Another View of Trust and Gossip

JOEL SOBEL, UCSD

Preliminary Version:
November 25, 1998

ABSTRACT. This paper provides a game theoretic analysis of issues discussed in “Trust and Gossip on the Path to Equilibrium” by Ronald Burt. It presents a model under which information provided by third parties in a close relationship confirm a decision-maker’s prior beliefs more often than information provided by distant third parties. Information provided by close third parties may amplify initial biases more often than information provided by distant third parties.

1. INTRODUCTION

My task is to describe how an economic theorist might model the issues in “Trust and Gossip on the Path to Equilibrium” by Ronald S. Burt.

I focus my discussion on a stylized argument that plays a central role in the paper. The three premises of the argument are:

1. (Balance) When managers needs information, they tend to seek advice from closely connected third parties.

2. (Etiquette) Information from close ties tends to confirm prior information.

3. (Amplification) Managers with close third-party connections tend to become more confident of their judgments.

Burt concludes from these premises that close third-party ties tend to weaken weak relationships. He claims that this argument resolves a tension between the structural hole and embeddedness theories.

Economists treat agents as goal-oriented actors who make choices that maximize their utility subject to constraints. Viewed using this narrow notion of rationality, one wonders what motivates the managers to behave as Burt assumes they do. If a manager knows that closely connected third parties always provide information that confirms his prior beliefs, then he would not waste resources collecting this information. If the information a manager receives from third-party connections is predictable, then it should not influence the manager’s decisions.

Burt supports his story with empirical evidence and grounds it in convincing anecdotal evidence. He tempts an economist to ask: Why would a manager seek
out information from close ties? Why should this information tend to confirm prior beliefs? and Why should the information nevertheless tend to amplify prior biases?¹

This comment describes a model that is broadly consistent with Burt’s arguments. I cannot assert that this is the “right” model. Still the exercise has several uses. It represents how one economist would approach Burt’s problem. It demonstrates that Burt’s observations can be consistent with rational behavior (that is, it is not necessary to appeal directly to social or psychological considerations in order to explain the behavior). It highlights the importance of incentives, a factor not emphasized by Burt that may influence behavior. A focus on incentives opens up the possibility that the design of the work environment helps to determine how people seek out and use third-party information.

The model is not consistent with Burt’s story for two reasons. First, the justifications provided for the three steps of the argument follow for reasons that are different from Burt’s. Second, Burt’s conclusions about the disadvantages of close ties do not necessarily follow from my assumptions.

The next section describes the model and its implications informally. Section 3 presents a formal model. Section 4 describes an algebraic example. Section 5 contains concluding comments.

2. Basic Argument

The manager must decide whether to trust a worker.² He has prior information, possibly based on experience, on the reliability of the worker. The manager controls the level at which he trusts the worker. If he has complete confidence that the worker is reliable, then he will take an extreme action. For example, he may completely delegate important decision-making authority or permit the worker to do a sensitive job without supervision. If the manager is certain that the worker is unreliable, then he may fire the worker. Lacking complete information, the manager prefers to take less extreme actions.

The manager begins with an imprecise estimate of the reliability of the worker. The manager can supplement the information by asking a third party (I will describe what happens when there are multiple third parties later). The third party also has information about the worker. Sometimes the third party is perfectly informed. Other times her information is less precise (but still valuable to the manager). The third party wants the manager to take a decisive action. That is, if she believes that the worker is more likely to be reliable than not, she prefers total rather than

¹Rabin and Schlag [1999] study the implications of a model in which decision makers systematically misinterpret information to favor their prior opinion. Amplification arises naturally in their framework.
²I use manager in place of Burt’s ego and worker in place of Burt’s alter.
partial trust. This assumption simplifies the analysis and can be derived from models explicitly incorporating the career concerns of third parties.\(^3\)

What distinguishes a close third-party connection from a distant tie (in my story), is what the third party knows about the manager’s information. Close third-parties are aware of the manager’s prior disposition. Distant third-parties are not. The manager can distinguish between close and distant third parties. I maintain the assumption that close and distant third parties have identical preferences. This assumption appears consistent with Burt’s arguments.

The process of information collection and decision making follows this sequence. First, the manager acquires his own information about the worker. Next, the third party communicates with the manager.\(^4\) Finally, based on all of the information that he receives, the manager decides the extent to which he will trust the worker.

