CHAPTER **8**

Social Media Analytics

Measuring programming progress by lines of code is like measuring aircraft building progress by weight.

Bill Gates, Founder and Chairman of Microsoft

ANALYZE WHAT IS GOING ON

If your enterprise social network (ESN) is going to be a success, it will represent one of the major business processes within your organization. Collaboration, knowledge sharing, innovation, person-to-person support, and a considerable part of your organizational culture will be riding on it. Like any other important business process, you should not be flying in the dark about where your ESN is heading and how it performs. You want to measure and track it.

Some effects are easy to measure, and others will seem completely intangible. Douglas W. Hubbard, in his book *How to Measure Anything*,[1] outlines that, with the right approach and clear expectations about precision, it is actually possible to measure things that at first did not seem measureable.

I have used an approach that Hubbard calls Fermi decomposition in my knowledge flow initiatives before.[2] Using this method, you basically get a combination of measured inputs as well as some additional

139

estimates to come up with a fairly good idea of the value of sharing knowledge. One strategy I have used was to build confidence by taking a conservative approach to estimating this value, which was still worth a great deal of money, despite the necessary investment. In fact, the investment costs were actually assessed with a conservative view as well, in that efforts were estimated on the high side.

With a social network there are usually a number of metrics that you get right out of the box as part of the software package. I will go into selecting good key performance indicators (KPIs) in the last section of this chapter, but just to name a few measurements that might be of interest:

- Number of registered users
- Number of connections (follower relationships)
- Number of posts (total, per user, per group, per topic, etc.)
- Percentage of users posting
- Percentage of users commenting on other posts
- Percentage of users reading content
- Hot/trending topics

What all those measures have in common is the fact that they are activity measures focusing on quantitative effects. They do not necessarily say much about the quality of those activities or the potential or real value obtained. As Charlene Li points out in a report[3] by analyst company Altimeter Group, you need to focus on the value. She recommends that organizations:

- Measure gap closing, not engagement.
- Track relationships, not conversations.

The type of measures that will let you focus on value are outcome measures. If you manage to create a reliable link to an outcome based on the flow of knowledge it will be a powerful way of making a business case. One that Bob Buckman mentioned to me is: "Sale of New Products less than 5 years old." Those will work in certain environments but need to be used with care in others. Attributing an outcome to a mixture of influencing activities is not always easy.

Activity measures are straightforward to get. To get those measures that actually represent value, you will have to work a bit harder, and the methods by Hubbard might actually have some answers on how to get there. One way to track relationships is with social network analysis (SNA), and I will go a little deeper into that method later, but this might be a good time to clarify some terminology.

The chapter is called "Social Media Analytics," while the method I just mentioned is social network analysis (SNA). How are those two related, if at all? Social media analytics is concerned with analyzing the activity and effects of connections in social media platforms of any kind. Currently, it is primarily understood as analyzing the activities happening on external social platforms where organizations and individuals interact. Meanwhile, SNA is a specific tool to analyze networks and relationships. You could say that SNA is one tool within the overall framework of social media analytics (SMA). Some other examples of tools related to social media analytics would be the following:[4]

- Social monitoring
- Customer sentiment analysis on feedback
- Predictive analysis used to anticipate certain events

To start out with, I will look at some basic measures typically used to analyze ESN platforms and then see how one might use more sophisticated social media analytics methods.

For a moment let's have a look at activity measures and if they have any value at all. While they might not be good indicators for value (and one of the dangers is, in fact, that people rely on them for indication of value), they can still be useful for assessing what is going on in your network. For one, it is good to track how adoption of the system is in general. How fast is it growing? How well are your marketing initiatives performing in order to get a large portion of your targeted audience to participate? How well are certain divisions, departments, regions, and countries participating? Your targets might differ. Maybe you target only a certain portion of your organization to start with; or maybe you have the expectation that your complete organization will adopt the network as soon as possible. Some of the activity measures can also give an indication that certain groups are adapting much slower than others.

If, for example, you track it by countries (or organizational locations, if you only operate in one country) a comparative report on activity might actually highlight some areas where there is a need for digging in deeper as to why that particular location is using the social network considerably less than others.

Some likely reasons include:

- **Awareness**. For some reason, your rollout of the social network has not reached the target audience in a particular location to the same degree as elsewhere. This might be due to a missing local driver keeping the pulse alive and inform about the platform on an ongoing basis—not only on launch day.

