Organizational Innovation in the Korean Government via an ICT-based IKM Framework: A focus on the MOFA[*]

정보통신기술 기반 지식정보관리 프레임워크를 통한 한국 정부 조직 혁신에 관한 탐구: 외교부를 중심으로

Jin-kyung Lee (이진경)[**]

ABSTRACT

With rapidly changing technological implementation of operating systems of businesses, the Ministry of foreign affairs (MOFA) of the Republic of Korea (ROK) has been undergoing digital transformation to its overall operations with the intent to innovate information and knowledge management (IKM) strategies since the mid-2000s. However, assessment as to the effectiveness of implemented IKM has been inadequately analyzed. This study aims to assess the concepts and limitations of the MOFA's current IKM strategies and the methods it employs to deliver its IKM framework, in light of strengthening the organizational ambidexterity and absorptive capacity, and also fostering organizational innovation through a qualitative study that involves interviews and analysis of reports from MOFA. The MOFA's IKM possesses dynamic capabilities to adapt to changing digital technologies. However, the institution's IKM is constrained by limitations associated with the utilization of the IKM system such as a structure that handles confidential documents and a lack of a collaborative system for IKM, and external limitations such as changes in the domestic political situation governing MOFA's priorities and the hierarchy of government organizations. Consequently, developing the organizational ambidexterity and absorptive capacity was not possible. To develop an IKM framework for organizational innovation, the MOFA must devise a way to minimize the impact of external changes by overcoming internal limitations. To that end, a detailed study on the development of a practically usable IKM system should include establishing a dialogue between job groups and enhancing employee competency in preparation for a changing environment.

초 록

급속히 발전하고 있는 정보통신기술은 기업과 조직의 운영시스템에도 영향을 미치고 있으며, 다수의 산업 분야에서 혁신적인 정보 및 지식관리 전략을 수립하기 위해 많은 연구가 진행되고 있다. 외교부는 지난 20년간 지식정보관리 관련 시스템의 많은 부분에 디지털 기술을 적용하고 있으나, 그에 맞는 전략을 분석하기 위한 기존 연구는 미흡한 실정이다. 본 연구는 인터뷰 및 외교부 내부 혁신 보고서 분석을 통해 현재 한국 외교부의 지식정보관리의 개념과 제약 사항을 진단하고, 외교부가 조직의 양면성 역량과 수용능력을 강화하여, 조직 혁신을 촉진하는 지식정보 관리체계를 제공하는 방법을 평가하는 목적으로 수행되었다. 외교부의 지식정보관리는 디지털 기술 변화에 적응할 수 있는 동적인 역량을 갖추고 있으나, 본질적인 내부의 한계(기밀 문서 처리구조, 지식정보관리 관련 협업체계 부재)와 외부의 한계(국내 정치 상황, 정부 조직의 위계질서)에 직면하고 있다. 이러한 내부적 한계와 외부적 요인으로 인한 영향을 최소화하는 방안을 마련하는 조직의 양면성 역량과 수용능력 증진을 통해 외교부가 조직 혁신을 위한 지식정보관리 체계를 개발해야 하는 것으로 관찰된다. 이를 위해 실질적으로 활용 가능한 IKM 시스템 개발을 위한 이후의 세부 연구에는 변화하는 환경에 대비한 직군 간 대화와 직원 역량 강화 방안이 포함되어야 할 것이다.

Keywords: information and communication technologies, information and knowledge management, organizational ambidexterity, absorptive capacity, SECI Model, organizational innovation, dynamic capabilities
정보통신기술, 지식정보관리, 조직의 양면성, 수용능력, SECI 모델, 조직혁신, 동적역량

1. Introduction

The Ministry of Foreign Affairs (MOFA) of the Republic of Korea, as a key government department, is dedicated to fostering amicable relations with foreign nations in order to advance national interests and security, safeguard commercial endeavors, and protect its citizens residing abroad. In pursuit of these goals, effective information management plays a pivotal role by collecting, organizing, and disseminating vast amounts of information while ensuring efficient and transparent governance. It is important to note that MOFA's work is supported by a network of 180 overseas missions worldwide, in addition to its headquarters in Seoul. Notably, MOFA employees operate within a distinctive structure, regularly transitioning between headquarters and various global missions. Therefore, the sharing of knowledge among MOFA personnel and the promotion of collaboration through a knowledge-sharing platform hold paramount significance.

Against this background, with the rapid digital transformation in the work environment, MOFA has been actively adapting and undertaking diverse initiatives to enhance the efficiency of its core functions. Starting in 2002, when the Korean government pioneered the world's first e-government service[1]1, MOFA embraced advanced digital technologies in its operations (Ministry of the Interior and Safety, 2017). Subsequently, from 2007, the organization gradually replaced the conventional paper-based Record Management (RM) method with a computerized system (Ministry of the Interior and Safety, 2017). Furthermore, after 2008, the implementation of the Information and Knowledge Management (IKM) platform strengthened the efficient management of knowledge information generated and collected by MOFA. The pace of technological advancements necessitates MOFA's continuous efforts to enhance operational efficiency and effectiveness.

While MOFA has integrated digital technology into its operations, there have been challenges in developing a comprehensive roadmap for IKM. The sensitive nature of the information handled by MOFA, stemming from collective experiences and insights of its employees during diplomatic duties, poses challenges in swiftly implementing digital technologies (Ministry of Foreign Affairs, 2017). Diplomatic activities are documented in research reports and working papers, safeguarded by encryption, and utilized for professional purposes. Tacit knowledge is shared through various means such as communication, workshops, and brainstorming sessions.

Additionally, the introduction of digital technology has not only brought changes to the work environment but has also widened the generational gap

---

1) On December 1, 2002, Korea made history by launching the world's first e-government service. This groundbreaking online service provided a wide range of features, including a comprehensive civil complaint service, bulletin boards managed by public institutions and government agencies, activity review groups, policy collections, access to current laws and regulations, and electronic gazettes. Furthermore, the implementation of the 'On-Nara Business Process System (BPS)' ensured that a government work management system was deployed across all central ministries, enabling the electronic recording of all government decision-making processes.

among employees, necessitating a revision of MOFA's IKM strategy. Furthermore, the Korean government's introduction of 'Government 3.0' in 2017 emphasized the importance of openness, sharing public information, and promoting communication and cooperation among ministries (Ministry of the Interior and Safety, 2017). 'New Growth 4.0 Strategic Promotion Plan', unveiled in 2022, aims to establish a cloud-based national data infrastructure by 2030 (Ministry of Economy and Finance, 2022). In light of these developments, MOFA must align its measures with the government's digital initiatives and address the evolving landscape of knowledge management within the organization. This requires a critical evaluation of its previous practices of ad hoc responses to changing eras and uncertainties, including government reorganizations.

This study focuses on the establishment of IKM strategies that foster organizational innovation through Organizational Ambidexterity and Absorptive Capacity. The overarching objective of both knowledge management (KM) and knowledge sharing is to enhance innovation and effectiveness within an organization (Stoddart, 2020, 65). While extensive research has been conducted on the significance of these factors in driving innovation across various industries, their application to government and public institutions, such as the MOFA, remains relatively unexplored. This study aims to delve into how government organizations can contribute to organizational innovation by developing tailored IKM strategies within digitally driven environment shaped by technological advancements. It encompasses an assessment of the MOFA's current IKM status, an analysis of the SECI (Socialization, Externalization, Combination, and Internalization) Model (Nonaka & Takeuchi, 1995) as an organizational learning process, a reaffirmation of the significance of treating knowledge information as an asset through Ambidexterity and Absorptive Capacity, and ultimately aims to identify pathways towards achieving organizational innovation.

This project examines the organizational learning process in MOFA and how new knowledge is generated, explored, and utilized to facilitate Organizational Ambidexterity. The evaluation of MOFA's Dynamic Capabilities, Absorptive Capacity, and the values, consciousness, and mindset of employees provides insight into the impact of digital technology on MOFA's IKM framework and the recognition of technological innovation. The implementation of IKM within a controlled information environment is crucial for the security of knowledge and information handled by MOFA as a government department. However, the approach to IKM in government agencies should be distinct from that of private companies due to the different aims and attitudes toward digital technology development and organizational innovation. This study fills a gap in existing research and complements previous research.

The current state and constraints of MOFA's IKM strategy in terms of Organizational Ambidexterity and Absorptive Capacity are analyzed, and empirical data on current IKM strategies used by practitioners in the field are collected and analyzed to identify major challenges. Furthermore, the project examines how to develop MOFA's IKM strategies to integrate,

build, and reorganize the institution's overall internal and external capabilities to adapt to a rapidly changing environment. The contribution of IKM to innovation performance by conceptualizing and accumulating existing knowledge and reflecting new knowledge in the way the organization operates is also investigated.

