The Digital Organization Chart:
Taking Large-scale Collaboration to the Next Level

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Our Organizational Predicament

“We can’t solve 21st-century problems with 19th-century organizations”
A Nobel Laureate’s View of Organization Charts

Anyone who has worked in a large organization — or, for that matter, reads the comic strip “Dilbert” — is familiar with the “org chart” strategy. To hide their lack of any actual ideas about what to do, managers sometimes make a big show of rearranging the boxes and lines that say who reports to whom.


But are we “throwing the baby out with the bathwater?”
Which Resembles Your Organization?

How many boxes can you see at once?

“It’s like seeing the organization through a pin hole”
How Far Can We Really See?

People see about two levels up and down

- Direct
- Indirect
- Distant

Zones of visibility across organization

- My boss
- My boss’s boss
- My reports
- My reports’ reports

Vicinity of visibility

- My team
- My organization
- My company
- Environment

And people can see about two levels “out”
More to the Org Chart Than We Think? Consider “The New Science of Networks”

From “Scale-Free Networks” by Albert-László Barabási and Eric Bonabeau, Scientific American, May, 2003

<table>
<thead>
<tr>
<th>Network</th>
<th>Type</th>
<th>Nodes</th>
<th>Links</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cellular metabolism</td>
<td>Biology</td>
<td>Molecules involved in burning food for energy</td>
<td>Participation in same biochemical reaction</td>
</tr>
<tr>
<td>Protein regulatory network</td>
<td>Biology</td>
<td>Proteins that help to regulate a cell’s activities</td>
<td>Interactions among proteins</td>
</tr>
<tr>
<td>Sexual relationships</td>
<td>People</td>
<td>People</td>
<td>Sexual contract</td>
</tr>
<tr>
<td>Hollywood</td>
<td>People</td>
<td>Actors</td>
<td>Appearance in same movie</td>
</tr>
<tr>
<td>Research collaborations</td>
<td>People</td>
<td>Scientists</td>
<td>Co-authorship of papers</td>
</tr>
<tr>
<td>Internet infrastructure</td>
<td>Technology</td>
<td>Routers</td>
<td>Optical and other physical connections</td>
</tr>
<tr>
<td>World Wide Web</td>
<td>Knowledge</td>
<td>Web pages</td>
<td>URLs</td>
</tr>
</tbody>
</table>

Might same principles apply to organizations?

<table>
<thead>
<tr>
<th>Hierarchy (org chart)</th>
<th>Organization</th>
<th>Positions</th>
<th>Reporting relationships</th>
</tr>
</thead>
</table>

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“Eleum’s” Problem

• New multi-billion-dollar 5000-position, 8-country regional unit in 100,000-position global company
  • Managers and staff no longer in same place for many functions
• Complex organization in complex, dangerous industry
  • Thought they’d solved “visibility” problem through “flat organization”
• Highly experienced and thoughtful senior executives
  • Knew how to manage face-to-face but not virtually
• Executives wondered if they had the organization they wanted
Decided to Map Eleum’s Organization as a Network

- Pulled “who-reports-to-whom” data from enterprise HR system
- Each position reported to another position
- Each position held by unique person, or vacant
- Each position part of specific sub-organization
- Each position situated in specific location
A Familiar Organization in OrgScope
Drilling Down into Treasury
Some Metrics for the President
**Surprise #1: Organizations Are Diamonds, Not Pyramids**

Distribution of Leaders by Level

![Bar chart showing distribution of leaders by level](chart1)

Distribution of All Positions by Level

![Bar chart showing distribution of all positions by level](chart2)

See “The Virtual, Networked Organization” book chapter

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Digital Org Chart - Webcom Montréal 2009
Surprise #2: Leadership Distributed like Scale-free Network

See working paper on “Principles for Reorganization: How to Mix Levels, Span, and Size to Maximize Communication and Decision-Making”
What Else Eleum Discovered

1. **TOTAL POSITIONS**
   - Exec Mgr 6%
   - Line Mgr 12%
   - Staff 82%

   Analysis first tags positions as staff or managers (18%). “Executive” managers lead other managers; “Line” managers direct only staff.