- **Culture**. It might be the general culture that keeps certain people from being open enough to get involved with one of those networks and share their experiences. It could also be a more specific social media culture issue, where people are less familiar with those tools than others and are less social-media savvy. Just like the rate of Facebook users differs from country to country, there are similar differences on internal social media platforms.

- **Local processes**. Depending on how strongly people cling to local processes, they might feel that the social media network is a major shift away from "the way we do things around here." Local processes include competing systems for sharing some of the knowledge that is supposed to be shared on the social media network.

- **Management Support**. The attitudes of senior and middle management towards the social media platform play at least as big a role as awareness and culture. Depending on the strength of the hierarchy of an organization, this might have effects on a local level as well. Are local managers participating in the social media platform, are they ever talking about it? If so, what are they saying? If there is a disconnect between local management and local staff, or if there are local communication issues, it is common for employees to reach out to other parts of the organization to find the communication flow that they are missing.

- **Size of an organization**. Communication is a core process in almost any organization. Location size and the possibilities of interaction with others play a role in how likely it is that someone will get involved with those around them or reach out to the wider organization. (Culture plays into this one as well, of course.) Experts might feel isolated in a small location because they have no one to share their passion with. In that case, the possibility to reach out to like-minded people in other offices becomes a lot easier with a social media platform and it will lead to a higher chance of adoption.

Activity measures might not directly reveal what is behind lower adoption rates, but they are good indicators of where to start digging on a more qualitative level. You could start with interviews and one-on-one conversations with employees at the location. It would be best to travel there and experience the processes, culture, and environment, as that can provide a wealth of information.

Adoption and activity measures need to be taken with care, as mentioned before. Not only do they not necessarily show the actual value, but they can also be deceiving and require further qualification. A typical situation is a gap between adoption and activity. It might well be that there is a high adoption rate (with people signing into the platform and creating a user profile), but that activity drops off very quickly. Reasons could be:

- They don't find the time (or priority) to use the platform on an ongoing basis.
- They are not convinced it does provide value.
- They go back to the old way of collaboration, because that is how they always did it and the new platform seems like extra work.

That is why it is so essential to have an ongoing initiative that will highlight the value of the platform again and again to reach a critical mass of people that are truly *active* on it and who, over time, will encourage their peers (even the skeptical ones) to participate as well.

Activity measures can be useful, but, as mentioned, you need to be very careful with their interpretation and make sure to only see them as a start to the real measuring of value that an ESN might provide to

your organization. In order to really understand what is going on, you need to add some value measures.

The reason the majority of organizations do not go beyond the activity measures so far is that it appears to be a bit harder (and potentially more expensive) to collect data for value measures. If you were to constantly ask people to estimate the value of their ESN-based conversations, it could lead to survey fatigue, where people just don't have the time or patience to keep answering questions.

An alternative is to combine certain measures that you already have in a smart way and start interpreting them based on some experiences. One example that Charlene Li names is the idea that a rising number of private groups in a social network indicates a higher degree of maturity, as users go beyond superficial browsing to deeper discussions that might previously have taken place only offline. The privacy of an invite-only group can support this type of communication. This is just one of the signs of a more mature, more entrenched ESN—and it is easily measured.

Another way to obtain value indicators and look at some outcomes is by collecting success stories and assessing the value that each of them brought to the organization. In some cases, this is fairly straightforward. In others it might actually represent a fairly intensive investigation. With The Hub, we used an interesting method to find these success stories. We introduced a special tag named #hubvalue that we recommended people use whenever they reaped a benefit on The Hub (e.g., finding a solution, getting a helpful answer to a question). While the tag does not have a perfect adoption rate, it is used frequently, and with a simple search you find a considerable number of potential candidates for a success story. We could also go ahead and track the number of occurrences of those #hubvalue tags to get a fairly good measurement, assuming that awareness and adoption of the tag is quite high. Otherwise, you might just be tracking the growth of the tag's adoption, but not the growth of successes.

To come back to Hubbard, it would be possible to create a measurement that estimates the average value of a success story (I recommend keeping this conservative) and using it to create a value indicator. This could be measured on an ongoing basis by tracking the number of success stories.

The core questions to ask before jumping into those metrics relate to how these metrics can help your business. So, as Charlene Li puts it, tie your ESN metrics to your highest-value business metrics. If communication is a big issue at your organization and represents one of the issues you plan to fix with an ESN, then you can measure this via a regular internal communications survey. At SAS, one of the key questions we asked was how well users felt informed about company strategy, for example. Differences before and after the introduction of an ESN clearly indicate the effect of the platform—unless there are other parallel initiatives that could confound the results (e.g., growing the number or changing the style of executive webcasts).

