

Tech-Clarity

making the value of technology clear

Issue in Focus: Product Collaboration 2.0

***Using Social Computing
Techniques to Create
Corporate Social Networks***



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Introducing the Issue

Product innovation has become a high priority for manufacturers today, topping the list of many corporate agendas over the last five years. While early innovation strategies gave top priority to driving growth, focus has turned to surviving the down economy and preparing to capitalize on the eventual recovery. Product Lifecycle Management (PLM) has been an important tool to help companies innovate, enhancing the top line at the same time as they reduce cost to maintain the bottom line. This has caused significant growth in the use of PLM, and the extension of PLM by early adopters.

In this same timeframe, the use of social networking has exploded. People are using social networking and social media in their personal lives, adding a new dimension to the way that people interact within their network of friends. Now, companies are starting to embrace social computing and “Web 2.0” capabilities to take advantage of these collaborative techniques for business purposes, creating “corporate social networks” that tie together communities around a common business goal.

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The goal of each of these trends – PLM and social computing –is connecting people and providing a way to share content. How can manufacturers leverage these trends to improve product profitability? Clearly it is not signing the Engineering department up on Facebook, Twitter, or MySpace. Instead, companies are applying the concepts and lessons learned from social networking to connect people and enhance business interaction. This shift towards corporate social networks promises significant business value, particularly as social computing technologies are applied to PLM.

The Future of Product Collaboration

Collaboration is not new. Whether it is simply several people working on a task or a formal, multi-disciplinary process like concurrent engineering, manufacturers have been exploiting the benefits of collaboration for some time. In fact, as companies have globalized and virtualized, online collaboration has become more important to replace the natural, casual interactions that once occurred in the office. Today, project teams may be made up from different companies, and almost certainly span different geographies. Some amount of the design and analysis is likely outsourced, and at least some of the manufacturing has moved offshore. This leads to a community of people that all share a common interest – a project or a product – but no longer share physical proximity.

Online collaboration approaches have helped these communities work together digitally. PLM allows people to work on the same files and revisions, or create mockups from related designs developed by different teams. That is a big step forward. But what is missing is the community aspect, the replacement for the water cooler conversation, the impromptu design meeting, or a quick trip to the shop floor to see how things are going.

Social computing techniques offer the ability to create more effective, dynamic, virtual teams

Online collaboration has helped, but social computing techniques offer the ability to create more effective, dynamic, virtual teams. Instant communication and sharing including alerts, subscriptions, instant messaging, status updates, and other techniques help people instantly contribute to the ongoing product development dialogue. Chat and presence detection help bring communities together in real-time to share ideas and solve problems, answering questions that would either be saved for later, forgotten, or ignored (and an assumption made). By creating a community space, manufacturers provide context for a project, and give people a central location to share information that may not be a formal deliverable like a design. This is particularly important during the early phases of a project when interactions are more frequent and results less formal.

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Social computing also offers new opportunities beyond traditional collaboration. While most collaboration historically has been with people that who already know each other, the community aspect provides the opportunity for “social discovery.” Social discovery involves finding others in the corporate network that may have relevant expertise, for example through social search tools or tagging. By leveraging the network, colleagues who may never have met may contact each other and tap into their collective knowledge base and potentially into their broader corporate communities.

Turning Collaboration into Knowledge

Beyond better collaboration, social computing techniques allow manufacturers to capture and reuse product knowledge. Side meetings and conversations can now be electronic discussions that span space, time, and possibly language barriers. Communications that may have come in outbound-only formats like newsletters or e-mails can become centrally available, dynamic, multi-user wikis or blogs. This not only captures the initial content, but shifts communication from a static announcement to a live dialogue that captures related discussions, updates, clarifications, examples, and an ongoing dialogue to keep it fresh.

The key is capturing product knowledge at the source. Instead of expecting great value from a forced “lessons learned” exercise at project completion, decisions are now documented as they occur for future projects to review and learn from. This transforms knowledge capture to a natural byproduct of product development and engineering discussion, and reduces the challenge of capturing knowledge at some point downstream, when it is difficult to remember the content, let alone the context.

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Preserving and packaging knowledge is important as experts move from project to project, and as experienced workers retire. Many teams will also find it an easy way to remind themselves of past discussions and decisions after some time has passed. Social computing enables people who want to share their experience to extend their reach to the broader product-development community. Their knowledge is then searchable and linkable to share it more broadly, and eliminate duplication.

Collaboration beyond Engineering

Beyond the product design team, there are many more people who need to collaborate. Collaboration can span people and processes across the product lifecycle, such as Manufacturing, Sourcing, or Quality. Companies can enhance and streamline processes like design for manufacturability by collaborating with downstream individuals sooner, and doing so via social computing allows them to capture that knowledge so future projects can benefit from it as well. Cross-departmental use of social computing capabilities can also help close the loop on product quality, for example mining blogs and discussions from service technicians across the globe to identify common quality problems or identify trending issues.

