Issue in Focus:

Social Business Collaboration and the Product Lifecycle

Tech-Clarity

making the value of technology clear

Combining the Collaborative Power of Social Media with PLM

Table of Contents

Introducing the Issue

Succeeding in business requires a group effort. Today, social computing techniques such as microblogging, wikis, and blogs are poised to help companies take a significant leap forward in their ability to collaborate and work together. Clearly social media such as Facebook and YouTube are exploding in our personal lives. Similarly, social computing approaches are making significant progress expanding and evolving to become highly valuable business tools – supporting social business collaboration.

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How can businesses apply this new dimension of communication and collaboration to drive profitability? One clear area of opportunity is product innovation. Business and product innovation is a team sport, demanding input and feedback from countless people from multiple disciplines and across company boundaries. As Tech-Clarity Insight: Going Social with Product Development concludes: "*Social computing and 'Web 2.0' technologies show significant promise to raise the bar on product innovation, product development, and engineering performance.*" It is a compelling area because improving innovation performance leads to significant business value.

The use of social business technologies in product development, as with any significant change, has both detractors and supporters. For example, a Boeing participant at the Congress for the Future of Engineering Software (COFES) said emphatically, "*We will not design an airplane on Facebook!*" That statement led to a rousing debate and a Clarity on PLM blog post Why Does Facebook Fail for Product Development (and how to fix it). The main conclusion of the discussions was that the *social computing concepts* behind sites like Facebook are valid for product development, but the *implementation of them* is not (Figure 1, next page).

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Tech-Clarity suggested that Facebook would fail for product development because of:

- Lack of understanding and integration with product data
- Insufficient security and intellectual property (IP) protection
- Minimal support for managing business processes
- Lack of domain expertise
- Disconnection from the underlying context – the product

Concept	Facebook / Twitter / Etc.	Product Development
Status / Tweet	Feeling like eating ice cream	Having trouble designing fan housing
Chat	Go to the movies tonight?	Are the customer requirements done?
News Feed	Keep up with friends	Project progress / issues / status
Links	Funny cartoon on Dilbert	Link to most recent design files
Pictures	Aunt Tilda's new dress	Concept sketches of new product
Videos	Little Johnny gets a new tooth	New product launch ads
Applications	Make me look like Mickey Mouse	Allow me to sketch a 3D concept
Like / Dislike	Like friend going to Paris	Feedback on prototype (VOC)
Messages	Haven't seen you since high school!	Project deliverables late, need help!
Comments	That looked like fun!	Feedback on issue, design, or concept
Friends	Bob, Linda, Uncle Joe, …	Team members, customers, experts
Groups	Family, Work Friends, Sports Team, …	Projects, skillsets, departments
Followers	Friends, ???	Customers, downstream departments
*Blogs	My trip to Finland	New technology strategy
*Wikis	Favorite rock band hairstyles	Design standards and templates

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Figure 1: Social Media Concepts Applicability to Product Development

Let's face it, Facebook has significant shortcomings that would need to be filled to support Product Lifecycle Management (PLM). Facebook was simply not designed to address product development. The same is true for other social media services including Twitter, LinkedIn, Dropbox, and a host of others. These tools are easy to use and provide significant value, but they were just not developed for the rigors of the enterprise. But what if that changed? What if someone took the initiative to develop a robust, business-capable social computing platform and add proven PLM techniques to it?

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Tech-Clarity believes that social product innovation is inevitable. But the assumption was that PLM solutions would get a new face because it was too much to reinvent the PLM wheel. But what if that prediction was wrong? Perhaps there is another path – one that brings PLM capabilities to social software. It makes you think, how will today's leading companies transition to social product development?

Why Social Business Collaboration Makes Sense

Stepping back, why does social computing make sense for business? Social media simply provides a better way to communicate and collaborate. Social techniques use rich media such as pictures and videos to share information and let people choose who and what they are interested in hearing about (following). It helps people share what is important with their community, replacing e-mails and status reports with timely, unfiltered information shared between peers and organizations.

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Better collaboration is better business. Tech-Clarity Insight: Product Collaboration 2.0 – Using Social Computing Techniques to Create Corporate Social Networks finds that "*Social computing techniques offer the ability to create more effective, dynamic, virtual teams*." The report also points out that more natural communication through chat and presence detection help bring communities together in real-time to share ideas and solve problems. This innovative approach to collaboration reflects the way today's young talent share information and exchange ideas – methods learned and used in universities. Social media offers companies the ability to:

- Improve collaboration with people they are already interacting with
- Discover new people to collaborate with using social discovery techniques
- Capture knowledge from business discussions that were formally held on the phone, in e-mails, or in meetings where decision rationale was lost

> *Social computing offers new opportunities beyond traditional collaboration.*

The research explains that social computing offers new opportunities beyond traditional collaboration. While most collaboration historically has been between people that 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 social corporate network, colleagues who may never have met may contact each other and tap into their collective knowledge base and potentially further into their broader corporate communities.

