Research on the Knowledge Sharing Process of University Teachers

Ao Chen

Business Administration School, Baise University, China
E-mail: cao994857@gmail.com

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Abstract

In the knowledge economy era and the context of the "Double First-Class" initiative, universities, as core hubs for knowledge creation and dissemination, are crucial for the efficiency of knowledge flows within them. University faculty are the primary bearers of knowledge capital, and knowledge sharing among them is a key process for enhancing universities' overall innovation capabilities, teaching quality, and disciplinary development. However, knowledge sharing among university faculty is not simply a matter of information transfer; it is a complex socio-psychological and organizational behavioral process influenced by multiple factors. This paper aims to systematically explore the connotations and characteristics of knowledge sharing among university faculty, constructing an integrative analytical framework encompassing three dimensions: antecedents, processes, and outcomes. First, the paper defines the concept of knowledge sharing among university faculty and analyzes its unique characteristics, including its implicit nature, mutual benefit, and disciplinary cultural dependence. Second, it conducts an in-depth analysis of the key factors influencing faculty knowledge sharing willingness and behavior from the individual, group, organizational, and technological perspectives. Next, the knowledge sharing process is deconstructed into three core stages: knowledge externalization, knowledge transfer, and knowledge internalization. The operating mechanisms of both formal and informal sharing channels are explored. Finally, the paper demonstrates the positive effects of knowledge sharing on individual faculty professional development, the quality of student training, research team innovation, and the improvement of university organizational effectiveness. Finally, based on the above analysis, we propose management and practical recommendations for promoting effective knowledge sharing among university faculty from four perspectives: fostering a sharing culture, optimizing institutional design, building a technological platform, and promoting interdisciplinary approaches.

Keywords: University Faculty, Knowledge Sharing, Sharing Process, Influencing Factors, Incentive Mechanisms

Introduction

As human society enters a new economic era centered on knowledge and information as core production factors, competition between countries and regions is increasingly manifesting itself as a competition of innovation capabilities. As crucial hubs for knowledge production, dissemination, application, and innovation, universities' core mission is to cultivate high-quality talent and create cutting-edge knowledge. In this process, faculty are the holders and creators of universities' most valuable and core intellectual assets. Their knowledge, teaching experience, and research insights form the cornerstone of a university's core competitiveness. However, if knowledge remains limited to the individual level, its value is limited. Only when knowledge is effectively circulated, shared, collided, and integrated within an organization can it spark new ideas, achieve exponential growth in knowledge, and thus comprehensively enhance universities' teaching standards, research capabilities, and social service capabilities.

Therefore, the topic of "knowledge sharing among university faculty" has garnered widespread attention in recent years from both academics and management practitioners. Knowledge sharing refers to the process by which individuals transfer their knowledge, experience, and skills to other members of an organization through oral, written, or other means, with the ultimate goal of promoting the shared ownership and innovative application of knowledge. For university faculty, this process encompasses not only sharing their codified explicit knowledge (e.g., papers and lesson plans) in formal settings (e.g., academic conferences and teaching seminars) but also the transfer of their more difficult-to-express tacit knowledge (e.g., research intuition, teaching techniques, and project application experience) through informal interactions (e.g., lunchtime conversations and private consultations).

Despite widespread consensus on the importance of knowledge sharing, knowledge sharing among faculty members still faces numerous challenges in university management practices. For example, the traditional evaluation system, which prioritizes research over teaching, can discourage faculty from investing time in sharing their teaching experiences. The competitive environment of "academic tournaments" can foster intellectual protectionism, hindering the sharing of core research ideas and data. The significant cultural differences between disciplines (such as the paradigms of "hard science" and "soft science") also create invisible barriers to knowledge circulation. These phenomena suggest that knowledge sharing among university faculty is a complex, context-sensitive process, rather than a spontaneous, linear activity.

Based on this, this study aims to systematically examine and explore the knowledge sharing process among university faculty. This article will address the following core questions:

1. What is the connotation and uniqueness of knowledge sharing among university faculty?
2. What key factors influence university faculty's willingness and behavior to share knowledge?
3. How does the specific process of knowledge sharing among university faculty occur and evolve?
4. What positive organizational and individual outcomes can effective knowledge sharing bring?
5. How can knowledge sharing among university faculty be promoted from a management and practical perspective?

Through in-depth exploration of these questions, this study hopes to provide theoretical foundations and practical approaches for university administrators to understand and optimize internal knowledge management, stimulate faculty knowledge sharing, and enhance overall organizational effectiveness.

1. The Connotation and Uniqueness of Knowledge Sharing among University Faculty

To deeply study the knowledge sharing process among university faculty, we must first clearly define its conceptual connotations and grasp its unique characteristics that distinguish it from knowledge sharing in other organizations (such as enterprises).

