Delivering Value: The Social Capital of Teams

Trust and reputation emerged in the first session as key success factors for people trying to build bridges across structural holes. This session is about the critical role that teams play in building trust and reputation. Value is created by bridging structural holes, but it is delivered by building a strong team around the bridge. The point was illustrated by the team spirit that Alex Zaffaroni and John Clendenin built among their direct reports. In this session, we'll go deeper into why it was important for them to build team spirit and what it means to build it. Here is a sequence of questions addressed:

I can see many reasons why it would be important for people to trust me, but why do I have to think about it? Why can't I just do my job, and let things like trust and reputation be a by-product of doing a good job?

How does the trust we see between people in a high-performance team work? Where does it come from? What keeps it alive?

With respect to performance, teams are expensive so why assign a problem to a team rather than an able individual? Team spirit is a fine thing, but how is it connected with real dollars and cents performance?

Given the value of teams, how can we implement a "one-company" policy by making the organization into into a cohesive team?

Does personality determine the informal network around a leader, and if it does, what can we do to aid informal networks?

If teams are so valuable, why do the resources go to network entrepreneurs?

Appendices:

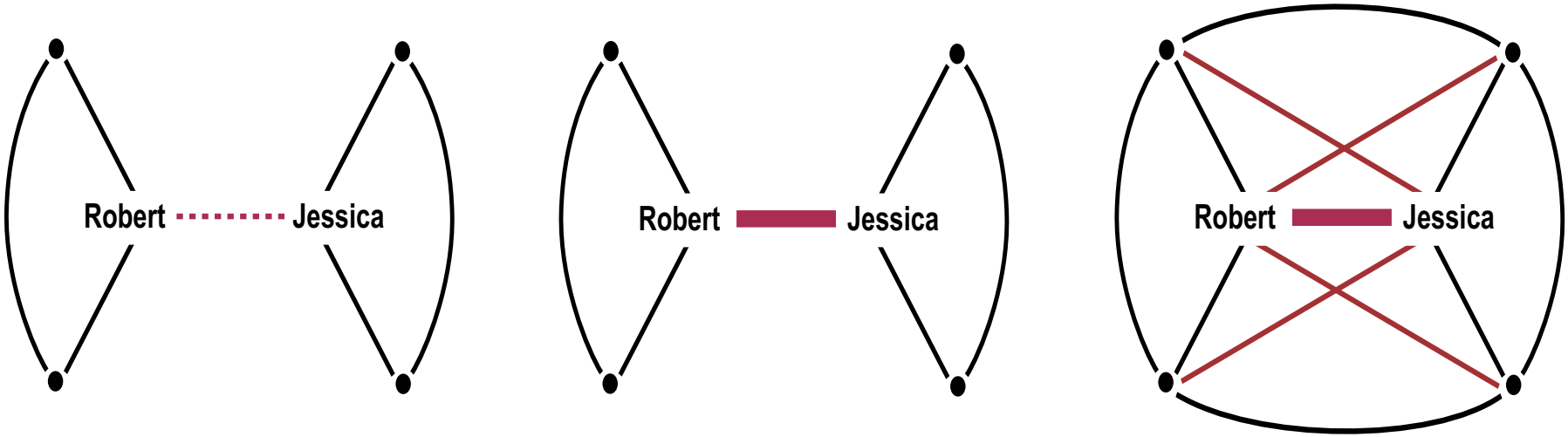
I. The Henderson Revolution (pages 14-15, from 1992 *Upside*)

II. When is Corporate Culture a Competitive Asset? (pages 16-17, from 1999 *Financial Times*)

For text on this session, see Chapter 3 in *Brokerage and Closure*.

This handout was prepared by Ron Burt as a basis for discussion in executive education (Copyright © 2004 Ronald S. Burt, all rights reserved). To download work referenced here, or research/teaching materials on related topics, go to http://gsb.uchicago.edu/fac/ronald.burt. This handout has benefitted from comments by Tracy Cox, Jay Dyer, ShawnFrench, Pati Lee-Motto, Holly Raider, and Bill Russell.

What is the Risk to Jessica of Trusting Robert?



Situation A
Robert New Acquaintance
(no embedding)

Situation B
Robert Long-Time Colleague
("relational" embedding)

Situation C
Robert Co-Member Group
("structural" embedding)

from Figure 3.1 in *Brokerage and Closure*

Where Do Trust and Reputation Come From?

The Glue that Holds It All Together

TRUST — committing to an exchange before you know how the other will behave.

REPUTATION — extent to which you are known as trustworthy.

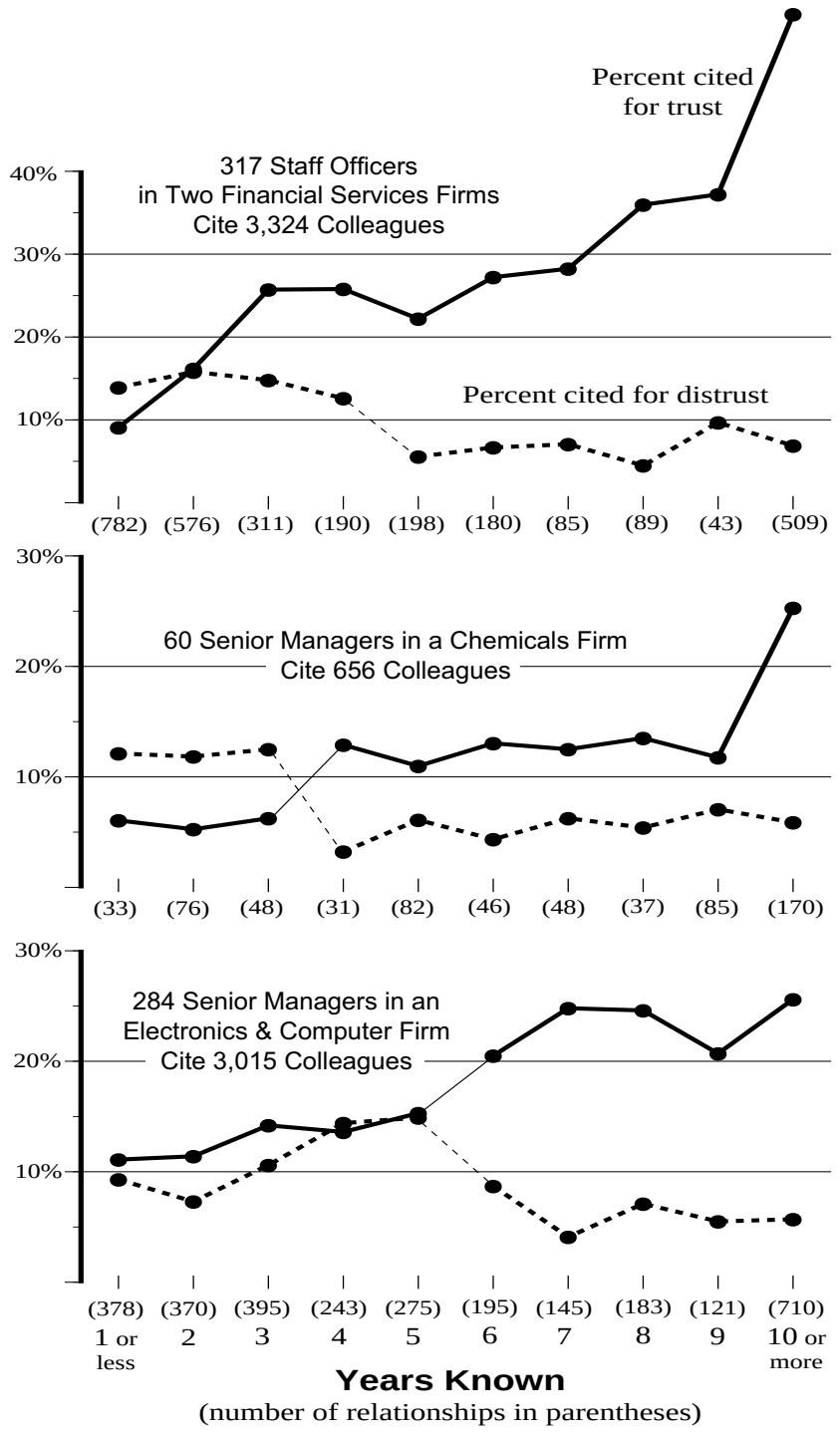
Connection with social capital (authority-driven coordination, cooperation, trust; trust essential to network entrepreneur launching new ideas)

