

Achieving Intelligent Services through Knowledge Management: An Interview with Knowledge Management Experts Ge Zhaohui and Li Xiang from China Asset Management (Postprint)

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Abstract

KMF: Greetings, distinguished experts! We sincerely appreciate your acceptance of this interview with *Knowledge Management Forum*. Since 2016, our journal has been interviewing experts and scholars in the knowledge management community, encompassing professionals from the software, consulting, training, and academic sectors. As interviewees from the financial industry, you are highly representative, and we are honored to have this opportunity to speak with you. To begin, please introduce the business operations of China Asset Management.

Full Text

Preamble

Expert Interview Achieving Intelligent Services Through Knowledge Management—An Interview with ChinaAMC Knowledge Management Experts Ge Zhaohui and Li Xiang

Interviewers: Liu Yuanying, Yi Fei, Wang Zheng

Interviewees: Ge Zhaohui, Director of Customer Service Department, and Li Xiang, Head of Quality Inspection Center, ChinaAMC Customer Service Department (hereinafter referred to as “ChinaAMC”)

Interview Date: July 13, 2017

Interview Location: ChinaAMC Customer Service Department

Ge Zhaohui possesses extensive professional experience across securities/funds, internet, and software industries. Since joining ChinaAMC in 2007, he has served as Director of Customer Service, where he has actively promoted the

establishment of a three-tier KPI system to continuously improve service efficiency. Under his leadership, the department has provided quality services to over 47 million fund customers, winning the China Customer Service Committee's Best Customer Service Award seven consecutive times. He has also led the transformation of the customer service knowledge base, earning the "Most Admired Knowledge Enterprise (MAKE) Award" twice, and launched the industry's first intelligent customer service system.

Li Xiang joined ChinaAMC in 2007 and currently serves as Head of the Quality Inspection Center in the Customer Service Department, overseeing quality inspection, knowledge base management, training, and complaint handling. With rich professional experience, he has been engaged in knowledge management since 2010, continuously exploring knowledge architecture frameworks for the fund industry. He established a four-library system tailored to industry needs and gained recognition from authoritative bodies through innovative knowledge application methods.

1 Knowledge Management Characteristics in the Fund Industry

KMF: Welcome, experts! Thank you for accepting our interview. Since 2016, *Knowledge Management Forum* has interviewed scholars and experts across software, consulting, training, and academia. You are our first interviewees from the financial sector, which is highly representative, and we are honored to have you with us. Could you begin by introducing ChinaAMC's business operations?

ChinaAMC: Founded in 1998, ChinaAMC is one of the first public fund management companies established in China and a comprehensive, full-service asset management firm. Our service scope covers multiple asset classes, industries, and regions. We have built a diversified asset management platform centered on public funds and institutional business, encompassing ChinaAMC Hong Kong, ChinaAMC Capital, and ChinaAMC Wealth. With a complete product line, we can meet various investment needs of different investors. Upholding the principle of "rewarding trust," we serve over 47 million clients and emphasize timely conversion of investment returns into dividends, having distributed more than 130 billion yuan to holders. Our strong comprehensive capabilities have established our leadership position in the fund industry. Over the years, ChinaAMC has repeatedly won authoritative awards both domestically and internationally, earning widespread recognition in the Asia-Pacific region and Europe and America.

KMF: Thank you for that introduction. We now understand ChinaAMC's corporate strength and specific fund business operations. Could you describe the characteristics of knowledge management in fund companies? How does it differ from other industries?

ChinaAMC: Compared with rapidly emerging industries like internet and e-commerce, knowledge management in the financial sector remains relatively traditional. Fund company knowledge management currently has the following characteristics: (1) The scope of knowledge and number of knowledge points expand relatively slowly. New fund types are launched only every one to two years—for example, from early ETF funds and QDII funds to recent tiered funds and Shanghai-Hong Kong Stock Connect funds. Each new fund type adds an entire set of knowledge content covering product features, business rules, operational methods, and sales models. (2) The knowledge system places greater emphasis on depth within its vertical domain, requiring continuous enhancement of professionalism alongside business development. For instance, the transition from traditional knowledge bases to intelligent knowledge bases, through continuous improvement of the knowledge system, changes the service structure allocation, concentrating valuable professional human resources on high-value service content. (3) Since funds involve clients' direct investment interests and the China Securities Regulatory Commission has detailed regulatory requirements for public funds, the demands for knowledge accuracy, timeliness, and authority are extremely high.

