Viewing the Current Status and Prospects of Knowledge Management Development in China from the "2021 China Knowledge Management Survey Report" Postprint

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Abstract

[Purpose/Significance] Based on the objective survey data and analytical conclusions from the "2021 China Knowledge Management Survey Report," this study investigates the development status of knowledge management in China in 2021, the challenges it faces, and prospects for its future development.

[Method/Process] Grounded in the primary survey data and key analytical findings of the "2021 China Knowledge Management Survey Report," this paper conducts further analysis and presentation across three main dimensions: overall development status, challenges faced, and future development.

[Results/Conclusions] Knowledge management in China has achieved continuous progress in cognitive understanding, continuous iteration, best practices, value recognition, system technology, knowledge systems, and supporting mechanism construction. However, the development of multiple key domain systems remains unbalanced and lacks depth, with prominent issues such as the diversification of responsible departments and personnel roles. Meanwhile, against the backdrop of China' s digitalization, intelligence, industrial upgrading, and business transformation, the valuation of knowledge management and its effective integration with business operations constitute the greatest challenges facing knowledge management. How to deeply embed knowledge management into people' s minds and methods for its effective application also represent significant challenges. The future development and breakthrough of knowledge management can be pursued along three dimensions: technology-oriented knowledge management, business scenario-oriented knowledge management, and individual and practitioner-oriented knowledge management.

Full Text

Preamble

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Development Status and Prospect of Knowledge Management in China from the *2021 China Knowledge Management Survey Report*
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Abstract: [Purpose/Significance] Based on the objective survey data and analytical conclusions from the *2021 China Knowledge Management Survey Report*, this study examines the current development status, challenges, and future prospects of knowledge management in China in 2021. [Method/Process] Grounded in the primary survey data and key findings of the *2021 China Knowledge Management Survey Report*, this paper provides further analysis and presentation across three main dimensions: overall development status, challenges, and future development. [Result/Conclusion] Knowledge management in China has achieved continuous progress in cognitive understanding, continuous iteration, best practices, value recognition, system technology, knowledge system construction, and supporting mechanisms. However, development across multiple key domains remains unbalanced and lacks depth, with issues such as diverse responsible departments and varied practitioner roles being particularly evident. Meanwhile, against the backdrop of China' s digitalization, intelligence, industrial upgrading, and business transformation, value assessment of knowledge management and effective integration with business operations represent the greatest challenges. How to embed knowledge management deeply into organizational culture and how to apply it effectively also pose significant challenges. Future development of knowledge management can focus on three directions: technology-oriented development, business scenario-oriented development, and individual/practitioner-oriented development.

Keywords: knowledge management; survey report; development status; challenge; future development prospect

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Introduction

Knowledge management has been introduced and developed in China for over 20 years [1]. Increasing numbers of domestic organizations have applied knowledge management to create value and improve effectiveness [2-3]. To comprehensively understand the development status, application levels, and practice patterns of knowledge management across Chinese organizations, as well as the challenges encountered during implementation and practitioners' expectations for future development, the Innovation and Knowledge Management Alliance (IKMA), Pioneers Alliance Technology (Beijing) Co., Ltd., and the Sunxz Platform (www.sunxz.net) conducted the "2021 China Knowledge Management Survey" from April to December 2021 [4], with strong support from institutions including the China National Institute of Standardization, Tsinghua University Center for Technological Innovation Research, Hong Kong Polytechnic University Knowledge Management and Innovation Research Center, Zhejiang University, Peking University, Renmin University of China, Beijing Information Science and Technology University, Beihang University, Tianjin University, Northwest University, School of Economics and Management at University of Chinese Academy of Sciences, *Knowledge Management Forum* magazine, China UnionPay Digital Learning Center, and NetEase Games. The report compilation and publication were completed in February 2022.

The survey primarily targeted respondents from domestic organizations with certain knowledge management awareness and practice. Data sources mainly included the Xingzhe assessment questionnaire and interviews with typical industry institutions. Based on 102 independent organizations and 2,393 valid questionnaire responses covering different industries (see [Figure 1: see original paper]), regions (see [Figure 2: see original paper]), and employee scales (see [Figure 3: see original paper]), the survey report systematically presents the current status and development trends of enterprise knowledge management application levels in China in 2021 [5].