I have described a game in which the strategy of the third party is what to recommend to the manager (as a function of her information about the worker) and the strategy of the manager describes the extent to which he will trust the worker (as a function of the third party’s recommendation). One would like to make a prediction about how the manager and the third party behave. It is conventional (in economics) to assume that they play equilibrium strategies. In equilibrium, the manager will draw the correct inference about the third party’s information from her message and act accordingly; the third party will correctly predict how the manager will respond to anything she might say, and say the thing that leads to the action she most prefers.

Whether the third party is a close or a distant connection, the game has an equilibrium in which the manager ignores the third party’s recommendation and makes a decision based exclusively on his prior information. The manager decides that third-party reports supply no useful information and resolves to ignore them. At the same time, the third party, realizing that nothing she says influences the manager’s decision, makes uninformative statements. While this “babbling” equilibrium is surprisingly robust (and could be descriptive of communication breakdowns that do arise), it is apparent that substantive communication is in the best interests of both the manager and the third party. So I will focus attention on the another kind of equilibrium.\(^5\)

Assume that the manager’s personal information is favorable to the worker. Hence,

---

\(^3\)Prendergast and Stole [1996] provide an explicit model that provides reasons why some agents may behave as if they have a preference for extreme or “impetuous” actions.

\(^4\)It is reasonable to interpret statements made by the third party as “gossip” in that no one can verify the truth of these statements. One can imagine that the third party’s information consists of a set of anecdotes, some favorable and some unfavorable, and what she communicates to the manager is a selection from these anecdotes.

\(^5\)Since under complete information preferences of the third party and the manager coincide, one could also invoke Grice’s [1989] Cooperative Principle to justify effective communication.
without additional information, he would be inclined to trust the worker; because his information is imprecise, he would not trust the worker completely. What the third party says could influence the manager’s decision. Assume that the third party can only make two statements: “I think that the worker is reliable.” or “I think that the worker is unreliable.” In equilibrium, the manager will take the third party’s statement into account and be more inclined to trust the worker after a favorable report.

When will the third party provide a favorable report? There are two different situations to consider. First, assume that the manager and the third party have a distant association. The third party does not know that the manager is inclined to trust the worker. She has only her own information and will announce that the worker is reliable if and only if she has favorable information about the worker.

Now consider a third party with a close tie to the manager. She knows that the manager has prior information that is favorable to the worker. Recall that the third party either obtains information that conclusively reveals the worker’s reliability or weaker information. When the third party takes into account both her information and the manager’s, she is willing to trust the worker if her private information suggests that the worker is reliable or if her private information weakly suggests that the worker is unreliable. In the first case, all signals indicate that the worker is reliable. In the second case, knowledge that the manager is favorably disposed balances the third party’s private information. Only if the third party has definitive information that the worker is unreliable, will she recommend against trusting the worker.

This analysis permits a comparison between the interaction of a manager with a close tie to that of a manager with a distant tie. In both settings, a favorable recommendation increases the manager’s confidence that the worker is reliable and increases the extent to which the manager trusts the worker. An unfavorable recommendation leads to less trust. In both settings, information that confirms prior beliefs amplifies these beliefs and leads the manager to take a more extreme action. As Burt suggests, the manager is more likely to receive confirming information from a close tie than a distant tie. It is for precisely this reason that confirming information from a close tie has less influence than confirming information from a distant tie. In the game-theoretic equilibrium, the manager takes into account that his close third-

---

6The assumption that the third party has extreme preferences implies that, in equilibrium, there are at most two distinct actions that the manager will take after consulting with the third party. Hence the assumption that the third party makes one of two statements can be made without loss of generality. Ottaviano and Sørensen [1999] analyzes a model in which advisors seek to maximize their perceived ability. In their model informed agents make at most two different kinds of recommendation in equilibrium.

7This conclusion depends on the assumption that the manager’s information is more precise than weak information received by the third party. This assumption can be replaced by a much less restrictive assumption when there are many third-parties.
party will say “I think that the worker is reliable” unless she is certain the worker is unreliable. Hearing this recommendation makes the manager more confident in the worker’s reliability, because it rules out that the third party has extremely damaging information about the worker. Hearing the same recommendation from a distant informant is even more reassuring, however (because it also rules out the possibility that the third party has mildly damaging information about the worker).

