Predictive Model of Business Transformation: Organization's Adaptability Quotient

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BACKGROUND

The current economy moves faster and demands quicker learning than previous economies. With the Internet and other means of massive connectivity within and between organizations, change is rapid and unrelenting. Organizations that can learn and adapt faster than their competition have an advantage.

Over the past several years, our research and practical field experience in organizational network analysis (ONA) — an extension of social network analysis — have led us to develop a predictor of business transformation success, which we call the organization's *adaptability quotient* (AQ). This statistically significant predictor of business transformation success was derived from an ONA study of 15 global corporations undergoing major strategic change in a context of business transformation. Business transformation is defined as "a significant change in business direction or performance achieved through changes in organizational process and human behavior."

The 15 global companies represented a broad range of industries including: telecommunications, finance, manufacturing, health, insurance, transportation, retail and utilities. The companies are located in the United States, Canada, Sweden, Germany, Spain, Japan, Korea, and Australia. All 15 of the companies have significant business transformation experience.

SNA DATA COLLECTION AND ANALYSIS

Social network and other organizational data were collected from the 15 global company business transformation programs. The project included a total of 935 people from all 15 organizations, an average of 67 people per business transformation project. Table 1 provides details of the group size for each company studied.

Table 1. Profile of Group Size for the 15 Companies.

Co. Code	Group Size	Location	Industry
41	54	USA	Utilities
51	78	USA	Telecommunications
52	64	USA	Telecommunications
53	51	USA	Insurance
54	43	Korea	Manufacturing
56	72	USA	Finance
55	45	USA	Finance
62	67	Sweden	Transportation
71	60	Australia	Finance
73	82	USA	Retail
75	83	Canada	Transportation
76	80	Spain	Utilities
77	56	Spain	Insurance
78	33	USA	Health
79	67	USA	Telecommunications

We included social network questions as part of the ONA data collection process. Our questions covered both process and practice around business transformation. With the results, we were able to map each organization's connections around:

- Strategy,
- Work flow,
- Innovation,
- Decision-making, and
- Customers.

Each set of connections form a network that allows us to view an organization in much the same way a doctor uses an x-ray or CAT-scan to look inside the human body.

STUDY PARAMETERS

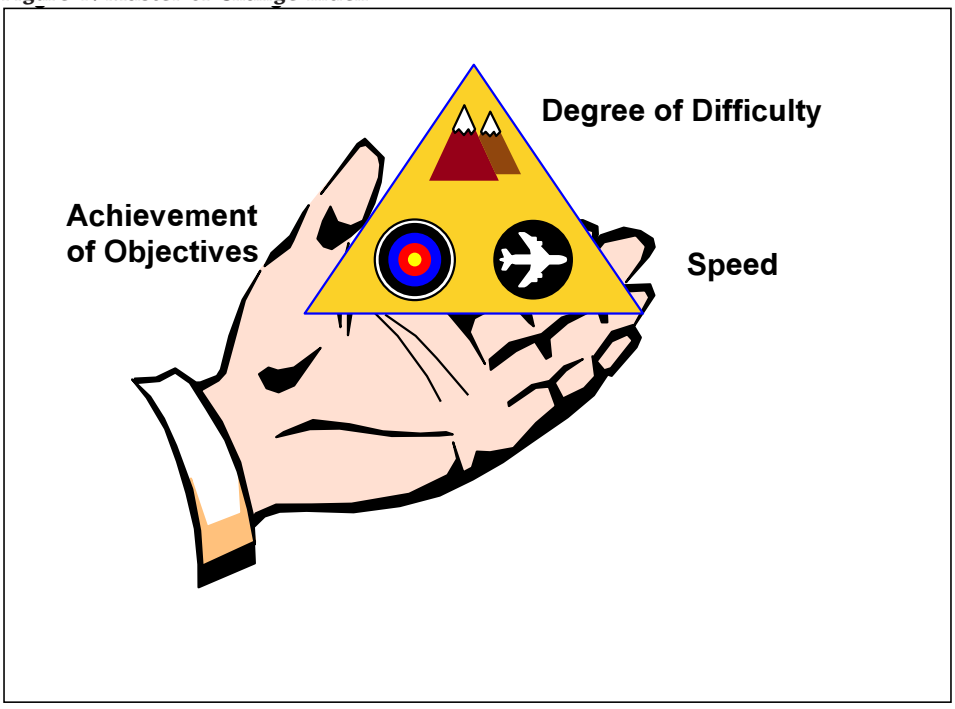
In an effort to identify the major factors that facilitated rapid and successful change, we measured the business transformation process in each organization with a "Master of Change Index." This Master of Change Index, illustrated in Figure 1, is a composite of degree of difficulty, achievement of objectives and speed through transformation. This index evaluated the following three business transformation factors:

- Degree of difficulty,
- Level of achievement, and
- Speed of change.