The survey report primarily targeted enterprise knowledge management promoters and industry service providers, objectively describing and analyzing six aspects based on collected data: implementation organization distribution, cognitive level and practice patterns, knowledge management personnel, current status and level of knowledge management, challenges faced, and future development prospects [5]. Key conclusions are summarized below, through which the current practice status, challenges, and future prospects of knowledge management in China can be understood.

Current Status of Knowledge Management Practice in China

Implementation Stage and Cognitive Awareness

Duration of Knowledge Management Implementation Examining how long surveyed organizations had consciously implemented knowledge management by 2021 (see [Figure 4: see original paper]) reveals that practices vary significantly across institutions. The highest proportion (21.3%) reported "partial initial implementation but not yet organization-wide,"while no organizations had implemented for over 20 years, consistent with knowledge management' s roughly 20-year history in China [5].

Current Stage of Knowledge Management Implementation Although implementation duration varies, there is no direct correlation between duration and current stage. Data on implementation stages (see [Figure 5: see original paper]) shows relatively even distribution across major stages, with a trend of continuous renewal. Organizations in the continuous iteration and optimization stage account for the highest proportion at 24.2%, particularly among institutions with strong practices such as certain Huawei divisions, NetEase Games, and China Aerospace research institutes, which have maintained excellent knowledge management practices for many years while actively embracing digitalization and intelligence challenges to continuously iterate, optimize, and upgrade their knowledge management systems to serve new business development needs.

The planning and implementation stage (including knowledge management consulting and software deployment) also represents a high proportion at 23.1%. Some organizations are just beginning to explore knowledge management as a means to serve their operations, while others have undergone multiple rounds of knowledge management construction but require rebuilding due to improper past approaches. For these organizations, adopting the latest knowledge management methods offers a late-mover advantage. Additionally, organizations in the germination and awareness cultivation stage (22%) are continuously learning about knowledge management, while those in the operation and promotion stage (18.7%) require ongoing operations to realize effectiveness after understanding and planning knowledge management implementation.

Cognitive Awareness and Attention Toward Knowledge Management Data on respondents' cognitive awareness (see [Figure 6: see original paper]) shows distribution across different awareness levels, with no single category exceeding 30%, indicating that overall cognitive awareness of knowledge management within organizations requires further enhancement. Given that survey participants and organizations already possess certain knowledge management awareness, the overall cognitive level across Chinese organizations remains concerning.

Diverse Implementation Departments and Practitioner Roles

The 2021 survey reveals that knowledge management practitioners are primarily enterprise practitioners (87%), while industry service providers such as software vendors, academic researchers, industry promoters, consulting service providers, and knowledge management trainers account for just over 10% [5]. This likely reflects knowledge management' s strong practical nature and enterprises' emphasis on implementation, though it also leads to inconsistent methodologies and slow research breakthroughs.

With practitioners primarily being enterprise-based, which departments bear responsibility for implementation? This is a common question when organizations consider knowledge management adoption. The survey indicates (see [Figure 7: see original paper]) that responsible departments are highly diversified. Nearly one-quarter of organizations assign implementation to dedicated knowledge management departments/centers (22.1%). Other leading departments include operations departments or related units (10.5%), human resources departments (10.5%), corporate universities or training departments (9.5%), and quality management departments (8.4%). Additional departments include strategic planning, R&D, IT, general manager/CEO offices, organizational-level offices, library/information/archives departments, innovation management departments, change management departments, organizational development departments, intellectual property departments, and process management departments.

Corresponding position titles and roles are also diverse and non-standardized. Organizational practitioners can be divided into two main groups: Knowledge Management (KM) promoters, responsible for driving overall knowledge management system construction and operations, and Knowledge Management Business Partners (KMBP), responsible for knowledge identification, generation, 沉淀, sharing, and application within their business domains.

KM promoters can be categorized into three levels: (1) Director level: including CKO, knowledge management director, institute director, department head, etc.; (2) Manager level: including knowledge management supervisors, managers, system managers, data knowledge supervisors, best practice managers, talent development supervisors, knowledge operations managers, training senior supervisors, process managers, section chiefs, directors, etc.; (3) Specialist level: including knowledge administrators, knowledge management engineers, content engineers, HR specialists, intelligence knowledge engineers, intellectual property specialists, operations specialists, etc.

KMBPs also span director, manager, expert, and knowledge worker levels, primarily using business domain-specific titles such as e-commerce director, marketing director, project manager, knowledge expert, engineer, etc.

