (multi-region option) took off, business units saw each other as competitors, vying for resources and development efforts. Problems occurring in the region could have an impact on everyone. A looping transaction could stop everyone in their tracks, absorbing all the virtual storage or CPU cycles. It is human nature to act in one’s own best interest, which makes managing the commons so difficult.

Hardin looked for a solution and found that guilt didn’t work all that well – people just do not act against their own interests all that happily. Arbitrary laws don’t work well either unless there is some way to oversee those who enforce them (do policemen wear seatbelts all the time?) In fact, the only approach that appears to work is

“mutual coercion mutually agreed upon.” Home-owners associations operate this way, as do parking meters. Thus, SOA organization need central management that has buy-in from IT and every line of business as to how services will be requested, created, managed, charged-back, etc.

### Establishing the Basics

Service-oriented architecture (SOA) is much more than the flavor of the month; it is the fabric of success for such 21<sup>st</sup> century enterprises such as Amazon and eBay. But SOA is really just an architecture – a framework and vision of a new way for IT to implement business requests. To be service-oriented, a business process is assembled from a library of services, which are repeatable business tasks.

This architecture provides a clear vision on which to build an IT infrastructure and to build new applications. But, in most cases, the effect of SOA on an organization – its people – has been overlooked. The current hierarchical structured organization does not map well to the open and dynamic nature of SOA. (Fig. 1) It simply isn't flexible enough to respond to the rapidly changing business world.

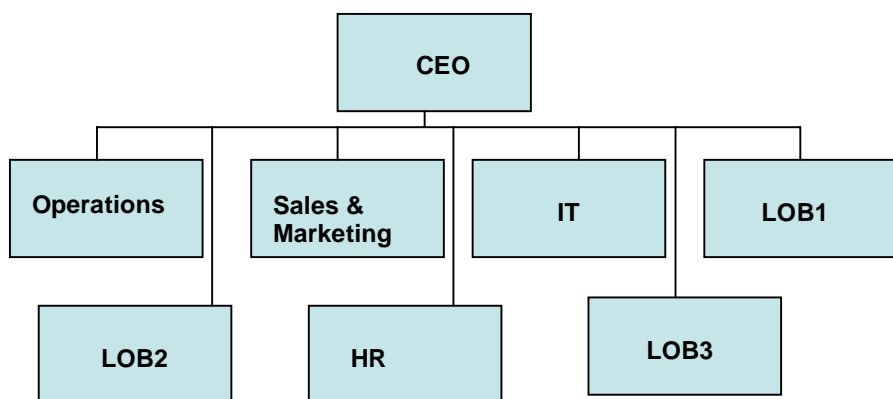


Fig. 1 – A typical organizational structure

Early on, organizations were viewed as a vehicle to manage a series of tasks. Early organizational development (OD) work was founded on such a premise:

Inputs  $\diamond$  Tasks (the organization)  $\diamond$  Outputs

It was envisioned as a closed system. Each person had a task to perform; the result was a finished product the company could sell. As we moved from the tangible world of products to a services economy, the model was expanded to define corporations as a collection of processes, but it was still a closed system. Processes, such as a credit card authorization, could be readily mapped to IT services and to the business that owned them. Such a mapping resulted in, or at least validated, organizational silos. And what is the nature of a silo?

- ⊞ Information is tightly held
- ⊞ Relationships are constrained
- ⊞ Resources are not shared
- ⊞ Team goals supersede organizational goals

Work silos compete for prestige, recognition, leadership and projects, with the result that there is no cross-functional area teamwork. As Dennis Romig notes, “1-1=0.”<sup>1</sup>

<sup>1</sup> Romig, Dennis, “Leading Side by Side to Bust Silos and Cross-Functional Competitiveness,” Sidebyside.com, 2003

Organizations will have to change if SOA is to succeed. Brenda Michelson defines SOA variously as “Siloed Organization Abolishment” and “Seizing Operational Agility,” which speaks to the need for change in this area. Business units can no more “own” a service than they can a CICS region or a UNIX server. If they cannot own it, they cannot control it. Who pays? Who assures performance? Research with children indicates that silo-busting can begin by bringing groups together to work on cooperative, mutually beneficial projects. This might be the first step in implementing a new organizational design with a new SOA project. Test the concept by pulling together individuals from different organizations and lines of business to create a new team.