The manager receives a recommendation from close ties that confirms prior beliefs with high probability (it is natural to assume that it will be rare for the third party to obtain definitive unfavorable information). When the manager receives a recommendation that confirms his prior beliefs, his beliefs are amplified and he takes an action that is more extreme than what he would take without prior information. In my story, the third party provides confirming information not out of etiquette but out of self interest. Still, the prediction of the model is consistent with the second and third premises of Burt’s argument.

Why should the manager seek out information from a closely connected third party? For the model that I have described, the manager would be better off ex ante obtaining information from a close contact if third parties receive perfect information with high probability. Information from a close tie permits the manager to fire a worker known to be bad; a negative recommendation from a distant informant is less decisive. Information from a close third-party connection is more valuable to a manager because it enables the manager to react appropriately when the worker is known to be unreliable. When the manager can obtain information from only one third party, the manager will pick the close tie. Hence the model provides a reason why the manager seeks advice from close ties. Balance is not the result of a need to find confirmatory information, but of an understanding that friends provide more useful information.

As Burt argues, managers with close third-party informants may actually do worse than managers with only distant third-party ties. In my model, this possibility arises in the natural situation in which third parties rarely have perfect information about the worker’s reliability. There is no compelling reason to expect that close third-party ties are more valuable in my model. There is a general intuition that communication becomes more effective the closer are the preferences of the speaker and the decision maker. Since I have assumed that all third parties have the same preferences, this intuition does not apply. It is natural to expect that better informed agents are better sources of information. Close third-party ties are better informed than distant third parties. Close ties do not have superior information about the state of nature, however.

While the basic model provides conclusions that correspond to Burt’s three arguments, there are significant differences between the model and Burt’s story. First, the mechanism leading to third parties reinforcing beliefs is self interest and not eti-
quette. Second, while information amplifies beliefs, when the manager is inclined to trust the worker without third-party information, favorable information provided by distant contacts amplifies beliefs more strongly than favorable information provided by close contacts. Third, there is a conflict between the balance principle and rationality when managers informed by distant ties outperform managers informed by close ties. Analysis of a model with multiple third parties helps to reconcile the first two of these differences.

Suppose that there are many third-party informants, which the manager consults independently. Assume that information received by these third parties is like the model above: Distant connections do not know what the manager knows; close connections do. Each third party receives either definitive information or a weak signal about the reliability of the worker. These signals provide supplementary information about the reliability of the worker. To simplify, assume that the manager consults only distant third parties or only close third parties.

Ignore the equilibrium in which the manager ignores the recommendations of third parties. In the other equilibrium outcome, a distant contact will state that the worker is reliable if her private information leads her to believe that the worker is reliable. The more third parties who supply favorable reports, the more trust the manager will have in the worker.

When the third parties are close ties, there exists an equilibrium in which they provide unfavorable reports only when they have definitive information that the worker is unreliable. Given this behavior, the manager will (accurately) infer that the worker is totally unreliable if at least one of his informants makes a negative recommendation. In effect, any close third party has the ability to cause the manager to discontinue the relationship with the worker. If all of the third parties state that the worker is reliable, then the manager's trust in the worker will be amplified. When there are many informants, this equilibrium can exist even if the third party always receives more precise information than the manager.

Again, information from close ties is much more likely to confirm the bias of the manager. Again, confirming information leads to amplification of beliefs. When there are many third parties, the amplification obtained from close ties will frequently be greater than the amplification obtained from distant informants. Except in the unlikely event that one of the third parties has definitive information, all close third parties provide positive recommendations. On the other hand, it is likely that some distant informants supply information that is counter to the manager's bias, which would moderate beliefs formed from third-party communication in loose networks.