There are additional benefits as well, including better knowledge management and reuse. As the Going Social with Product Development report points out, "*By automatically capturing engineering information from collaborative conversations, social computing*

can capture decision-making history as opposed to just the answers, allowing better learning and reuse of corporate history." Social business collaboration allows companies to exchange thoughts and ideas in a way that is integrated with business processes, and promises to become a very strong business tool.

Why Social Business Makes Sense for Product Development

Social computing can help businesses collaborate better. But why does social computing make sense for product development? Product development decisions are often complex because decisions made in one area may impact product performance, cost, compliance, reliability, supply chain, and other factors that influence product competitiveness and profitability. Best practices in new product development dictate that developing profitable products requires input from cross-functional teams, and these teams are now more likely than ever to be spread out across the globe and be parts of different companies in the design and supply chain.

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So product development is a prime candidate for social enhancement. Of course, it is no surprise that collaboration provides value in product development or that digital communications can help. Collaboration has been a goal of PLM solutions for years. There have been advances in product development collaboration, including the ability to share 3D CAD designs in real time, but nothing matches the potential quantum leap available from social computing.

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The stage is set for a new collaboration paradigm for product development. According to Product Collaboration 2.0: "*Instant communication and sharing including alerts, subscriptions, instant messaging, status updates, and other techniques help people instantly contribute to the ongoing product development dialogue*." The value of better communication about products from discussions, status updates, and related activity focused on products and product development deliverables brings speed and flexibility to today's dispersed product development teams.

What will Socially Capable PLM Look Like?

The transformation to socially capable PLM is inevitable because it simply fits the collaborative way that successful companies develop products. Social computing platforms offer product development professionals a more natural, comfortable way to

work together and communicate information in the same way they have become accustomed to in their personal lives.

PLM, on the other hand, offers important capabilities that help companies manage the complexities of product development, including revision control, change management, search, document management, and a host of other processes. But today's PLM was not developed with social business collaboration in mind. A transformation is needed. The Going Social with Product Development report says, "*Social computing seems to be a natural fit for product development. But it will take more than just having engineers sign up for Facebook or Twitter – social computing needs to be applied to the business of product development.*"

To realize the potential business value of social product development, the next generation of solutions will need to combine both social computing techniques and proven PLM best practices in a seamless way.

To realize the potential business value of social product development, the next generation of solutions will need to combine both social computing techniques and proven PLM best practices in a seamless way. As Product Collaboration 2.0 concludes, "*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.*" In addition to providing a platform for social interaction, the socially capable PLM solution needs to:

- Manage business processes
- Put conversation in the context of products and projects
- Integrate effectively with underlying data and documents
- Provide security for IP
- Allow people to easily share and discuss product development information
- Understand the complex relationships between product data
- Provide the right level of control

How Do We Get There?

The question of socially capable PLM is not "will" the market transition but "how." When we look back on the transition to these next generation PLM systems, what path will we point to? Will this be a migration by the existing solution leaders or will new entrants take hold similar to the way Salesforce.com transformed the traditional enterprise software market for CRM? And if both social computing capabilities and PLM controls are required, does PLM have to become social, or can a social platform add essential PLM capabilities?

There are important concepts in product development that have already been automated in PLM. Controls such as check-in/check-out and revision control are important, and missing in most social computing environments. The same is true for supporting processes like change management, review and approval, and release to manufacturing, or for more advanced product concepts like configuration management and product variants. PLM solutions provide audit trails, where-used, and other views of product information. PLM can also offer much more, however, in most cases companies have primarily implemented Product Data Management (PDM) aspects of PLM.

> *As PLM capabilities become available in socially-capable business systems the value will increase dramatically.*

The controls and disciplines that PLM systems automate can help companies improve their product development performance. As PLM capabilities become available in socially-capable business systems the value will increase dramatically. Traditional PLM vendors have clearly taken notice of this opportunity. As <u>Going Social with Product Development</u> points out "… *engineering software providers are incorporating these social product development concepts into their product development solutions, tailoring the capabilities to the special needs of the product development community.*"

But another option is emerging, providing two options to achieve socially aware PLM. The first is adding social capabilities to existing PLM solutions. The second, more recent option is adopting social business collaboration software that supports PLM controls and discipline as needed. Which will provide more value and faster time to benefit for your company? Gaining better control of product data or enhancing the way product developers work with each other and the supply chain? In the end, companies will want both. Both paths are worth considering.