I. Good Behavior as the Source

third parties irrelevant to trust & distrust
too slow, too dangerous (see Burt, 1999, below)

II. Network Closure (bandwidth argument)

third parties enhance information and enforcement, and so facilitate trust



from Figure 3.2 in *Brokerage and Closure*

II.
Network Closure as the Source

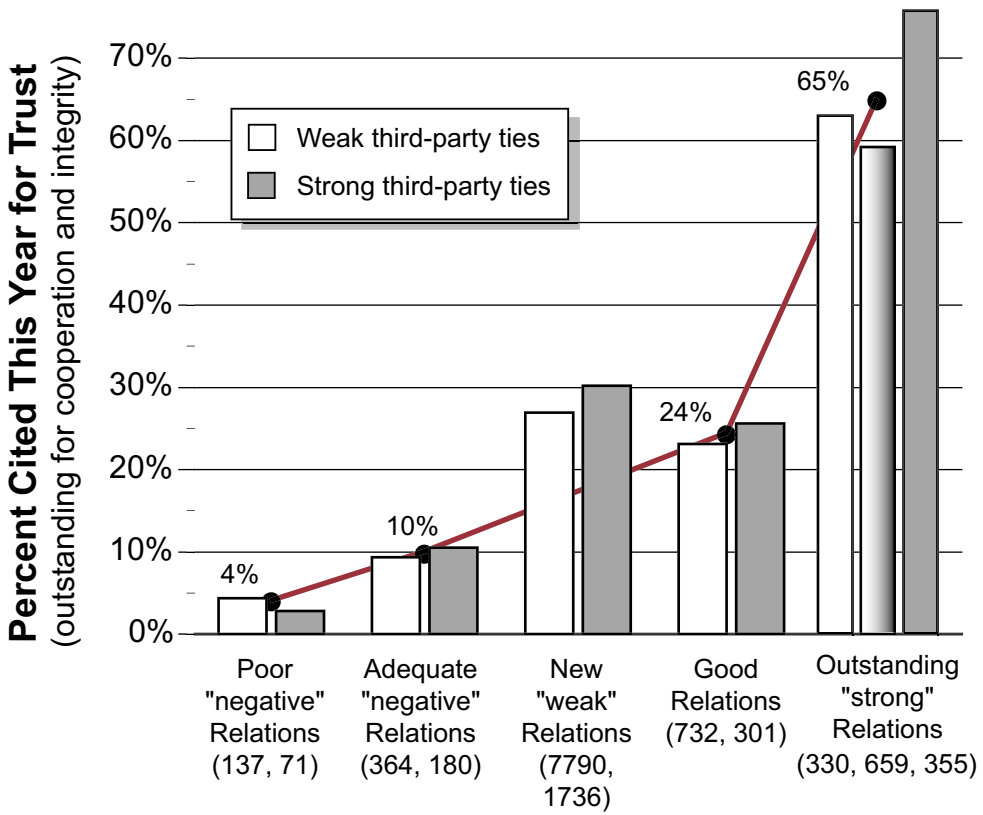
Third Parties Are an Early-Warning System that Protects Nice from Nasty in the Initial Games of a Relationship. Third parties enhance communication and enforcement, and so create reputation costs which facilitate trust.

"Bandwidth" argument: more channels of communication create more accurate and rapid communication, so poor behavior is more readily detected and managed.

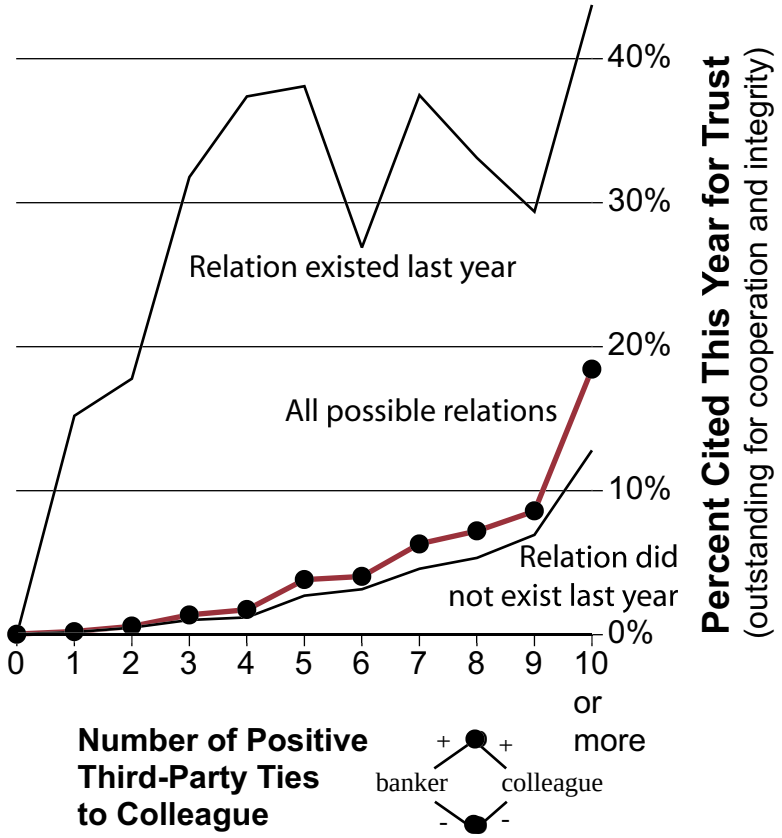
1985: Granovetter (1985 AJS) on the risk of trust reduced by third-party enforcement (discussed as structural embeddedness, 1992:44): "My mortification at cheating a friend of long standing may be substantial even when undiscovered. It may increase when the friend becomes aware of it. But it may become even more unbearable when our mutual friends uncover the decit and tell one another." (also Tullock, 1985 QJE, pp. 1076, 1080-1081)

1988: Coleman (1988:S107-108 AJS, 1990 book) on the risk of trust reduced by third-party enforcement (discussed as network closure) with respect to rotating-credit associations: "The consequence of closure is, as in the case of the wholesale diamond market or in other similar communities, a set of effective sanctions that can monitor and guide behavior. Reputation cannot arise in an open structure, and collective sanctions that would ensure trustworthiness cannot be applied." E.g., Putnam's (1993 book) explanation of higher institutional performance in regional Italy attributed to the trust, norms, and dense networks that facilitate coordinated action.