2. **POSITION DISTRIBUTION BY LEVEL**
   - Shows 9-level organization with bulk of positions in middle.

3. **ORGANIZATION SIZE**
   - 60% Smaller
   - 25% Small
   - 11% Medium
   - 4% Large

   Most sub-organizations are small, but 15% are 25 or larger; 4% are larger than 100.

4. **SPAN OF DIRECT REPORTS**
   - 47% Small
   - 35% Medium
   - 12% Hub
   - 6% Super Hub

   Most (82%) managers have staffs smaller than 10. Some (6%), 45 managers, have direct report teams of 15+.

5. **PLACE**
   - Most (62%) management teams are collocated; many (38%) are not.

6. **HOTSPOTS**
   - Some positions are “hotspots” -- by measures of org size, span, and place more complex than the rest.
Eleum’s Executives Then Asked New Questions

- Are right people in leadership groups?
- Does our communication strategy reach everyone?
- Who are the “hubs” in organization? Where are they? Are they different?
- How many people are really have on the line?
- What happens when we add matrix reports?
- Contractors? The global organization we’re part of?
- What is the leadership profile at each level?
- Where is our organizational center of gravity?
- What importance do levels have as organizing principle?
How Eleum Made Itself More Transparent

- Through network mapping, Eleum discovered:
  - **Shorter communication paths**
  - **Highly-connected managers**
  - **Managers with largest organizations**
  - **Managers missing from leadership forums**
  - **The truly virtual teams**
  - **The people and positions at risk: “hotspots”**
Management By Clicking Around

• Very difficult to “manage by walking around” in virtual world
  • Leaders cannot be everywhere
  • More globally distributed, less face-to-face contact
  • Travel an increasing hassle; sometimes banned

• The higher your position and larger the organization, the greater the difficulty of “grasping the whole” and “keeping in touch”

• Virtual organization tools let you be in many places at once without moving—or even while moving
Two Key Networks: Person and Position

People with their social networks

Organizations with their position networks

Organization exists at the intersection of people and positions
Four Networks Weave the Complex Organization

1. Organization Network
   - My Position: Whom do I work for?
   - Org Chart
   - Functions flow as process network from suppliers to customers

2. Working Networks
   - My Job: Whom do I work with?
   - Management teams
   - Ongoing and project teams
   - Communities of practice
   - Special Events

3. Knowledge Networks
   - My Topics: Who knows what?
   - Seeker
   - Networker “Ask-answer”
   - Expert
   - Voluntary responses

4. Social Networks
   - My Friends: Who knows whom?
   - Social network

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A Slice of Boston Health Care Network Showing Some Interrelationships
Every place has point-of-view, eye altitude
30,301 km

Every place has GPS address, geopoint

Every place has legal address
1.0 km
Organization Connects Physical Places

2701 km
Positions in Organizations
Also Can Be Physically Located and Addressed
Executive Floor Plan: Virtual and Physical

168 meters
Decide to network
Use every letter you write
Every conversation you have
Every meeting you attend
To express your fundamental beliefs and dreams
Affirm to others the vision of the world you want
Network through thought
Network through action
Network through love
Network through the spirit
You are the center of the world
You are a free, immensely powerful source
of life and goodness
Affirm it
Spread it
Radiate it
Think day and night about it
And you will see a miracle happen:
the greatness of your own life.
In a world of big powers, media, and monopolies
But of six-and-a-half billion individuals
Networking is the new freedom
the new democracy
a new form of happiness.

Decide to Network
By Robert Muller

Robert Muller is former
Assistant Secretary-General
of the United Nations and
now Chancellor, UN
University for Peace, Costa
Rica. He wrote the poem for
Jessica Lipnack and Jeffrey
Stamps for their first book,
Networking: The First
Report and Directory (1982)
Decide to Network

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