Social Software Goes PLM

Initial market assumptions, including Tech-Clarity's, were that "PLM would go social." But new market entrants lead to the possibility that social business collaboration software can be enabled with best practice PLM capabilities. Previous papers have explored socially enabling existing PLM solutions, so let's examine the alternative option.

> *New market entrants lead to the possibility that social business collaboration software can be enabled with best practice PLM capabilities.*

Why emphasize social computing first? It provides a human face to product development and changes the interaction from sterile e-mails and status reports to a richer, more comfortable community-based approach. It connects people on the new product development team together and allows them to tap into the corporate network of talent

and knowledge. As <u>Going Social with Product Development</u> explains, social computing allows product developers and others contributing to the product development process to search across social distance to find indirect connections. "*Some social computing solutions may even be able to recommend new associations. People are much more likely to listen to another person to learn lessons from the past than read through old status reports or research old designs.*"

> **A social business collaboration platform could offer significant value for smaller companies or those that want to emphasize collaboration.**

To leverage this, companies could start with social computing and collaborative capabilities, and add in PLM-related controls as needed. In reality, most companies take advantage of only a small portion of the capabilities that today's PLM systems offer. Some environments don't warrant the same level of control, such as in early conceptual stages of products. And some companies are simply not ready for the investment in time, cost, and people for PLM. A social business collaboration platform could offer significant value for smaller companies or those that want to emphasize collaboration. Particularly for supply-centric companies that have simple files versus CAD files with highly complex relationships, emphasizing collaboration ahead of control might be an excellent approach.

> **One advantage to starting with a social platform and moving towards PLM is that users can start with basic information and file sharing and gradually add more capabilities.**

One advantage to starting with a social platform and moving towards PLM is that users can start with basic information and file sharing and gradually add more capabilities. This offers the benefits of collaborative innovation with the capability to implement controls as the company is ready for them. The key is to quickly enable social business collaboration, providing what <u>Going Social with Product Development</u> describes, "*In addition to more formal collaboration approaches, these extended teams need a place to innovate, with less restriction and control than is needed for released products. Social computing offers the opportunity to give them the means to foster ideas, work, collaborate, and develop.*"

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Conclusion

Social media has made a significant impact on our personal lives, on the world as a whole, and now it is improving business. Using social computing techniques is just a more natural way to communicate and collaborate. One of the key areas that social business collaboration can be applied is product innovation. New product development is an inherently social, team-oriented, collaborative process that can be significantly improved with social computing.

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The greatest benefit will come from combining the collaborative power of social computing with the control provided by PLM. As <u>Going Social with Product Development</u> explains, "*While social networking by itself can provide value, companies that develop a strategy to leverage the concepts behind social computing in a product development business context will likely gain greater advantages in product profitability than others*."

> *The greatest benefit will come from combining the collaborative power of social computing with the control provided by PLM.*

The transformation to socially aware PLM is inevitable. Tech-Clarity predicts that within ten years all PLM solutions will have at least some social capabilities. Today, companies will have to determine the fastest path to value for their individual needs, emphasizing social computing and control in the right amounts to improve their business.

Recommendations

Based on industry experience and research for this report, Tech-Clarity offers the following recommendations:

- Leverage social business collaboration for better collaboration, discovery, and knowledge management in product development
- Implement PLM capabilities to provide needed controls
- Companies with PLM should look to add social capabilities
- Companies without formal PLM systems should consider implementing social business collaboration platforms that hold the promise to support PLM and product development business processes
- Take the time to learn and experiment with social computing, it is the way of the future and will help companies compete and differentiate themselves as innovators

About the Author

Jim Brown is the President of Tech-Clarity, an independent research and consulting firm that specializes in analyzing the true business value of software technology and services. Jim has over 20 years of experience in software for the manufacturing industries, with a broad background including roles in industry, management consulting, the software industry, and research. His experience spans enterprise applications including PLM, ERP, quality management, service, manufacturing, and others. Jim is passionate about improving product innovation, product development, and engineering performance through the use of software technology and social computing techniques.

Jim is an experienced researcher, author, and public speaker and enjoys the opportunity to speak at conferences or anywhere that he can engage with people that are passionate about improving business performance through software technology.

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