Definition

Knowledge sharing, originating from knowledge management theory, is generally defined as the process of exchanging knowledge and jointly creating new knowledge between individuals, teams, or organizations through various channels. For university faculty, knowledge sharing refers to the process of transferring explicit and tacit knowledge to colleagues, research team members, or students through formal or informal channels, integrating, applying, and recreating knowledge in the process. It is not just a behavior but also a complex social interaction encompassing three dimensions: cognition, emotion, and behavior.

Specifically, the content of knowledge sharing among university faculty can be broken down into the following categories:

1. Research knowledge: This includes cutting-edge theoretical developments, research methods, experimental techniques, data analysis skills, experience in writing and publishing papers, and insights into project proposals.

2. Teaching knowledge: This includes curriculum design, lesson plan development, classroom management skills, application experience with new teaching methods (such as flipped classrooms and blended learning), and innovative student assessment methods.

3. Management and social service knowledge: This includes departmental management experience, academic committee operations, university-enterprise collaboration project integration, and the processes and strategies for social consulting services.

Key Unique Characteristics

Knowledge sharing among university faculty exhibits the following significant characteristics, which determine the complexity of the process and the unique nature of its management:

1. Highly implicit and specialized knowledge: University faculty, especially senior professors and academic leaders, often possess highly implicit "personal knowledge," such as keen academic insights, unique research thinking patterns, and refined teaching techniques. This type of knowledge is difficult to codify and convey, and its sharing relies heavily on deep interactions such as mentoring, long-term collaboration, and observation and imitation.

2. Mutual benefit and reputation-based sharing motivations: Unlike corporate employees, who may be more focused on economic gains, university faculty's sharing motivations are more complex. While they seek to gain new insights and solve their own challenges through sharing (mutual benefit), they also prioritize building a reputation within the academic community, earning respect, and recognition (reputation-based). Sharing behavior is often viewed as a means of accumulating academic and social capital.

3. Strong reliance on disciplinary culture: Burton Clark noted that the higher education system is composed of distinct "disciplinary tribes." Different disciplines (such as physics and history) exhibit significant differences in knowledge paradigms, research methods, and

communication practices, resulting in unique "disciplinary cultures." This culture profoundly impacts faculty identity and communication patterns, making cross-disciplinary knowledge sharing particularly difficult while sharing within the same field is more fluid.

4. Loosely coupled organizational structure: Universities are typically characterized by a "loosely coupled system," with departments, institutes, and teaching and research offices enjoying significant autonomy, and individual faculty members also possessing strong independence in their work (especially research). While this structure protects academic freedom, it also weakens the ability to enforce organizational integration, making top-down strategies for promoting knowledge sharing often ineffective. Bottom-up sharing based on shared interests is more effective.

5. Coexistence and complementarity of formal and informal channels: Universities have both formal sharing channels such as academic conferences, teaching training, and workshops, as well as numerous informal channels such as café conversations, online community discussions, and informal academic salons. The latter often play a decisive role in the transfer of tacit knowledge and the building of trust, serving as an indispensable complement to formal channels.

2. Key Factors Influencing Knowledge Sharing Among University Faculty

Knowledge sharing among university faculty does not occur in a vacuum; rather, it is influenced by a multi-layered and multi-dimensional system of factors. This study categorizes these factors into four levels: individual, group, organizational, and technical.

Individual-Level Factors

1. Willingness to Share Knowledge: This is the psychological foundation that determines whether sharing occurs. Willingness is influenced by the following sub-factors:

Benefit balancing: Faculty weigh the potential benefits of knowledge sharing (e.g., enhanced reputation, collaboration opportunities, and contributions to teaching and research) against the potential costs (e.g., investment of time and energy, and loss of exclusive knowledge advantages). Willingness decreases when they perceive their "knowledge power" as being diminished by sharing.

Self-efficacy: Confidence in the value of one's knowledge and the belief in one's ability to convey it clearly and effectively significantly enhance willingness to share.

Intrinsic motivation: The enduring driving force behind sharing stems from a love of knowledge itself, the satisfaction of helping others, and a sense of responsibility to adhere to the "communalist" norms of the academic community.

Trust tendency: A teacher's trust in colleagues, particularly their confidence that they will not misuse or steal their knowledge, is a crucial prerequisite for sharing tacit knowledge.

2. Knowledge sharing ability: Willingness without the ability to share knowledge will significantly reduce its effectiveness. These abilities include:

Knowledge encoding and externalization ability: The ability to transform implicit and ambiguous personal knowledge into explicit knowledge that others can understand (e.g., by writing a guide or creating a PowerPoint presentation).