2. Literature Review

2.1 MOFA and IKM

Although the SECI was originally developed in a business context, its principles and processes can be customized and adapted to address the unique challenges and requirements of government IKM. This SECI model offers valuable insights into knowledge creation and transfer processes within government organizations. Therefore, it elucidates that knowledge undergoes a conversion process during the organizational learning phase. Above all, IKM initiatives require the support of various ICTs (Information and Communications Technologies) (Natek & Zwilling, 2016), and Lee and Kelkar (2013) explain that the SECI model is facilitated by various combinations of ICTs. According to Adesina and Ocholla (2019), since the SECI model was announced in 1995, the utilization of the SECI model has increased exponentially even in 2018, when he conducted research, particularly regarding the factors that facilitate knowledge sharing within organizations. Therefore, it is exceptionally suitable for investigating social-

ization and collaboration, the delicate balance between tacit and explicit knowledge, organizational learning, and intergenerational knowledge transfer within MOFA which requires organizational innovation through effective IKM.

Organizational Ambidexterity refers to an organization's ability to execute current strategies while simultaneously developing future ones (Birkinshaw & Gibson, 2004). It encompasses both the "exploration" of new knowledge and the "exploitation" of existing knowledge through a combination of social support and performance management. This approach aids organizations in fostering innovation by enhancing the multidimensional nature of their Absorptive Capacity (Vascacolos, 2019; Zahra & George, 2002), which involves the processes of "Acquisition, Assimilation, Transformation, and Exploitation" of new information. Therefore, the present research aims to evaluate the MOFA's existing IKM strategy, identifying a viable path for organizational innovation through IKM in a context that handles sensitive information.

According to Davenport and Prusak (1998), organizational information plays a vital role in reducing uncertainty and facilitating decision-making. Given the repetitive and gradual nature of diplomatic activities, prioritizing institutional memory based on past experiences becomes crucial. Individual employees naturally draw upon this institutionalized knowledge to formulate policies aligned with the Korean government's perspective on international affairs and to conduct diplomatic actions in support of these policies. Diplomats on the frontline of diplomacy encounter new experiences and information on a daily

basis, identifying problems and offering insights through analysis and reasoning.

Davenport and Prusak (1998) define knowledge as a dynamic blend of stereotyped experiences, values, contextual information, and expert insights that provide a framework for evaluating and integrating new experiences and information. The knowledge and information diplomats acquire through their experiences hold the potential to become the institutional memory of the organization. This concept aligns with the notion of organizational learning, which states that while learning is undertaken by individuals, the lessons learned are institutionalized, ensuring their impact endures over time and can be integrated into organizational activities (Mahler, 2009, 24). Mahler (2009) further outlines three stages of organizational learning: Personal Awareness, Analysis, and Inference, and Institutional Lessons Learned. Additionally, Senge (1990) identifies three fundamental Learning Capabilities: Tools, Guiding Ideas (philosophy), and Infrastructure.

The role of tacit knowledge derived from experiences, thoughts, and emotions assumes critical importance in the realm of diplomatic activity, providing valuable insights. Tacit knowledge exists as an individual's mental models, guidance, beliefs, paradigms, and perspectives. Unless it is transformed into "explicit knowledge that is articulated, systematized, and transmitted using symbols" (Nonaka & Takeuchi, 1995), managing the utilization and accumulation of knowledge becomes challenging, with the cost of knowledge loss being considerably high. This issue inevitably leads to a decline in diplomatic power.

It is worth noting that tacit and explicit knowledge within the MOFA undergo processes such as socialization and codification within the SECI model, generating new knowledge through innovation. To develop an IKM strategy, it is imperative to cultivate an organizational culture that fosters awareness of IKM, necessitating a diagnostic assessment of MOFA's organizational culture. All these processes will be examined through the lens of the concepts of 'Absorptive Capacity' and 'Organizational Ambidexterity' to determine how IKM can contribute to organizational innovation.

2.2 Applying the SECI Model to MOFA's IKM

As previously noted, the SECI Model (Nonaka & Takeuchi, 1995) can be used to understand organizational learning as the process of maturing into 'Information processing theories' and 'interpretive theories of learning'. MOFA utilizes its knowledge and information to develop diplomatic strategies that safeguard Korea's national interest and security. This SECI model enables a comprehensive analysis of knowledge creation, knowledge sharing (socialization and collaboration), the balance between tacit and explicit knowledge, organizational learning, continuous improvement, and intergenerational knowledge within MOFA's IKM context.

Based on Polanyi's concept of the tacit dimension, where "we know more than we can tell" (Polanyi, 1967, 4), Nonaka and Takeuchi (1995) divide knowledge into two categories: Tacit (know-how) and

Explicit (know-what). They analyze how these two concepts undergo a knowledge conversion process within an organization in accordance with its values, experiences, and organizational culture. In other words, when an individual interacts with a team or organization, existing tacit or explicit knowledge undergoes a stage of transformation into new knowledge (Nonaka & Takeuchi, 1995). As shown in Figure 1, this knowledge conversion process is divided into four stages: 'Socialization', 'Externalization', 'Combination', and 'Internalization'. These steps are subject to the use of 'Codification Strategies' and 'Socialization Strategies' during the process of tacit and explicit knowledge conversion.

According to the codification strategy, existing tacit or explicit knowledge is internalized and converted or created into socialization (Tacit to Tacit) and internalization (Explicit to Tacit) knowledge. In addition, according to the socialization strategy,

tacit or explicit knowledge is incorporated into organizational knowledge through externalization (Tacit to Explicit) or combination processes (Explicit to Explicit). Codification strategies emphasize the organization of knowledge and information into documents, databases, and intranets, while socialization strategies focus on the creation and sharing of knowledge through social interaction (Hansen, Nohria, & Tierney, 2000). Leonard and Sensiper (1998) argue that innovation arises from human interaction.

2.3 Organizational Ambidexterity

According to Volberda & Lewin (2003), Organizational Ambidexterity refers to the ability to perform two different activities concurrently, synchronize and balance the pursuit of new possibilities with the use of existing knowledge and skills. This includes engaging in sufficient exploitation
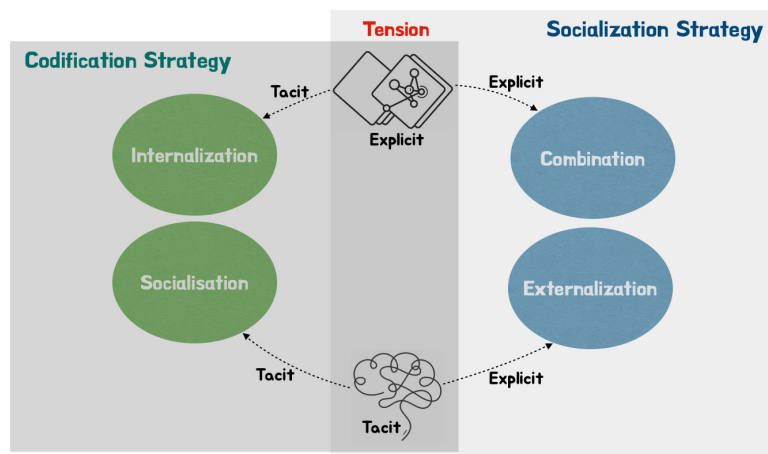
⟨Fig. 1⟩ SECI Model and Codification and Socialization strategies
(Nonaka & Takeuchi, 1995)
Source: Self-edition based on the SECI Model

to ensure the organization's current sustainability and sufficient exploration to assure the organization's future viability, as stated by Levinthal & March (1993). Jansen, Van den Bosch, Volberda (2005) suggest that an organization's ambidexterity is directly linked to its ability to survive, especially in a world where digital technology is advancing rapidly. To achieve organizational innovation, it is recommended that organizations possess the ability to pursue both incremental and discontinuous innovation simultaneously, along with Dynamic Capabilities (Tushman & O'Reilly, 1996). Dynamic Capabilities refer to a firm's ability to realign its technology, organizational, and managerial resources to adapt to a changing business environment (Eisenhardt & Martin, 2000; Teece, Pisano, & Shuen, 1997). This includes sensing, seizing, and reconfiguring activities, which are similar to those utilized by companies that achieve ambidexterity through a complex method involving exploitative and exploratory innovation activities (O'Reilly & Tushman, 2008).

Birkinshaw and Gibson (2004) highlight the importance of gaining insight into the current flow of value creation, investigating the future direction of value creation, and developing policies that strike a balance between adaptability and alignment as another axis of Organizational Ambidexterity. However, companies often struggle to strike this balance. The balance between exploiting knowledge stocks and exploring knowledge flow may determine a firm's innovative success. To foster ambidextrous individuals, the MOFA should promote an organizational culture that encourages employees to pursue initiatives and

opportunities beyond the boundaries of their acquired occupations, collaborate with others, and always maintain an internal connection, as outlined by Birkinshaw and Gibson (2004).

2.4 Advancements in Digital Technology and IKM

While IKM can serve as an organizational strategy to address processes and work environments, there is a risk of it becoming confined to computerized systems without establishing a solid theoretical or conceptual foundation. Furthermore, the rapid progress of digital technology and its interconnected processes for information exchange may seem beyond our control. When integrated with digital technology, the notion of "information" becomes increasingly tacit and self-developing. Tacit knowledge, being highly personal and challenging to formalize, explain, and share, poses difficulties in managing it as an organizational asset. Therefore, there is a need for a mechanism to convert tacit or personal knowledge into organizational knowledge. The primary responsibility of IKM lies in effectively managing the valuable tacit knowledge that individuals possess. Given that diplomatic operations evolve over time, previous experiences and institutional memory hold crucial importance. Hence, to manage the continuously generated knowledge/information as an organizational asset, it is critical to have a mechanism that converts the tacit and personal knowledge stored within individuals' minds into organizational knowledge (Schopflin & Walsh, 2019).

