Is There a Quantifiable ROI on Corporate Social Networks?

Summary report on the IRI-ROR on Enterprise Social Networks

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Introduction

There is no question that a significant portion of the global population has become increasingly connected in their personal lives through the adoption of social networking tools and applications. This is largely due to the ubiquitous presence of wireless connectivity, the exponentially increasing power and decreasing costs of consumer devices such as smartphones and tablets, and the success of social collaboration and file sharing sites like Facebook and Twitter. There is also no question that, with 24/7 connectivity, the boundary between our personal and business lives continues to blur. We are left wondering, therefore, if there is value for such tools in the corporate research and innovation environment.

At the instinctive level, it seems that the extension of such collaboration from our private to our corporate lives is a no-brainer. There are countless examples of how collaboration, communication, and sharing have led to many famous leaps in both science and technology. So how could this possibly fail to translate into the contemporary social networking paradigm?

In fact, there are many commercially available products that are aggressively promoted by vendors as corporate productivity and innovation tools and many companies have already made investments in this social networking technology. The products and applications are marketed under such headings as social
business, enterprise social networking, social media, emergent social software platforms, etc. These deployments can be roughly grouped into three distinct business areas:

1. For external marketing and customer relationship management

2. For open innovation efforts and innovation challenges

3. For internal knowledge management, collaboration, innovation, and idea generation

Over a period of 18 months we gathered IRI member input and learned that there is widespread uncertainty concerning the optimal application and business value of all of the above. The greatest uncertainty centered on the value of enterprise social networking as a means to enhance their internal corporate knowledge management, innovation, and idea generation processes.

Therefore, this ROR project focused on the third category highlighted above, which is frequently referred to as Enterprise 2.0 (E2.0). The Enterprise 2.0 environment encompasses the use of emergent social software platforms to facilitate collaboration in a business setting. These systems are described as emergent because they rely on bottom-up contribution and organization by users (and thus incorporate less top-down organization and management than most traditional IT systems). They are considered ‘social’ because they are intended to help people connect, collaborate, and communicate with one another. Finally, they are considered platforms since the systems are effectively a blank slate that can be utilized in multiple ways to fundamentally transform work processes within the enterprise.

According to a 2011 McKinsey report\(^1\), more than 45% of companies in their survey use some form of social networking. Despite this fact, many corporations have adopted a wait-and-see attitude regarding concerted efforts to promote adoption of these technologies within their organizations. Even in cases where these systems have already been deployed, top executives and other management personnel remain skeptical regarding the usefulness of these systems and adoption among employees enterprise-wide is often spotty at best.
What holds companies back?

During our discussions with IRI member companies about Enterprise 2.0 systems a number of strategic issues, and as many or practical questions quickly cropped up from various corporate, IT, communications, and legal departments to mention a few:

- Should individuals be allowed to use their personal devices on the corporate network?
- Should employees be allowed access to their personal networks while at work using either company owned or personal devices?
- What are the security risks/challenges to corporate confidentiality, intellectual property rights, compliance, reputation, etc.?
- What are the best hardware and software options for corporate social networking and how fast will they change?
- Will only Millennials use these tools?
- How can we verify the accuracy of information posted in these systems?
- How can we make sure that no one steals the information from the systems?

It is no surprise, therefore, that many executives would like to be certain that there is a bottom-line return on investment before they expend the resources to tackle these complex issues. Another challenge that emerged during our study is that it is difficult to apply lessons learned from early-adopter companies because of the unique bureaucratic, cultural, and behavioral climates of each company. This is further compounded by the ‘network effect’ inherent in these systems—their value increases geometrically as the number of users that adopt the system increases. This means that traditional pilot models for assessing the impact of new technologies are somewhat difficult to evaluate and suggests that the wait-and-see attitude can critically undermine these systems. Indeed, it is even possible that the very companies that request (and especially those that require) an ROI, may be the companies that are least likely to benefit from these bottom-up, emergent, network oriented technologies.