Communication and expression ability: The ability to present clearly and coherently, either verbally or in writing.

Learning and absorption ability: Teachers themselves also need strong learning abilities to better understand and absorb the knowledge shared by others and foster positive interactions.

Group/Interpersonal Factors

1. Shared Vision and Goals: Within a research team or course group, if members have a high degree of consensus on the team's development direction and goals, they are more willing to share key knowledge for the sake of shared success.

2. Group Norms and Climate: A group atmosphere that encourages collaboration, tolerates failure, and fosters mutual support significantly promotes knowledge sharing. Conversely, a group atmosphere filled with competition, suspicion, and criticism inhibits sharing.

3. Social Network Structure: A teacher's position in the social network within the organization influences their knowledge acquisition and sharing. Teachers at the center of the network or those who bridge "structural holes" typically have access to richer sources of information and greater influence in sharing.

Organizational Factors

This is the level at which university administrators can exert the greatest influence and intervention.

1. Organizational Culture and Atmosphere: Whether a university fosters an organizational culture of "openness, trust, collaboration, and innovation" directly determines whether the soil for knowledge sharing is fertile. A bureaucratic and administrative culture stifles the vitality of sharing.

2. Evaluation and Incentive Systems: This is the most crucial lever. The current widespread "Five Only" evaluation model (papers, titles, professional titles, academic qualifications, and awards) leads faculty to focus on easily quantifiable and demonstrable individual achievements, while seriously neglecting the value of knowledge sharing activities such as collaboration and teaching and inheritance. Establishing a system that recognizes and rewards knowledge sharing (such as incorporating mentoring young faculty and teamwork achievements into professional title evaluation criteria) is crucial.

3. Organizational Structure and Communication Mechanisms: A flat organizational structure, matrix-style project teams, and regular interdisciplinary forums and luncheons can create more opportunities for face-to-face communication among faculty, breaking down disciplinary and departmental barriers. 4. Leadership support and demonstration: Whether department leaders and academic leaders actively participate in and advocate knowledge sharing, their actions have a strong demonstration and signaling effect.

3. The Process and Mechanism of Knowledge Sharing by University Teachers

Knowledge sharing among university teachers is a dynamic, multi-stage process. Drawing on Ikujiro Nonaka's SECI model (socialization, externalization, combination, and internalization) and applying it to university realities, the process can be broken down into the following three core stages.

Stage 1: Knowledge Externalization

This is the starting point of knowledge sharing. It involves the knowledge owner (supplier) organizing, refining, and expressing their knowledge, especially tacit knowledge, to make it understandable to others.

Tacit knowledge to tacit knowledge (socialization): This is primarily accomplished through observation, imitation, and practice. For example, young teachers can serve as teaching assistants for senior professors and subtly learn their teaching styles and classroom management techniques through close observation. This is a form of "implicit" sharing.

Tacit knowledge to explicit knowledge (externalization): This is a key step in knowledge creation and also a challenging part of sharing. Teachers need to clearly express their often difficult-to-express personal knowledge through metaphors, analogies, concepts,

models, or documentation. For example, a teacher summarizes his or her successful "project application experience" into a "checklist" or a "methodological framework", thus completing the externalization of knowledge.

Stage 2: Knowledge Transfer

After knowledge is externalized, it needs to be transmitted to the knowledge demander (recipient) through specific channels. The core of this phase is communication and interaction.

Formal Channels:

Institutionalized channels: Examples include teaching observation activities, new teacher training, academic seminars, and disciplinary development workshops. These channels are highly structured, but the depth of interaction may be limited.

Documented channels: Examples include establishing shared libraries of teaching plans, case studies, experimental procedures, and project experience summaries. This approach facilitates the accumulation and widespread dissemination of knowledge, but lacks immediate feedback.

Informal Channels:

Interpersonal networks: These are the most effective channels for transmitting tacit knowledge. Mentoring relationships, collaborative friendships, and informal exchanges within the academic community (such as academic salons, luncheons, and online group discussions) can provide a high-trust, interactive environment, ideal for the transfer of complex knowledge and sensitive information.

Communities of Practice: These are spontaneously formed groups of teachers with a shared interest in a specific field (such as "blended learning" or "AI educational applications"). Through ongoing interaction, they share insights, solve problems, and jointly advance knowledge in that field.

Stage 3: Knowledge Internalization and Application

The completion of knowledge transfer does not equate to successful sharing. The sharing process is considered closed only when the recipient understands, absorbs, and applies the knowledge, transforming it into part of their own knowledge system and potentially creating new knowledge.