Equilibrium requires a coordination of beliefs. In general, an informant will behave differently depending on what she expects other informants to do and how she expects the manager to respond to her recommendation. Interpret etiquette as an expectation that close associates will provide confirming information as frequently as
possible consistent with self interest. That is, assume that the manager expects a close third-party informant to provide confirming information unless the third party has information that is strongly in conflict with the manager’s. This expectation becomes self confirming. If the manager believes that close third party ties rarely supply disconfirming information, then disconfirming information will lead to a dramatic change in his beliefs and hence in his action. Consequently, these beliefs can become self fulfilling. Close third party ties will confirm the manager’s prior even in the face of mildly disconfirming evidence to avoid providing a reason for the manager to overreact. When third parties are close ties, the “etiquette” equilibrium (in which all recommendations confirm the manager’s prior unless the third party is sure that the worker is unreliable) exists even when the third party’s private information is always more precise that the manager’s.

When there are multiple third parties, the manager with a network of close contacts may not do as well as a manager with a network of distant contacts. Aggregating information obtained from many distant sources can provide a more accurate picture of the worker’s reliability. Intuitively, when the manager relies on information from distant parties, he changes his relationship with the worker depending on the number of favorable recommendations that he receives. When the information comes from close ties, multiple negative appraisals are redundant. This observation supports Burt’s conclusion that managers with weak networks outperform managers with strong networks.

Throughout this discussion it was assumed that the manager’s private information biased him in favor of the worker. When the manager’s private information is negative, again recommendations from close third-party sources will tend to confirm and amplify this negative bias. A single favorable recommendation from a close tie will lead the manager to trust the worker, however.\textsuperscript{8} Hence information provided by dense networks of informants amplifies distrust with high probability but also creates a small probability that of decisively reversing a negative bias.

\section{Model}

This section describes a formal model consistent with the discussion in Section 2.

The players. There are three kinds of player. The manager must decide to extent to which he should trust the worker. He uses information obtained from one of $n$ a third parties to make the decision. Third parties may be close or distant. Close third parties know what the manager knows; distant third parties do not.

\textsuperscript{8}My intuition suggests that it is more likely for a single negative recommendation to destroy trust than for a single positive recommendation to create trust. The model would provide this kind of asymmetric conclusion if one assumes that third parties never receive information that unambiguously demonstrates that the worker is reliable.
Information. Ex ante, the worker is equally likely to be reliable \((t = 1)\) or unreliable \((t = -1)\). The manager receives a signal about the worker’s reliability. The signal can be positive or negative. The probability that the signal is positive if the worker really is reliable is \(p > .5\). Similarly, the probability that the signal is negative if the worker really is unreliable is \(p\). Before the manager receives the signal, he thinks that it is equally likely that the worker is reliable or unreliable. Hence (applying Bayes Rule), \(p\) is the probability that the worker is reliable given a positive signal. Larger values of \(p\) correspond to more precise information.

Third parties also receive a signal about the worker’s reliability. This signal can be either weak or strong. Weak signals occur with probability \(q\); strong signals occur with probability \(1 - q\). The probability that a weak signal is positive if the worker is reliable is \(p' > .5\). The probability that the signal is negative if the worker is unreliable is also \(p'\). Strong signals provide complete information about the worker’s reliability. That is, a strong signal is positive if and only if the worker is reliable. The signals received by the third parties and the manager are conditionally independent.

In symbols, let \(\beta\) denote the manager’s signal \((\beta \in \{-1, 1\})\) and let \(\alpha_i\) denote the signal of the \(i\)th third party \((\alpha_i \in \{-2, -1, 1, 2\})\). Positive signals are favorable; negative signals are unfavorable; \(|\alpha_i| > 1\) indicates a strong signal. Denote by \(\mu(\alpha_1, ..., \alpha_n, \beta; t)\) the joint probability of the \(i\)th third party receiving signal \(\alpha_i\) and the manager receiving signal \(\beta\) given the true reliability \(t\). By the independence assumption, \(\mu(\cdot)\) can be computed knowing the probability that the manager receives \(\beta\) given \(t\), \(\rho(\beta; t)\) and the probability that a third party receives \(\alpha\) given \(t\), \(\gamma(\alpha; t)\). The formulas for these probabilities are:

\[
\rho(\beta; t) = \begin{cases} 
p & \text{if } \beta = t \\
1 - p & \text{if } \beta = -t
\end{cases}
\]

\[
\gamma(\alpha; t) = \begin{cases} 
1 - q & \text{if } |\alpha - t| = 1 \\
q p' & \text{if } \alpha = t \\
q(1 - p') & \text{if } \alpha = -t \\
0 & \text{if } |\alpha - t| = 3
\end{cases}
\]

and

\[
\mu(\alpha_1, ..., \alpha_n, \beta; t) = \gamma(\alpha_1; t) \cdots \gamma(\alpha_n; t) \rho(\beta; t).
\]