A variety of human network variables were then studied in terms of their correlation to the business transformation process. These variables included such social network metrics as centrality, clustering, visibility and influence.

Centrality has several facets and the literature has developed a number of dimensions of centrality (degree, "betweeness," closeness) to profile the characteristics of informal communication networks. "Degree" is a measure of how active a node is in a particular network. "Betweeness" measures how often a node falls "between" other nodes. Nodes of high betweeness are also known as gatekeepers. "Closeness" measures how "close" a node is to all other

Figure 1. Master of Change Index



nodes in the network. In other words, how easily a node can reach all other nodes. Clustering measures the clustering around a node. Are a node's neighbors also connected to each other? A high clustering measurement can reveal a clique or social circle. "Visibility" measures the efficiency of a node's most immediate ties. In other words, how many diverse resources do the closest ties provide? Do they provide a "reach" far into the organization or do they just provide local benefits?

"Influence" is a combined measure of closeness and betweeness. The "closer" a node is to others, the more influence it has to act with minimal constraint and the ability to get things done.

These measures, provided in InFlow software (see sidebar), provide various views of the networks found in each organization. These dimensions are used to profile the characteristics of emergent information flow and knowledge exchange networks.

Predictor of Business Transformation Success

When we performed a factor analysis of the ONA data, one network metric emerged as a statistically significant predictor of business transformation success. This metric measures the diffusion of information and knowledge throughout the organization via its human networks. We found a very strong statistical correlation between this metric and the Master of Change Index. In other words, those organizations that were good at change — that were adaptive — had a different human network structure than organizations that were poor at change and not adaptive. Connections matter in organizations, just as they matter in structures like the human brain. However, what we found was not simply that more connections are better. The key to an efficient and effective network is *the pattern* of direct and indirect links.

The metric ranges from zero to one — a lower score indicating a less effective network. Given its high correlation to mastering change, we call this metric the organization's *adaptability quotient* (AQ).

Figure 2 is a network map of a company with a high AQ score. Notice the many redundant paths between the players. Adaptive and resilient networks have many short routes between any two individuals or nodes. When one path becomes unavailable, other paths are available to carry information. Also, notice the solid nodes — they represent external experts. The external expert grouping includes expertise from diverse sources outside organizational boundaries during the organizations' business planning and decision-making.

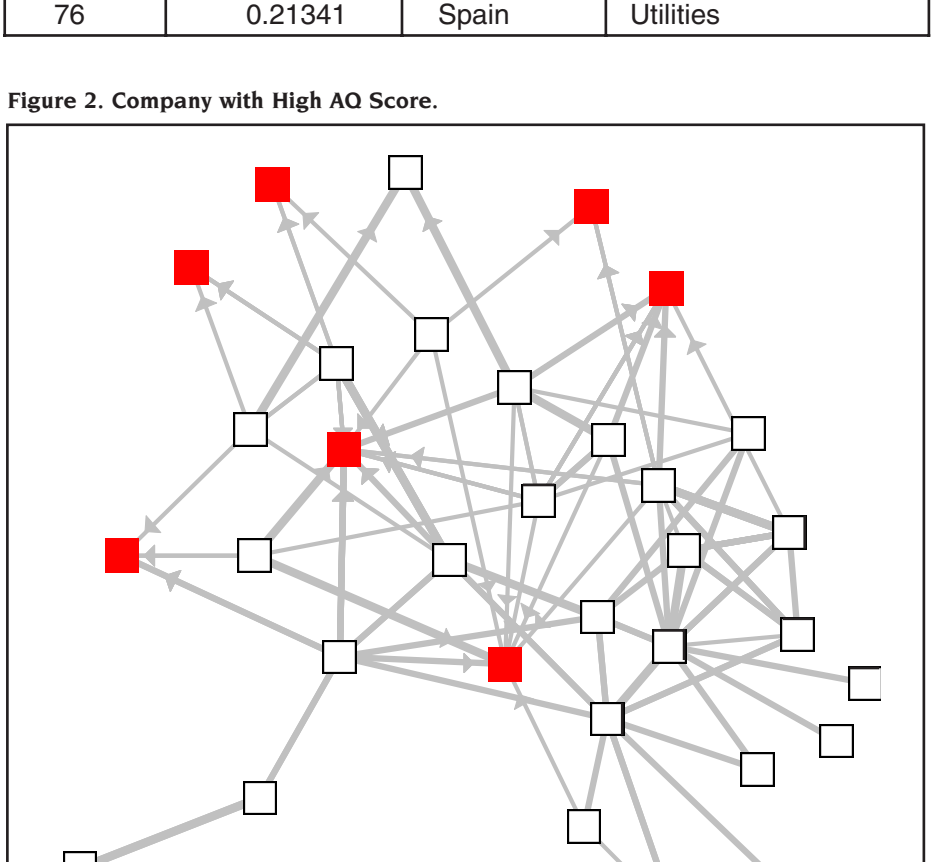
InFlow, developed by Valdis Krebs, is a powerful, easy-to-use Windows-based tool for diagnosing and optimizing information sharing within a company. Because of its ease-of-use and business application, I*nFlow* is taught in several universities as a complement to students' education on social network analysis. Company change consultants and consulting firms use I*nFlow* because of its business application, ease-of-use, and rapid speed of turning raw data into client action plans that improve the effectiveness of internal and external communications, arm communications departments with hard, actionable data about their methods and campaigns, identify and retain valuable company know-how, and innovations and expertise that often go uncaptured. A one-day I*nFlow* class is provided to train the user to:

- Connect unconnected, poorly coordinated employees with the experts, networks, and resources they need for top performance;
- Enable teams to operate in high performance mode, be they virtual or in-office; and
- Embred high productivity communication and virtual teaming behaviors and practices into your employee culture.

Table 2. Company AQ Scores.

Co. Code	AQ	Location	Industry
79	0.90471	USA	Telecommunications
55	0.80000	USA	Finance
54	0.55340	Korea	Manufacturing
78	0.53483	USA	Health
53	0.48803	USA	Insurance
51	0.47612	USA	Telecommunications
77	0.47597	Spain	Insurance
75	0.45330	Canada	Transportation
73	0.44188	USA	Retail
41	0.41313	USA	Utilities
52	0.37873	USA	Telecommunications
62	0.36158	Sweden	Transportation
71	0.32666	Australia	Finance
56	0.26038	USA	Finance
76	0.21341	Spain	Utilities

Figure 2. Company with High AQ Score.



Putting AQ to Work

The following example illustrates how we applied the AQ score for a UK-headquartered global company that had embarked on development of a new worldwide procurement process enabled by SAP technology. Using the AQ score, we were able to prescribe the improvements required during the early phase of the company's business transformation program. Our strategy was to analyze, make indicated improvements, and then reanalyze the organization to gauge the progress of its transformation program. We compared "before and after" results to the data from the original 15 companies in our study. Our client company was in the bottom third when compared to the 15 companies at the start.

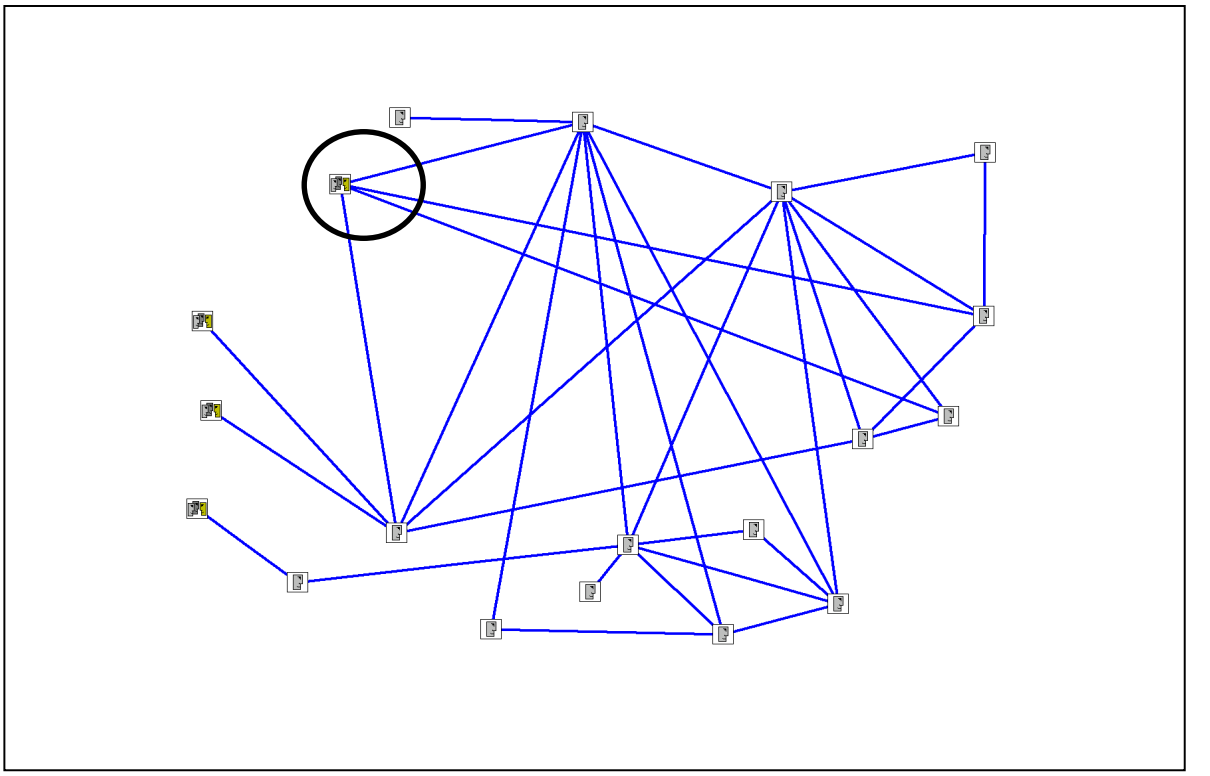
The AQ is an indicator — an alert. It does not specify what is wrong. After finding a low AQ score, consultants used the *InFlow* software to explore the connections present and not present in the organization. This investigation revealed why the score was low: the low score in our client company was attributed primarily to ineffective decision-making among the leadership team, weak teaming across formal department boundaries, and limited external communications.