Internalization: Through reading, listening, practice, and application, the recipient transforms the acquired explicit knowledge into their own implicit knowledge and practical application skills. For example, a teacher who learns the theory of the PBL teaching method practices it in their own classroom and gradually grasps its essence through practice.

Application and Innovation: The recipient integrates the internalized new knowledge with their existing knowledge and applies it to new teaching scenarios or research problems, potentially sparking new research ideas or teaching methods, thereby achieving knowledge value-added and innovation.

The entire process is not a one-way linear process, but rather a spiral cycle. After applying the new knowledge, the recipient may become a new knowledge supplier, initiating a new round of sharing.

4. Positive Outcomes of Knowledge Sharing by University Faculty

Effective knowledge sharing can bring significant positive benefits to multiple stakeholders, including universities, faculty, and students.

Value to Individual Faculty

1. Promoting Professional Development and Lifelong Learning: The sharing process itself is a process of deep learning and reflection, helping faculty to organize and consolidate their own knowledge systems. Furthermore, acquiring new knowledge from others is an

important way for faculty to stay current in their academic endeavors and update their teaching philosophies.

2. Improving Research Output and Innovation: The interdisciplinary exchange of knowledge is a major source of innovation. Through sharing, faculty can gain new research perspectives, methods, and techniques, helping them overcome challenging research challenges and produce high-quality interdisciplinary research results.

3. Enhancing Professional Identity and Well-being: Through sharing and mutual assistance, faculty can experience a sense of belonging and support within the academic community, gain recognition and respect from their peers, and thus enhance their job satisfaction and professional well-being.

Value to Student Development

1. Improving Teaching Quality: The rapid dissemination of excellent teaching experiences and methods directly benefits a broad range of students, leading to an improvement in overall teaching standards. Teachers can also promptly incorporate new knowledge and methods gained through sharing into classroom instruction.

2. Enhancing the Learning Experience: Close collaboration among teachers facilitates the design of more coherent and systematic curriculum systems. Furthermore, teachers' own collaborative spirit sets an example for students, subtly cultivating their teamwork skills.

Value to Research Teams and Discipline Development

1. Strengthening Team Cohesion and Effectiveness: Smooth knowledge sharing is a core characteristic of effective research teams. It accelerates the flow of knowledge within the team, avoids duplication of effort, and creates a synergistic effect where "1+1>2."

2. Promoting Interdisciplinary Integration: Knowledge sharing that breaks down disciplinary barriers is key to fostering new disciplinary growth and solving complex social problems. It helps universities develop distinctive interdisciplinary strengths.

Value to the University Organization as a Whole

1. Improving organizational learning and adaptability: An organization that excels at internal knowledge sharing can more quickly absorb new external knowledge, more effectively respond to environmental changes, and achieve continuous organizational evolution.

2. Preserving organizational memory and preventing knowledge loss: Especially when senior faculty retire or leave, effective knowledge sharing mechanisms can preserve their valuable experience and knowledge within the organization, avoiding the emergence of "knowledge gaps."

3. Building sustainable core competitiveness: A university's core competitiveness ultimately stems from its intellectual capital and its ability to leverage it. Effective knowledge sharing is the fundamental path to transforming individual knowledge into organizational capital, thereby building a sustainable competitive advantage that is difficult to imitate.

Conclusion

Knowledge sharing among university faculty is a complex, multi-layered, multi-stage process influenced by multiple factors. It is not simply a simple exchange of behaviors between individual faculty members, but rather an organizational capability deeply embedded in the specific organizational culture, institutional environment, and technological foundations of universities. This article systematically reveals the inherent logic of knowledge sharing among university faculty by constructing an integrated "antecedent-process-outcome" analytical framework.

Research indicates that promoting knowledge sharing among university faculty requires a systematic strategy, rather than piecemeal measures. The key lies in achieving four shifts: from encouraging individual competition to promoting teamwork, from focusing on static outcomes to prioritizing dynamic processes, from relying on administrative directives to fostering a culture of sharing, and from building information silos to fostering a smart ecosystem. In the future, with the advancement of technologies like artificial intelligence and big data, the models and mechanisms for knowledge sharing among university faculty may also undergo new transformations, such as personalized knowledge recommendations based on learning analytics and the rise of virtual academic communities. These are all worthy of further research.

In short, stimulating the knowledge sharing enthusiasm of university faculty is a strategic fulcrum for revitalizing the internal knowledge reserves of universities and increasing the flow of knowledge innovation. Only by deeply understanding and carefully managing this complex process can Chinese universities truly consolidate their inherent and sustainable core competitiveness in the "Double First-Class" construction journey and make irreplaceable contributions to the construction of an innovative nation.

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