1989: Maghribi traders in North Africa during the 1000s, respond to strong incentives for opportunism in their trade between cities by maintaining a dense network of communication links which encouraged them to protect their positive reputations and facilitated their coordination in ostracizing merchants with negative reputations (Greif, 1989 JEH, 1993 AER; applied to medievil merchant guilds by Greif, Milgrom & Weingast, 1994 JPE).



All Colleagues Cited for Substantial Business Contact
(12,655 relations;
3,129 cited last year; 9,526 new this year)



All Bankers Who Could Have Been Cited for Substantial Business Contact
(118,680 relationships)

Evidence of Trust in Balance with Third-Party Opinion

Reputational Performance Systems: In flattened-down organizations, leader roles are often ambiguous, so people need help diagnosing their situation, and the boss needs help monitoring direct reports. Clendenin in Xerox was an illustration.

Multi-point evaluation systems, often discussed as 360° evaluation systems, gather evaluative data from the people who work with an employee. These are "reputational" systems in that evaluations are the same data that define an employee's reputation in the company. The two variations are (1) systems in which the employee selects assessors, and (2) systems in which assessors select and evaluate colleagues with whom they have had "frequent and substantial business" contact.

from Figure 3.4 in *Brokerage and Closure*

Eagle Team

You are assigned the job of managing a team. **What kinds of behaviors and language would indicate that the team is a cohesive, strong-culture group?** (Webster: Culture is a "set of shared attitudes, values, goals, and practices that characterizes a company or corporation." Can you say shibboleth?)

Give three indicators from what you know about West and Alsing's Eagle team, or Jobs' Macintosh team, or some team in your past, or some historical high-performance team with which you are familiar.*

Team Macintosh

*Stills are from the video shown during the session. The eagle team is described in the Kidder reading (from *The Soul of a New Machine*, 1981). The Macintosh team is described in the in-class video exerpt from *The Search for Excellence* (1988). The team dynamics evident in these two cases can also be found in broader perspective in the Coser reading on the Jesuits and Leninists (from *Greedy Institutions: Patterns of Undivided Commitment*, 1973), and the Greif reading on the Maghribi traders of North Africa in the 1000s (from "Reputation and coalitions in medieval trade," *Journal of Economic History*, 1989).

Network closure is associated with
reputation, trust, and
people feeling good about themselves,

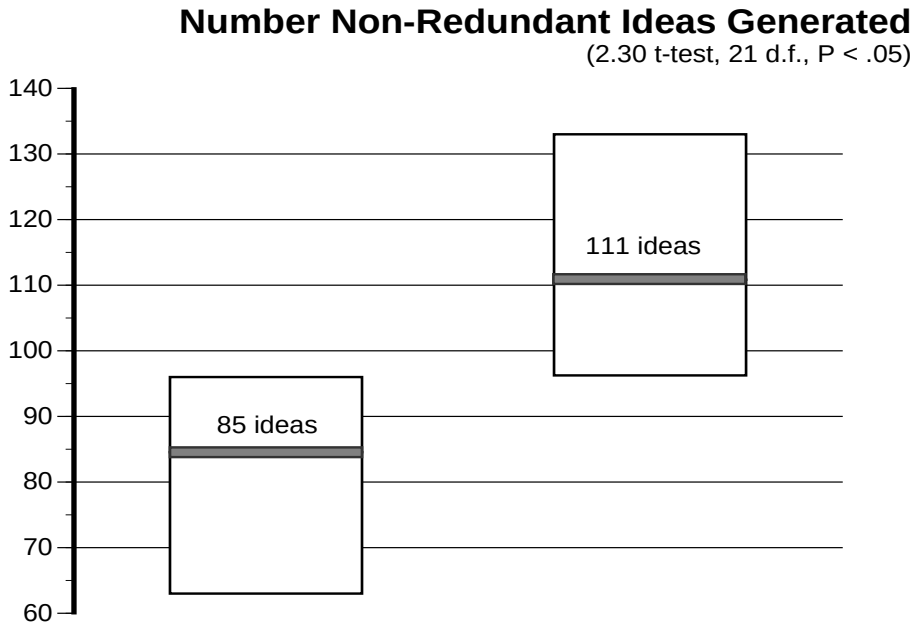
but where is the concrete economic value?

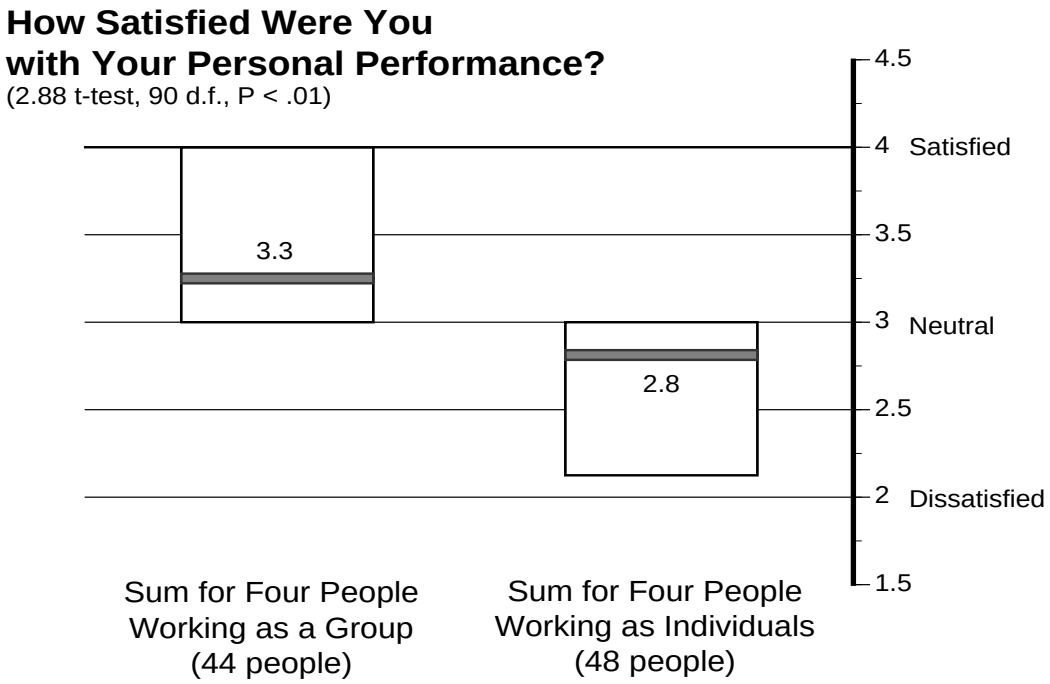
Two Puzzles Regarding Teams Enhancing Performance:

1. Brokers Do Better

2. Groups Are Less Productive than Individuals, But People Feel More Productive in Groups

For more detail on these data, see Stroebe et al., "The illusion of group effectivity" (1992, p. 646, *Personality and Social Psychology Bulletin*). Bars are 25th percentile, mean (grey line), and 75th percentile of data distribution.