Reconfiguring an organization is like re-plumbing a house – you cannot just move a few pieces of furniture around to solve the problem. Walls must come down; everything is a target for change. Mary Devereaux, futurist, noted that one way to fix the problem is “to change the context, the rules, the physical environment, the location and the hours. Then forecast when your current strategy will decay.”

“The most damaging phrase in the language is ‘It’s always been done that way.’”

- Grace Hopper

### **The Quantum Mechanical Model of Organizations**

“All things must change to something new, to something strange.”

- Henry Wadsworth Longfellow

From the beginning, organizations were structured along Newtonian, closed-loop principles – the organization as a machine. This is not surprising; the field of OD arose from the work of engineers and those who admired them. This model leads to a set of working principles:

- ⌘ You should manage by separating everything into component parts (tasks)
- ⌘ Influence is a direct result of one person applying force to another
- ⌘ You should plan by assuming that the future is predictable
- ⌘ Assume that there are objective measures to describe everything
- ⌘ All creativity is bounded within the organization
- ⌘ The world is defined by boundaries which separate one thing (person) from another
- ⌘ Chaos and disorder are bad things

When scientists worked out the fundamentals of quantum mechanics, the theories were created to explain discoveries in the subatomic world that made no sense in a Newtonian world. As such, this was not a logical progression, building on what worked before. Quantum physics is completely new.

Margaret J. Wheatley<sup>2</sup> studied both organizations and physics and discovered some strong parallels. In her mind, the boxes and lines, hierarchies and silos no longer work for organizations, if, in fact, they were ever the right answer. But today, in a rapidly changing world, the limits of this kind of structure are becoming apparent; it works no better at creating successful organizations than does Newtonian mechanics explain subatomic behavior. In her mind, quantum mechanics offered a better way to represent the way organizations and people work best.

Quantum mechanics looks at entire systems, focusing primarily on relationships between entities, not the entities in isolation. It speaks not just to the subatomic world, but to many other applications. Holistic health draws on it, as does Gaia Theory (James Lovelock) where the earth is really a self-regulating system.

In this model, chaos and disruption become allies to an organization. T. J. Cartwright refers to chaos as “order without predictability.” Disequilibrium is the base condition necessary for growth. Balance and stability equal inertia; it takes more motive power to start an engine than to keep it running. And yet, most companies are about maintaining order, control and fear.

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<sup>2</sup> Margaret J. Wheatley, “Leadership and the New Science – Discovering Order in a Chaotic World,” Berrett-Keohler Publishers, 1999

“Things fall apart; the center cannot hold. Mere anarchy is loosed upon the world.”

- Yeats

When a system is disturbed, it tends to reorganize into a new form of order, while retaining its identity. It can then become what it needs to be to function in the open system we call the world of business. An open system is merely a collection of processes that one can visualize only in temporary structures, which could represent work teams. These temporary structures flow and change to adapt to externalities they cannot control, but must live with. Just like a stream, which adapts and flows around rocks and trees, changing shape and speed, growing larger and calmer, then narrow and more turbulent, the organization must adapt and change, while retaining its identity. The stream is still a stream, while adapting to its environment and its relationship with it.

Thus, an organization must know its purpose and its goal, but be resilient to adapting, because the future is unpredictable and not all relationships and connections are easily visible. As banks and governments found, a sudden drop in the value of the Thai baht was capable of rocking their world, even if they did not trade in that currency; everything is interconnected now. A light touch of the spider-web of international trade can ripple out and transform every node on the web.