Recognized Best Practices and Value

After years of development in China, which practices are widely recognized as excellent? Survey data on existing best practices (see [Figure 8: see original paper]) shows multiple established approaches. Knowledge extraction and experience review (51.1%) and content-based knowledge asset management (51.1%) are the highest-rated practices. Knowledge extraction involves identifying critical business scenarios and developing cases and templates, mining expert and team experience, and extracting key knowledge from projects, business themes, work, and learning contexts to enhance knowledge status and promote tacit knowledge externalization and explicit knowledge standardization. Experience review involves retrospective reflection and summary to promote applicable, inheritable, and iterative experience transformation. Content-based knowledge asset management treats knowledge content as important organizational assets to promote intangible and knowledge asset value.

Training and learning (44.7%), knowledge operation and promotion (42.6%), knowledge management practices tightly integrated with business processes (41.5%), and knowledge sharing and innovation culture creation (40.4%) also represent significant best practices. Additionally, project knowledge summarization and application (35.1%), various thematic planning, online and offline community of practice construction, knowledge graphs and intelligent automated push, competitive intelligence and digital archives management, and internal/external social network construction are recognized practices that can serve as references for broader implementation.

Through these diverse practices, surveyed organizations widely acknowledge multiple value propositions from knowledge management (see [Figure 9: see original paper]). "Enabling continuous employee learning and growth, enhancing employee capabilities" ranks highest at 66%, followed by "preserving organizational knowledge and reducing enterprise risk" (53.2%), "saving time and improving work efficiency and productivity" (48.9%), "improving knowledge accessibility" (42.6%), and "learning from experience to avoid repeating mistakes"(41.5%). Additional recognized values include supporting decision-making through 沉淀 ed business experience, breaking information silos to enhance organizational collaboration and process improvement, improving product/service quality, fostering positive work atmospheres and team cohesion, enhancing organizational innovation capability, improving customer relationships and value, and reducing costs/increasing profits.

Development Levels of Subdomains Requiring Further Deepening

Measuring organizational knowledge management maturity typically employs established assessment tools. The 2021 survey referenced the Knowledge Management Maturity Model (KMMM®) [6] and adopted the Knowledge Management 7S® Key Domain Assessment Model (see [Figure 10: see original paper]) to simplify measurement of China' s knowledge management status. This model

includes seven fundamental assessment domains: organizational knowledge system, knowledge management strategy, knowledge management organization, knowledge management processes, knowledge management culture, knowledge management personnel, and knowledge management IT systems, enabling systematic evaluation to guide continuous improvement.

Overall 7S® assessment results indicate unbalanced development across key domains, with capacity levels requiring further enhancement to drive overall improvement in China' s knowledge management.

Status of Knowledge Management Systems Data on knowledge management system platform construction (see [Figure 11: see original paper]) shows that approximately 70% of organizations have preliminary or dedicated knowledge management system platforms. Some organizations have developed dedicated platforms independently (31.2%), particularly those with in-house software development capabilities. Others have purchased dedicated platforms (29.6%), selecting from both domestic and international products. Additionally, some organizations without dedicated platforms have preliminary communication, collaboration, and learning tools (13.7%), ranging from traditional office and document management tools to newer internet-based collaboration platforms. The knowledge management IT systems domain shows relatively higher assessment levels, indicating broad recognition of using systems and tools to support knowledge 沉淀 and inheritance.

Status of Organizational Knowledge Systems As the primary object of knowledge management, organizational knowledge system construction is crucial. However, assessment results show this domain does not rank highest. Overall status data (see [Figure 12: see original paper]) indicates that nearly 60% of organizations have established unified knowledge systems. Approximately 40% have clear, timely-updated knowledge systems (41.1%), with 10.9% able to develop new knowledge according to domain changes, achieving knowledge creation beyond mere 沉淀. About 20% have built knowledge systems but lack content updates (19.4%), requiring further analysis of causes and improvement.

Simultaneously, 39.5% of organizations lack clear knowledge systems and standards, with 31% having knowledge scattered throughout the organization without unified systems or standards, leaving knowledge in an unmanaged, primitive state with significant room for improvement.