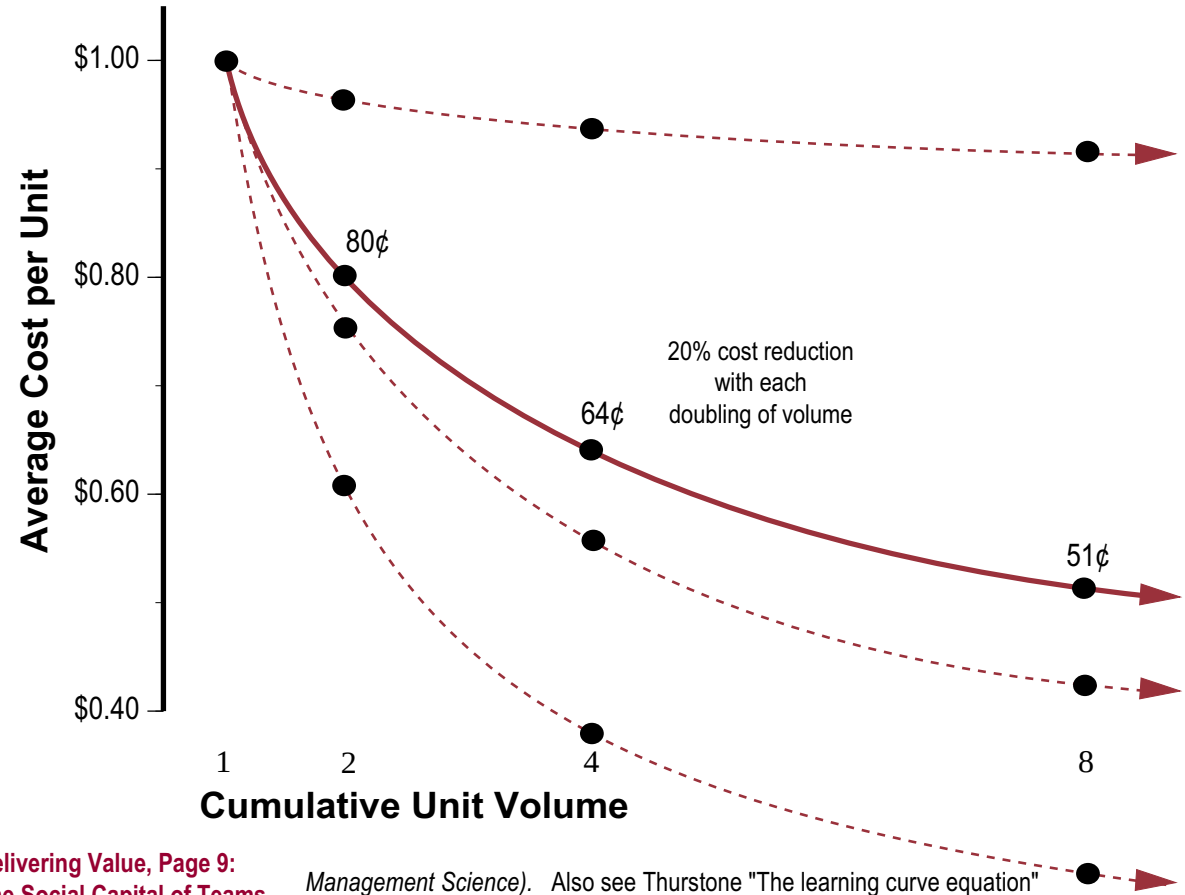




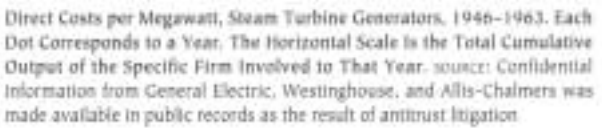
Social Capital Hypothesis, Closure: Build for Closure to Cut Costs, Delivering on a Known Value Stream

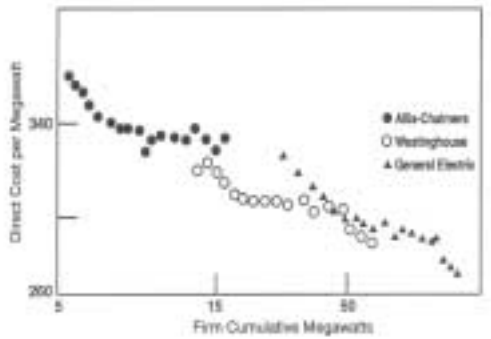
COHESION — extent to which dense relations bind people together in a group. **LEARNING CURVE** (also known as experience curve) — increased efficiency associated with cumulative volume produced by group (e.g., timing & locating supplies, scheduling, tacit knowledge between colleagues; see references below).

THE ARGUMENT FOR COHESION — With its dense social ties providing wide bandwidth for information flow, cohesion enhances communication and enforcement within a group, (1) which creates reputation, facilitating trust within a group division-of-labor, (2) which enhances performance as people become self-aligning between tasks, pushing one another to extraordinary efforts down the learning curve. The result is lower costs, and so higher productivity.



"Costs characteristically decline 20 to 30 percent in real terms each time accumulated experience doubles. This means that when inflation is factored out, costs should always decline."


Direct Costs per Megawatt, Steam Turbine Generators, 1946–1963. Each Dot Corresponds to a Year. The Horizontal Scale Is the Total Cumulative Output of the Specific Firm Involved in That Year. SOURCE: Confidential Information from General Electric, Westinghouse, and Allis-Chalmers was made available in public records as the result of antitrust litigation



Associated with BCG and Bruce Henderson (see Appendix I; e.g., 1974, "The experience curve reviewed: why does it work?" reprinted in Stern and Stalk, 1998, *Perspectives on Strategy*), but more with Liberty Ships, e.g., Rapping, "Learning and World War II production functions"(1965, *Review of Economics and Statistics*) and Argote et al., "The persistence and transfer of learning in industrial settings" (1990, *Management Science).* Also see Thurstone "The learning curve equation" (1919, *Psychological Monographs*). For review of industrial research largely preceding Henderson, see Yelle "The learning curve" (1979, *Decision Sciences*). See Appendix II on strong corporate culture as a competitive advantage.

