Emerging Social Applications in Product Development

CIMdata Commentary

Key takeaways:

- *The word "social" is overloaded with meaning in today's business world, with people immediately focusing on Facebook, Twitter, and other common platforms. Even though product development is almost always a social activity, its requirements are different from those enabled by these ubiquitous platforms.*

- *Social platforms and technologies are supporting many PLM-related use cases, and creating new opportunities for collaboration.*

- *Autodesk has introduced a number of offerings that combine business, social, and engineering capabilities.*

Product Development Is Inherently Social

We spend our lives awash in products. Cars, planes, machines of all types, electronics, toothpaste; the list is endless. Some are produced locally, and some are purchased from great distances. How do these products come into being? Unless you are buying products from an individual artisan, the products in our lives result from purposeful collaboration and communication among a multitude of interacting individuals and groups.

In today's complex global economy this means a company's ideas could be sourced locally, manufactured anywhere, and customized for delivery in multiple markets. Companies support these product lifecycle processes using different strategies and tools, such as enterprise innovation management (EIM), product lifecycle management (PLM), product data management (PDM), enterprise resource planning (ERP), supply chain management (SCM), customer relationship management (CRM), and service lifecycle management (SLM), among others. These solutions help structure collaborative activities specific to their problem domain, while generating and managing data necessary to define, develop, manufacture, and deploy products to the market.

This is collaborative action, but is it "social" in the context of the four global trends in information technology—social, mobile, analytics, and cloud (SMAC)—that are driving changes in society as a whole? In this context, social refers to "any sort of social behavior in or through computational systems…based on creating or recreating social conventions and social contexts through the use of software and technology."[1] This can include blogs, email, instant messaging, video messaging, social network services, collaborative ranking, wikis, and social bookmarking. In essence, social computing enables computer-mediated communication and collaboration and makes it easy to capture data and metadata on these collaboration processes in real-time—if you can convince the participants to rely on them to support their work, which is a critical issue in any knowledge management initiative.

How can these same social concepts and solutions apply to product development? Social offerings can help bring disparate skills, knowledge, and interests to bear quickly around an idea or process. They can help users self-identify their skills and interests, making them easier to find and leverage to support product development tasks. They can provide ready

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[1] "Social Computing," Wikipedia, http://en.wikipedia.org/wiki/Social_computing.

support for multi-channel communication, ad hoc collaboration, and community building. Recent CIMdata research on social product development revealed that social platform offerings are supporting PLM use cases, such as idea management, quality management, and team collaboration. However, while stand-alone social solutions such as Yammer, Chatter, and others may be supporting product development-related tasks, PLM was not a real focus for the social platform companies interviewed by CIMdata.

In the PLM market, social features such as chat, real-time collaboration, commenting, and talent/interest profiling have been available for some time, often built on Microsoft SharePoint or as stand-alone systems. However, SharePoint-based solutions tend to be document-centric portals, and modern social features are typically not that application's focus.

While some social capabilities are available, the social interactions typically supported using traditional PDM solutions are more structured, grouped into programs, projects, processes, and tasks. Focused authoring tools are required to create data for some disciplines and must be integrated into the PDM environment as seamlessly as possible. (Ideally all data authored to support product development is captured, tagged, and managed for later reference.) This approach enables a "single source of truth" that provides a solid foundation for product development, a virtual location where people can always find the latest version of all work products, avoiding errors and rework. However, existing PDM solutions were not designed to provide social capabilities. For example, chat and collaborative rating functionality are uncommon in PDM tools today. To fill this gap, several PLM solution providers have added a social offering to their portfolios, to help support the unstructured interactions that are typical of ideation and concept development. These are typically separate platforms, however, with separate data models, resulting in yet another island of information.

What Are the Right Tools For the Job?

Early results from the application of social functionality and the fundamental changes happening in IT indicate that product development needs to leverage these new social tools for maximum benefit. Social tools best fit tasks that are less structured and that leverage multiple points of view. Social tools can help bind and capture the discussion, and provide a record of the process. Companies in a wide range of industries are using crowdsourcing to generate new product and service ideas. Give interested people a platform and a topic, and it is truly amazing how many ideas they can generate. Of course not all ideas are good ones, but large groups of knowledgeable people can help to sift and hone the ideas to increase the likelihood of success. Some providers in the EIM market have integrated social-based ideation tools into their platforms to support this process.

Other solution providers are taking a different approach, integrating social functionality into more traditional work processes, augmenting the existing tool set to help empower users to collaborate more effectively. To engender adoption and use, it is important that this social functionality supports the use case in a way that users can see the value for both themselves and the organization more broadly. Recent briefings with solution providers across a range of application segments have provided some interesting examples. Atlassian competes in the application lifecycle management (ALM) market, and integrates social functionality into its review and team tools. While the review tools were designed to support software development, customers like Pixar are using them to support collaborative animation review.

ESTECO SpA, a simulation and analysis (S&A) firm based in Italy, is using social and decision-making tools to support multi-physics and systems engineering analyses.[2]

Autodesk and Social Applications

Autodesk has been particularly aggressive in developing new offerings with modern social capabilities built into a number of them. Connecting the development lifecycle to product concept design provides a strong collaborative foundation for more innovative and higher quality products.

Autodesk has partnered with NetSuite to create a demonstration showing how they can use social feedback to connect activities across the development lifecycle. The demonstration uses a barbeque grill to show how crowd sourcing, Autodesk Fusion 360, and collaboration can all help develop a new product concept. The collaborators are linked using PLM 360, and they make use of Autodesk's cloud-based S&A solution to analyze and resolve serious issues.

This demo is a good start, showing how a group of people from multiple regions and disciplines can collaborate socially to design an exciting new product. Because the solutions are cloud-based, all of the data is in one (virtual) location, and is developed using shared tools. Autodesk believes that since all parties are working off the most up-to-date information, it will be easier to ensure that participants understand the impact of their decisions. CIMdata looks forward to seeing how this combination of enterprise capabilities evolves to enable better collaboration.

Conclusion

Product development is a social process, enabled by a range of enterprise strategies and systems to support interaction and communication across the extended enterprise. But when most people who understand IT hear the word "social," it is to refer to things like Facebook, Twitter, and other solutions that support more organic community building, communication, and collaboration. This does not have to be an either/or proposition. Enterprise software and social functionality can and should be complementary. Some companies are using enterprise social tools to support PLM use cases, particularly around ideation and talent management. PLM solution providers recognize this trend and are taking different approaches to enhance their offerings to support this type of functionality.

To date, Autodesk has introduced interesting and potentially useful social collaboration capabilities in their 360 family of cloud-based offerings. Early work with NetSuite, a cloud-based ERP solution provider, highlights how social can link the various enterprise silos to great effect. One advantage of cloud-based tools is the ability to update them frequently based on user inputs. This journey is just beginning, and it is too early to tell where it will take us, but it promises to be an interesting ride.

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international

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[2] http://www.esteco.com/somo/esteco-enterprise-suite

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