A survey by McAfee(2) found 3 main reasons for this resistance:

- Executives are wary of new enterprise systems that propose to "do it all" and overlap with a number of existing networking systems (email, instant messaging, knowledge management communities of practice, mentorships etc...).
- Companies may have hierarchical cultures that don't buy into the emergent bottom-up decision making and communication inherent in social networking.
The inherent difficulty in predicting the ROI for enterprise networking systems becomes a showstopper.

In this whitepaper we pay particular attention to options companies have for establishing an ROI for Enterprise 2.0 as well as highlight some alternative perspectives in “The case against the business case” section.

Options for ROI justifications

Based again on feedback from our members, the focus of Phase 1 of this ROR project was to consider how to evaluate the return on investment (ROI) for enterprise social networking. Given the complexity and resistance outlined above, it would be very helpful if advocates could point to credible and preferably quantifiable key performance indicators (KPIs) or performance metrics for enterprise social networking. Even so, only about 38% of companies using enterprise social networking actually try to measure its ROI\(^1\). For those companies for whom it is important, we found three levels of ROI justifications being explored:

1. Qualitative Data (i.e. Anecdotal, Use Cases, Goal- / Outcome-Oriented)
2. Secondary Quantitative Data (i.e. dollars saved related to success factors quantified by other companies)
3. Primary Quantitative Data (i.e. dollars saved versus dollars spent)

Although at first glance many companies would prefer to find strong quantitative ROI’s based on their own in-house costs and benefits (level 3 above), this is particularly difficult when it comes to Enterprise 2.0 social networking systems and thus level 1 and 2 are far more common. The reason for the difficulty in achieving the type of ROI analyses represented in level 3 above is that an ROI is only as quantifiable as the activity for which it is calculated\(^3\). However, ad-hoc processes like collaboration and innovation are not easily mapped to specific activities or core job functions. If firms require a quantitative ROI based on their own primary data, they must spend time upfront to map collaboration activities to specific business processes and outcomes so that ROI can be directly measured. Alternatively, firms can more easily identify favorable communities that likely benefit from collaboration and publicize their successes (level 1 ROI above) or can compute a rough ROI based on published results that other companies have achieved in areas that are salient to the firm (level 2 ROI above).

Qualitative ROI
Corporate culture usually dictates which of these options is pursued, but best in class companies who have been early adopters have largely relied on finding fast success and broadcasting these anecdotal accounts to justify the continued investment in the systems. Early adopting companies that we spoke with have focused on measuring outcomes important to them, for example making new connections among employees, and then seek out opportunities for social networking tools to drive those outcomes confident that these will have lasting business benefits. This is consistent with research in this space (2) which emphasizes focusing on the importance of specific organizational values and goals, such as developing human capital or fostering innovation, and highlighting ways in which Enterprise 2.0 social networking enables these outcomes as opposed to trying to calculate specific cost-benefit ROI numbers.

After all, most would agree that enterprise social networking is, in large measure, about developing intangible assets such as employee satisfaction, seamless organizational interfaces, and gaining new intellectual capital. Human capital investment arguably offers the greatest competitive advantage for the organization, but this generally means that the resulting effects are very far downstream and hard to measure. The following graphic from Hinchcliffe (4) describes the cascading effect enabled by Enterprise 2.0 that starts with emergent collaboration activities, which affects knowledge retention and utilization, which consequently leads to superior decisions, and ultimately drives a host of typical KPIs such as; employee retention, efficiency, customer satisfaction, and profitability.
This argument largely supports our initial intuition that enterprise social networking leads to collaboration and ultimately a bottom-line ROI, but it also shows why the full effect of these systems is so difficult to completely quantify. A second chart from Hinchcliffe, however, provides an interesting schematic of the overall cost versus ROI relationship.