Closure creates reputation costs for bad behavior, thereby facilitating trust, both of which move the group down a learning curve to lower costs and so higher productivity,

but the next session is about the destructive forces inherent in the reputation and trust created by closure.

It is productive to ask now whether you could get closure's economic benefits without reputation and trust.

For example, could you get the same labor and management savings by careful recruitment — say by selecting only committed employees given clear instructions?

The Summary Argument for Closure: Reputation, Trust, Efficiency

With its dense social ties providing wide bandwidth for information flow, closure enhances communication and enforcement within a group,

(1) which creates reputation, facilitating trust within a group division-of-labor,

(2) which enhances performance as people become self-aligning between tasks, pushing one another to extraordinary efforts down the learning curve.

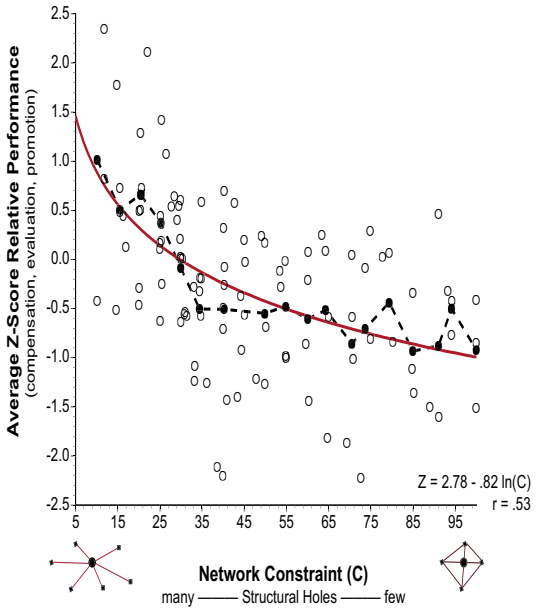
The result is lower costs, and so higher productivity.

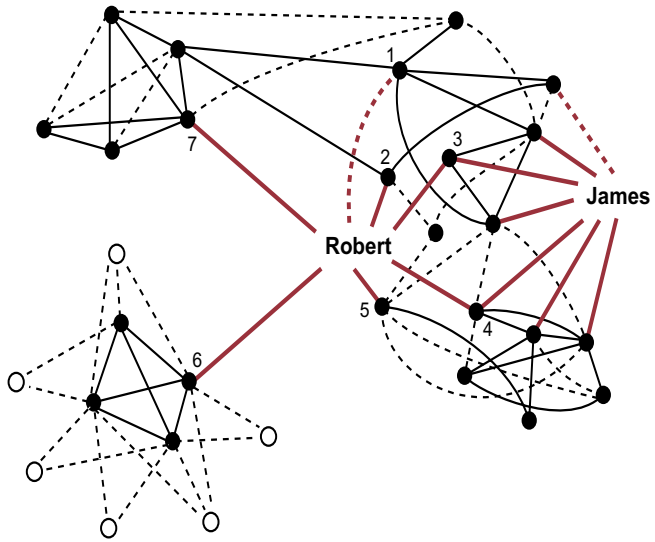
Reputation is the engine. Closure delivers value through peer pressure on reputation within a group (else exogenous shocks disrupt the alignment of even personally dedicated individuals).

Or, in the broader perspective of this and the previous session . . .

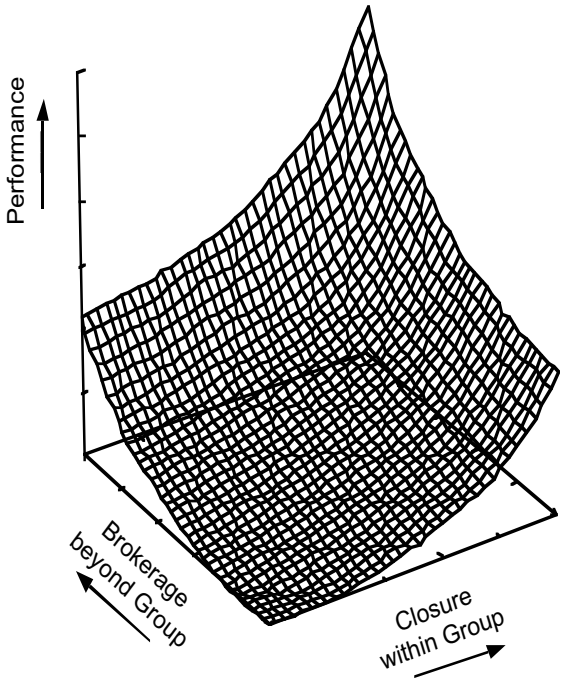
The Social Capital of Leadership

Stylized Facts One and Two (Figures 1.8 and 2.3)





Stylized Fact Three (Figure 3.5)



Strategic Integration across groups

(trappers seek out variation to enhance growth)

Effect — GROWTH through new business products-customers and EFFICIENCY from coordinating interdependent groups where value exceeds cost

Active Ingredient — VISION (like radar on aircraft, MRI in medicine, you better see valuable ideas and adaptive implementation [who to involve or watch])

Failure Mode — ORGANIZATION CHAOS (inefficiency, confusion, agency problems)

Tight Integration within group

(skinners drive out variation to reduce risk)

Effect — EFFICIENCY from cost savings in alignment, speed, and labor quality & quantity, and GROWTH through repeat business

Active Ingredient — REPUTATION (concern about one's standing in the group creates labor and self-alignment)

Failure Mode — ORGANIZATION ARTHRITIS (groupthink, agentic state, isolation)

For review papers providing detailed discussion of these results and conclusions, go to http://gsbwww.uchicago.edu/fac/ronald.burt

Seven Questions About Leader Networks*

1. To build better networks, communicate more (better network ≡ more contacts)

2. Everyone should be connected to everyone else (one company ≡ one cohesive team)

3. We can't do much to aid informal networks

4. How people fit into networks is a matter of personality

5. Central people who have become bottlenecks should make themselves more available

6. I already know what is going on in my network

7. If teams are so valuable, why do the resources go to network entrepreneurs?

*For elaboration, see Rob Cross, Nitin Nohria, and Andrew Parker (2002) "Six myths about informal networks — and how to overcome them." *Sloan Management Review* (download available at http://www.ecch.cranfield.ac.uk).

Appendix I: The Henderson Revolution

by Michael Rothschild

Bruce Henderson certainly didn't look like a revolutionary. No tattered army fatigues. No fiery rhetoric. He favored starched white shirts and pinstripe suits. He spoke softly, in the measured, almost halting, manner of a southern gentleman. But Bruce Henderson had the "right stuff" of a revolutionary — profoundly new ideas that change the way society works. The originator of modern corporate strategy and founder of The Boston Consulting Group (BCG), Bruce Henderson died this summer in his hometown of Nashville, Tennessee. He was 77.

Trained as an engineer, Bruce Henderson became fascinated with economic ideas for terribly practical business reasons. Back in the days before he established the discipline of corporate strategy, making the big decisions about a company's long-term future was pretty much a "seat of the pants" affair. The CEO, with perhaps a few senior executives and board members, would sit around and talk until they came up with a plan that seemed sensible. "Bet-your-company" decisions like launching a new product line, acquiring a subsidiary, or shutting down a factory, were made on little more than intuition.