Simultaneously, it is crucial to recognize the vital role of IKM specialists in the context of technological innovation within the digital environment. As stated by Corrall (2008), IKM professionals require a deeper understanding of specific domain areas. Organizational efforts are necessary to nurture IKM experts who can adapt to the digital environment while possessing a profound understanding of the field of diplomacy. The role of knowledge and information managers includes ensuring that expertise reaches all parts of the organization, even if it involves challenging hierarchies and influential individuals (Schopflin & Walsh, 2019, 14). The adaptation of IKM experts to the digital environment and the development of their capabilities to support diplomatic services can have a highly beneficial impact on organizational innovation. Information technology enhances knowledge acquisition by improving recognition speed, concentration, accuracy, and direction (Joshi et al., 2010). Therefore, IKM specialists should acquire knowledge of information technology to effectively adapt to the digital environment. Boynton, Zmud, Jacobs (1994) argue that an organization's absorptive capacity is directly related to its understanding of information technology and its ability to utilize it effectively.

2.5 Absorptive Capacity and Innovation

Ambidexterity can drive organizational innovation when integrated with absorptive capacity (Klinger, 2016). That is because Absorptive Capacity allows organizations to achieve ambidexterity more efficiently and mitigates the tensions between exploration and exploitation (Rothaermel & Alexander, 2009). Absorptive Capacity is required to continue analyzing and adapting new knowledge acquired throughout the assimilation process, or to build the ability to transform and apply optimum knowledge according to the organization's needs. Cohen and Levinthal (1990) define Absorptive Capacity as the process of discovering and recognizing external knowledge, assimilating it as internal knowledge, and acquiring it. In the case of businesses, it is also said that innovation that leads to product development and process improvement is generated through Absorptive Capacity. As demonstrated in Figure 2, when integrated with Absorptive Capacity and Organizational Ambidexterity, the organization's knowledge is continuously reconfigured as an asset. This establishes the foundation for enabling firms to innovate continuously. IKM with strategic capability is formed when this new information is repeatedly absorbed by the organization and achieves ambidexterity.

Diplomats working at MOFA's headquarters, as well as on diplomatic missions abroad, go through the "acquisition" stage while experiencing and conducting diplomatic activities. These activities provide new organizational knowledge and contextualize it through analyzing, processing, and comprehending the information received through the "assimilation" process. In addition, it is necessary to "transform" new knowledge to optimize its combination with existing knowledge (transformation) and to investigate the inter-related dimensions of Absorptive Capacity (Multidimensional nature) (Vasconcelos et al., 2019; Zahra & George, 2002). It is then the function of
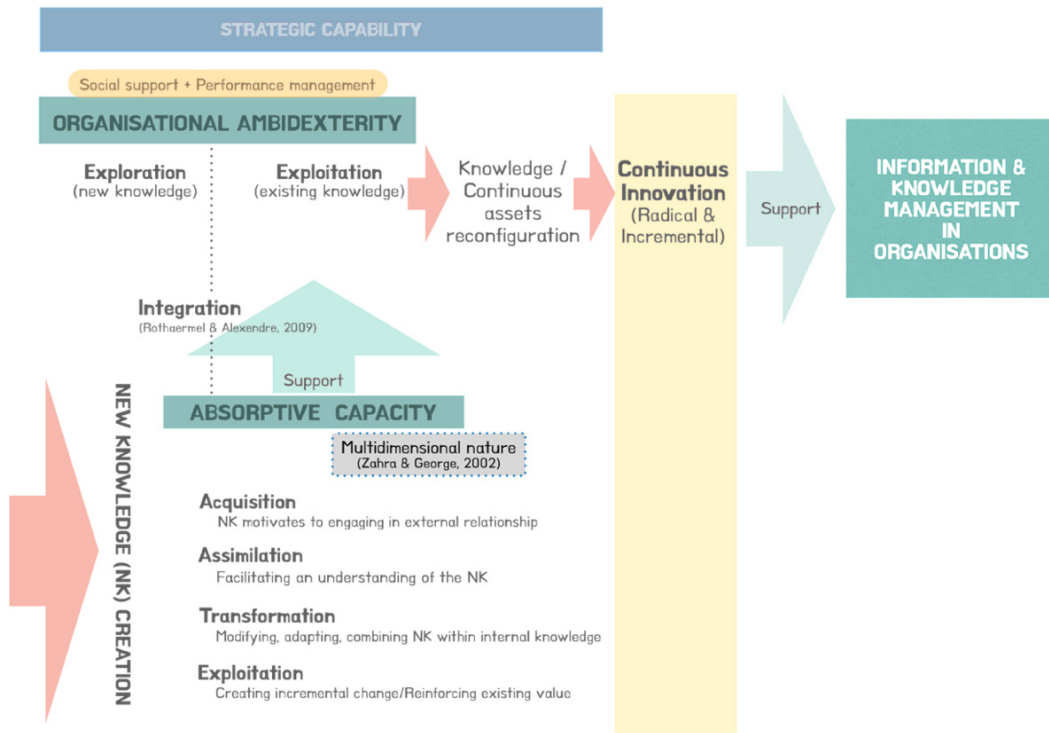
〈Fig. 2〉 Building Strategic Capabilities
Source: Self-edition based on the integration Absorptive Capacity and Organizational Ambidexterity
(Rothaermel & Alexander, 2009; Zahra & George, 2002)

"exploitation" to integrate and apply this transformed knowledge to organizational operations (Daspit & D'Souza, 2013). In addition, these "processes of knowledge acquisition, transformation and integration are interlinked and involve successive iterations of codification, abstraction and diffusion of different sets of knowledge, leading to the operationalization of absorptive capacity […] throughout these processes, knowledge becomes increasingly structured and amenable to wider diffusion […] Absorptive Capacity is facilitated by socialization, coordination and integration capabilities that are embedded in the routines of the company" (Vasconcelos et al., 2019, 79). The

process of measuring the overall Absorptive Capacity of MOFA entails determining whether this newly acquired and embodied knowledge is socialized, adapted, and integrated into the daily lives of employees engaged in diplomatic activities. In addition, the process of examining how this knowledge is integrated using MOFA's organizational ambidexterity enables the evaluation of MOFA's innovative potential.

2.6 Knowledge-intensive collaboration organizational culture

O'Reilly, Chatman, Caldwell (1991) defines or-

ganizational culture as the shared values, ways of thinking, consciousness, and behavior of an organization's employees. Employees affiliated with the MOFA perform diplomatic duties while sharing the values and awareness necessary for achieving national interests and security. To achieve organizational ambidexterity, organizational culture must be rigorous and emphasize innovation norms such as openness, autonomy, initiative, and risk-taking (Tushman & O'Reilly, 1996). IKM strategies "[…] make knowledge more accessible and useable, encourage a knowledge-intensive collaborative culture, build a knowledge infrastructure and incentive to interact and collaborate" (Stoddart, 2020). Ultimately, IKM strategies must be adjusted to meet the culture. Knowledge sharing is influenced by organizational culture, and in high-trust companies, people share knowledge without regard for how sharing knowledge affects their values (De long, 1997). To establish a trust-based IKM strategy that enables the MOFA to dynamically secure a new kind of competitive advantage by adapting technical, organizational, and managerial resources to the changing business environment (Teece, Pisano, Shuen, 1997), the MOFA must develop a trust-based IKM strategy.

It is essential to investigate how to apply the trait of Contextual Ambidexterity to the MOFA as an invisible stimulus and pressure that motivates personnel to act in the direction of the organization. According to Ghoshal and Bartlett (2000), both employee performance management (Stretch & Discipline) and social support (Support & Trust) are fundamental in a business, and the ability to coordinate the two is crucial. The support of departments with their respective specialties (e.g., IT specialists, IKM specialists, etc.) is required for MOFA to achieve its core objectives. Due to the fact that these support units share values and mentalities that correspond with their respective specializations, they require a common set of agreed-upon objectives to function effectively. In addition, performance management and social support are required for these occupational groups to demonstrate their expertise in achieving this common objective. The interaction between the two traits cannot be mutually exclusive; rather, it must be mutually beneficial to foster organizational innovation. A study on Contextual Ambidexterity will enable the MOFA's IKM to analyze the issue of low employee interest and engagement in information sharing, which has been a long-standing challenge.

3. Methodology

3.1 Research Method: Inductive Approach

The objective of this research is to determine the current status of MOFA's ICT-enabled IKM Framework and investigate the potential of IKM as a means of achieving organizational innovation through Organizational Ambidexterity and Absorptive Capacity. An interpretive research approach is employed, conducting qualitative research that, according to Walsham (2006), has the potential to recognize that our understanding of reality is subjective, and

that shared meaning is more valuable than objectivity. To develop an IKM framework that is capable of ambidexterity and absorption, it was necessary to comprehend the current IKM strategy and its implementation status. An inductive research approach, which draws general conclusions through specific observations and pattern recognition, was used for this purpose. To grasp the specific situation of MOFA's IKM, the experiences of the employees working there and their understanding of IKM were examined. The fundamental epistemological belief of this research maintains that knowledge-generating individuals are the best source of research (Orlikowski & Baroudi, 1991). Based on the emotions, values, and perceptions that underlie and influence employee behavior at MOFA, the research aimed to define or approach a problem. Through data analysis, specific details, concealed motivations, and emotions were uncovered.