Status of Knowledge Management Processes The knowledge management processes domain shows relatively lower overall assessment levels. Current status data (see [Figure 13: see original paper]) reveals that while half of organizations have established and continuously improved business processes (47.9%) with some process foundation, other aspects remain below 30%: "establishing corresponding knowledge management processes to form work instruction manuals" (25.5%), "identifying key input and output knowledge based on process 梳理"

(28.7%), "establishing organization-wide unified knowledge management standards" (27.7%), "embedding various knowledge items closely related to business processes" (22.3%), and "solidifying standardized processes through IT means" (19.1%). These results indicate that supporting process mechanisms require further improvement.

Status of Knowledge Management Culture The knowledge management culture domain also shows relatively low assessment levels. Current status data (see [Figure 14: see original paper]) indicates that different organizations have developed their own knowledge operation methods, including fixed knowledge sharing activities (41.5%), continuous thematic knowledge push (39.4%), ongoing advocacy of knowledge management concepts and methods (38.3%), continuous display and management of knowledge achievements (34%), and continuous cultivation of knowledge sharing and management culture.

However, areas requiring improvement include establishing knowledge incentive measures, specific support from managers at all levels, active advocacy and resource provision from senior management, and fixed knowledge evaluation activities. The option "employees have made continuous learning, innovation, transformation, and evolution their lifelong belief" shows very low adoption (12.8%), indicating the need for further cultivation of knowledge management and individual continuous learning culture.

Status of Knowledge Management Strategy In the knowledge management strategy domain, 18.1% of participants reported unclear understanding, and 6.4% fell into other categories (including not yet started, business competition period, or management attention without significant action). 41.5% of organizations have established overall knowledge management goals and development plans, while 29.8% consider knowledge management a strategic priority, with 21.3% having departmental annual work plans, indicating recognition of the importance of overall and departmental goals and planning.

However, only 34% of organizations can regularly adjust and optimize knowledge management work, and 20% can implement knowledge management plans at all levels, indicating the need for strengthened implementation.

Status of Knowledge Management Organization In the knowledge management organization domain, approximately 15% of organizations lack dedicated knowledge management positions (e.g., in enlightenment stage without established systems, or in spontaneous "everyone is responsible" states).

About 52% of organizations have established dedicated departments, positions, or roles for knowledge management, indicating that half have recognized knowledge management as organizational work requiring conscious organization and operational management. However, dedicated training, coaching, or certification mechanisms, quantifiable assessment indicators, and reward mechanisms

have not reached 50% adoption, indicating the need for improved supporting organizational mechanisms.

Status of Knowledge Management Personnel In the knowledge management personnel domain, nearly 10% of organizations are unclear about overall personnel aspects or believe organizational understanding of knowledge management is not yet clear (e.g., recognizing importance but lacking action).

51% and 38% of organizations believe personnel have certain understanding at the conceptual and implementation levels respectively, and can integrate knowledge management with position knowledge systems and learning path maps (23%). 31% of organizational members have made knowledge management the foundation of personal growth, continuously applying it in work and life and forming habits, practicing learning-by-doing (27%), indicating that Chinese organizational members already possess certain knowledge management literacy.

However, exchange and learning with external benchmark companies and sharing with different experts show relatively low proportions, indicating room for improvement in external sharing and communication among Chinese organizational members.

Overall Challenges Facing Knowledge Management in China

Challenges in Value Assessment and Business Integration

The 2021 survey collected data on knowledge management challenges (see [Figure 15: see original paper]), finding that difficulty in evaluating knowledge management value (41.5%) represents the greatest challenge, as gaining stakeholder and practitioner recognition of value is paramount. Ineffective integration with business operations (34.0%) is the second major challenge.

After all, knowledge management remains an organizational function and service, not frontline business, yet management value must ultimately be demonstrated through business outcomes. Value assessment, including the value of knowledge managers themselves, is often challenged and requires proof. These challenges also represent opportunities—knowledge management practitioners must clearly define their functions, deeply engage with business, immerse themselves in frontline operations, and diligently develop core competencies to powerfully demonstrate their value. This forms the foundation for positioning knowledge management' s value and for individual career breakthroughs.

Personnel-Related Challenges

Personnel-related challenges are also prominent. On one hand, low participation from experts and employees due to time constraints (30.9%), inconsistent cognition and expectations (27.7%), lack of top-level and senior management attention (21.3%), and insufficient support from business departments and middle

management (17.0%) show high proportions. On the other hand, lack of feedback mechanisms and employee motivation (16%), insufficient specialization and professionalization of promotion positions (12.8%), and absence of dedicated organizations and personnel (6.4%) also represent significant issues.