A rigorous analytical approach to making key decisions was impossible, because there were no guiding strategic principles, no theories that could be turned into quantifiable models. Standard economic models existed, of course, but every sophisticated businessman knew that the economists' mythical kingdom of "perfect competition" bore no relationship to reality. To turn corporate strategy into a credible discipline — and consulting assignments that major clients would pay major money for — Henderson had to find a hard link between business and underlying economic forces.

Henderson's search began with highly detailed analyses of production costs. Early in his career, while a purchasing manager for a Westinghouse division, he wondered why suppliers who produced their goods in virtually identical factories often put in bids at dramatically different prices. Economic theory said it wouldn't happen. Producers using similar capital equipment were supposed to have similar unit costs and offer roughly the same prices. But economic theory was wrong. In case after case, actual unit costs varied dramatically among suppliers. Henderson didn't know why, but he had zeroed in on the crucial question.

Then, in 1966, shortly after he founded BCG, a study for Texas Instruments' semiconductor division revealed the answer. When TI's unit cost data for a particular part was plotted against the company's accumulated production experience, the cost of the part declined quite predictably. For example, if the 1000th unit off the line had cost $100 to make, the 2000th unit would cost 80% as much, or $80. By the time the 4000th unit was produced, it would cost just $64 ($80 x 80%). Every time cumulative experience doubled, unit costs dropped about 20%. Though it's "old hat" among today's high-tech managers, the notion of predictably declining costs was a radical concept when Bruce Henderson began teaching companies about the "experience curve" a quarter century ago.

(over)

This article appeared in a longer form in *Upside* (December 1992, Copyright 1992 The Bionomics Institute).

During the 1970s, Henderson's concept became the foundation of modern corporate strategy. For the first time, it was possible to explain why building a factory just like your competitor's didn't mean you could match his costs. If he had a head start in experience, you could wind up chasing him down the experience curve. If you both sold at the market price, he'd make money on every unit, while you'd be lucky to break-even.

Once the experience curve was understood, the importance of being the first one to enter a new market became clear. Properly executed, the preemptive strike could mean long-term market leadership and long-term profits. Similarly, the experience curve explained why defending market share mattered. Raising prices to boost short-term profits sold off market share, slowed experience growth, and often handed over low cost leadership to an aggressive competitor. It's a scenario that's been played out hundreds of times as "experience conscious" Japanese competitors overtook their "profit conscious" American rivals.

Simply put, Bruce Henderson's experience curve explained how an industry's past shapes its future. Where conventional economics banished history by blithely assuming that "technology holds constant," Henderson used the experience curve to show how the new insights generated by practical experience translated into higher productivity and lower costs. Where conventional economics taught the "law of diminishing returns," Bruce Henderson taught the "law of increasing returns." Where mainstream economics taught that marginal unit costs must rise at some point, Henderson showed that marginal unit costs can continually fall.

When the cost/performance potential of a particular technology is nearly exhausted, an industry will shift to a substitute technology and begin a new "experience curve." For example, even as the airlines have shifted from one aircraft technology to the next, their cost/seat-mile keeps falling, opening up air travel to the entire population. By substituting new knowledge for labor and materials, experience-driven innovation keeps pushing costs down. As Henderson put it, when a firm is properly managed, its "product costs will go down forever."

Though he concentrated on the practical problems of clients, Henderson knew full well that the experience curve had undermined the intellectual foundation of mainstream economics. In 1973, he wrote: The experience curve is a contradiction of some of the most basic assumptions of classical economic theory. All economics assumes that there is a finite minimum cost which is a function of scale. This is usually stated in terms of all cost/volume curves being either L shaped or U shaped. It is not true except for a moment in time. . . Our entire concept of competition, anti-trust, and non-monopolisitc free enterprise is based on a fallacy.

I'm often asked whether the work of the great Austrian economist F.A. Hayek inspired me to write Bionomics. Despite my unending admiration for Hayek, the short answer is no, I'd never read him. Bruce Henderson inspired me to rethink the received economic wisdom. Without his "experience curve," there is no final and fully satisfying explanation for falling costs, rising incomes, and the phenomenon of economic growth. More than anyone else, he made it both possible and necessary for economic thinkers to break free of the static, zero-sum mentality that has gripped the "dismal science" for 200 years. Bruce Henderson

from the Autumn, 1999 *Financial Times* series on "Mastering Strategy"

When is Corporate Culture a Competitive Asset?

Summary

Advocates speak of corporate culture affecting the bottom line, but the cited evidence is rarely more than anecdotes, and then inconclusive. Some companies doing well have strong cultures, but other companies do well with nothing in the way of shared beliefs that could be termed a corporate culture. So why worry about it? It is to be worried about because in certain industries, a strong culture can be a powerful advantage over competitors. The complication is that in other industries, culture is irrelevant to performance. The trick is to know when culture is a competitive asset and when it is not. **Ron Burt** explains with empirical evidence how and where a strong corporate culture can be a competitive asset. Knowing the contingent value of culture can be a guide to deciding when to invest in the culture of your own organization, when to protect the culture of an organization merged into your own, and when not to worry about culture.

Culture is to a corporation what it is to any other social system, a selection of beliefs, myths, and practices shared by people such that they feel invested in, and part of, one another. Putting aside the specific beliefs that employees share, the culture of an organization is strong to the extent that employees are strongly held together by their shared belief in the culture. Culture is weak to the extent that employees hold widely different, even contradictory, beliefs so as to feel distinct from one another.

Culture effect in theory

In theory, a strong corporate culture can enhance corporate economic performance by reducing costs.

There are lower monitoring costs. The shared beliefs, myths, and practices that define a corporate culture are an informal control mechanism that coordinates employee effort. Employees deviating from accepted practice can be detected and admonished faster and less visibly by friends than by the boss. The firm's goals and practices are more clear, which lessens employee uncertainty about the risk of taking inappropriate action so they can respond more quickly to events. New employees are more effectively brought into coordination with established employees because they are less likely to hear conflicting accounts of the firm's goals and practices. Moreover, the control of corporate culture is less imposed on employees than it is socially constructed by them, so employee motivation and morale should be higher than when control is exercised by a superior through bureaucratic lines of authority.

There are lower labor costs. For reasons of social pressure from peers, the attraction of pursuing a transcendental goal larger than the day-to-day demands of a job, or the exclusion of employees who do not feel comfortable with the corporate culture, employees work harder and for longer hours in an organization with a strong corporate culture. In other words, a strong corporate culture extracts unpaid labor from employees.

These savings mean that companies with a stronger corporate culture can expect to enjoy higher economic performance. Whatever the magnitude of the economic enhancement, it is the "culture effect."

Ronald S. Burt is the Hobart W. Williams Professor of Sociology and Strategy at the University of Chicago Graduate School of Business, and the Shell Professor of Human Resources at INSEAD.