![Cause and Effect Chains with Enterprise 2.0 Tools](http://blogs.zdnet.com/Hinchcliffe)
A more quantitative study, albeit one focused on qualitative ROI results, can be found in the McKinsey report\(^1\). Here they looked at all three types of social networking highlighted in the introduction: customer facing, inter-firm, and intra-firm. The study was a self-report survey of over 3,000 companies and included a number of categories for ‘Measurable Benefits Derived’, i.e. Speed of Access to Knowledge, Reduced Communication Costs, Reduced Travel Costs, etc., as well as a variety of metrics that are well known and recognized in industry, i.e. Market Position, Position Change, and Margins Compared to Competitors. We offer three exhibits from the McKinsey report to help illustrate these points.

Exhibit 1 shows that, across several important operational categories, companies embracing enterprise social networking reported significant quantifiable gains in metrics such as; decreased travel costs, reduced operational costs, increased customer satisfaction, reduced time to market, etc.
Exhibit 2 indicates that the derived benefits are highly correlated to the extent to which the organization is fully networked. This reinforces our proposition that different organizations will benefit to differing degrees from these technologies and that it takes time before benefits are realized.
Finally, Exhibit 3 provides evidence of the cascading effects described above by Hinchcliffe. The table shows a statistical analysis of the improvements reported by the 3,000 companies in the survey. This is a respectable sample size for determining statistical significance and many parameters greatly exceeded a 95% confidence level. It can be seen that externally and fully networked organizations were more likely to see gains in market share as were organizations with higher levels of organizational collaboration. Furthermore, organizations that embraced distributed decision making architecture (like that necessary for bottom-up, emergent systems like Enterprise 2.0) experienced improved operating margins. Finally, organizations that were internally networked and had high levels of organizational collaboration were more likely to be market leaders.
Taken together, these studies and surveys indicate that KPIs and positive outcome metrics can be associated with enterprise social networking. Although the rate of return is not easily quantified, the cause and effect cascading of behaviors into returns seems to match our intuition. For companies that can be satisfied by secondary, somewhat qualitative ROI results, the above study provides some useful justification for the implementation of Enterprise 2.0 systems.

One obvious shortcoming in these data for our purposes, however, is that the survey was conducted across a broad spectrum of industries and not specific to R&D activities. A possible objective for Phase 2 of this project would be to collect similar data from IRI member companies with a focus on specific R&D salient outcomes.

**Quantitative ROI**

A number of studies have undertaken extensive ROI cost-benefit analyses in specific organizations (often customers of the software manufacturer carrying out or sponsoring the study). The level 2 ROI highlighted above is used by many companies based on this type of secondary quantitative data in order to justify the benefits of their internal systems. For example, if a past analysis has found that each Forum entry corresponds to a $100 reduction in corporate travel costs, then some companies count their Forum entries, multiple by this $100, and argue that the resulting number is a rough approximation of their benefits from similar systems. Obviously this requires a significant assumption regarding the similarity
between the original organization that was the subject of the study and your organization. However, given how difficult it is to measure the actual benefits of these systems, many organizations have found this type of justification to be sufficient.

In one of the more substantial past studies of its type, Forester\(^{(6)}\) looked at the Total Economic Impact™ of Yammer in an organization. The study found, a 4.3 month or 365% Year One ROI. The study used $1.5 million in total costs which included Software licenses, administrative support / oversight, implementation, and training. Benefits included in the study were: De-duplication of work, Identification of inefficiencies, Information sharing, Access to expertise, and Higher employee engagement (i.e. onboarding employees) and were calculated at $7.2 million. Table 7 of the report summarizes these data.

Some other insights from the Forester report include:

- Improved innovation through collective decision-making and better access to information and expertise across organizational and geographic boundaries looms as the next big-bet opportunity.
- De-duplication of work is often the first visible benefit of collaboration.
- Identification of inefficiencies becomes more transparent in networked organizations.
- Information sharing and efficient access to expertise & knowledge were generally recognized as quick wins.
- Higher employee engagement across the enterprise, especially in global companies, greatly facilitated onboarding of new employees.
In another quantitative study, the company blueKiwi highlights the above cascading effects and the challenge of measuring ROI: “If properly planned and deployed, gains from an Enterprise Social Network can be dramatic. However, since these gains are ultimately measured in overall business terms they take time to materialize”. blueKiwi commissioned an independent research firm to interview a cross-section of blueKiwi customers as well as non-customers in order to examine the potential time savings accrued by utilizing enterprise social tools instead of more traditional systems like email or telephone. Based on these results as well as estimates regarding the number of highly, moderately, and somewhat engaged employees (regarding adoption of blueKiwi systems) the company estimated that the average firm could see approximately a 2.12% improvement in productivity. In an organization of 1,500 this would equate to approximately 58,530 total hours ‘freed up’ for other activities or over €1 million annually. When combined with the estimated costs for the blueKiwi systems this calculation shows ROI after 2 years of 547%.

Their study also attempted to associate productivity gains with specific employee tasks to further quantify the nature of this remarkable ROI. It demonstrates that many small improvements, when aggregated, yield impressive returns.
Multiple IRI companies we interviewed used similar secondary or one-off quantitative data for their internal ROI calculations. For example:

- Value of each discussion thread in a knowledge community was estimated at $600 in intellectual capital:
  - For this company: $600 * Number of threads = $20+ Million in benefits
- Value of social networks:
  - An IBM / MIT Study\(^{(11)}\) found the value of each employee-to-employee network tie = $948; Strong employee network ties to managers = $588
- Value of an ideation event:
  - In one case study, the resulting top 20 ideas created an estimated savings of $20-$30 million
  - In another case study one idea saved $8 million
- Knowledge seeking experiments have found that queries sent via E2.0 networks get results in 15 minutes instead of the 2 to 3 hours for a response when queries are sent via email.
  - In the cases we have heard, this was not quantified further, but, as in the blueKiwi example above, it would be relatively simple to extrapolate this to suggest overall productivity gains (particularly when faced with time-sensitive opportunities / problems).

**Ideas for Primary Quantitative ROI Analyses**

For companies that are still committed to engaging in a more comprehensive quantitative ROI analysis we gathered some ideas and advice from existing whitepapers as well as from conversations with IRI companies that can be considered E2.0 leaders or recent E2.0 adopters.

In an extensive review by Newsgator\(^{(10)}\) they highlight first that costs do not need to reflect an ERP-level enterprise deployment. Many companies have successfully deployed less expensive project- or department-based installations that offer the opportunity for smaller investment and simpler ROI. However, it is important for companies to keep in mind the warning highlighted in our introduction—these systems rely on network effects and so require a minimum level of adoption to appreciate their benefits. Thus it is important for companies to think carefully about “pilot” installs to make sure that they have clearly identified goals and likely benefits that can help justify broader deployment. This article goes on to highlight a range of benefits that companies should look to for their ROI analyses. These include: Reduced premium content costs, Lower printing budgets, Reduce email / storage costs, Reduce other enterprise application seats, Trim travel budgets, Improved talent management, and Decreased enterprise application costs.
In the article already highlighted previously by blueKiwi(9) a different set of benefits were highlighted as potentially worthwhile to consider when computing an ROI analysis, including; time to reply, time to search, and time to collaborate. Furthermore, this article suggests the following as low-hanging fruit for ROI analysis:

- Email inefficiencies for group / chain-email communication
- Time saved in collaborative document editing
- Pre/post meeting interaction to reduce idle time during meetings.

Finally, this article highlights the importance of differentiating the benefits accrued based on whether employees are highly, moderately, somewhat, not engaged in E2.0 system usage.