This also speaks to the nature of reality. “We co-create our environments by our acts of observation; what we choose to notice and worry about,” noted Karl Weick. But at the same time, we change everything we notice by the simple act of observation. Everything we do affects connections we cannot see.

So what elements matter in the quantum mechanical world?

- ⌘ Power – generated by the quality of our relationships
- ⌘ Fields – non-material forces, such as organizational culture, values, vision, ethics
- ⌘ Openness
- ⌘ The value of one – working anywhere in the system, one person can change everything
- ⌘ Disequilibrium which allows reorganization and adaptation, and then leads to growth

A basic law of open systems is that while change takes energy, an open system can import energy; it does not have to experience a net loss. Change is a good thing – a necessary and constant element that organizations must be able to manage well.

To make this work in an organization, certain characteristics are vital:

- ⌘ Information as nourishment and energy for everyone. It must be universally available, but each person must consider the lens through which he or she interprets it. Collaboration solves the problem of a limited frame; together we approach the truth
- ⌘ Respecting uniqueness (and everyone is unique)
- ⌘ Honing listening and conversing skills
- ⌘ Honoring collaboration (and rewarding it)
- ⌘ Fostering relationships
- ⌘ Evolving and changing organizational structures
- ⌘ Non-static job roles that relate only to relationships or resources
- ⌘ Curiosity
- ⌘ Embracing disruption and change

This last is the most challenging for companies, but for anyone who has faced their own “dark night of the soul,” you know that all real growth in yourself requires a disruption of identity, assumptions and reality. So too with organizations. Maintaining the status quo simply won’t work anymore. It denies the nature of the environment in which we live.

“One must have chaos in oneself to be able to give birth to a dancing star.”

- Friedrich Nietzsche

By becoming aware of the interdependent relationships from within and without an organization, and an organization's role as merely an element in a much larger system, Wheatley believes companies have the opportunity to know themselves and connect to their identity and purpose. They will then understand the necessity of connecting to new information and developing relationships anywhere.

### Making It Work

Roger Lewin notes, "The best run companies function much like a flock of birds, in which individuals following fairly simple rules interact with each other to form a cohesive and dynamic whole."<sup>3</sup> In contrast to the theories of Newton, he sees organizations as "organisms, not machines." The goal is to create a dynamic culture where there is a balance between stability and anarchy. (Fig. 2) Although it would be terrific to stay in the creative zone, this model actually operates like a thermostat, moving above and below the desired temperature as the external environment changes; it is homeostatic. So too must companies shift and change when stuck in a rut (stable zone), or buffeted by events (chaotic zone).

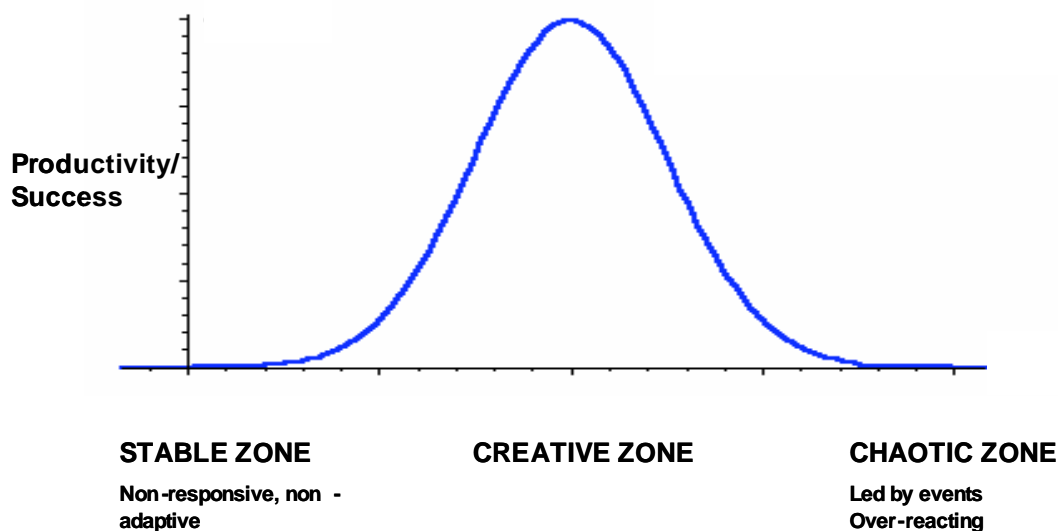


Fig. 2 – The dynamic nature of a real organization – always shifting.

