



Whirlpool Engineers Get Social

After finding his dad's World War II shipmate via social media, former Whirlpool manager John Mannisto had an epiphany: *Why aren't we using social networking technology to connect with our colleagues at work?*

Today the Whirlpool Commons has become a virtual collaboration and meeting space for hundreds of the company's engineers located in every corner of the world.

By Dimensions Staff

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Few engineers today remember the drafting board, which once had a central role in the engineering department. “Big as a conference table, it often got used that way,” noted John Mannisto, former engineering director for simulation-based design at Whirlpool Corporation. “Working in a huge open space, engineers would gather around one another’s drafting boards throughout the day – solving a problem together, contributing different viewpoints, or collaborating on a brand new design.”



Photo courtesy Gilkes.

While John Mannisto is too young to have worked at a drafting board, he still mourns its demise. “Computer-aided design and engineering have so many obvious benefits, but we lost something important when engineers moved from open workspaces to offices and cubicles, with everyone focused on their own computer screens,” he said. “We lost an easy, natural way to collaborate and share knowledge.”

In his role at Whirlpool, Mannisto managed a 140-person global simulation team that spans North America, South America and Asia. Historically, groups came together once a year to meet in person and share results with one another, but Mannisto was looking for a simpler, more flexible way to encourage collaboration – not once a year, but every day. The answer came to him during a pivotal personal journey.

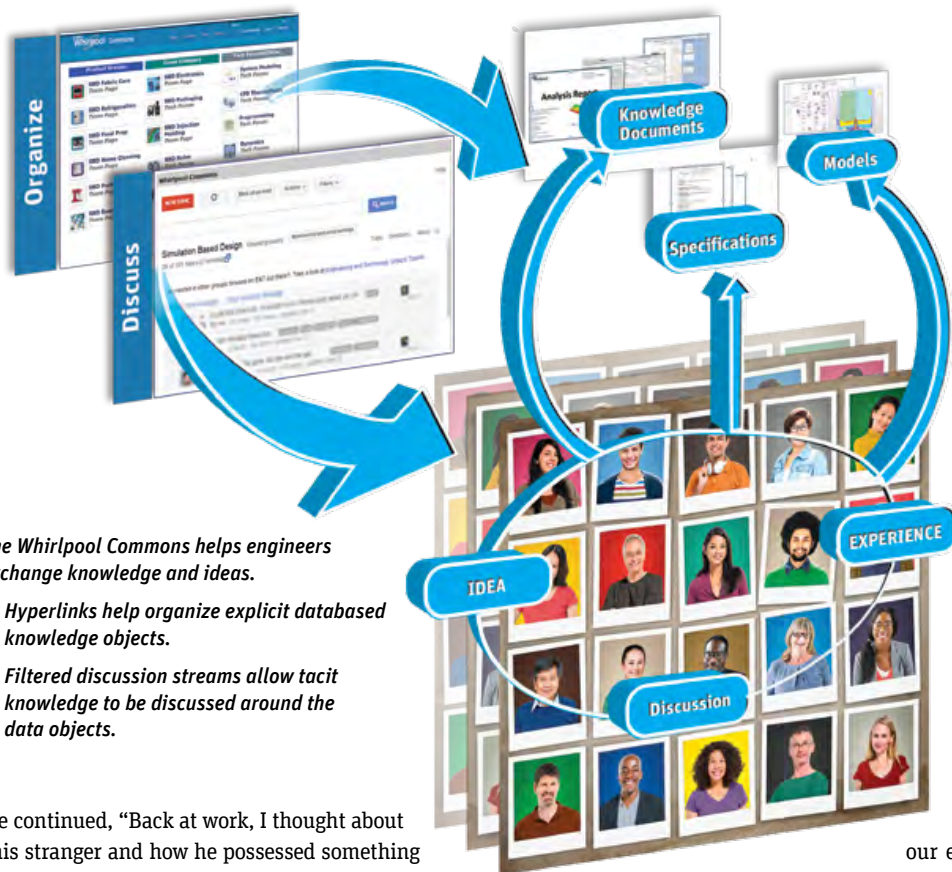
An Unlikely Connection

After his father, Walter, died, Mannisto felt compelled to learn more about him, especially his service on U.S. Navy destroyers during World War II. An Internet search led to a website where he could identify his father’s shipmates on the USS Beatty and the USS Bearss. Then he contacted them by email to see if anyone recalled serving with his dad.

“The emails started coming in right away, and at first it was discouraging because no one remembered him,” said Mannisto. “Then someone named Frank emailed me to say he had been my dad’s shipmate. Here was this stranger who lived hundreds of miles away, who had vivid memories of my father when he was only 22 years old.”