![Productivity gain by user engagement level](image)

Adding to and reinforcing this list, IRI companies have highlighted a number of benefits of using E2.0 systems (as well as hidden costs of not using them). For example, reduced travel costs and increased employee engagement were highlighted by a number of companies while the importance of avoiding disclosure of company information via personal social networks has been highlighted repeatedly as a reason to offer an enterprise social networking option. “How much could it cost you if employees use networking applications you do not control and manage?”
The Case Against the Business Case

In summary, IRI member companies have found creative ways to provide primary quantitative data on ROI through specific KPIs and metrics. However, we are left with a sense that there is solid ground on which to base a “non-ROI” argument for enterprise social networking. The most compelling argument against the business case is the fact that ultimately these technologies will be everywhere—regardless of whether your organization embraces them or not:

- All computing is becoming social - Microsoft, IBM, Cisco, & Oracle are all building “social” into the core of our future enterprise systems. The distinction between social networking software and software that incorporates social networking is fast becoming moot.
- The next generation of employees, the Millennials, function at their core via social networking, e.g. flash mobs, microblogs, cloud communities, mash-ups, etc., and will find their own path to networking within the enterprise if we do not offer them one.
- Self-fulfilling prophecy - Conservative and risk-averse firms that require hard-dollar ROI will likely not realize the full potential from enterprise social networking in any case because they lack the culture to embrace the bottom-up emergent thinking typical in successful collaborative networks.

In the previously mentioned Newsgator\(^{(10)}\) review, the second bullet point above is explored in some detail. Not only did their survey of Millennials confirm the extensive use of social networking tools, but 91% stated that there are more likely to work for an organization that embraces these technologies.

Another often missed point about the Millennials is that they use these technologies in very different ways from traditional employees in our organizations. Take the example in 2011 where a major Pharmaceutical company employed a Gaming community to solve complex protein folding patterns. The Gamers solved 6 key structures in less than one month. The Pharma company had
spent 2 years and hundreds of hours on super computer modeling and still had no result.

The bottom line message here is that an E2.0 environment will likely have unknown and unknowable benefits in the hands of the next generation. Our insistence that we quantify the payback on E2.0 in traditional terms completely misses this point.

**A Concluding Discussion of E2.0 Terminology and Concepts**

Because we have cited such a variety of studies across varying industries and timeframes, we have seen several terms to describe enterprise social networking; e.g. Social Media, Web 2.0, and Enterprise 2.0. We would like to close with some additional background on the term Enterprise 2.0 as coined by Andrew McAfee in 2006. We have chosen this because it provides some analytical foundation to that intuitive feeling we have about the intrinsic value of enterprise social networking.

The picture above of Enterprise 2.0 operational space attempts to display several of our key points in a pictorial format. The central blue bubble represents the complex set of features that make up the social network core of these E2.0 systems. As we have pointed out, this is of course important, but it is not sufficient to produce a successful social network. The other blue bubbles represent the types of individual activities that members engage in to form a collaborative social network. The outer red bubbles represent the tools and functionality members may use to achieve collaboration. As we have stated, it is
the successful engagement of employees to form a collaborative social network that is the focus of this ROR (inside the circle). The basic principles of E2.0 are:

- Social Networking infrastructure is important, but not sufficient. Productive networks require individual & group profiles to provide social contract integrity.
- Trust requires verifiable identities of those with whom we are communicating.
- Respect requires some measure of the reputation of those with whom we are collaborating.
- Integrity of our reputation requires a belief that those who respond to our inquiries truly offer value.

McAfee’s concept of Enterprise 2.0 is an extension of previous work comparing human collaboration networks to computer networks\(^{(7)(8)}\). This earlier work used the computer paradigm of Transactive Memory Systems (TMS) to compare humans with nodes in a computer memory circuit. The human in a social network has very similar roles to a computer node:

- **Updating** - learning who knows what in the group.
- **Information Allocation** - transferring knowledge to group members who can use it most effectively / efficiently.
- **Retrieval Coordination** - plan to find knowledge based on who knows what

The TMS analogy emphasizes the importance of:

- Push & Pull (Bi-directional) Flows
- Reducing Barriers
- Expanding Reach

One aspect where the TMS analogy falls short is in not accounting for expert gatekeepers who, either as individuals or in small clusters, tend to be hubs of information which are sought out and used by larger numbers of individuals. These gatekeepers play a larger role in the flow of information and can be key assets to the successful implementation of an enterprise social network.