Working with the leadership team, we developed a set of targeted actions to address the issues uncovered during the ONA process. These actions are typical of what a strategic Human Resources (HR) or Organizational Development (OD) function normally addresses. The ONA provided an alert and a methodology to dig deeper into organizational dynamics.

Our network analysis revealed that the deployment team was not working together as a cohesive group. To address ineffective decision-making, we worked with the project office director and his team to develop a communication process that could leverage key knowledge sources.

Upon further investigation, we also discovered that the deployment team was not legitimized in the organization because their roles and responsibilities had not been clearly defined or communicated across the project. Therefore, we facilitated several sessions with the manager and team in order to clarify roles and responsibilities. We documented each person's responsibilities

Figure 3. Release Team Leader.



and communicated this information to the others in the project.

Using the "what if'" capabilities of the I*nFlow* software, we developed individual "to-be" communications maps that could be used to improve internal and external communications.

One network map (see Figure 3) also revealed that the release team leader was not sufficiently connected to their key constituents across the project.

Digging deeper, we obtained feedback about their abrasive style of communicating and leading. We conducted a series of individual coaching sessions focused on improving their interpersonal communication skills. After three months, when we did not see sustained improvement in their communication style, we recommended that they be removed as team leader. Our recommendation was adopted.

The network maps revealed another large problem: a large disconnect existed between the external consultants on the project and the company's own employees. The software experts and consultants were not transferring skills to the permanent employees in the organization. As a result, when their engagement concluded and they moved on to their next assignment, most project knowledge would go with them, leaving the company and its internal team members at risk. We recommended that the IT director mandate one day a week as a set-aside for skill/knowledge transfer between the external consultants and the company's internal experts. (This activity was actually a part of the original contract, but it was overlooked until we found the problem using Social Network Analysis.)

AQ Results

Eight months later, we conducted the second ONA to assess the project team's progress. When compared to our organization's AQ score of 15 global companies, we saw a significant improvement in the company's AQ score. Our client organization rank was now in the top third of AQ scores. But even though the *overall* score had improved, the newer network maps revealed several areas that needed further improvement, such as the need for a formal "lessons learned" network for transferring client feedback to the development team and the need for a leadership "dashboard network" to provide timely implementation progress reports to all stakeholders of the project.

Again, the ONA consultants used this information to dig deeper and uncover the underlying dynamics. This iterative process of network mapping and measuring along with follow-up actions kept the project on track and moving toward a successful conclusion.

Conclusion

Doctor's use x-rays and CAT-scans to diagnose the human body because they are quick, non-invasive procedures that provide good information for diagnosing a wide range of possible medical conditions. Human resources and OD professionals can now use ONA in a similar way, to scan or x-ray communication networks in a workplace and discover what is really happening inside their complex organizations. With tools like I*nFlow* software, HR and OD can assume the role of internal strategic consultants and partners with management. Human resources information systems can play a key role in this process as well.

Network maps reveal how and where the human capital in the organization is — or is not — being effectively utilized. There doesn't seem to be a better way to see what is actually happening in the organization now — and what it could be guided to become in the future?

For the authors' biographies, see pages 70 and 71.