Incentives. The manager’s preferences are represented by a utility function of the form \(u(t, d) = -(d - t)^2\). If the manager believes that \(P(x)\) is the probability that \(t = x\) for \(x = -1\) and \(1\), then he selects an action to solve:

\[
\max_d \left\{ P(1) (d - 1)^2 + P(-1) (d + 1)^2 \right\}.
\]

The worker is nonstrategic. Whether the worker is reliable depends on unmodelled factors. The worker’s reliability must be systematically related to the information
available to the manager and to the third party, but that the worker does not alter behavior in response to incentives or in response to how cooperation might influence the future relationship with the manager. This simplifying assumption appears consistent with Burt’s discussion (page 17).

The preferences of third parties are represented by a utility function of the form \( v(t, d) = dt \). With this representation, the manager and the third party have the same ordinal preferences: they agree that it is better to take the action \( d = 1 \) when the worker is reliable \((t = 1)\) and to take the action \( d = -1 \) when the worker is not reliable \((t = -1)\). There is an important difference between their preferences. This specification assumes that the manager is more cautious than the third party. If the manager has a weak belief that the worker is reliable \((P(1) > .5, \text{ but close to } .5)\), then he will take a positive action close to 0. The third party, on the other hand, prefers to take extreme actions under all circumstances. Stated differently, the manager is averse to taking risks with untested workers, while the third party is willing to take chances. This assumption may be appropriate in a situation in which the third party will be able to take credit from significant successes, but would not suffer greatly in the event of failure.

**Strategies.** The strategy of third party \( i \) is a function \( s_i(\alpha_i, \beta) \) that takes values in a finite set of messages \( M \). Without loss of generality, \( M \) can be taken to be a set with two elements (favorable or unfavorable recommendations). If the third party is distant, then the strategy is further restricted to be independent of \( \beta \) (that is, \( s_i(\alpha_i, 1) = s_i(\alpha_i, 0) \)), and written simply \( s_i(\alpha_i) \).

The strategy of the manager is a function \( d(m_1, ..., m_n, \beta) \) that takes values in the interval \([-1, 1]\). The strategy selects a decision given private information \( \beta \) and the messages received from the third parties.

**Equilibrium.** Let \( s_{-i}(\alpha_{-i}, \beta) = (s_1(\alpha_1, \beta), ..., s_{i-1}(\alpha_1, \beta), s_{i+1}(\alpha_1, \beta), ..., s_n(\alpha_1, \beta)) \) denote the messages sent by all but the \( i \)th third party.

An equilibrium is a collection of strategies for the third parties \( s^*_i(\alpha_i, \beta) \) \([s^*_i(\alpha_i)]\) for \( i = 1, ..., n \) and the manager \( d^*(m_1, ..., m_n, \beta) \) such that

\[
d^*(m_1, ..., m_n; \beta) \text{ solves } \max_d \sum_t u(t, d)P(t; m_1, ..., m_n; \beta)\]

where, if \( Q(t; m_1, ..., m_n; \beta) = \sum\{\mu(\alpha_1, ..., \alpha_n; t) \mid s^*_i(\alpha_i, \beta) = m_i \text{ for all } i \} \)

\[
P(t; m_1, ..., m_n; \beta) = \frac{Q(t; m_1, ..., m_n; \beta)}{Q(t; m_1, ..., m_n; \beta) + Q(-t; m_1, ..., m_n; \beta)}
\]

whenever the denominator is non zero.

\( s^*_i(\alpha_i, \beta) \text{ solves } \max_{m_i} \sum_{\alpha_{-i}} v(t, d^*(s^*_{-i}(\alpha_{-i}, \beta), m_i; \beta))\mu(\alpha_1, ..., \alpha_n, \beta; t) \)
\[
\left[ s_i^*(\alpha_i) \text{ solves } \max_{m_i} \sum_{\beta, \alpha_{-i}} v(t, d^*(s_{-i}^*(\alpha_{-i}), m_i, \beta)\mu(\alpha_1, \ldots, \alpha_n, \beta; t) \right]
\]

where the bracketed expressions apply to distant third parties.

