Leveraging Technology R&D to Bring an "East" Wind to Knowledge Management—Postprint of an Interview with Ms. Chen Xueling, Knowledge Management Expert at Neusoft Group, by Knowledge Management Forum

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Abstract

Profile of Ms. Chen Xueling: Senior knowledge management expert, responsible for the development and promotion of Neusoft's knowledge management system. She has led and implemented major projects including the establishment of the company's knowledge management community and competency framework. During this period, the company received the Asian Most Admired Knowledge Enterprise (MAKE) award. She possesses profound practical experience in multiple domains, including knowledge management, employee capability development, and software engineering methodologies.

Full Text

Preamble

ChinaXiv Partner Journal [Expert Interview]
Bringing an "East" Wind to Knowledge Management Through Technology R&D—An Interview with Ms. Chen Xueling, Knowledge Management Expert at Neusoft Group

Editors: Du Xingye, Liu Yuanying, Wang Zheng

Interviewee Profile: Ms. Chen Xueling is a senior knowledge management expert responsible for the construction and promotion of Neusoft's knowledge management system. She has led major initiatives including the establishment of the company's knowledge management community and the development of its competency system. During her tenure, Neusoft received the Most Admired

Knowledge Enterprise (MAKE) Award for Asia. She possesses extensive practical experience in knowledge management, employee competency development, and software engineering methodologies.

Interviewers: Du Xingye and Liu Yuanying from the Editorial Department of *Knowledge Management Forum* (KMF)
Transcript: Wang Zheng
Interviewee: Chen Xueling, Knowledge Management Expert at Neusoft Group
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1. Neusoft's Knowledge Management with Technology and Innovation DNA

KMF: Ms. Chen, thank you for accepting our interview. We know that Neusoft is China's first listed software company and an influential national brand in the international software market. In 2012, Neusoft also received the prestigious Most Admired Knowledge Enterprise (MAKE) Award for Asia. From this, we can see Neusoft's accumulation and strength in knowledge management. Could you first introduce us to the overall situation of Neusoft Group?

Chen Xueling: Certainly. Neusoft Group was founded in 1991. Our Chairman and CEO, Dr. Liu Jiren, was China's first PhD in computer applications and studied in the United States early in his career. Neusoft originated from Northeastern University, initially established as a computer network engineering research laboratory by Dr. Liu Jiren and two other young teachers with 30,000 RMB in research funding and three computers. Therefore, Neusoft has always carried the gene of a university and maintains close ties with academia.

Starting from a classroom and a half at Northeastern University, Neusoft has undergone 26 years of development. While continuously maintaining its leading position in industry solutions, intelligent connected products, and platform products, the company is actively expanding into cloud and data services in the industrial internet and social internet sectors. Our vision is to become a globally leading software company driven by growth through knowledge assets (IP). We have also established three Neusoft Institute of Information campuses in China—located in Dalian (Liaoning), Nanhai (Guangdong), and Chengdu (Sichuan)—with over 36,700 current students. Our goal is to build an educational ecosystem that cultivates applied IT talent. In Dalian, we have established a large-scale R&D base—the Hekou Park, which offers a scenic seaside

working environment that truly gives you the feeling of "facing the sea, with spring blossoms."

KMF: This working environment is quite enviable. The cluster of universities, technical colleges, and software parks gives Neusoft an integrated industry-academia-research innovation gene. In 2012, Neusoft won the MAKE Award. Could you share your insights on winning this award?

Chen Xueling: When Teleos (an independent knowledge management and intellectual capital research firm that administers the MAKE program) first notified us of the award, we were somewhat surprised. After all, this is the most prestigious honor in the international knowledge management field. Of course, behind this honor lies the greatest affirmation of Neusoft's years of knowledge management practice. We had conducted systematic and detailed research on the MAKE award criteria to identify improvement points in our existing knowledge management work. Based on careful comparison and analysis against the MAKE evaluation framework's eight domains and hundreds of assessment items, we discussed and confirmed each item, identified areas where our efforts were insufficient, determined what should be done, and assigned responsibility to corresponding departments.