Frank visited Mannisto and happily shared his photos and memories of Walter. Then, as Frank was preparing to leave, something amazing happened. “Frank pulled out this piece of paper that he had kept for 50 years. It was a portrait of Frank that my dad had drawn one day when they were bored on the ship. Frank said, ‘I always wondered why I kept this, and now I know why. It was meant for you.’ It was an incredibly emotional experience, to touch this drawing that my dad had produced as a young man. And social media made that moment happen,” said Mannisto. “It had to be the most unique case of ‘document retrieval’ ever, and it completely changed my perspective.”

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The Whirlpool Commons helps engineers exchange knowledge and ideas.

- Hyperlinks help organize explicit databased knowledge objects.
- Filtered discussion streams allow tacit knowledge to be discussed around the data objects.

He continued, “Back at work, I thought about this stranger and how he possessed something that meant so much to me. I started to think about all the valuable expertise and information that were distributed across our global team, and I wondered if somehow we could use social media at Whirlpool to share knowledge in a more effective way.”

Launching a Revolution

Fortunately, Whirlpool had an intern named Alex Otten who was looking for a summer project. He showed Mannisto a web page he had created as a vehicle for his fellow team members in the FIRST Robotics Competition to collaborate and share information. Mannisto asked if Otten could create a similar forum for Whirlpool’s simulation users. Otten used open-source software to create the “Whirlpool Commons,” a virtual conference room and collaboration space where members of Mannisto’s geographically dispersed team could post questions as they worked on simulation problems.

When he saw Otten’s prototype version of the Commons, Mannisto requested a few changes. “It was actually too sophisticated,” he recalled with a laugh. “I told Alex he needed to remove some of the bells and whistles to make it more accessible to

our employees who weren’t

familiar with social media. Once the site was simple and straightforward enough, we were ready to go.”

When the Commons forum was launched in the summer of 2013, the reaction was overwhelming. “It was like lighting a fire near a powder keg,” said Mannisto. “I would get a personal email every time a new user signed up. My email was pinging every few minutes. It was clear that there was a huge interest in sharing knowledge and collaborating. People from outside our department asked if they could join. We quickly had 500 users, and you could see the questions — and answers — just pouring in. Experts were sharing advice on modeling condensation, combustion, multiphase flows — the complex simulation problems we work on every day.

“You could immediately see the value that was being created,” added Mannisto. “For example, an engineer in St. Joe might



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be trying to import PTC Creo® files into ANSYS Workbench – while someone in India had already solved that problem. By posting the question on the Commons and getting an answer within minutes, the engineer in St. Joe is saving hours of time that could be devoted to another task. Those kinds of exchanges started to occur every day.

“I guess it might surprise people that an engineering department in a \$20 billion company would launch a ‘grass-roots’ social media forum created by an intern using open source software – and it’s not a strategy Whirlpool would use for any external social media initiatives,” Mannisto noted. “But I think that was one of the keys to the Commons’ success. No one had to use it. There were no rules; it was a bit of a free-for-all. But that got people excited, and they wanted to be part of it. It was like the early days of Facebook.”

A Cultural Institution

In 2014, the Whirlpool Commons moved to the Google platform, which is used across Whirlpool Corporation – signifying that this upstart forum had become a cultural

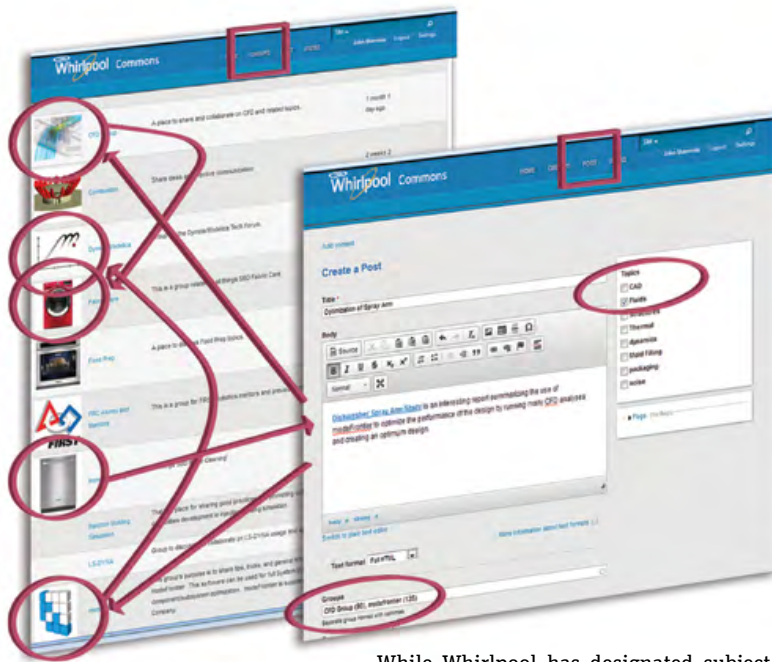
institution. Each day, Whirlpool engineers around the world use this social networking tool to connect, solve complex problems and brainstorm.