Methodology-Related Challenges

Additionally, lack of effective knowledge identification and application methods poses important challenges. These include unclear knowledge identification standards (21.3%), difficulty in applying existing knowledge (18.1%), lack of necessary skills and methods (17%), and application of new technologies like internet and AI (16%).

Therefore, mastering and applying appropriate methods and technologies provides knowledge management practitioners with actionable guidance for practice and iterative cycles. After all, knowledge management project implementation and promotion constitute organizational change activities, and any change involves both resistance and driving forces. Thus, achieving organizational transformation requires mastering change management methods to increase driving forces or mitigate resistance, building an organizational knowledge management culture to effectively serve knowledge management goals.

Future Development Prospects of Knowledge Management in China

How knowledge management will develop in the future is also a concern for survey participants. Regarding desired professional support (see [Figure 16: see original paper]), future development can focus on three main directions: technology-oriented development (particularly AI applications), individual and practitioner capability enhancement, and business scenario-oriented knowledge management development.

Technology Applications Oriented Toward Artificial Intelligence

As shown in [Figure 16: see original paper], knowledge graphs, intelligent recommendation, and other AI applications represent the highest desired support area (47.4%). Knowledge management serving and integrating with new-generation AI is increasingly recognized. In 2017, the State Council issued the *New Generation Artificial Intelligence Development Plan* [7], emphasizing the need to build an open and collaborative AI innovation system, with knowledge-based theories and key technologies as essential components. These research areas and industrial applications provide opportunities for knowledge management practitioners to make significant contributions while helping organizations apply organizational knowledge and wisdom to reach new levels.

Knowledge graphs and intelligent recommendations are beginning to be implemented in increasing numbers of institutions. With digitalization and tech-

nological development, the vast amount of electronic knowledge and information around us represents meaningful data—from structured data like formatted spreadsheets and templates to unstructured data including documents, images, web pages, audio, video, and emails. From a technical perspective, knowledge structuring, data-driven knowledge learning, collaborative knowledge services, and integration of knowledge mining with application scenarios require data knowledgeization and knowledge intelligence development.

Individual and Practitioner Capability Enhancement

Whether in knowledge-based theories and key technology research or their implementation and application, the development of knowledge management practitioners and knowledge workers' capabilities is essential. The survey confirms this, with nearly half of respondents seeking to enhance knowledge management practitioner professional capabilities (45.3%). Additionally, knowledge management practitioner career development paths (29.5%) represent another high-priority area. After all, knowledge management is a comprehensive field spanning information technology, management, and social sciences with strong practical orientation, requiring higher comprehensive capabilities from practitioners. Professional capability development and systematic career development form the cornerstone for advancing knowledge management.

Therefore, systematic training and improvement should be established in knowledge management personnel assessment, team development, qualification certification, and related areas.

Business Knowledge Scenario-Based Applications

Deep application of knowledge-based scenarios for work and learning also represents a high-priority area. Desired support includes business scenario-based knowledge application (38.9%), knowledge extraction and experience review (37.9%), knowledge system architecture and classification design (37.9%), knowledge management operations (32.6%), knowledge management process mechanism construction (26.3%), open innovation coaching (24.2%), and knowledge management status assessment and analysis (18.9%).

After all, business-oriented, scenario-based knowledge application not only deepens knowledge management and enhances business value at the current stage but also lays the foundation for digitalization and AI applications. The *2021 China Knowledge Management Survey Report* reveals that after 20 years of development, Chinese knowledge management has made continuous progress in cognitive understanding, continuous iteration, various best practices, value recognition, system construction, knowledge system development, and supporting mechanisms. However, facing China' s rapid economic changes, digitalization, intelligence, industrial upgrading, and business transformation, major challenges remain in value assessment and business integration, deep participation and cultural embedding, and lack of effective knowledge identification

and application methods. These challenges are also opportunities. Knowledge management practitioners must clearly define their functions, deeply engage with business, and powerfully demonstrate their value—this forms the foundation for positioning knowledge management' s value and for individual career breakthroughs. Future development can focus on technology orientation, business scenario orientation, and practitioner capability enhancement. The journey ahead for knowledge management in China remains long and challenging.

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