3.2 Data Collection: Qualitative Research

To implement these research approaches, personal questions were asked through one-on-one interviews to collect data. Bawden (1990) defines such qualitative research as "the study of individuals' behavior in all the complexity of their real-life situations." Participants' experiences of IKM in MOFA over the course of 10 to 20 years were explained and interpreted, and limitations affecting the effective functioning of MOFA's IKM (specific phenomena or events) were investigated. To understand how partic-

ipants perceived and made sense of their experiences with MOFA's IKM, the way the story was told was also examined. Primary data was collected through interviews, and secondary data from MOFA's innovation roadmap and internal reports (organizational plan, new IKM-related platform launch guide, manual, etc.) prepared in 2007 and 2017 were analyzed. Through the interview, the opinions, and experiences of IKM employees at MOFA and the direction of organizational innovation pursued thus far could be evaluated. It was also important to examine ROK's data/information management laws, the organizational chart, the MOFA's innovation roadmap, and other relevant documents to understand the key constraints of MOFA related to the implementation of the IKM strategy specified in the plan. As O'Leary (2014) notes, an inductive research approach that prioritizes quality over quantity is beneficial for this project as it acknowledges diverse perspectives and political agendas and explores social complexities and vivid experiences.

3.3 Recruitment / Non-probability sampling

The aim of the interview was to gather empirical statements regarding the current IKM situation at MOFA from practitioners with over ten years of experience at MOFA. As per Daniel (2011), sampling refers to the process of "selecting a subset of a population for inclusion in a study". In the early stages of sampling, the scope and qualifications of potential participants were considered, and the appropriate in-

formants were identified using purposive sampling methods. Non-probability sampling was used to designate relevant experts for a specific group within MOFA, enabling faster and more efficient research.

Bryman (2001) explains that for non-probability sampling, "···I make an initial contact with a small group of people who are relevant to the research topic and then use these to establish contacts with others." This was because it was assumed that they had knowledge of MOFA and its IKM (purposive sampling). Additionally, the possibility of organizational innovation aimed for by this research was examined based on the participants' experiences.

The participant selection process accounted for sampling bias as the accessibility had to be based on the units selected for the sample. To recruit senior diplomats with over two decades of experience with MOFA's IKM concept, double the number of individuals to be interviewed were initially selected from those who had worked in various fields of MOFA. Participants were then selected based on their

expressed interest in IKM and their intention to participate, with ICT experts who had experience developing MOFA's IKM-related systems and platforms at the time when Korea introduced e-Government also being sought out. It was also necessary to identify the person in charge who participated in the "Review on the establishment of a diplomatic IKM center" included in the "Innovation Roadmap" prepared by MOFA in 2017 (Ministry of Foreign Affaris, 2017). As a result, the direct person in charge who reviewed the innovation roadmap did not participate in the interview. However, information on how far the review for the establishment of the diplomatic knowledge information center had progressed was obtained during the search process. In addition, purposive sampling was done at the researcher's discretion, such as finding participants who have experience working in various departments at the headquarters as well as on overseas missions. As a result, the interviewees included government officials, including KM professionals, ICT experts, and junior-level diplomats,

〈Table 1〉 Interview participants

Position (Organisational Level)	No. of interviews	Place of work (Number of Interviews per topic)
Director of a bureau (Top layer)	1	HQ (1)
Senior diplomat (Top layer)	3	HQ (1), Mission abroad (2)
Junior diplomat (Middle layer)	2	Mission abroad (2)
Librarian (Middle layer)	2	HQ (2)
ICT expert (Middle layer)	2	Mission abroad (2)

as well as senior-level diplomats with policy-making authority who have worked in MOFA for over ten years (See Table 1). Attendees primarily consisted of those with prior experience working in departments where MOFA's current IKM needs are critical (e.g., regional bureaus, international legal affairs bureaus, etc.). That is, through expert sampling among purposive sampling, the participant's verifiable experience, knowledge, or expertise was used as the sampling standard.

Approximately ten semi-structured interviews with government officials at MOFA were conducted as part of this research project. Semi-structured interviews were effective in establishing rapport with interviewees because they allowed for the exploration of pertinent issues. As the semi-structured interview includes flexibility regardless of the order or format of the questions, the areas, or topics to be focused on were defined when preparing the interview questions.

Due to the researcher's location, which was at an overseas mission, virtual or phone interviews were conducted with interviewees working at the headquarters or other overseas missions. Over a period of two month, specifically from June to July 2022, ten participants were individually interviewed. Interviewees were informed in advance that the interview would be recorded through the cell phone recording function, and they could choose between a video conference and a phone call. Some participants asked questions about how to use the recorded files, and all participants consented to the recording itself. The interviews were conducted in Korean, the researcher's native language, and the quotations included in this document were directly translated into English by the researcher and edited for clarity.

3.4 Data analysis: Grounded Theory coding methodology

To analyze the interview data, a thematic analysis method was used that was appropriate for studying the participants' opinions, knowledge, and experiences. An inductive approach based on a Grounded Theory coding methodology (Glaser & Strauss, 1967) was employed for the analysis, which allowed for flexibility in interpreting interview data and enabled the analysis of large data sets by categorizing them by topic. Since the majority of participants had more than ten years of experience in MOFA work, they had personal convictions and solid IKM experience. As a result, the semi-structured and flexible interviews produced extremely diverse and intricate results. To avoid overlooking the nuances of the data while analyzing a broad range of content, great care was taken in selecting and interpreting the data.

The constraints of the MOFA's IKM concept formulation were analyzed in the first stage of coding (i.e., open coding), and the following interpretations were based on solutions and existing literature, including the SECI Model, Ambidexterity, and Absorptive Capacity theory. After conducting ten interviews, all interviews were transcribed. The prepared and impromptu questions were categorized by topic, and the responses of the participants were coded for each question. An open coding method was used in the

process, and the coded answers were grouped and organized by theme.

In addition to differences in opinion among the participants, efforts were made to connect the responses by classifying them with keywords to determine which types of responses were similar. Afterward, each theme was categorized into the 'Socializational Strategy' and 'Codification Strategy' (four stages) of the SECI model, in accordance with Hislop's statement that "innovation management may be viewed in terms of these four stages" (2005). This was found to be an effective method for examining the direction of organizational innovation via IKM.

Themes of unnecessary or excessively biased opinions were repeatedly divided, discarded, or created anew during this procedure. This process identified the constraints that prevented the development of IKM-related strategies and concepts in the MOFA with a continuous direction. Furthermore, it made it possible to understand the themes of diagnosing the Absorptive Capacity and Dynamic Capabilities that the MOFA's IKM must acquire for organizational innovation and preparing the concept of the MOFA's Organizational Ambidexterity.

3.5 Methodological Choices: Evaluation and Justification

Qualitative research was deemed appropriate for investigating the IKM situation within the limited and specific context of the MOFA of the Republic of Korea. Specifically, the interview research method enabled specific observation, allowing for in-depth exploration of concepts and experiences, and the analysis of patterns in the data. In order to examine the applicability of Organizational Ambidexterity and Absorptive Capacity to the IKM framework in this study, it was necessary to first analyze the factors preventing the MOFA from developing IKM strategies. As such, it was deemed inappropriate to set specific or general hypotheses in advance or to make deductive reasoning through extensive surveys.

Non-probability sampling was utilized for qualitative research, enabling interviews to be conducted with senior diplomats with varied experience and policy-making authorities, ICT experts who have developed IKM systems, a senior IKM expert overseeing the records management of all MOFA departments, and a librarian who manages special archives. Through these interviews, it was possible to capture vivid experiences, emotions, and perceptions of the overall IKM at the MOFA for over twenty years, even uncovering diverse insights not accounted for during the research design phase. While the sample was a subset of the population, it provided a more comprehensive understanding of participants' perceptions, motivations, and emotions, resulting in non-generalizable findings. The semi-structured interview method facilitated the collection of data that was easy to use for research, with flexibility complementing the advantages and disadvantages of structured and unstructured interviews. Conducting an unstructured interview may have made participants anxious or inadvertently presented leading questions due to their personal experiences and perceptions of the MOFA IKM.

4. Discussion: Diagnosis Current MOFA's IKM

4.1 The main perceived challenges for implementing IKM-related strategies / concepts

The participants' interviews revealed that much of MOFA's IKM strategy relies on people, rather than institutional knowledge. As one interviewee mentioned, "MOFA's knowledge and information are what the diplomats analyzed and reported based on what they saw and felt in the field."