Collaboration and interaction are key drivers for success in organizations, and are clearly based on knowledge and innovation. Even in environments that are traditionally not as connected, learning and sharing knowledge becomes more and more important. One approach has been to try to codify the knowledge into documents and share knowledge across the organization in that way. While this codification strategy is still of value in some cases, in the more dynamic organizations it is not always possible (or cost-effective) to try to codify everything for sharing via document or some otherwise packaged asset. The rise of ESNs is an indicator that people are returning to connecting with others to get information to build the knowledge they need.

The output of collaboration comes in many forms:

- A solution that saved a small amount of time.
- Unblocking a hold-up on a project, which can be a small gain or a highly valued project-saver.
- The start of a new innovation.
- An ongoing collaborative effort that leads to a product or a patent, both of which can be valued fairly accurately, but usually with a considerable lag time.

If an organization has this type of collaboration and innovation as one of their key strategies, an ESN would be well suited to support that goal.

Collaboration is also based on trust and relationships. One way to evaluate the effect of ESNs would be to measure relationships. This is usually an activity that is quite expensive and labor-intensive, so the

question is: At what level can relationships be measured and quantified? There are some methods, however, that can help assess relationships at a high level, and the most widely used is SNA, discussed in the following section.

SOCIAL NETWORK ANALYSIS VERSUS REPORTING

We are usually tuning our processes to increase efficiency, and a social network is part of this goal. Intruding on social media interactions on an ongoing basis (e.g., sending surveys and follow-up questions to people after they have valuable interactions) might kill the gain in efficiency that you tried to reach by introducing the ESN in the first place. Anecdotes and stories are ways to do some sampling, as I pointed out in the previous section.

But how do you really measure relationships? Usually, you would have to go through detailed interviews to learn about people's relationships, but it is actually possible to learn at least something based on a few selected quantitative measures. Examples might be people's interaction frequency, the number of links they have, the type of subnetworks they are connected to, and so on. Together with additional data on each of the network nodes, there is potential to make real, business-relevant observations.

SAS, the organization that launched The Hub, has been focusing on providing analytics solutions to customers, as well as internally, for many years. In recent years, the company started providing solutions that help organizations to analyze social networks as well.

There are some differences between analyzing a network at an insurance company to detect fraudulent behavior and analyzing an internal social network to get a better feeling of the connectivity of employees. But the techniques to visualize what is happening are very similar in both cases. For an internal social media platform, the goal will be more to view progress (or degress) in the network and to visualize entities. You can visualize follower networks as well as what I would call "posting-links" (i.e., Person A posts and Person B comments, answers, or just refers to Person A). This can be a measured to find the degree of collaboration in the organization. It can show where

knowledge could be flowing, albeit not in a direct fashion, as information flow alone does not guarantee knowledge flow and value.

Paired with the analysis of topics and topic clusters, you can actually get a feeling of the communication structures in your organization. But this requires an attitude of trust, and analysis should be always on an aggregated level. It is not only dangerous to go down to the individual level (for legal and trust reasons), but it also would not make much sense, as you want to improve collaboration for the organization as a whole. If there are problem areas, it is a matter of HR and management to go in and investigate those deeper. The task of this type of social network analysis is to provide a high-level overview of what is going on at the moment and where things are predicted to move.

Other types of analytics can analyze topic clusters in order to get an overview and early warning on trends. This can answer questions about whether or not a certain competitor is coming up more often or a particular technology is becoming a trend. You can also use traditional product marketing techniques to get answers to those questions, but the issue is that those holding the knowledge (the crowd out there) might be too busy to answer your questions, and asking them on a daily basis is likely not possible.

Topics being discussed on a daily basis in your ESN can give you that information. Again, it is not about knowing that Joe talked about X and Paula had a question regarding Y; it is more about X or Y being on the minds of a growing group of people and that those topics are trending. This is where knowledge flow management and analytics meet. The output of those types of analytics can make it into dashboards, tag clouds on the Intranet, and be used in the boardroom to include the wisdom of the crowds into the decision-making process.

SNA can also be applied in the more traditional sense, where people are asked questions about their peers. This can happen in either an open fashion, where you start with a certain person or group and follow links that they indicate they have, or in a closed fashion, where you focus on one or more predefined groups and measure the links between them. Those surveys usually focus on only three to five key questions about interactions and relationships, but they still can be fairly labor intensive to score.