KMF: It's clear that the knowledge environment in the fund industry has its own unique characteristics. Could you introduce ChinaAMC's knowledge management journey in response to these features?

ChinaAMC: Our knowledge management has evolved through three stages. **Stage 1: Establishing a departmental-level knowledge management system.** As a service department, the Customer Service Department has been accumulating knowledge since its inception, initially through individual employees recording and disseminating knowledge via Word, Excel, or email. In 2009, we established a primary knowledge base, beginning to record and uniformly publish knowledge in FAQ format, which solved problems of untimely updates and incomplete information transmission.

Stage 2: Building a comprehensive knowledge management classification system. As the volume of knowledge grew, the limitations of the original knowledge structure became increasingly apparent. Starting at the end of 2011, the department launched a comprehensive knowledge system construction project, creating a complete directory of knowledge points around business mainlines and establishing the "Four Libraries" knowledge system. We improved relevant systems and built a company-level knowledge center. Through the "Four Libraries System," we achieved the organization of explicit knowledge, the externalization of tacit knowledge, the internalization of external knowledge, and the centralization of dispersed knowledge.

Stage 3: Vigorously developing intelligent service knowledge applications. Beginning in 2014, we promoted the development of service intelligence, becoming the first in the industry to launch online intelligent customer service, achieving breakthroughs in enterprise-level intelligent dialogue and industry knowledge management. This provides customers with quality self-service,

greatly improving search efficiency and recognition accuracy. Through continuous knowledge organization and training of the intelligent system, we achieved excellent results, directly saving 80% of online human resources while further improving customer search hit rates and satisfaction. ChinaAMC has also actively disseminated advanced concepts to other fund and securities institutions, contributing to optimizing industry structure and enhancing service efficiency and standards.

3 Open Knowledge Services

KMF: You mentioned some external-facing applications. Could you elaborate on how openness is manifested in knowledge services?

ChinaAMC: ChinaAMC has always adhered to a people-oriented principle. Our customer service team consistently focuses on customer needs, forming a three-dimensional service model based on fundamental services with personalized services as extensions. First, we deepen statutory services as the core, providing three-dimensional information services through telephone, SMS, website, mail, and other channels. Second, we extend value-added services by establishing a full-dimensional customer maintenance system that meets differentiated customer needs (see Figure 1 [Figure 1: see original paper]). For individual clients, we have developed a complete tiered service system that not only provides professional manual consultation services but also develops convenient service models such as SMS services and voice self-service. We have also explored the establishment of a customer service response mechanism based on constantly changing market environments. For institutional clients, ChinaAMC has specially established departments such as Institutional Wealth Management and Pension Services to provide one-on-one dedicated account management services. Additionally, ChinaAMC was the first in the industry to launch WeChat services and enable WeChat transactions, providing customers with more service channels.

Currently, all our online channels—including PC official website, micro official website, APP, WeChat, Wealth Community, and Ant Community—provide intelligent services. Customers can directly access open knowledge points from the knowledge base. For different usage channels, such as PC and mobile, knowledge point processing and architecture adjustments must meet relevant system requirements, which has also prompted further upgrades to our knowledge base toward intelligence.

4 Organizing Knowledge into the “Four Libraries”

KMF: You mentioned establishing the “Four Libraries” knowledge system. Could you elaborate on this?

ChinaAMC: Based on ChinaAMC Customer Service’s knowledge application scenarios and formats, our knowledge base is divided into four sub-libraries: Customer Service Library, Office Document Library, Training and Learning Library, and Service Script Library—collectively referred to as the “Four Libraries.”

- (1) **Customer Service Library:** Primarily serves ChinaAMC customers or potential customers by providing various consultation services (including self-service Q&A). Frontline customer service representatives use this library daily to answer customer questions, while employees in the customer service department and other departments also use it to find information of concern. Customers can also access portions of this library through intelligent services.
- (2) **Office Document Library:** Primarily serves internal departmental needs, providing knowledge support for front, middle, and back-office operations across all centers. Company employees can query relevant management documents, and professional staff can also use this library to deposit or retrieve work-related knowledge.
- (3) **Training and Learning Library:** Primarily serves internal departmental needs, providing a dedicated training and learning materials repository for customer service department employees. Staff can obtain training or learning materials from this library to acquire business knowledge or enhance professional skills.
- (4) **Service Script Library:** Primarily serves ChinaAMC customers or potential customers by providing consultation services. Unlike the Customer Service Library, which stores knowledge points, the Service Script Library stores scenario-based service scripts (equivalent to structured knowledge points). Scripts are a special type of knowledge in the customer service field with very important functions, so we established a dedicated library for frontline customer service agents.