Extending the corporate social network to customers, in fact, offers a new and powerful method to gather and leverage the “voice of the customer”

Collaboration can also bring customers or suppliers into discussions, and gain their expertise. Beyond internal communities, social computing also offers the ability to extend collaboration to external communities, for example developing a blog to discuss features for a new product and using that to drive product requirements. Extending the corporate social network to customers, in fact, offers a new and powerful method to gather and leverage the “voice of the customer” to better gather requirements to focus product designs on customer needs and values.

Enabling Corporate Social Networks

How can manufacturers start leveraging these new collaborative approaches? Some social computing techniques, such as “crowdsourcing” to leverage customer communities to help drive product direction, may require new business models. These approaches leverage an extended corporate social networks (with appropriate security) to support generation of intellectual property (IP) and product ideas. Others are much easier to achieve, by better enabling existing processes. This is where most companies will start.

***While personal networking solutions aren't the answer,
the concepts behind them are more compelling than the tools themselves***

In Facebook you may share pictures of kids, your new motorcycle or a funny video with friends and family. In PLM, the context is product-centric with participants sharing concepts, ideas, designs, simulations, or project deliverables within a product development team and across the corporation. Clearly Facebook, MySpace, Twitter, LinkedIn or any of the other social sites are not designed for the rigor and security required for sharing product IP. While personal networking solutions aren't the answer, the concepts behind them are more compelling than the tools themselves.

***Despite the significant benefit, implementing social computing techniques
doesn't have to be complicated***

Despite the significant benefit, implementing social computing techniques doesn't have to be complicated. The infrastructure that helps enable enterprise applications is extending to address the Web 2.0 capabilities. Services like presence detection, instant messaging, shared folders, and threaded discussions exist in many companies. And the technologies behind wikis, blogs, and other forms of collaboration aren't unattainable. But these tools need to be adopted with the product development context in mind, with all of the usual concern applied to security and regulations for sharing product data. The key is to apply social computing appropriately, and to integrate it with the underlying shared context – the product or the project – by integrating with PLM. It's also important to provide a social computing framework that makes it easy for everyone to contribute as well as extract knowledge, including search capabilities.

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When the tools are made available, people will likely embrace corporate social networking because it's a natural and intuitive way to communicate. Most engineers and product developers will be comfortable with this type of interaction based on the popularity of social networking outside of work. Now, they can apply this form of communication to business, and be recognized for their contributions and adding value beyond their domain.

Conclusion

Electronic design collaboration is proven, and social media is a rapidly growing trend that is transforming the way people socialize and the way they work. The intersection of these two – corporate social networks – combines the best of collaboration and social computing technologies for application in product development and engineering, making it more efficient as well as more effective.

Adopting web 2.0 and social computing in PLM enables companies to discover new knowledge, as well as capturing existing knowledge for the future

Adopting web 2.0 and social computing in PLM enables companies to discover new knowledge, as well as capturing existing knowledge for the future. More advanced use of corporate social networking also opens up new business opportunities by reaching out to broader communities, although there is significant advantage to using the tools directly within the product development team. Most manufacturers will start using social computing techniques internally first in order to improve existing collaborative processes. Beyond better communication, the advantage is taking this broad information source and turning it into corporate knowledge, saving time and money by reusing instead of reinventing company knowhow.

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Corporate social networking can feed innovation and help companies improve product profitability through enhanced collaboration. As the use of social computing techniques matures and expands, more advanced uses such as “crowdsourcing” provide an opportunity to transform the way companies interact with their markets and gather “voice of the customer” information. These new forms of collaboration have significant potential, but need to be applied in the context of the business at hand to be taken seriously as business tools.

Recommendations

- Leverage the concepts of social computing by choosing tools that provide community-enabled collaboration capabilities integrated with PLM. Look to PLM providers with domain expertise in product innovation, product development, and engineering processes to integrate these technologies.
- Where possible, leverage existing infrastructure for corporate social networking.
- Link collaborative interaction to the underlying context – the engineering and product information.
- Explore new business models, but don't forget to take advantage of the low-hanging fruit from enhancing internal collaboration.
- Review IP, security, and regulatory requirements to ensure collaboration is accomplished within guidelines, leveraging existing roles and security as appropriate.
- Set clear expectations that advocate the use of social computing capabilities for corporate social networking, ensuring that interactions are business-oriented and productive.
- Put someone in charge, and designate experts and thought leaders to moderate forums.

About the Author

Jim Brown is the President and founder of Tech-Clarity, an independent research and consulting firm that specializes in exposing the true business value of software technology and services. Jim has over 20 years of experience in application software for the manufacturing industries, with a broad background including roles in industry, management consulting, the software industry and research spanning enterprise applications such as PLM, ERP, SCM and others.

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