Following the award, Neusoft participated in a series of international and domestic knowledge management conferences and forums, which gave us opportunities to gradually share our knowledge management practices with the media and public. During this process, many domestic and international organizations expressed strong interest in our knowledge management work, and Neusoft was even invited to share its experiences at the MAKE award ceremony in Iran.

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3. Technology and Strategy-Oriented Knowledge Management Positions and Business Structure

KMF: Could you introduce what aspects of knowledge management you are primarily responsible for at Neusoft?

Chen Xueling: Currently, I work in the Technology Development Department, which is the core technology management department at the corporate level. As the most influential driver of the company's technology development, our main responsibilities include: promoting overall technology capability enhancement and knowledge asset reuse around organizational technology development strategies; facilitating innovative business development; providing in-depth technical support to various business units; solving major technical problems; and ensuring efficient business operations. Knowledge management is an important component of our technology development strategy and a key focus of our work. Our work content covers the planning, construction, and implementation of the company's internal knowledge management system; providing consulting and support for knowledge management planning and construction in various business

units; building and enhancing the company's external knowledge management brand and influence; and consulting and supporting knowledge management-related projects.

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4. Knowledge Management Radiating and Connecting to Business Groups

KMF: From your introduction, we find that Neusoft's knowledge management function belongs to the core technology development department, which is equivalent to the organization's nerve center. So how does knowledge management transmit effective knowledge and information to the nerve endings—namely, the various frontline business units?

Chen Xueling: Your metaphor is very apt. Our department is indeed positioned as the "nerve center" of the organization's technology and R&D system. At Neusoft, to ensure that our series of knowledge management activities around the core technology development strategy are effectively executed and implemented at all levels of the company, we have established a multi-level knowledge management organization comprising the corporate level and various business units, along with a complete organizational system and systematic strategic planning and execution mechanism called the TCOE Program. TCOE stands for Technical Community of Excellence, which encompasses Neusoft's entire set of knowledge management implementation solutions, including the corresponding organizational system, operational model, and differentiated evaluation mechanisms. As the organizer and driver of the TCOE Program, we continuously transmit the wisdom and knowledge of organizational technology development from the "nerve center" to the various "nerve endings" of the organization.

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5. Gains, Challenges, and Difficulties in Knowledge Management Work

KMF: Could you share your personal journey in this field, as well as the gains, challenges, and difficulties you've experienced in knowledge management work?

Chen Xueling: I myself studied computer science and joined Neusoft after graduation, working in R&D and later in IT training for several years. By chance, I entered the knowledge management field. I think the greatest gain has been completing the transformation from a software engineer focused on technology R&D to my current technology management position. The most critical change in this transformation has been the shift in perspective—from a technical viewpoint to a management viewpoint, and from a project perspective to an organizational perspective.

Regarding challenges and difficulties, I believe the biggest challenge is how to better integrate knowledge management with the company's business and better serve the company's business operations. This has long been one of the recognized difficult problems in the enterprise knowledge management field.

KMF: For software companies, how can knowledge management be integrated with business? In our understanding, software development is knowledge-intensive work that well demonstrates characteristics of knowledge innovation. Software developers must both emphasize code reuse to reduce repetitive work and develop new functions and solutions. This actually places high demands on knowledge management in the software industry while also providing a field where knowledge management can demonstrate its value. Could you discuss, with specific practices, the role of knowledge management in the software industry's R&D and innovation processes?