His work describes the social structure of competition: network mechanisms that order careers, organizations, and markets.

Evidence is mixed

The most authoritative evidence of the culture effect comes from a study by Harvard Business School professors John Kotter and James Heskett, based on data published in the appendix of their 1992 book, Corporate Culture and Performance. Measures of performance and strong culture are listed for a large sample of firms in a variety of broad industries analogous to the industry categories in Fortune magazine.

To measure relative strength of culture, Kotter and Heskett mailed questionnaires in the early 1980s to the top six officers in each sample company, asking them to rate (on a scale of 1 to 5) the strength of culture in other firms selected for study in their industry. Three indicators of strong culture were listed: (1) managers in the firm commonly speak of their company's style or way of doing things, (2) the firm has made its values known through a creed or credo and has made a serious attempt to encourage managers to follow them, and (3) the firm has been managed according to long-standing policies and practices other than those of just the incumbent CEO. Ratings were averaged to define the strength of a firm's corporate culture, which can be adjusted for the industry average to make comparisons across industries.

For example, Johnson & Johnson is cited as benefiting from its strong culture in the rapid recall of Tylenol when poisoned capsules were discovered on shelves. In the Kotter and Heskett study, Johnson & Johnson received an average rating of 4.61, the highest given to a pharmaceutical firm in the study, 1.07 points above the 3.51 average for pharmaceutical firms, so you see the company to the far right of the graph below (Graph 1).

Relative economic performance is plotted on the vertical axis of the graph. Kotter and Heskett list three measures reported to yield similar conclusions about the culture effect: net income growth from 1977 to 1988, average return on invested capital from 1977 to 1988, and average yearly increases in stock prices from 1977 to 1988. For illustration here, I use average return on invested capital.

For example, Johnson & Johnson enjoyed a 17.89% rate of return over the decade, but pharmaceuticals is a high-return industry in which 17.89% was slightly below average, so you see Johnson & Johnson below zero on the vertical axis of the graph (17.89 minus 20.21 equals the Johnson & Johnson score of -2.32).

The point is the lack of association between economic performance and corporate culture. Graph 1 contains pharmaceutical firms, along with sample firms from beverages, personal care, and communications — a total of 30 firms. No extreme cases obscure an association. There is simply no association. The correlation of .06 is almost the .00 you would get if performance were perfectly independent of culture. Kotter and Heskett report a slightly higher .31 correlation across all of their firms, but the correlation was still sufficiently weak for them to conclude in their book that: "the statement 'strong cultures create excellent performance' appears to be just plain wrong."

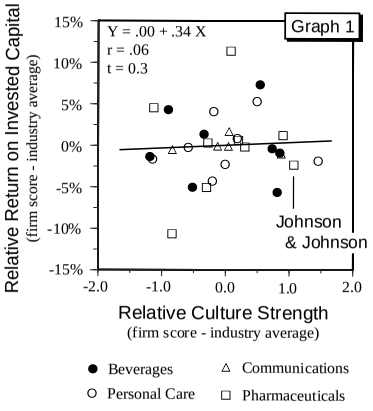
Contingent value of culture

There is a powerful culture effect in fact, but it occurs elsewhere in the economy. Graph 2, at the top of the next page, has the same axes as Graph 1 but plots data on sample companies from other industries — airlines, apparel, motor vehicles, and textiles. The 36 sample firms from these industries show a close association between performance and culture; the stronger the corporate culture, the higher the return on invested capital.

The key point is illustrated in Graph 3, which shows a predictable shift from culture being economically irrelevant (Graph 1) to it being a competitive asset (Graph 2). Nineteen industries from the Kotter and Heskett study are ordered on the vertical axis of Graph 3 by the correlation between performance and culture. Apparel is at the top of the graph with its .76 correlation between culture and performance. Communications is at the bottom with its negligible -.15 correlation.

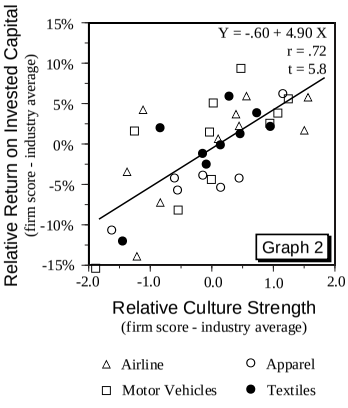
The horizontal axis of Graph 3 is a measure of market competition in each industry. Using data in the public domain (primarily the benchmark input-output tables published by the U.S. Department of Commerce; similar data are available for aggregate industries in most advanced economies), market competition is derived from the network effect on industry profit margins of industry buying and selling with suppliers and customers (thus the "effective" level of competition). The effective level of market competition is high in an industry to the extent that producers show lower profit margins than expected from the network of their transactions with suppliers and customers (for measurement details see, under Further Reading, my 1999 paper on competition and contingency with Miguel Guilarte at the Fielding Institute, Holly Raider at INSEAD, and Yuki Yasuda at Rikkyo University).

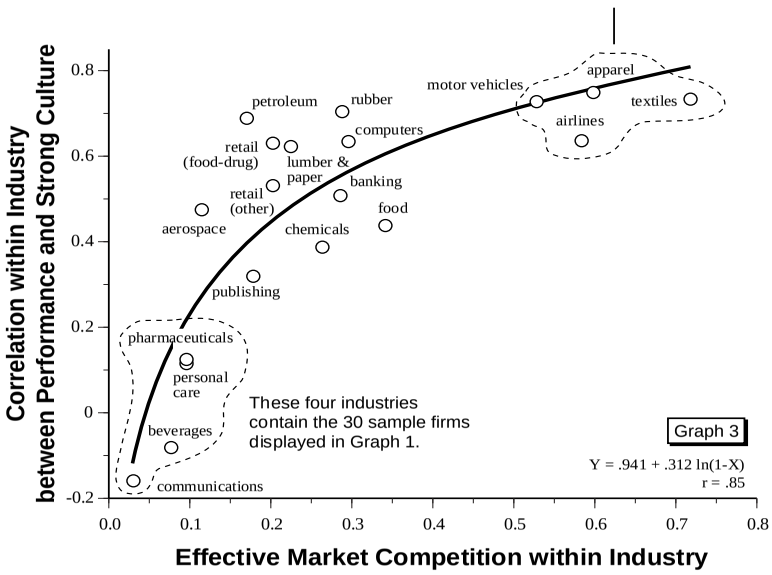
Graph 3 shows that market and culture are complements. To the left, where producers face an effectively low level of market competition, culture is not a competitive asset. These are the 30 sample firms in Graph 1 taken from the four



industries enclosed by a dotted line in the lower-left of Graph 3. These are complex, dynamic markets such as the communications and pharmaceutical industries, in which profit margins are good, but companies have to stay nimble to take advantage of the next shift in the market. There is competition to be sure (see the 1999 paper), but the point here is that a strong corporate culture is not associated with economic performance. (My colleague at the University of Chicago, Jesper Sørensen, has studied these firms over time, and describes in his 1998 paper on reliable performance how the culture effect is weaker for firms more subject to market change.)