These four libraries constitute our “Four Libraries” knowledge system, which essentially covers all knowledge content in the department and represents our primary knowledge management objects.

5 Understanding and Applying Intelligent Services

KMF: In the ChinaAMC knowledge management case, the concept of intelligence is particularly emphasized, which is also a recent trend in knowledge management. From ChinaAMC’s perspective, how do you understand the connotation of intelligent services?

ChinaAMC: We should narrow the concept slightly, as the “intelligence” domain is too broad. We can focus on “intelligent services,” and more specifi-

cally on “intelligent customer service.” Our intelligent customer service has two stages: **Stage 1:** Replacing traditional service forms such as search boxes and hot/frequently asked questions to achieve “one question, one answer” for customers. The core is that customers can ask questions in natural language and receive accurate answers, shortening search time, improving self-service satisfaction, saving company human resources, and extending service hours. Subsequently, we can upgrade from the current online service model where customers manually select “intelligent” or “human” modes to a human-machine hybrid model. **Stage 2:** Personalized and intelligent services that understand customers. Intelligence should evolve from solving universal, standardized services to providing personalized services for individual customers. When seeking help, customers provide much information. During conversations, robots automatically identify business scenarios through customer dialogue and intelligently provide the most helpful personalized prompt information, such as more favorable purchase methods suitable for them (e.g., current account transfers), delivering experiences beyond customer expectations—what is often called “surprise services.”

KMF: What are the key technologies and applications of intelligent services? What are the main challenges and bottlenecks in current implementation?

ChinaAMC: Intelligent customer service essentially automatically maps any customer sentence to a standard question and then pushes out the corresponding answer, though much work happens behind the scenes. The core part of intelligent customer service lies in how machines understand customer natural language and map it to the correct question. Currently, this is mainly achieved through two models: One is through word pattern technology, where we set up knowledge point questions in ways that computers can easily understand—extracting, simplifying, and abstracting the user’s intended meaning into a series of word class combinations for computers to recognize and find standard answers. The other model is deep learning, which directly lists all possible question formulations (e.g., “Can I buy ChinaAMC Return today?” “Can I buy Return tomorrow?” “Can I buy Return now?”) and annotates them to a standard question (“Can I subscribe to ChinaAMC Return now?”). Whether using word patterns or deep learning, the backend manual maintenance workload is enormous. The essence of the above processing is to accurately map a customer sentence to a standard question, establishing a matching relationship. However, current intelligent systems do not truly understand the meaning of sentences like humans do.

Our future goals and challenges lie in achieving true intent understanding. For example, in normal human conversations, there are often “implied meanings,” but machines currently can only understand literally. If a customer asks, “Why hasn’t my money arrived yet?” with a strong tone, the first need is actually to soothe the customer’s emotions—this goes beyond what business rules can solve. You must first provide emotional comfort before answering the question, but current technology can only address matters factually. Sometimes users ask

continuous questions to machines or include multiple questions in one sentence. A simple example: someone chats with you about how hot Beijing is these days, then suddenly asks, “What’s the temperature today?” In this context, “today’s temperature” definitely does not refer to Los Angeles but to Beijing’s temperature. This requires machines to recognize contextual relevance, understand how many sentences are about one topic versus another, and identify all implied elements related to the topic even if the user didn’t explicitly state them. Providing relevant answers to unstated but implied questions is also a technical challenge.

Intelligent service applications in the customer service field mainly include five aspects: online intelligent service, voice intelligent service, intelligent quality inspection, intelligent analysis, and intelligent applications, as shown in Figure 2 [Figure 2: see original paper].

KMF: What is the current accuracy rate of our intelligent Q&A?

ChinaAMC: Online intelligent customer service was officially launched in November 2014. Comparing previous key metrics with those from July 2017 (see Table 1), we can see significant improvements in both search hit rate and customer satisfaction.