This answer provided with insight into how MOFA, especially its diplomats, view knowledge and information as assets that must be managed in their organization. They recognize the importance of explicit knowledge and perceive that only the knowledge produced during diplomatic activities should be managed. Certainly, the information obtained during the stage of establishing diplomatic relations with other countries is extremely precious and invaluable, particularly as it is directly related to national interests and security. However, when viewed through the lens of an organization's IKM, it is also true that certain specific knowledge should not be regarded as the subject of management. As previously stated, the ability to explore new knowledge is crucial for the organizational absorption of knowledge. Ultimately, this is beneficial for diplomatic activities, as MOFA relies on the capabilities and qualities of individual outstanding diplomats, i.e., dynamic capabilities. The knowledge and in-

formation processed through the diplomat's insight are the overall IKM activity of managing, collecting, organizing, and sharing as an asset of MOFA. In another aspect, these IKM activities should be taken as the main task of MOFA, and if there are areas for improvement, they should be improved.

As most interviewees noted, in order to manage relations with countries around the world, the ability to explore and exploit knowledge and information should be maximized. This would be in the interests of pursuing national interest and the security that MOFA aims for, as well as aiding diplomatic activities to safeguard peace on the international stage. Thus, the ambidexterity of exploring and exploiting knowledge is crucial. Particularly as a result of the numerous changes brought about by the expansion of media and digital technologies, it has become very important to estimate the value of information and use it for diplomatic works. In addition, advances in media and digital technologies have led to the sharing of news with real-time top leadership, which has had an impact on whether or not MOFA has autonomy in its work. As one interviewee mentioned, "In the days when the world was a little wider and communication cost more, it was possible for MOFA to make autonomous decisions in the process of collecting information first and processing it in the diplomatic field."

MOFA's autonomy is crucial since, if not ensured, numerous policy tactics, administrative strategies, and organizational innovation strategies may be influenced by external factors. In fact, Korea's MOFA and other government ministries have been greatly influenced by domestic political conditions and varia-

bles, and changes in the political sphere have a direct impact on foreign policy and other policies.

4.2 Lack of long-term vision and consensus for IKM

To begin with, it is necessary to examine Korea's unique diplomatic culture. Koreans have a history of their fate being determined by diplomacy among neighboring powers (Arsac, 2014). As industrialization progressed, despite historical challenges such as the Korean War, the country experienced unprecedented rapid and compressed growth. However, the basic culture of dealing with diplomacy is not well established domestically in Korean society, which lives in a limitless competition. Some participants noted that in this environment, there is no culture that respects diplomacy, so there is no concept or awareness that knowledge, information, or historical materials of diplomatic significance must be well-established. In fact, many participants noted that the MOFA leadership did not present a long-term IKM vision, and awareness of IKM strategy development was uncommon at the top levels of the MOFA leadership. These remarks are consistent with the argument for the need for awareness and diagnosis of IKM strategies in leadership, emphasized through the study of Ward and Carter (2019).

Despite the ICT technology's overwhelming influence on the MOFA, due to the absence of a long-term vision, the MOFA's IKM strategy still adopts a strategy that has evolved little since the analog IKM plan of roughly 20 years ago. The Korean government announced an e-government strategy in the early 2000s, and the actual e-government system began to be used in the mid-2000s. Simultaneously with the introduction of e-government, the MOFA switched the telegram transmission/reception method to the 'On-Nara system,' and in the process had to construct an organizational data architecture. Some interviewees explained the situation at the time in detail. During the stage of composing the BRM (Business Reference Model), which began at the same time as the On-Nara system, the MOFA entrusted the whole process to a non-specialist who had no IKM expertise. While introducing a system that had never been experienced before and composing the organization's basic data architecture in a state of IKM ignorance, the collections of information produced by the MOFA were evaluated as misconfigured. The problem is that while spending close to 20 years developing the system afterward, the MOFA overlooked the process of reflecting on the organizational data architecture through an interim inspection.

4.3 Lack of a collaborative platform to prepare IKM strategies

Some of the senior diplomats participating in the project said that in order to develop a suitable MOFA IKM, it would be necessary to involve diplomats who conduct actual diplomacy, ICT experts in charge of system development and operation, and librarians who need to design the actual IKM architecture and manage data/information. In addition, collaboration

between these three professional groups was stressed. One participant emphasized that there is no structure in the current work environment and the structure of MOFA to analyze, effectively correct, and solve problems related to IKM. However, it should be noted that the organization's ICT experts were under the impression that IKM strategy development had nothing to do with them and that their task was to support the technology so that the system could operate without problems. The librarianship group also said that 'It is the role of ICT experts to lead the MOFA's IKM, and that even if we had an idea for the entire system, they wouldn't be able to lead because we do not possess the technical knowledge.' In particular, librarians lacked awareness that they should collaborate with ICT experts on the development/configuration of an IKM platform. This is because, due to the nature of MOFA, most librarians tend to think of records management as their main task under the Public Records Management Act[2]2. This variation in view between diplomats and other occupational groups may be attributed to differences in perceptions regarding the work of occupational groups with and without decision-making authority within the MOFA. Even if they possessed their own expertise, they understood that it serves solely as 'support' for diplomatic activities and that it is not their obligation to design strategies or make decisions. Diplomats who lack expertise have discovered that they must occasionally rely on their instincts to make

decisions. Due to the absence of a strategy to identify the knowledge characteristics of the MOFA (Hislop, 2005) and to distinguish the organization's tacit knowledge and explicit knowledge, this analysis finds that none of the job groups had the chance to recognize their role in preparing the IKM strategy.

4.4 Committed to developing solely digital technology

During the stage of examining secondary sources, which included the innovation roadmap and internal research reports within the MOFA, it was confirmed that the MOFA has been operating various IKM-related platforms and knowledge and information-sharing bulletin boards since Korea adopted e-Government 20 years ago. These tools were interpreted as attempts by ICT experts to introduce rapidly developing technologies into the organization. However, some interviewees noted that when they searched for desired information in these systems, more often than not, the results were unsatisfactory. Even if they did locate the information, it was frequently out of date. The ICT specialists created IKM platforms with several functionalities by rapidly introducing new technology, but they did not address the convenience of users, lacked the infrastructure to organize and manage information, and ultimately rendered the platform obsolete. This was interpreted as an exploratory activity that responded faster than any other government

2) On January 29, 1999, the 'Act on the Management of Archives in Public Institutions' (Act No. 5709) to promote the safe preservation of documentary heritage and the efficient use of record information by public institutions by stipulating necessary matters regarding the management of records by public institutions, and on April 5, 2007, it was amended to its current name (Act No. 8025).

〈Table 2〉 The MOFA's IKM Platforms and information sharing bulletin boards

Platforms and Bulletin Boards		Year of Release
On-Nara BPS System	Computerized system for business processing managed by the Korean government	early 2000's
Confidential On-Nara System	Korean government confidential document transmission and reception system	early 2000's
Cyber Cabinet	DRM-equipped shared virtual hard drive that stores business analysis reports, data, etc.	2008
Information sharing system	A bulletin board to share diplomatic affairs-related laws, guidelines, orders, and work manuals	2005
MOFA WIKI	A platform for organization-wide updates, sharing valuable data during work in the form of a WIKI	2021
Convergence information system	A platform created to gather, update, and share the country overviews, summaries, and diplomatic diaries by country – these are largely received from HQ, and stored in one place.	2022

Note: Description of the platforms and knowledge-sharing bulletin boards currently in use or recently released by MOFA

to the pursuit of new possibilities of digital technology in Organizational Ambidexterity, studied by Volberda and Lewin (2003). However, it is difficult to say that it was a result of satisfying all aspects of exploitation that must be balanced in the use of information and technology existing in the organization. The MOFA needs to prepare measures for how the organization will survive in the future, as emphasized by Jansen, Van den Bosch, Volberda (2005), by pursuing both exploratory and exploitative innovation at the same time.

4.5 Focused on security, budget, and performance-driven

Through the responses of the majority of diplomats who primarily use these technologies, it was possible to determine why MOFA employees do not utilize these IKM- related platforms and bulletin boards. Nearly all participants noted that "these systems are sluggish and error prone." This situation may be explained by the ICT specialist participant's comments.

"The National Intelligence Service (NSC), which administers the security systems of Korean government departments, mandating system development criteria that reflect its extremely high standards and specific procedures to prepare for the risk of cyber-attacks and hacking. As a result, the system becomes extremely inconvenient to use, as well as increasingly sluggish and prone to errors."

In addition, these problems are also linked to the governmental agency's budget system; if the budget for the current year is not utilized, the budget for the following year may not be received. For this reason, ICT-related departments have no choice but to continue the system development project that introduces ever-new technology, even in order to exhaust the budget for the year. Furthermore, since these projects are evaluated by the performance of the ICT- related departments in the current year, the employees needed to produce results. In the process, ICT experts thought that the tasks of identifying the needs of diplomats who are the main users of the platform or modifying and improving the system's data architecture were not their work, but the decision makers' responsibility. Among the key learning capabilities that enable organizational learning as described by Senge (1990), the tools were equipped, but the guiding idea was not prepared.

4.6 No sharing of knowledge and information

Security issues did not only affect the quality of IKM-related platform services. Since the MOFA is an organization that handles numerous confidential documents and information that must be kept confidential for a period of time, these employees expressed exhaustion and apprehension when handling sensitive information. According to the comments of some participants who had experienced the process of rapid change during a domestic political situation, many employees went through experiences similar to the ones expressed by this interviewee:

"the documents I produced yesterday caused problems that I would be responsible for tomorrow".