Managers in this culture need to have the following characteristics:<sup>4</sup>

- ⌘ Authenticity – if managers are honest, trust develops – they create a safe place in which to be creative
- ⌘ Attention – listening is the most important factor. Ask questions.
- ⌘ Acknowledgement – express appreciation immediately. Value people beyond the tasks they complete or the role they sit in.
- ⌘ Accountability – managers must take responsibility.
- ⌘ Alignment – this involves both crafting and communicating a vision, then ensuring that employees buy into this purpose.
- ⌘ Answers – the manager isn't always the one who has them.

In addition, as it is important to share information and bring multiple frames of reference together to define a new truth, teams must be able to form and reform spontaneously and to be inclusive, in the truest sense of the word.

K. Pelly Periasamy studied e-commerce companies in Singapore and saw the value of the matrix structure. This design includes functional, product, and project specialists who form flexible teams as needed; this results

<sup>3</sup> Roger Lewin & Birute Regine, "Do People Matter?" Institute for Enterprise Architecture Developments, [www.enterprise-architecture.info](http://www.enterprise-architecture.info)

<sup>4</sup> IBID

in the efficient use of corporate experts. Because the teams can be reformed and re-created at any time, the organization can be very responsive to the rapid rate of change of business. And individuals feel loyalty and a sense of belonging to the organization, not to any individual team (or silo). The challenge is that it requires real leaders - managers who truly believe in empowered and very independent employees. The reins must be held very loosely, if at all.

His research team believes that not getting the organization right was a major contributor to the “dot.bomb” problem. It also may result in disaster for SOA. The hierarchical structures he studied had too much inertia – they could not respond quickly enough.

“The only people who can change the world are people who want to. And not everybody does.”  
- Hugh McLeod

Dynamic teams means that the share-everything culture of SOA includes people and processes, not just services. But this also needs to extend up the organization. Without Corporate-level buy-in, there will be a tendency for middle management to revert to silos and internal competition. They will hoard their resources, especially their best people, vying for an edge.

Kaplan and Norton describe corporations as being like eight-person rowing shells with the CEO as coxswain and each division as a man in the shell. Even if each one has excellent rowing abilities, if they do not work together for a common goal, they will end up hurting the outcome, or at least, cancelling out the best work.<sup>5</sup> A bad coxswain can be just as big a problem. If the crew doesn’t understand or share in the vision, the result will be just as bad.

The problem with most companies is that business units often compete more with each other than with their external competitors. When no one owns the people, the processes, or the services, this alone might force a closer working arrangement, but it doesn’t bring their goals into alignment. Everyone must be clear on corporate goals and agree to them. They must share a vision and a culture, which overrides personal or business unit objectives. Culture is the core set of values and assumptions that people share. Too often, this is assumed or unclear. In creating, communicating and achieving buy-in for the culture, vision and values, the Corporate-level can really lead, instead of managing and controlling.

But a challenge for all management is giving up control, power, and the use of fear. It has to be all about learning, and learning only happens in a safe environment. A true collaboration is defined as “a mutually beneficial relationship between two or more who work toward common goals by sharing responsibility, authority and accountability.”<sup>6</sup> Notice the emphasis on sharing. First, the goals must be common; next, learning must be more important than control.

Roger Schwarz created the “Facilitated Leader” approach, which supports mutual learning. Anyone can be a facilitative leader, regardless of their title or position. Facilitative leaders collect and share all information and they listen without judgment till all views are heard. The goal is a free and open commitment to a decision from each team member. Such leaders are noted by their curiosity, transparency, and joint accountability.