6 Knowledge Base as Foundation, Precise Q&A as Core

KMF: What are the key technologies and applications of intelligent services?

ChinaAMC: Intelligent customer service is technically built upon the rapid development of intelligent technologies, but at the business level, it must be centered on the knowledge base as its core foundation. Without a knowledge base (even in the simplest FAQ format), intelligent customer service is impossible. Current intelligent customer service essentially matches customers’ various question formulations to a standard question in the knowledge base and then delivers the corresponding standard answer.

Currently, there are not many professional knowledge base vendors in China, and even fewer intelligent knowledge bases designed for robot usage rather than human usage, creating a disconnect between traditional knowledge bases and intelligent knowledge bases when implementing intelligent customer service. However, enterprises should be business-demand-oriented rather than technology-advancement-oriented. Whether a knowledge base is outdated depends on whether it can meet business development needs. The knowledge base system is a production system in the customer service field, whereas it may be a management system in other fields. The difference is that if a management system stops unexpectedly, the impact on production is relatively small, but the knowledge base is a production system for customer service—it cannot stop for even a minute, or we cannot answer customer questions.

Regarding intelligence, the knowledge base itself is far from being truly intelligent. We are only promoting intelligent customer service applications based on traditional knowledge bases. Currently, the main change brought by intelligence is that knowledge bases were previously only for human use but can now also be provided for machine use. Machines train through the knowledge base to further develop intelligence. Traditional knowledge bases indeed require transformation because humans have strong comprehension abilities—they can quickly identify key points, read tables, and understand pictures in a full document. However, for machines, this content needs to be converted into a format they can understand. Different application objects require different system requirements, so relevant intelligent transformations are necessary.

KMF: Customer service departments have their own characteristics. As a knowledge-intensive department, we see many enterprises starting knowledge management in customer service. Could you discuss the role of knowledge management in light of customer service department characteristics?

ChinaAMC: As mentioned earlier, the knowledge base is an indispensable production system for customer service, not just a management system that adds the icing on the cake. As the frontline department serving fund holders, ChinaAMC's Customer Service Department handles massive volumes of customer inquiries, queries, and complaints daily. Therefore, it is the department with the largest demand for and processing volume of various business knowledge within the company. All department employees (including regular staff and knowledge experts) are participants in knowledge management, constantly producing, applying, correcting, and accumulating knowledge, giving them a natural and profound understanding of knowledge management's importance.

All new employees must undergo in-depth, systematic learning of the existing knowledge base system and pass multiple rounds of business tests before officially starting work. During daily manual responses, reply content is standardized through knowledge points. Customers can also use existing knowledge through self-service applications to solve problems.

KFM: Traditional enterprise knowledge bases rely mainly on manual maintenance, which is costly and places significant pressure on knowledge management personnel. Intelligent knowledge management systems incorporate many new technological elements. Could you introduce how the knowledge processing workflow in intelligent services differs from traditional purely manual methods?

ChinaAMC: Our team's work in the knowledge processing workflow is mainly divided into two parts: One is the maintenance of the current traditional knowledge base, whose core is the creation, modification, deletion, review, and publication of knowledge points to ensure their professionalism, authority, timeliness, and accuracy—this is the core of our traditional knowledge. The other part is intelligent maintenance, which in principle does not change knowledge points (though it does involve some knowledge point analysis work) but focuses mainly on establishing word patterns and optimization.

The traditional knowledge base supports intelligent services, focusing on knowledge point accuracy, timeliness, and completeness. Intelligent services, however, are more concerned with user-friendly and understandable presentation methods. For example, traditional knowledge bases often contain long passages of text, attachments, Excel files, or Word documents. Intelligent services generally use short text as the main body, with small tables or images used sparingly. Since intelligent services require more granular knowledge points, the number of stored knowledge points will also increase substantially.

KMF: In intelligent services, besides providing customers with needed knowledge, have you considered utilizing and absorbing knowledge from customers to truly achieve open innovation?

ChinaAMC: This point is more evident in the internet industry, where vendors and customers interact and customers help each other. For the financial industry, we are still relatively cautious because we have very high requirements for knowledge professionalism and accuracy, and information released externally must have authority. Therefore, having customers directly provide knowledge content carries certain risks. However, we do analyze issues customers encounter during service application processes and their dissatisfaction feedback to supplement our knowledge.