When performing SNA-type analytics, the additional data you have available on the nodes in your network (i.e., people) can help you discover answers to questions or just uncover dependencies between certain factors.

Here is an example of how analyzing the data leads can yield some insights and finally provide a sensible measure for your ESN (provided, that you are allowed to evaluate this type of data in consent with your legal and HR departments).

1. You start out by measuring the connectivity of your ESN via follower relationships.
2. As a next step, you merge age and length-of-service information with the relationship data.
3. For privacy reasons, you would then make the nodes anonymous. For the sake of this analysis, it is not relevant who is behind each individual node.
4. Using some graph theory, you could now calculate the average connectivity of members and also analyze it at the level of age group or time with the company.
5. This way you could come to a measurement that would provide insight on connections between old and young colleagues and newcomers and longtime employees.

A bigger mix of age and length of service will help with issues like knowledge lost due to retirement or the successful on-boarding of new employees, both processes seen as important these days.[5] This is only one simple example of how you can create business relevant insights on top of your ESN.

The promise of an ESN is that it might produce interaction indicators from activity data. The activity of following another person is the very first level of connection and relationship, and might reveal some information about connectivity. As always, interpretation has to be done carefully. There is more than one reason why people follow someone else. It could be that they think they must follow a person, not because they are really interested, but because it is their boss or because they feel that they must reciprocate connections with those who follow them.

A relationship of "I am interested in what you have to say" might be only a fraction of all the follow links. A sample survey might help to give you a distribution of those cases, but it also has to be repeated, as the culture might actually change with growing social media maturity.

Here is an example of an error we experienced early on in our social network regarding this measure. There was a feature named Follow All, which was a checkbox that led to a person following *all* new users of the network. There were actually a number of people that checked the flag, underestimating the effect it would have. With the strong growth of the network, some people actually followed more than 7,000 users—clearly not really the idea of following. The company that provided the platform realized the impact of that flag and it was removed from standard profiles. It might have made sense for a very small group of users (say a small organization with 20 people using the platform), but not for a growing population of users at a large organization such as ours. We finally reset the connection lists for those Follow All users and kindly asked them to pick the people they were really interested in from the user registry. This is just one case where a certain feature in the system skewed the results considerably, and why metrics always have to be looked at in quite some detail before relying on them in any way.

A follower relationship is a very light form of relationship. What you might visualize is to what degree those following each other react on other's posts. This can include the number of likes and comments that one would leave on someone else's post in their network. As mentioned in Chapter 5's discussion about network pulse, The Hub recently introduced a feature that allows users to send thank-you notes of different levels and types to others. Those could give additional quality to the follower relationship. But there is a certain element of reciprocity here as well that should be estimated and taken into account.

So far we mainly concentrated on analyzing the network via some type of SNA. But social media analytics goes a lot further. A growing number of organizations are starting to discover the value that this type of analytics provides them with regards to their presence on external social media platforms and there is still a lot of growth potential. As the aforementioned HBR report[6] pointed out, about

a third of those engaging in social media activities had not yet measured the effectiveness at all. Knowing what your customers and prospects say about you is so important, however, that the rate of measuring will definitely go up in the coming years.

It is important to understand the difference between simple reporting that looks at the past and sophisticated analytics that can help predict and optimize the future. The latter tools, especially if integrating the data from social media with data from other systems and processes within an organization, can provide a lot more value for guiding an organization in the right direction. Understanding causalities that were discovered through analyzing very large amounts of data can help to react in a way that will open up new opportunities or help avoid crisis situations. The analytical mind is not a nice-to-have option; it is a critical success factor for competitiveness.

Just like how the use of social media has moved from external environments into organizational environments, analytics should follow along. ESNs of tens of thousands of employees are becoming more and more common, as it is those large organizations that are most likely to create silos that need connecting. Even if there are only a few hundred users on your ESN, it is worth it to start looking at the data with an analytical eye, but with networks of thousands, data quickly gets really big. With the right analytical mind-set and tools, there are a number of opportunities, not only to fine-tune your ESN for effective usage, but also to use it as a detection engine for trends in a more general business sense.

James Surowieki talked about the use of prediction markets in organizations in his book, *The Wisdom of Crowds*.[7] One of the downsides of prediction markets is that they need active participation, which requires yet another effort (prediction markets are similar to betting games, which might actually be fun to do, but not everyone will see it that way).