To create a flexible team, each member must commit to:

- ⌘ Testing all assumptions
- ⌘ Sharing all the data
- ⌘ Agreeing on definitions
- ⌘ Being willing to explain both reasoning and intent

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<sup>5</sup> Robert S. Kaplan & David P. Norton, “Corporate Alignment Matters – How Synchronism Provides Dynamic Results,” *Align Journal*, Jan/Feb, 2007

<sup>6</sup> Roger Schwarz, “The Skilled Facilitator: A Comprehensive Resource for Consultants, Managers, Trainers and Coaches,” Jossey-Bass, 2002

- ⌘ A balance between inquiry and advocacy
- ⌘ Jointly designing an approach and a solution
- ⌘ Believing that each team member is acting with integrity
- ⌘ Being open to discussing the tough stuff

Corporate-levels can support this by creating a new budget model that rewards facilitative leadership and increased collaboration. Business units cannot be competing for budget dollars, or the matrix teams will not be supported. They will want to own the best people and will always figure out a way to get the most money they can for their own interests.

Bob Violino suggests evolution of some jobs to support the SOA model:<sup>7</sup>

- ⌘ Service creator – programmers, architects, product designer, product manager – creates services from scratch and from existing applications
- ⌘ Service consumer – business process expert who creates business solutions by assembling services
- ⌘ Service librarian – governance function to ensure reuse rather than duplication

The governance would also include a committee that would be charged with service design, reuse, ownership (for maintenance and upgrades), management (performance and availability) and consolidation.

“It’s necessary to have a holistic approach, one which includes organizational, behavioral and attitudinal perspectives. Having a sound technology base will certainly help, but you need more, and it’s a slow haul.”

- Kevin Kelly, Kemar Solutions (Secrets of SOA)

### **The Challenges of Change**

“If we don’t change direction soon, we’ll end up where we’re going.”

- Irwin Cory

The SOO is not an easy design to accomplish – it changes everything. And change is hard; people and organizations resist change. And yet, many viable strategies and architectures in the past have failed because the organization wasn’t able to remodel itself to fully exploit the new technologies successfully. SOA is no different – as painful as change is, there is no way to avoid it.

In studying change, a new cognitive science was created – a fusion of psychology and neuroscience. In studies, it was demonstrated that physiological discomfort goes along with change – change is actually painful.

New information and new ideas require you to use working memory, which activates the prefrontal cortex. This is a very energy-intensive part of the brain, which means that change can also produce mental exhaustion. The orbital frontal cortex sees changes in expectations as errors. Such an interpretation, which you have no control over, can trigger the amygdala where fear resides. All this happens without engaging your conscious mind – it bypasses rational thought.

Though you cannot overcome your physiology, you can understand it. Once you understand how an “amygdala hijack” works, you can then plan to manage your inevitable reaction in a more productive way.

Expectation shapes one’s reality, so this is where openness and information sharing helps. Letting go of hidden agendas and the “right” answer helps people come to grips in their own time with a new idea. Attention is important – if we pay attention and focus, we can actually learn to manage our reaction to our normal brain chemistry over time. For many, understanding and expecting a hijack is enough to help them manage it. As an example, having a clear plan and an up-to-date resume can help tame the anxiety created by the chemicals triggered by the amygdala when a layoff is announced. But all this takes time and patience.

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<sup>7</sup> Bob Violino, “Mastering a New Infrastructure,” Baseline Magazine, February, 2007

One way managers can help is to sketch out a goal with a broad brush, so that each team member can create for themselves a plan for changes they are willing and able to make. This helps them take responsibility for their behaviors and reactions.

**Summary**

SOA without a SOO is a recipe for disaster. The share-everything organization offers each employee empowerment, and fosters engagement and commitment. Matrix management or facilitated leadership – the organization must be an open and evolving organization, responding to unpredictable environmental change as needed for its own survival.

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