As these experiences accumulate, employees even had a fear of handling knowledge and information. So, it made employees control knowledge, rather than share it. The study by Stoddart (2020) found that the MOFA's security issues are a major constraint to building an IKM strategy which creates a knowledge-intensive cooperation culture. This in turn makes access to knowledge challenging and the system difficult to use. This culture is directly related to trust issues within the organization's knowledge sharing, pointed out by De long (1997), and it's likely that at several points in the organization's operation, employees in the MOFA cannot trust each other enough to share information. To develop a trust based IKM strategy, the MOFA should develop trust as mentioned in the study (Teece, Pisano, & Shuen, 1997).

Also contributing to the absence of knowledge and information sharing within the organization was the lack of rewards and incentives for doing so. Even if there is no tangible benefit, employees should feel rewarded if their expertise can be shared and contribute to the organization. Some interviewees stated that due to the hectic nature of their current work, they lacked the drive to connect with other employees or to document (convert into explicit) and upload their tacit knowledge to the IKM platform. Furthermore, the participants found that the current network for-

mation or collaboration stage to share information tends to be perceived as 'extra work' rather than an enhancement of their work efficiency.

4.7 The MOFA's innovative IKM framework

The strategies which the MOFA's IKM should be developed to build the ability to integrate, build and reconfigure internal/external capabilities to cope with a rapidly changing environment.

4.7.1 Socialization Strategy

In the case of 'Cyber Cabinet,' which the majority of participants identified as the IKM platform most utilized by the MOFA, this study was able to determine the path the MOFA's IKM strategy should follow by analyzing the platform's advantages and weaknesses. One of the interviewees described the advantages of the platform:

"It boosted work efficiency and decreased work time. In addition, if employees have spent considerable time categorizing their folders into issues, topics, and years, and managing them effectively, they can use the data contained therein to compare various updated versions of reports. Through this, it is possible to identify the subtle differences between each version and to analyze the traces of accidents in the process. As a result of this three-dimensional restoration of the crucial decision-making process, the efficiency and quality of the newly created information is extremely

high. The tacit knowledge contained in the context of these various versions is converted into explicitly coded knowledge."

This example shows the impact of knowledge on the innovation process: the gaining of insights from the knowledge of predecessors through an appropriate communication format (called Cyber Cabinet) that transcends time (Hislop, 2005).

On the other hand, the Cyber Cabinet did not have a way of assigning file names consistently or standardizing the format of uploaded data. In addition, there was no standard for the level of knowledge that should be submitted and maintained. As such, one participant said:

"Without a person in charge of maintaining the platform structure for each department and management plan, this platform ran the risk of being perceived as a graveyard of information or a garbage can."

Unless the information was handled and saved by classifying the knowledge to be stored based on its value, using a specified depth and label, it was difficult to avoid this problem. Cyber Cabinet was a technological asset and was built by ICT specialists, but it was discovered that the organization lacked the principles for its consistent management. Instead, problems were generally left to the discretion of each employee. Due to the fact that employees have hectic schedules and a lot of responsibilities, it is difficult for individuals to determine the management

direction for the organization's platform and share information without a framework. Although technically equipped to some degree (combination), an internalization strategy has not been implemented, and there is no organization-wide consensus regarding this necessity.

4.7.2 Externalization Strategy

Diplomats rotate between headquarters and diplomatic missions abroad, working at a single location for a minimum of 1-1.5 years and a maximum of 2.5-3 years. This means that individuals change jobs every year or three years, as long as possible. Diplomats are frequently assigned personnel posts regardless of the continuity of their work's subject matter. In this process, the current handover method between employees can be a problem for the externalization strategy stage of the SECI model. The structure here allows tacit values to be easily omitted due to the interaction between employees (Hislop, 2005). According to the National Civil Service Act, the period during which both predecessor and successor work concurrently is relatively short. Additionally, the non-face-to-face work culture brought about by COVID-19 has accelerated the loss of tacit knowledge that could have been acquired through dialogue and interaction within the organization. One participant explained that:

"MOFA does not consider the takeover period when designating the appointment date for a personnel change. Since COVID-19, it has become a practice for the predecessor and the successor

to take over the work without face-to-face contact. Instead, the process follows only the minimum regulations stipulated in the National Civil Service Act."

4.7.3 Combination Strategy

Official telegrams sent between MOFA's headquarters, diplomatic missions, and other ministries are automatically recorded in the system. According to one participant, any use of the IKM platform for managing tacit and formal knowledge should be technically mandated, except for telegrams, so its use is neither voluntary nor recommended. Another participant stated that:

"It is our position that the more sensitive the information about history, the more important it is to think about our stance for a long time. So, if these are not well managed, not only can they cause fatal problems in diplomatic relations with a particular country, but also damage the image of the country."

Furthermore, when managing records containing confidential documents, it is important to process them using the official record-keeping procedure, rather than simply allowing them to accumulate as knowledge and information in the IKM platform storage warehouse. Some study participants expressed significant concerns about the loss of knowledge and information from MOFA, suggesting that documents do not always reach the record management stage. Through this "combination method" (Nonaka

& Takeuchi, 1995), an IKM strategy can be developed that provides a solution for uncontrolled or unshared information.

4.7.4 Internalization Strategy

To enhance dynamic capabilities, it is necessary to review methods for re-educating employees to strengthen their expertise in various fields, including computer technology, information organization, and diplomatic service. As some participants emphasized, to establish a cooperative system between occupational groups and prepare an IKM strategy for MOFA, employees need to not only understand diplomatic work but also have the professional knowledge required for IKM. This can be a way to achieve an internalized strategy. Additionally, some interviewees stated that aside from diplomats, ordinary administrative employees must also be educated on the fundamentals of digital technology and information architecture for the organization to function properly. According to the majority of participants, it is essential to prepare a strategy for MOFA employees to use these tools effectively through user education, periodic guidance on the usage of MOFA's IKM-related technologies, and training to improve their work capabilities.

4.8 Understanding Organizational Culture: The MOFA's Organizational Culture for Developing IKM Strategies

The MOFA prioritizes the work of front-line diplomats and tends to recognize and reward only diplomacy-related work. Consequently, there is a prevailing atmosphere in which expertise in other professions is not acknowledged, leading to competition instead of collaboration. Each group utilizes gatekeeping to control and protect their knowledge, which results in departments avoiding sharing information with one another. While some interviewees believe that it is impossible to completely eradicate this culture, they suggest that it could be mitigated by trusting and assisting employees to achieve success. This aligns with the 'employee performance management' and 'social support' characteristics of Contextual Ambidexterity, as identified by Ghoshal, Bartlett (2000). For organizational innovation through IKM, it is essential to offer employees training opportunities and responsibilities to strengthen their competencies while presenting achievable goals.

The COVID-19 pandemic, along with the vast generational gap in the rapidly growing Korean culture, has significantly decreased employee interaction due to the introduction of previously non-existent telecommuting and flexible working systems. Most conflicts of opinion resulting from cultural differences between senior and low-level employees are considered to be abuses of power by senior employees, and this phenomenon has been recently coined as 'Gapjil'. Consequently, employees avoid interaction with each other except for necessary conversations to prevent potential problems. Some participants stress that this characteristic is more prevalent among headquarters workers, and there is a need to discover ways to enhance informal conversations. Participants suggest that institutional support is necessary for so-

cial gatherings and informal communities to thrive. As one participant stated, "An organization cannot stand alone. We must spend time together" because the tacit values of the organization are better transferred through informal interactions, and the greater the contact between employees, the higher their job productivity. This is due to many of the knowledge transfer and transformation processes that capture and reorganize new knowledge in the organization happening through informal interaction. O'Reilly and Tushman's (2008) research on dynamic capabilities explains that enhancing organizational ambidexterity could result from these interactions.

4.9 Review on the establishment of the Diplomatic IKM Center

As the secondary source for this study, the researcher investigated the context surrounding the "Review on the Establishment of the MOFA's IKM Centre" included in the 2017 innovation roadmap. It was determined that the formation of the center was crucial to the development of the MOFA IKM framework. Before data collection, it was deemed prudent to build an IKM framework in order to prepare a plan for establishing the center. However, during the interview process, nearly all interviewees, including senior diplomats who are decision-makers, were convinced that the innovation strategy could not be implemented in decades and that it was an unachievable idea. In fact, the roadmap was devel-

oped, and the MOFA's informatization office and innovation TF undertook a practical review in the beginning of 2018. However, it failed to gain consensus, and interviews uncovered that it is not being considered at this time. The researcher was able to observe how difficult it is to establish a new government body in reality. A number of complex stages necessitated the reorganization of human resources, organizational management, and the entire government workforce, making it unrealistic from the beginning. Particularly, it may have been impossible to conduct a long-term review[3]3 of the introduction of such a center due to the environment of the MOFA, where domestic political conditions constantly impact the organization's operations, and the organizational culture does not respect professionalism outside of diplomatic affairs.