In contrast, analytics of social media content can work with what is already there. There are important differences in some of the measures you should be looking at and especially how you look at them, as I pointed out in the section on motivations in Chapter 2. Social media analytics is still developing on the external side, and taking the next step to apply it to your ESN would give you a head start over other

organizations that are not at that level yet. I predict that social media analytics in larger ESNs will become as common as those networks themselves, and organizations will become more mature in running them in the future.

CHOOSING THE RIGHT KPIs

Measuring the value of knowledge flows is not easy, and one should be rather careful in approaching it. In the previous section, I introduced some example measurements and tools that will help you get some insight into your ESN and where it is heading. However, one of the key questions is what some of the most useful measurements—also called KPIs—might be. In her Altimeter report, Charlene Li pointed to the fact that one should concentrate on metrics that symbolize some closing gaps between issues in the organization rather than participation metrics.[8]

The most frequently used way to assess the closing of business-issue gaps is via surveys. One of the downsides of surveys is that they can lead to survey-fatigue, where people just get fed up with filling them in all the time. So, while I fully agree that those measures are the most valuable ones to have, there is a limit as to how many of them you can have without annoying your users to the point where only a fraction of people will answer, skewing the results.

In the end, you will have to use a balanced set of metrics. Participation measures alone will be insufficient. They might be able to tell you something about the number of people in the organization who are aware of the system, but how many of them are engaging in valuable conversations is a different kind of question. Measuring the ratio between those that are actively contributing to the ESN and those that are merely reading other content is a more useful metric.

As with any of the other measures, you need to be very careful when you look at targets for them. In this example, one might assume that it would be good to strive towards 100 percent participation. In a couple of example ESNs that are considered to be running quite well, I have seen that roughly about 10 percent of users were active contributors, and 70 to 80 percent were readers, even after a year. This can actually be okay. It depends in part on your adoption rate in comparison

to the complete organization. You could have an adoption rate of 1 percent, and even if 100 percent of those are actively contributing, it wouldn't tell you much about the overall connectivity of the organization because the community is too small. The ratio of contributors to consumers will very likely be below 100 percent if you have a larger and diverse audience. It lies in the human nature that some people are more likely to participate through contribution than others. The targets for measures like that should be looked at very closely and you will also need to adjust those targets as things progress.

One example measurement that Charlene Li mentioned in the report is to what degree employees might feel connected to executives, and if an ESN can reduce that power gap.[9] Similarly, you could take the distance values between old/young and new/longtime employees.

There are some types of measures that are a lot more general and fall into the outcome measure category. For example:

- Number of patents
- Number of new products developed based on collaborative efforts between one or more people from separate locations
- Shareholder value

The issue with those measures, even though they represent real value, is that it is often quite hard to attribute the proper amounts to a single initiative, like the ESN in our case. This would really only work if the ESN were the only parameter that changed, which is unlikely in today's dynamic organizations. In the case of patents, for example, there could be a range of reasons why there is suddenly an increase of them. Better communication and collaboration might be one of those reasons, but how reliable is it to put a value on the exact contribution of a single factor?

Another category of measures can be derived from specific content. You will remember how at SAS we introduced a special #hubvalue tag for users to indicate in the stream of messages that they received real value from a post or comment. So you could actually count the number of #hubvalue tags and see whether they are increasing, for example. Again, the conditions under which people actually use that tag might be significant. Did they know about the tag? How many people actually

use it? How many do not use it, even though they derived value from a post? A number of unknowns might make the result hard to interpret.

One measure I consider rather useful is the average speed to an answer. If someone asks a question, how long does it take until a reply or answer is posted? The average speed of reaction could be compared to other systems like an internal problem-tracking system. What it does not include, though, is an evaluation of the real value of that answer. For example, if you were to make that measurement visible to all participants and request that questions get quick responses, the effect could well be that a certain fraction of users would shoot back a quick reply that they did not properly research, just to fulfill the speed requirement. The result would be worse service even though the speed measurement would appear to show an improvement.

An indication of the value of a post or answer can be communicated with a like button. That is the shortest form of feedback that needs the least effort to use, which is probably why likes are more common than comments. Especially with the rise of mobile devices, where it is somewhat awkward to type a long comment, it is simple to hit a like button. Evaluating the frequency of hits can be a good indicator for activity as well as how many people liked certain answers, and value can also be evaluated by investigating which topics and hashtags produce predictions about certain trends. To interpret the quality of this data, you will need to be careful to not misinterpret writing ability for content. Some of the posts might be irrelevant or off-topic, but they could get a lot of attention (e.g., likes, comments) because they happen to be funny or well written. Most often it is a good strategy to look for a combination of content (e.g., an interesting, relevant topic) and tone (e.g., nicely said). As long as you are aware of those two dimensions, analyzing like buttons could really add to the understanding.