At the other extreme, to the right in Graph 3, where producers face an effectively high level of market competition, culture is closely associated with economic performance. These are the 36 sample firms in Graph 2 taken from the four industries enclosed by a dotted line in the upper-right of Graph 3. In these industries of effectively high market competition, producers are easily substituted for one another, suppliers, customers or foreign producers are strong, and margins are low.





Contingency function

Between the two market extremes, the performance effect of a strong corporate culture increases with market competition. The nonlinear regression line in Graph 3 (the solid bold line), can be used as a contingency function describing how culture's effect varies with market competition. For any specific level of market competition on the horizontal axis, the contingency function defines an expected correlation on the vertical axis between culture strength and economic performance.

Since industry scores on the horizontal axis are computed from data publicly available on all industries, the expected value of a strong corporate culture in any industry can be extrapolated from the contingency function. Results for a selection of industries are given in the box to the right.

The high correlation for the contingency function shows that the function is an accurate description of culture's effect in the diverse markets (r = .85, for details on deriving, and extrapolating from, the contingency function see my 1994 article on contingent organization with Shaul Gabbay at Technion, Gerhard Holt at INSEAD, and Peter Moran at the London Business School).

At the level of individual firms, 44% of the variance in company returns to invested capital can be predicted by the industry in which they primarily operate, and their relative strength of corporate culture accounts for another 23% of the variance. Culture accounts for half again the performance variance described by industry differences!

Thinking strategically about culture

Contingent value is the main point here. A strong corporate culture is neither always valuable, nor always irrelevant. Value is contingent on market. A strong corporate culture can be a powerful competitive asset in a commodity market. In a complex, dynamic market, on the other hand, culture is irrelevant to economic performance.

The contingent value of culture can be a guide to thinking strategically about culture. The more your company's industry resembles a commodity market, the more economic return you can expect from investing in a strong corporate culture. Further, when you merge with a new company, ask about its industry. If the industry resembles a commodity market and the company has no corporate culture, then the company's performance would be higher if a strong culture were instilled. But if the industry resembles a commodity market and the company already has a strong corporate culture, pay attention to the culture because the company's performance is some part due to its culture. On the other hand, if the company operates in a complex, dynamic market, you are free to integrate the company into your own without concern for whatever culture existed before because culture is irrelevant to performance in such markets.

Final illustration: consider two consultants assembling results on the performance effects of a strong corporate culture. One selects 10 telecommunication firms for case analysis because he worked in the industry, and so has good personal contacts there. The other consultant selects 10 textile firms.

These are two reasonable and interesting projects, with a relatively large number of firms for case analysis.

There is no need to read their reports. The first consultant selected an industry with a low effective level of market competition (the communications industry is to the far left in Graph 3). A strong corporate culture is not a competitive asset in such complex, dynamic industries. This consultant will find no evidence of higher performance in strong-culture firms, will generalize his results to conclude that the culture effect does not exist, then earnestly (since he has research to support his conclusion) advise client firms against wasting resources on institutionalizing a strong corporate culture.

The second consultant selected an industry at the other extreme of the contingency function. Textile producers face an effectively high level of market competition (they appear at the far right of Graph 3). A strong corporate culture is a competitive asset in such industries. This second consultant will find evidence of higher performance in strong-culture firms, will generalize her results to conclude that performance depends on developing a strong corporate culture, then earnestly (since she too has research to support her conclusion) advise client firms to concentrate on institutionalizing a strong corporate culture.

When these consultants approach the same clients, clients will hear earnest, contradictory results, and conclude that the jury is still out on corporate culture. All of these people are drawing reasonable conclusions within the limits of their experience. Nevertheless, all are wrong; simplistic in their ignorance of the contingent value of a strong corporate culture.

This is a selection of industries from the 1982 benchmark input-output table published by the U.S. Department of Commerce. Industries are listed in order of the extent to which a strong corporate culture is a competitive asset. The fraction next to each industry is the correlation (predicted by the contingency function) in the industry between culture strength and economic performance. Kotter and Heskett industries are marked with an asterisk (note how similar the predicted correlations below are to the correlations in Graph 3 that were observed in the industries).

-.47	Real estate & rental
-.08	*Communications (not radio or TV)
-.08	Tobacco
0.06	Business services
0.13	Optical, ophthalmic & photographic equip.
0.15	Ordnance & accessories
0.16	*Food (beverages)
0.19	Radio & TV broadcasting
0.20	Electric, gas, water & sanitary services
0.22	Hotels, personal & repair services
0.22	*Drugs, cleaning & toilet preparations
0.26	Stone & clay products
0.27	*Aircraft & parts
0.27	Amusements
0.33	Construction & mining equipment
0.38	*Petroleum refining
0.39	*Printing & publishing
0.43	*Paper & allied products (not containers)
0.44	Wholesale trade
0.44	Radio, TV & communication equip.
0.45	Electric lighting & wiring equip.
0.47	Transportation & warehousing (not airlines)
0.47	Eating & drinking places
0.47	Machines, materials handling
0.48	*Chemicals
0.48	Furniture (not household)
0.48	Heating, plumbing & struc. metals products
0.49	Farm & garden machinery
0.49	Scientific & controlling instruments
0.49	*Lumber & wood products (not containers)
0.49	Paints & allied products
0.53	*Finance (banking)
0.53	*Rubber & miscellaneous plastic products
0.54	*Office, computing & accounting machines
0.57	*Plastics & synthetic materials
0.58	*Food (not beverages)
0.58	Jewelry, sports, toys & other misc. manu.
0.60	Medical/educat. services & nonprofit orgs.
0.62	*Retail trade (not eating & drinking places)
0.63	Finance (brokers and insurance)
0.65	Machines, metalworking
0.66	Engines & turbines
0.67	Household appliances
0.69	Footware & other leather products
0.70	Machines, general industry
0.70	*Motor vehicles & equipment
0.72	Electrical industrial equipment
0.72	Furniture (household)
0.73	*Airlines
0.74	*Apparel
0.74	Glass & glass products
0.75	Electronic components & accessories
0.79	*Fabrics, yarn & thread mills
0.79	*Textile goods & floor coverings
0.80	Screw machine products & stampings
0.87	Machines, special industry

Further reading:

J. P. Kotter and J. L Heskett (1992) Corporate Culture and Performance.

R. S. Burt, S. M. Gabbay, G. Holt, and P. Moran (1994) "Contingent organization as a network theory: the culture-performance contingency function," Acta Sociologica 37:345-370.

J. B. Sørensen (1998) "The strength of corporate culture and the reliability of firm performance," (http://gsbwww.uchicago.edu/fac/jesper.sorensen/research).

R. S. Burt, M. Guilarte, H. J. Raider and Y. Yasuda (1999) "Competition, contingency, and the external structure of markets," (http://gsbwww.uchicago.edu/fac/ronald.burt/research; also here is the industry appendix from which the results in the box are taken).