One of the participants with decision-making authority stated that drafting laws or directives, rearranging the organization, and enforcing guidelines may not be an effective strategy for managing a macro-organization. That is, even if orders and guidelines are made, if the number of employees who do not follow them increases, they may eventually be viewed as an unnecessary operational method. Instead, the interviewee suggested that it would be more realistic to create a platform for cooperation between positions for the development of the organization's IKM-related strategy and to create an administrative procedure that is inconvenient and unbearable if not followed by the organization's entire

---

3) The Innovation TF announced a plan to continue the review period for the establishment of the center from 2017 to 2022.

workforce. For example, this might be a similar procedure to the one which now makes it impossible to start work without being authenticated through the mobile phone application[4]4. Ultimately, as humans become increasingly technology-centered, it is necessary to develop a realistic IKM strategy that is user-friendly and essential for employees.

5. Findings: Current IKM-related strategies and concepts implemented in the MOFA

The results indicate that the MOFA's IKM overlooked the process of defining an organization-wide long-term vision and plan in the process of adopting fast-developing technologies. Each participant in this study appeared to have a notion of how knowledge, information, and records should be managed inside the MOFA. However, instead of a unified concept that encompasses the entire organization, they guided their work with their own concept. For example, one participant described the 'Cyber Cabinet[5]5' as follows: "The organization cannot present an agreed operating plan for the Cyber Cabinet, so the method of using it depends on the personal circumstances

of the employees, the nature of work, and the right to access confidential documents."

According to numerous participants, the MOFA's unique organizational culture, in terms of secretism, individualism, hierarchical consciousness, overheated competition among departments, etc., was acting as a major obstacle to knowledge sharing and effective use. Moreover, the way of operating an organization that is affected by the domestic political situation made it impossible to establish a long-term strategy and systematically implement it, which had a direct impact on MOFA's IKM. These posed significant barriers to knowledge sharing and effective application.

In addition, the organizational operation method, which is influenced by the domestic political climate, prevented the organization from establishing a long-term strategy and consistently implementing it, which had a direct effect on MOFA's IKM. As seen by the establishment of the world's first e-government system, the Korean government did not hesitate to adopt quickly expanding technologies (Im & Seo, 2005). This adaptability, which is observable throughout Korean culture (that is, dynamic capabilities (O'Reilly & Tushman, 2008)), was also discovered in the IKM of the MOFA. However, employees at the MOFA lacked a consensus on IKM, and there

---

4) To log in, MOFA's intranet requires authentication with a QR code through the mobile phone app.

5) It is an information and knowledge management platform of MOFA that can store and manage classified documents that has diplomatic continuity and historical value, although it does not meet the formal conditions of confidential documents (notice, approval, management number, etc.). Collaboration through document sharing is possible in the form of an interface using Windows Explorer. In addition, access history and version management are possible, and it is a system that strengthens document security through Digital Rights Management (DRM). When a document created on a personal PC is uploaded to the cyber cabinet, security equipment is encrypted.

was no collaborative structure between occupational groups to develop IKM plans. The MOFA did not design a strategy for efficiently conceptualizing and accumulating knowledge and information since it solely concentrated on the development of the computer system, thereby producing difficult-to-use IKM platforms and knowledge information exchange bulletin boards. As these situations were repeated, trust in the IKM platform was greatly reduced.

Even though the institution rapidly built a system by introducing continually growing technology and releasing IKM-related platforms, it is difficult to say that this was the result of sufficient thought and consultation within the organization. This is because it was difficult to determine whether or not the organization had created a long-term strategy. The rigid organizational culture and management approach reflected a hierarchical mentality and created a culture in which knowledge and information were not exchanged between departments but were instead utilized as power (Liebowitz, 2001).

6. Recommendations for the MOFA

To effectively generate knowledge that arises during the implementation of MOFA's core tasks, it is necessary to articulate the organization's intentions, as stated by Nonaka and Takeuchi (1995). Articulating the organization's intentions can provide employees with a guiding philosophy, according to Senge (1990), and help formulate a long-term vision for the organization. MOFA's knowledge and information management can reduce uncertainty in diplomatic work and facilitate decision-making during the process by using strategic IKM, as described by Davenport and Prusak (1998). However, frequent employee rotation can hinder knowledge transfer within the organization by hastening the volatilization of tacit knowledge. Therefore, a clear strategic direction is necessary for the process of knowledge integration, transformation, and creation.

MOFA must conduct research to develop its own IKM strategy in managing the tension between Codification and Socialization strategies for knowledge transformation. To achieve this, it is crucial to examine how existing and new information may be managed through convergence within MOFA. Additionally, it is important to analyze how MOFA, which deals with sensitive information and records management, can develop tools and infrastructure for integrating codification and socialization strategies into RM and KM.

Thus, the first step in raising employee awareness of the significance of IKM within the organization is to make the organization's intentions clearer. In the midst of the deluge of knowledge and information generated concurrently with the rapid development of digital technology, IKM can serve as a metric for assessing the value of knowledge at the cutting edge of diplomacy. By preventing such knowledge and information from only being used once for a diplomatic activity or from quickly disappearing, it can become MOFA's central driving force, enabling the organization to effectively carry out its mission.

6.1 Establishment of a consultation body between occupational groups for IKM

An organization's IKM concept involves more than just technology; it requires an understanding of how knowledge and information are organized and managed, user requirements, and how often information needs to be updated. Therefore, a cooperative system with other occupational groups is necessary. Creating a collaborative platform is essential for an IKM strategy to work. Job analysis is necessary for diplomats, ICT specialists, and librarians to work effectively. To determine the direction for these job groups to work effectively, the MOFA should do an organizational diagnosis. It is also crucial to acknowledge that MOFA demands senior leadership to define the organization's vision, information strategies, and policies (Ward & Carter, 2019).

6.2 System–to–system linkage plan (accurate use of technology)

For the system-to-system linkage plan, all Republic of Korea government ministries are required to establish and maintain common platform usage guidelines, standardizing document formats, and knowledge information media, among other things. To design a

technology that is both user-friendly and meets NSC security system requirements is vital because MOFA handles a considerable volume of secrets. To ameliorate the security issues, a method of linking the secret On-Nara (RM system) and the Cyber Cabinet (IKM platform) system could be considered. If the MOFA does not develop a system that connects the IKM with the RM system, it is exposed to the risk of neglecting to register and manage documents worthy of being kept as records.

6.3 Strengthening IKM competency through employee retraining

It is deemed necessary to evaluate the utilization of the Korean National Diplomatic Academy (KNDA), an affiliated institution of the MOFA, without compromising its reference information. KNDA was originally established as an educational institution that aims to train diplomats, and it offers eleven training courses[6] 6 categorized according to career development levels. These courses are not only intended for nurturing prospective diplomats (exploration strategy), but also for re-educating current MOFA personnel (exploitation strategy). However, ten out of these eleven courses concentrate on diplomatic tasks, while only one is geared towards administrative personnel. This solitary course places emphasis on administrative education, such as budgeting, document preparation, and office

---

[6] There are eleven courses: Course for Heads of Overseas Diplomatic Missions, Course for Senior Foreign Service Officers in Overseas Missions, Course for Officers Assigned to Overseas Missions, Couse for Newly Assigned Attaches, Course for Director-Generals, Course for Directors, Course for Deputy Directors, Course for Officer in General Service, Course for Administrative Staff, Workshops for all members of Overseas Missions, Consular Simulation Training, Special lecture. https://www.knda.go.kr/eng/edc/plan/selectPlan04Contents.do

management. It is a challenge for specialists in emerging ICTs, information management/archives, and other related fields to find opportunities for educational advancement in the area of diplomacy. Furthermore, it is difficult to find training programs that can help general staff adjust to external changes in organizational operating methods. With this kind of educational program, it is possible to train professional librarians who possess expertise in diplomacy and make opportunities available to study the fundamental diplomatic content necessary for computer system development. This capacity development will enhance the skills essential for IKM, enabling exploratory innovation activities to sense the external environment, and exploitation innovation activities to capture and reconstruct. Ultimately, this would become a driving force in accelerating the MOFA's organizational innovation through ambidexterity. Managing work performance by providing support to strengthen employees' competencies will allow for the cultivation of employees with organizational ambidexterity suitable for MOFA, as Birkinshaw and Gibson (2004) have suggested. Offering benefits to employees who have completed this training course, such as making it a prerequisite for promotion or a mandatory part of job evaluations, would motivate them to complete the course and discourage them from avoiding it.

In summary, this study has identified external factors that have hindered MOFA's IKM from developing strategies for organizational innovation, such as the impact of domestic political change and the hierarchical culture of government agencies. It is concluded that these external constraints can be overcome by easing internal constraints, such as the absence of a consultative body for IKM and information control due to secrecy. In the end, it is analyzed that this is possible through the use of the structure that has no choice but to actively introduce the currently developing technology. This could be possible to develop a system that introduces realistic and practical techniques through collaboration by job groups for IKM strategy development. It is also possible to analyze ways to strengthen human capabilities using MOFA's KNDA infrastructure.

The future objective of this study is to determine the effectiveness of the growth of organizational ambidexterity in overcoming MOFA's internal limitations. Ambidexterity and absorptive capacity are necessary to improve long-term diplomatic capacity without being overly preoccupied with MOFA's short-term diplomatic achievements. Additionally, it would be beneficial to study the function that systems with abilities that employees can effectively apply in their daily lives can play in organizational innovation.