Chen Xueling: Knowledge management must ultimately help enterprises achieve higher performance. Only by deeply embedding knowledge management work into the nodes that create value for the enterprise can it generate benefits for the company. In short, knowledge management must be integrated with a company's value chain. For a software company, our value chain is essentially our software lifecycle—through deep insight and analysis of markets, customers, and technologies, we determine what to do (i.e., the value proposition of software products), followed by requirements analysis, design, development, testing, deployment, operations, and maintenance. In these processes, we need to analyze and explore from a knowledge management perspective: which roles are involved, what competencies and knowledge these roles require, and what valuable knowledge and assets are generated in the process of performing these tasks. Next, we share and disseminate these acquired knowledge assets through effective mechanisms and tools, making them "flow" throughout the enterprise so that more people can obtain and apply this knowledge, ultimately enhancing their R&D and production efficiency and creating greater profits and value for the enterprise. This is essentially the essence of Mr. Ikujiro Nonaka's SECI model.

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6. Knowledge Management in the Software Industry

KMF: Many enterprises we encounter often face repetitive development or resource waste during software and program development. For example, a piece of code cannot be effectively shared and reused. Developers know someone has already developed it but cannot find who did it or where the existing 成果 (work) is located, forcing them to redevelop it. This is a common frustration for programmers. How should knowledge management address this practical problem?

Chen Xueling: Reuse is an eternal topic and the core work of knowledge management in the software industry. In the era before cloud and SaaS services

emerged, when we talked about selling software or products, we mostly meant selling copies—this could be considered our earliest narrow understanding of reuse.

Software reuse can be divided into multiple levels, ranging from the reuse of a small piece of code, an article, a report, or a component, to the reuse of a technology, tool, method, architecture, or service, and even the reuse of asset solutions, products, and platforms—all of which bring considerable value and benefits to our enterprise. Here, what knowledge management needs to do is: let everyone know what assets are reusable, promote the formation of these reusable assets, and through mechanisms and platforms, enable the widest possible effective dissemination, application, and feedback of these assets.

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7. Knowledge Management Transformation in an Open Innovation Environment

KMF: In 2008, Neusoft proposed the "Framework for Solution Effectiveness" (NeuSA™) for open and collaborative innovation, which includes five practice domains: products and technologies, processes and tools, competency development, knowledge management, and centers of excellence. We can see that knowledge management is an important component. Could you explain the positioning and role of knowledge management in Neusoft's open and collaborative innovation?

Chen Xueling: Yes, in the NeuSA™ 1.0 framework released in 2008, knowledge management was one of the practice domains and an important component of Neusoft's open and collaborative innovation practices. Later, as our work progressed and our understanding and cognition of knowledge management deepened, we realized that knowledge management has greater connotations and extensions. Therefore, we renamed the "Knowledge Management" domain to "Collaboration and Sharing," while using NeuSA™ as the action framework for Neusoft's knowledge management and the core of Neusoft's knowledge management strategy. Thus, the positioning and value of knowledge management at Neusoft are evident. Recently, NeuSA™ 2.0 is about to be released. The upgraded NeuSA™ is endowed with new connotations and mission, serving as Neusoft's "value-oriented, asset-driven" product innovation and knowledge management system that will continue to lead and support Neusoft's open innovation and transformation strategy and drive Neusoft's sustained business growth.

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8. Big Data-Driven Knowledge Management

KMF: We would also like to hear your perspective on big data. We see that ten years ago, many enterprises were talking about "knowledge" and "knowledge management," while in recent years, enterprises have been discussing "big data."

Neusoft has also begun to develop business layouts and business model designs oriented toward big data. How do you view the relationship between knowledge management and big data, and how should knowledge management respond and adapt to the needs of the big data era?

Chen Xueling: Yes, Neusoft's technology and business layout for big data started relatively early. Currently, we not only have the SaCa RealRec data science platform and SaCa DeepCogni knowledge service platform focused on big data intelligence strategies, but also the RealSight big data advanced analytics application platform that deeply integrates big data advanced analytics technology with business data and domain knowledge. Based on these big data platforms and products, we can help customers innovate data-driven business models, mine the potential value behind big data, and, supported by rich industry data analysis models and machine learning technologies, transform data into knowledge assets that can guide enterprise data-driven operations.