One interesting measurement that Charlene Li mentions in her study is the ratio of private (closed) groups in comparison to public groups. She argues that a rise in the number of private groups is an indication of the maturity of an ESN.[10] When I first read that, my reaction was skeptical, as I would have thought that the creation of private groups would have been something that people were more likely to do when they are new to an ESN and don't want their discussions fully exposed. Especially when groups are created in complete

alignment with existing organizational structures, I would still see that as a motivation to make groups private. However, when an ESN gets beyond the first bootstrap phases, I do see her point. The maturity of an ESN is also based on the degree to which those offline conversations migrate to the online world. The more this happens, the more likely it is that people will also need private rooms to discuss things that are confidential or not ready for wider distribution. Privacy is also preferred by a group that puts a large emphasis on focus and, therefore, wants to determine and limit the audience.

What I always find important is to have a portfolio of KPIs that balance each other to provide a more complete picture. Activity could give you one little piece of the story, and evaluation and comments can supply another piece. Also, when you are not 100 percent sure how to interpret certain measurements, a fallback strategy could be to look more at trends than at absolutes. Often it is more revealing to discover growth rates rather than usage rates. Similarly, to follow numbers over time it can be quite interesting to look at them in geographic perspective (and, similarly, by organizational entity). Comparing numbers from country to country could reveal information that will help you learn more about how and why your users are using the ESN or not. What could be the reason that the French office is contributing three times as much as the German office? By feeding back some of the results, you can also create some type of competition. You can also plan events around the data, like a company-wide brainstorm, where people generate as many ideas as possible in a given timeframe. This could be measured in a competitive way to designate a winning office or team. Keep in mind that these types of events encourage quantity and not necessarily quality, but such rare single events might raise the ESN's visibility and adoption rate (two metrics you will want to track).

One way to measure overall connectivity within an ESN is to look at brokers and how they develop. Brokers are users who are very active, have large networks, and make it a habit to lead people to other users. The number and activity level of brokers can be an indicator of how connected the overall network becomes. If you are aware of certain silos you could measure this specifically by looking at individual brokers within each of your organizational silos. And as an action

item have the CM (community manager) encourage broker functions within parts of the organization known for showing silo behavior.

As some of those examples have shown, choosing the right KPIs is not always easy. It is most important that you check the hypothesis behind a measure regularly to make sure that a measure indicates what you expect it to. This can be done through small surveys or just by talking to users and other stakeholders on a regular basis.

NOTES

1. Douglas W. Hubbard, *How to Measure Anything: Finding the Value of Intangibles in Business, 2nd Edition* (Hoboken, NJ: John Wiley & Sons, 2010).
2. Frank Leistner, *Mastering Organizational Knowledge Flow: How to Make Knowledge Sharing Work* (Hoboken, NJ: John Wiley & Sons, 2010), Chapter 8, "Measure and Analyze."
3. Charlene Li with Alan Webber and Jon Cifuentes, "Making the Business Case for Enterprise Social Networks," Altimeter Report, posted February 22, 2012, www.slideshare.net/Altimeter/altimeter-report-making-the-business-case-for-enterprise-social-networks, accessed May 31, 2012.
4. See "The New Conversation: Taking Social Media from Talk to Action," A report by Harvard Business Review Analytic Services, 2010.
5. For information on the value of fighting loss of knowledge, see David DeLong, *Lost Knowledge: Confronting the Threat of the Aging Workforce* (New York: Oxford University Press, 2004). For information on the value of onboarding, see Mark Stein and Lilith Christiansen, *Successful Onboarding: Strategies to Unlock Hidden Value Within Your Organization* (New York: McGraw-Hill, 2010).
6. See "The New Conversation: Taking Social Media from Talk to Action," A report by Harvard Business Review Analytic Services, 2010.
7. James Surowieki, *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economies, Societies and Nations* (New York: Doubleday, 2004).
8. Charlene Li with Alan Webber and Jon Cifuentes, "Making the Business Case for Enterprise Social Networks," Altimeter Report, posted February 22, 2012, www.slideshare.net/Altimeter/altimeter-report-making-the-business-case-for-enterprise-social-networks, accessed May 31, 2012.
9. Ibid.
10. Ibid.