When Andrew McAfee created the term Enterprise 2.0, he also brought the concept of ties, and tie strength, into the discussion of human social networks. This provides some important insights into why all networks, or for that matter all networking methods, are not equally productive. He defines three categories of ties among networked individuals:
• Strong Ties
  o People you are close to, geographically, socially, or emotionally, and interact with frequently.
• Weak Ties
  o People you don’t know very well or don’t interact with frequently. Examples: people you meet through others, went to school with, used to work with, met at an event or conference, etc…
• Potential Ties
  o All the rest of the people in your organization that may have knowledge which would be valuable to you.

This leads us to two very important insights:

1) The Strong Ties have shared goals, outcomes, group identification, trust, and reciprocity. They will most likely collaborate with or without a formal enterprise social network. However, importantly, these interactions among like-minded individuals are not fertile territory for breakthrough ideas and innovation.

2) Weak & Potential TIES typically have non-redundant knowledge and novel perspectives. These individuals are far less likely to collaborate in the absence of a formal social networking infrastructure and provide the best opportunity to generate new or breakthrough ideas.
As can be seen in the picture above, using this model leads us to a different set of KPIs and metrics than we considered in the ROI discussion. We now see that equally important to a successful and productive enterprise social network are the change management process and stewardship roles we elect to put in place around the network infrastructure.

So, a successful social network, in the Enterprise 2.0 sense, is not just a computer network with popular software applications and a slick user interface. Companies should recognize that, no matter if or how they choose to measure their ROI, the strength of a corporate social network is in the management of the employees’ trust, respect, and reputation as you drive them to increasingly engage the weak and potential ties within the network. This appears to be a central driver for producing innovation and enhancing R&D in the 21st century global environment.

**Conclusions from this Social Networks ROR**

1) The set up and execution of an enterprise social network is complex, needs time and money, and has risks. It only seems reasonable that companies want to see how the expenditure of resources translates into some tangible return on that investment.

2) Several industry surveys and some IRI member companies have successfully identified KPIs and metrics that correlate enterprise social networks and ROI. However, these often suffer credibility gaps because:
   a. The results are not instantaneous.
   b. It is difficult to map social network activities directly to traditional job functions and responsibilities.
   c. Not everyone who uses the network is a successful innovator and not all successful innovators use the network.
   d. There is still a lack of anecdotal evidence and case studies to provide weight behind the current data.

3) Social networking is a cultural and behavioral activity and is difficult to directly correlate with traditional business functions and outcomes.

4) There are several mega-trends operating independently from any decision a company may or may not make:
   a. Software is increasing incorporating social networking features as native functionality.
   b. Millennials will behave according to their personal experience with or without our involvement. Also, they will use these tools in totally new ways and for very new reasons beyond our traditional organizational experience.
c. Companies that have to ask “what is the ROI” may already be indicating that they are not candidates for an enterprise social network.

5) In the Enterprise 2.0 paradigm, not all connections in a network are equal; some involve expertise gatekeepers, some involve affiliations of those who already have strong network ties, and still others occur only because collaboration with weak and potential ties is facilitated by the enterprise social network.

6) Installation of an enterprise social network is not sufficient. Change management processes around bureaucracy, culture, and behavior are essential to success.

7) Network stewardship is also important to engendering the types of communication and collaboration needed for R&D and innovation success. Organizations that understand that trust, respect, and integrity are necessary attributes of virtual social networks maximize their chances of reaching critical employee participation levels.

**Recommendations for Future RORs**

1) Assemble use-case information and anecdotes specifically related to R&D by creating a network of IRI members to share best practices about the upstream value of enterprise social networking. Some questions to consider:
   - What helped build awareness of internal experts?
   - What if anything made it easier to make initial contact?
   - What if anything helped you get to know that expert or their work?
   - Do you have stories about whether or how these relationships were maintained?

2) Organize a longer term research project with IRI member companies to assess the impact of mega-trends in social media on traditional innovation practices.

3) Explore ways to insure trust, respect, and integrity on virtual social networks.

4) Examine in more detail the benefits and methodologies surrounding the development of McAfee’s potential and weak network ties.

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