Recently, Mannisto observed as six expert engineers from across the globe came together virtually to discuss how they could speed up parameterization for computational fluid dynamics (CFD) analysis – which is a critical factor in optimizing the performance of many Whirlpool products. “These people had never met in person. One was working on a washer, one a dryer, one a cooktop. They exchanged ideas over 11 days. You could see them working out solutions, day by day. Six people were talking, but 80 people were watching the conversation and learning silently about CFD parameterization,” Mannisto explained.

“Now imagine if we tried to duplicate that in the physical world,” he continued. “Can you envision flying in 86 people for an 11-day meeting? Having collaborated by both methods, I can tell you that fiber optics is a lot faster, cheaper and more effective than air travel.”



The Commons allows engineers to exchange ideas easily and share information between groups to accelerate innovation and enhance efficiency.



Whirlpool engineers also share simulation models and tutorials via links posted on the Commons. “If someone figures out a combustion modeling problem, that’s applicable to both dryers and cooktops,” Mannisto stated. “Why not put that knowledge out there where everyone can benefit from it?” Mannisto emphasized that, because the Commons resides on Whirlpool’s Intranet, protected by a

While Whirlpool has designated subject matter experts in certain simulation topics, Mannisto likes the idea of inviting many people to contribute. “Sometimes knowledge comes from unexpected places,” he noted. “When you force discussions to occur through specific channels, you limit what can be discovered. Our philosophy is to ‘crowd source’ as much as possible. It’s hard to truly innovate if only a few people are invited to the discussion.”

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firewall, there are no restrictions on what can be posted or any concerns about information security.

“The Commons is content light, link heavy,” he continued. “It’s not so much a repository for data as a channel to find the information you need. For example, a typical entry might be, ‘I just finished this body of work on dishwasher spray arms, stored in Windchill/Google Drive, and here is the link.’ Later, when someone is searching for ‘dishwasher spray arm,’ they will surely find that conversation and that body of work. In addition to functioning as a virtual conference room, the Commons is a search engine for engineering insights.”

Whirlpool engineers also have their own personal workspaces with no rules about what they post there. These “scratch spaces,” as Mannisto describes them, help engineers to track projects, organize their work or jot down their ideas — the virtual equivalent of having Post-it® notes scattered on a desk. “Individual scratch pages can function like incubators, allowing ideas to grow over time,” explained Mannisto. “An engineer might be using this space for a project, developing ideas on both products and simulation processes. Later, the engineer realizes this is good, reusable information, and this page gets incorporated into Whirlpool’s formal knowledge bank. Personal workspaces reinforce the idea of working through the knowledge, as opposed to creating it as a separate task.”



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Building Your Own Social Network

What advice would Mannisto offer to other engineering teams looking to leverage the power of social media? “I don’t think you necessarily need to have a younger employee spearheading the effort, but there are people in every company who are naturally comfortable with technology and social media – whether they’re millennials or Facebook super-users,” Mannisto pointed out. “Pay attention to how people in your office are using social media in unique ways, and ask them for their input. Their creativity might surprise you.”

Mannisto also emphasized the value of flexibility and openness. “Don’t make social networking something your team is mandated to do,” he advised. “Pull them, don’t push them. Make it easy. Put the software right on their desktops and

keep protocols to a minimum. Don’t have an administrator, and don’t track the time employees are spending on this social networking. Let them learn at their own pace. If something’s not working, don’t be afraid to change it and keep going.”

While Mannisto has no formal metrics to measure Whirlpool’s return on investment in the Commons, he knows that it’s significant. “Social media is one of the lowest-cost tools available to engineers, infinitely more flexible and efficient than most off-the-shelf project management software that’s out there today,” he said. “Yet it can fundamentally change the way your team collaborates and shares knowledge, shaving hours and days off the development cycle. All you have to do is watch the conversations that happen every day on the Commons to know that it’s adding enormous value here at Whirlpool.”



ABOUT JOHN MANNISTO

John Mannisto served as engineering director for Simulation-Based Design at Whirlpool Corporation from 2009 to 2015. Prior to that, he directed the activities of an engineering team performing design support as director of Structural/Thermal Engineering Services at CD-adapco. Mannisto has also worked as an engineer for both John Deere Rotary Engine and Lockheed Electronics. He holds B.S. and M.S. degrees in mechanical engineering from Rutgers University.



Whirlpool at a Glance

- 2014 revenues: \$19.9 billion
- Number of employees: 100,000
- Headquarters: Benton Charter Township, Michigan, U.S.A.