\( P(t; m_1, ..., m_n; \beta) \) is the probability that the worker’s reliability is \( t \) given the messages obtained by the manager and the manager’s private information. It is computed from the third parties’ strategies using Bayes Rule.

4. Example

It is not difficult to derive expressions for the equilibria of the model. In this section I describe some of the properties. Limit attention to an example in which \( p = p’ = .6 \), so that weak information obtained by the third party is as informative as the manager’s information.

Without additional information, the manager will take the decision \( d = .2 \) (where \( d = -1 \) is complete distrust; \( d = 0 \) is neutral; and \( d = 1 \) is complete trust.) I will compare the properties of two equilibria: an equilibrium in which each third party is distant and provides favorable reports if and only if her private information is favorable to the candidate and an equilibrium in which each third party is close and provides unfavorable reports only if her information is decisively negative. I do not specify values for \( n \) the number of third parties and \( q \) the probability that the third party receives weak information when relatively simple general formulas are available. In practice, \( n \) will be known, and one would select \( p, p’ \) and \( q \) to fit the observed data. It is natural to expect that \( q \) will be close to 1 (so that definitive information is rare).

4.1. Expected Number of Confirming Reports. The expected number of positive recommendations from close third parties is

\[ n (0.6 + 0.4q), \]

while from distant third parties the expected number of positive recommendations is

\[ n (0.6 - 0.08q). \]

Plainly, more confirming reports come from the close third parties. The higher is \( q \), the greater the difference.

4.2. Amplification. The manager’s beliefs about the reliability of the worker depends on the number of third parties who provide favorable recommendations. When reports come from close third parties, any negative recommendation convinces the manager that the worker is unreliable. Unanimous recommendations lead the manager to update the probability that the worker is reliable from \( .6 \) to

\[ \frac{3}{3 + 2q^n}. \quad (1) \]
Naturally, the larger the number of informants, the more confident the manager is after receiving unanimous support. Higher values of $q$ mean that third parties receive less precise information and hence reduce the amount of amplification.

When the third parties are distant, each additional favorable recommendation raises the manager’s confidence in the worker. The manager believes that the worker is reliable with probability

$$\frac{3}{3 + 2 \left( \frac{4q}{1-4q} \right)^{2k-n}}, \quad (2)$$

when $k$ of the informants offer recommendations to trust the worker. The form of expressions (1) and (2) make the probabilities fairly easy to compare. The interesting question to ask is: Under what conditions is the manager with close contacts more confident in the worker than the manager with distant contacts? Suppose that $k$ of Robert’s (distant) informants state that the worker is reliable and all $n$ of James’s (close) informants state that the worker is reliable. Robert will certainly be more sure of the worker’s reliability when $k = n$, since Robert’s informants make favorable reports less frequently. In general, whenever $k$ satisfies:

$$\left( \frac{4q}{1-4q} \right)^{2k-n} > q^n, \quad (3)$$

James is more confident. One can use (3) to figure out the probability that James will be more confident than Robert. This comparison is exactly what is needed in order to quantity seems directly related to Burt’s central observation that close third parties amplify beliefs. Take $q = .95$ and $n = 10$. All of James’s third party sources will confirm his bias roughly 82% of the time. James will be more confident than Robert provides that Robert receives 6 or fewer positive recommendations (which will happen roughly 79% of the time).

4.3. Expected Utility. My model does not have a clear prediction about whether James or Robert does better. Higher values of $q$ and $n$ tend to favor Robert over James. Robert with his distant informant does better than James $q = .95$. At least when there is only one informant, James does better when $q$ is sufficiently small.

5. Conclusion

Burt wishes to distinguish relationships depending on the source of third-party information. Relative to information supplied by distant contacts, Burt argues that when the manager is predisposed to distrust the worker, close third-party informants tend to make trust more difficult to establish, and that consequently managers without close third-party ties perform better than those with close third-party ties. I provide
a model in which information supplied by close third party ties reinforces a predis-
position to distrust the worker more often than information supplied by distant ties,
but with small probability information provided by close third-parties will cause the
manager to reverse his prior position and place a great deal of trust in the worker.