Neusoft's Ohwyaa knowledge community is built upon the SaCa RealRec data science platform, SaCa DeepCogni knowledge service platform, and RealSight big data advanced analytics application platform. In our community, each employee's profile (including department, position, knowledge, skills, career history, project experience, education, training, patents, reputation, etc.) constitutes part of the community's "big data." Based on this profile information, combined with employees' daily behaviors in the community such as posting, liking, bookmarking, and commenting, we rely on our big data platform and product portfolio to achieve natural language understanding and processing, user behavior and profiling analysis, big data mining, and deep learning. This enables us to accurately identify employees' personal interests, skills, and areas of expertise. Based on these analyses, the community automatically recommends a series of community topics that employees may be interested in, connecting employees who follow the same topics—who may share similar interests, possess similar skills, or work in related fields—enabling them to share, communicate, and interact without barriers, aggregated together through these topics.

On the other hand, the community's ability to accurately identify employees' personal interests, skills, and areas of expertise is like establishing a powerful and comprehensive employee competency database within the organization. This can help our CKO and department managers solve the problem of "matching project-required skills with individual skills" and select employees whose skills and interests align with the company's development goals for more targeted training and development using learning and development tools. For employees, the community can also recommend employees with strong capabilities in a certain field to other employees interested in that field, promoting knowledge dissemination and sharing between them, connecting employee needs more efficiently, and facilitating better experience exchange and work assistance among employees. In essence, the analysis and application of big data effectively promote the flow of knowledge within the community.

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9. Making Fresh Knowledge Flow

KMF: This essentially means diffusing useful knowledge from individuals' minds to the entire team, making knowledge flow.

Chen Xueling: Yes, this is exactly what Mr. Ikujiro Nonaka's SECI model expresses, which I mentioned earlier. How to transform individual knowledge into team knowledge and organizational knowledge, and how to convert external knowledge into internal capabilities—these are all issues that enterprise knowledge management needs to consider.

In addition to the Ohwyaa knowledge community, we have other more classic and universal methods to make knowledge flow, such as COP (Communities of Practice). Ten years ago, people were already discussing COP, and it remains relevant today. It determines whether knowledge in various aspects of the organization can flow well within the enterprise. COP relies not only on establishing an IT platform but also on offline mechanisms to drive it. For example, our TCOE Program promotes the overall operation of TCOE throughout the company in a top-down manner.

Furthermore, we have established a series of virtual competency centers, such as the Artificial Intelligence Competency Center and the UCD User Experience Competency Center. These centers consist of employees with similar job functions or skills from different departments who collaborate and communicate together to jointly enhance their capabilities. They regularly organize salon discussions, collect best practices, and promote them within the company. In addition to internal resources, partners are another channel for acquiring knowledge. We regularly invite external partners and vendors to exchange new technologies, methods, and products.

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10. Future Trends in Knowledge Management

KMF: Enterprise knowledge management is an ecosystem, and as an IT solution provider, Neusoft has also accessed and grasped a large number of enterprise needs. So, regarding the overall trend of enterprise development, could you share your understanding of the future development trends in enterprise knowledge management?

Chen Xueling: First, I believe we should continuously promote Communities of Practice (COP), as this is the source of enterprise knowledge management.

Second, we must pay attention to new technologies. From an enterprise operations perspective, knowledge management is more like a service. We need to leverage new technological means to continuously optimize our services and make knowledge management more effective and interesting. For example, some enterprises have now launched Q&A robots based on artificial intelligence technology. If we introduce such Q&A robots into our existing knowledge bases

and case libraries, could we make knowledge spread and apply more flexibly, effectively, and rapidly within the organization?

Finally, and most importantly, we need to pay more attention to customers and to collaboration between customers and enterprises. The MAKE evaluation framework also includes relevant dimensions for this requirement. Enterprise knowledge management is an ecosystem in which our employees (including experts), managers, customers, and partners are all components. Knowledge continuously flows within this ecosystem and constantly provides us with nutrients, making our enterprise healthier and stronger. This is the beautiful vision of knowledge management that we all share.

Note: Figure translations are in progress. See original paper for figures.