7 Transforming Traditional Knowledge Management with Intelligence

KMF: How are intelligent customer service and traditional knowledge management combined? We have seen Chinese enterprises introducing knowledge management for over 10 years. For a long time, many enterprises established knowledge base systems and accumulated many knowledge documents, but these knowledge bases now seem technologically outdated with insufficient intelligence levels and poor utilization effects. Can we say that knowledge bases have become obsolete? How should we transform and optimize these existing knowledge bases?

ChinaAMC: Financial institutions pay more attention to risk. For the same matter, internet companies can use innovative technologies to operate products, but the possibilities are much lower for financial enterprises. Faced with the rapid development of internet technology, financial enterprises are continuously adapting to the impact. For example, customer service channels have evolved from early hotlines to online services, WeChat, APPs, and more. Regarding knowledge content, while ensuring customers are fully informed of risks and compliance requirements, we make it more accessible through knowledge translation.

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8 Responding to Internet Finance Impact

KMF: Since 2014, traditional financial institutions have faced significant impact from internet finance. Many believe that traditional financial institutions have rigid systems, large scale, and lack internet thinking, making them less agile than internet organizations. Can this be understood from a knowledge management perspective? We see that ChinaAMC's knowledge base and intelligent services are also moving toward intelligence, networking, and integration, while emphasizing user experience and people-orientation—this is actually a form of internet thinking.

ChinaAMC: Financial institutions are more cautious about risk. For the same matter, internet companies can use innovative technologies to operate products, but the possibilities are much lower for financial enterprises. Faced with the rapid development of internet technology, financial enterprises are continuously adapting to the impact. For example, customer service channels have evolved from early hotlines to online services, WeChat, APPs, and more. Regarding knowledge content, while ensuring customers are fully informed of risks and compliance requirements, we make it more accessible through knowledge translation.

9 Knowledge Management Evaluation Metrics

KMF: We know that traditional knowledge bases have measurement and evaluation metrics such as document creation volume, accumulation volume, and readership volume. How do we evaluate the implementation effects of intelligent knowledge bases? What metrics are used?

ChinaAMC: For intelligent customer service, the evaluation criteria are relatively straightforward. It can be viewed as a service channel with three main service indicators: (1) **Usage rate:** How many customers actually solve problems through intelligence; (2) **Recognition rate:** The probability of providing a matching answer when a customer asks a question; (3) **Accuracy rate:** Whether the provided answer is what the customer wants and whether it is correct.

We have also added auxiliary modules such as knowledge maps, expert assistance, collaborative knowledge building, and business processes in addition to traditional knowledge points. As technology continues to advance, enterprise knowledge management will inevitably reach new heights. First, the architecture of current traditional knowledge bases is increasingly constraining the development of intelligent services. If the next step of intelligent knowledge applications is to be launched, the original knowledge base architecture will be even more unsuitable, so traditional knowledge bases must take another step forward. Moreover, for future trends, artificial intelligence will demonstrate greater excellence in the customer service field. Customer service is a highly labor-intensive field

that consumes and uses large amounts of labor. Currently, artificial intelligence is still in the exploration stage in many fields, but it has achieved practical results in customer service. For example, among 100 incoming consultation calls, 80 are now handled by the system, with humans only handling 20 calls—this represents real labor savings. In this context, professional requirements for humans will become increasingly high, and it will also 催生 a group of intelligent service-related positions.

In summary, knowledge points and knowledge bases are the foundation, and intelligent applications will have increasingly greater development. For instance, before the internet, when customers asked A, humans found A from the knowledge base. Now, at the internet level, when customers ask A, machines match A. In the future, with the development of artificial intelligence, when customers ask A, machines will provide A while also considering that customers might need B, C, and D afterward, proactively pushing relevant information. The ultimate intelligent service is when customers only need to open their mouths once, and artificial intelligence considers all aspects of their needs and proactively provides everything.

KMF: That is truly an ideal scenario. It seems intelligent services have tremendous potential in the future.

ChinaAMC: Yes, there is still much that can be done, and it will be very interesting. Moreover, the pace of development will be beyond imagination.

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

Source: ChinaXiv — Machine translation. Verify with original.