Burt and I predict the same qualitative behavior - most of the time. Our expla-
nations of what causes the behavior differs. My approach suggests that empirical
studies should look for (rare) occasions in which close associates do not confirm their
bosses’ preconceptions.

If managers are free to select their informants from close or distant ties, I cannot
reconcile (within the simple rational-actor framework I have presented) the balance
principle with the conclusion that managers with weak ties perform better than man-
gagers with strong ties. There may be situations in which the manager is better off
obtaining information from distant ties. If the manager maximizes his utility and
is free to select his informants, however, he would choose to get information from
distant contacts in these situations.

The conflict between my approach and Burt’s can be resolved in several ways. The
most decisive resolution would be to abandon the notion that the manager acts to
maximize his utility (at least as it is defined in my model). While this approach may
be the most sensible, a conventional economic analysis re-examines other assumptions
instead.

Balance may be the result of other, unmodeled features. If the network of avail-
able third parties is fixed, so that the manager in a dense network cannot seek out
information from distance sources. More generally, the manager would also tend to
look first to close ties if these contacts were easier to locate, or if there were costs
associated with leaving them out of the decision-making process.

On the other hand, one does not need to demonstrate that strong ties are worse
for the manager to obtain the conclusion that agents who fill structural holes are
more successful than those who do not. There is no reason why Burt’s Robert should
not be at an advantage relative to James even if he does worse in any one interac-
tion. First, Robert has a different set of connections; he may have more interactions.
Hence the sum of his contributions may be larger than James’s even if he performs
worse in a particular setting. People who fill many holes but have weaker ties could
be more valuable than the people with fewer ties even if they do less well in each
situation - because they have more opportunities to succeed. Second, the ability to
fill a structural hole might be the key characteristic for a higher manager. Good per-
formance in a low-level job is not necessarily the best predictor of good performance
is a higher-level job. There is no need to invoke the gossip argument in order to

---

9Burt may be making this point when he argues that his arguments apply to transitional states
“on the path to equilibrium,” rather than to equilibrium outcomes themselves.
resolve the conflict.

In my model, the people without weak ties may do badly in an etiquette equilibrium in which their informants rarely supplement private information. Under these circumstances, a smart manager would do things differently. He might try to hide his inclinations (or prior information). He might try to manipulate the incentives of the third-party informants.\footnote{Several recent papers by economists develop these arguments. Prendergast [1993] demonstrates a tendency for informant’s to confirm the manager’s prior information under some incentive schemes. Levitt and Snyder [1997] discuss situations in which agents may suppress negative information and device schemes to induce more complete revelation. Banerjee and Somanathan [1997], Bernheim [1994], Loury [1994], and Morris [1998] present analyses of strategic settings in which agents may misrepresent their tastes or information to conform to expectations of others. Krishna and Morgan [1998] study a model in which a decision maker must balance the information obtained from two informants with possibly differing biases.} An economist would like to know more about the incentives that prevail in environments studied by Burt.

Let me conclude by mentioning some of the special features of this model. The model neglects all dynamics (building a reputation for proving accurate recommendations) and strategic behavior from the worker. A reconciliation of the cohesion and network models of trust demands a dynamic perspective because, as Burt points out, “cohesion uses sanctions rather than information,” so different considerations may be relevant to different circumstances.

Results do not depend on the assumption that information is sometimes definitive. More generally, close third parties will support the manager’s bias whenever they believe that their private information is not sufficient to change the manager’s bias. This should be the expected case, especially when the manager relies on many sources of information. The assumption that the third parties have linear preferences simplifies results. Equilibria exhibiting the etiquette property will exist under a much wider set of assumptions. In more general models, there will typically be equilibria in which the informants supply more detailed information (rather than simply speaking in favor or against the worker) to the manager, although etiquette equilibria will still exist.

The possibility that the manager gathers information sequentially permits new possibilities. If third parties always learn the recommendations of earlier informants, then there will be a tendency for advice to herd at a particular recommendation even if the third parties are distant. The reason is that it is likely that the information provided by past informants will eventually dominate a third party’s private information, so third parties will continue to endorse a view held by previous informants. If, by the nature of the network, close third-party ties are more likely to know what other reports to the manager than distant third-party ties, then herding will reinforce the tendency for managers to obtain confirming information from close third-party
ties.
REFERENCES