7. Conclusion

It is important to acknowledge that this study was limited by being contextualized by responses from a selection of the MOFA's staff members. Therefore, it was not possible to provide an overall presentation of the entire organization. However, interviews were conducted with groups of IKM-related decision-makers, specialists in the provision of skills, and professionals able to organize knowledge and information.

In addition, internal data that could be traced back to the long-standing histories of innovative thought within the organization was referred to.

The aim of this study was to analyze the current implementation of IKM in MOFA by adopting the SECI model and examining Organizational Ambidexterity and Absorptive Capacity. Through secondary data analysis and interviews, chronic issues prevalent in MOFA were identified. Broadly speaking, the organization faced challenges in integrating, constructing, or reorganizing its internal and external capacities in terms of IKM strategy (O'Reilly & Tushman, 2008). The most significant obstacle stemmed from the impact of the external environment, which could not be addressed at an individual level. Consequently, participants who had been with MOFA for over a decade expressed significant skepticism and a sense of powerlessness regarding organizational innovation. This external environment was influenced by the supreme authority of the state or the turbulence of political change, highlighting the inherent limitations of rigid and hierarchical government agencies. Despite these limitations, the nature of the ministry's work necessitates dynamic capabilities in the international arena. However, MOFA was being operated in a manner that failed to prepare for the organization's future, relying instead on ad-hoc strategies to address internal and external changes.

Furthermore, MOFA faced several challenges in establishing an effective IKM strategy. Due to information restrictions, sharing knowledge among employees proved to be difficult. Although ICT experts were expected to be sensitive to technological advancements, they lacked decision-making authority and a collaborative structure to develop a platform that could maximize its role in the organization's operations. While several IKM platforms and bulletin boards were being developed, they exhibited technical superiority but lacked a strategic framework for practical implementation.

MOFA's current IKM strategy appears to rely solely on the absorptive capacity of individual employees and operates in a structure where knowledge and information fail to become organizational assets due to a lack of institutional interest. To overcome these challenges, MOFA needs to enhance the IKM-related competencies of its employees, starting with the establishment of an organizational culture that nurtures ambidextrous individuals. To develop a long-term IKM strategy, it is crucial to support and govern the performance of MOFA's human resources with diverse expertise. Additionally, conducting an organizational diagnosis to identify effective collaboration directions among these professions is important for future studies.

References

Adesina, A. O. & Ocholla, D. N. (2019). The SECI model in knowledge management practices: past, present and future. Mousaion, 37(3), 34 pages. Available: https://journals.co.za/doi/abs/10.25159/2663-659X/6557

Arsac, L. (2014). South Korea's geopolitics: on the road to "influential diplomacy." Territory and Seas, 8, 108-136. Available: https://www.dbpia.co.kr/journal/articleDetail?nodeId=NODE06138574

Bawden, D. (1990). User-oriented evaluation of information systems and services. Aldershot: Gower.

Birkinshaw, J. & Gibson, C. (2004, July 15). Building Ambidexterity Into an Organization. MIT Sloan Management Review. Available:
https://sloanreview.mit.edu/article/building-ambidexterity-into-an-organization/

Boynton, A. C., Zmud, R. W., & Jacobs, G. C. (1994). The influence of IT management practice on IT use in large organizations. MIS Quarterly, 18(3), 299-318. https://doi.org/10.2307/249620

Bryman, A. (2001). Social Research Methods. Oxford: Oxford University Press.

Cohen, W. M. & Levinthal, D. A. (1990). Absorptive capacity: a new perspective on learning and innovation. Administrative Science Quarterly, 35(1), 128-152. https://doi.org/10.2307/2393553

Corrall, S. (2008). An interview with Sheila Corrall: Interview by Margaret Adolphus. Available:
https://www.emeraldgrouppublishing.com/archived/librarians/info/interviews/corrall.htm

Daniel, J. (2011). Sampling Essentials: Practical Guidelines for Making Sampling Choices. California: SAGE Publications.

Daspit, J. J. & D'Souza, D. E. (2013). Understanding the multi-dimensional nature of absorptive capacity. Journal of Managerial Issues, 25(3), 299-316. Available: https://www.jstor.org/stable/43488823

Davenport, T. H. & Prusak, L. (1998). Working knowledge: How organizations manage what they know. Boston: Harvard Business School Press.

De long (1997). Building the knowledge-based organization: how culture drive knowledge behaviors. Centers for Business Innovation-working paper, 1-29

Eisenhardt, K. M. & Martin, J. A. (2000). Dynamic capabilities: what are they? Strategic Management Journal, 21(10/11), 1105-1121.
https://doi.org/10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

Ghoshal, S. & Bartlett, C. A. (2000). The individualized corporation: A fundamentally new approach to management. New York: Random House Business.

Glaser, B. & Strauss, A. (1967). The discovery of grounded theory. New York: Aldine Publishing Company.

Hansen, M. T., Nohria, N., & Tierney, T. (2000). What's your Strategy for Managing Knowledge? In The Knowledge Management Yearbook 2000-2001. London: Routledge.

Hislop, D. (2005). Knowledge Management in Organizations: A Critical Introduction. Oxford: Oxford University Press.

Im, "John" J. H. & Seo, J. W. (2005). E-government in South Korea: planning and implementation. Electronic Government, an International Journal, 2(2), 188-204. https://doi.org/10.1504/EG.2005.007094

Jansen, J. J. P., Van den Bosch, F. A. J., & Volberda, H. W. (2005). Exploratory innovation, exploitative innovation, and ambidexterity: the impact of environmental and organizational antecedents. Schmalenbach Business Review, 57(4), 351-363. https://doi.org/10.1007/BF03396721

Joshi, K. D., Chi, L., Datta, A., & Han, S. (2010). Changing the competitive landscape: continuous innovation through IT-enabled knowledge capabilities. Information Systems Research, 21(3), 472-495. https://doi.org/10.1287/isre.1100.0298

Klinger, N. (2016). Organizational ambidexterity and absorptive capacity. Otago Management Graduate Review, 14, 21-30.

Lee, C. S. & Kelkar, R. S. (2013). ICT and knowledge management: perspective from the SECI model. The Electronic Library, 31(2), 226-243. https://doi.org/10.1108/02640471311312401

Leonard, D. & Sensiper, S. (1998). The role of tacit knowledge in group innovation. California Management Review, 40(3), 112-132. https://doi.org/10.2307/41165946

Levinthal, D. A. & March, J. G. (1993). The myopia of learning. Strategic Management Journal, 14(S2), 95-112. https://doi.org/10.1002/smj.4250141009

Liebowitz, J. (2001). Knowledge management and its link to artificial intelligence. Expert Systems with Applications, 20(1), 1-6. https://doi.org/10.1016/S0957-4174(00)00044-0

Mahler, J. G. (2009). Organizational Learning at NASA: The Challenger and Columbia Accidents. Washington: Georgetown University Press.

Ministry of Economy and Finance (2022). The announcement of the "New Growth 4.0 Strategic Promotion Plan". Available: https://www.moef.go.kr/com/cmm/fms/FileDown.do?atchFileId=ATCH_000000000021982&fileSn=3

Ministry of Foreign Affaris (2017). Innovation Roadmap of the MOFA of the Republic of Korea.

Ministry of the Interior and Safety (2017). 50 years of e-Government history. Available: https://www.mois.go.kr/frt/bbs/type001/commonSelectBoardArticle.do?bbsId=BBSMSTR_000000000012&nttId=73253

Natek, S. & Zwilling, M. (2016). Knolwedge management system support SECI model of knowledge-creating process. TIIM, 16(251).

Nonaka, I. & Takeuchi, H. (1995). The knowledge-creating company: How Japanese companies create the dynamics of innovation. New York: Oxford University Press.

O'Leary, N. (2014). Learning informally to use teaching games for understanding: the experiences of a recently qualified teacher. European Physical Education Review, 20(3), 367-384. https://doi.org/10.1177/1356336X14534359

O'Reilly, C. A. & Tushman, M. L. (2008). Ambidexterity as a dynamic capability: Resolving the innovator's

dilemma. Research in Organizational Behavior, 28, 185-206. https://doi.org/10.1016/j.riob.2008.06.002

O'Reilly, C. A., Chatman, J., & Caldwell, D. F. (1991). People and organizational culture: a profile comparison approach to assessing person-organization fit. Academy of Management Journal, 34(3), 487-516.

Orlikowski, W. J. & Baroudi, J. J. (1991). Studying information technology in organizations: research approaches and assumptions. Information Systems Research, 2(1), 1-28. https://doi.org/10.1287/isre.2.1.1

Polanyi, M. (1967). The Tacit Dimension. In Knowledge in Organizations. London: Routledge.

Rothaermel, F. T. & Alexandre, M. T. (2009). Ambidexterity in technology sourcing: the moderating role of absorptive capacity. Organization Science, 20(4), 759-780. https://doi.org/10.1287/orsc.1080.0404

Schopflin, K. & Walsh, M. (2019). Practical Knowledge and Information Management. London: Facet Publishing.

Senge, P. M. (1990). The Fifth Discipline: The Art and Practice of the Learning Organization. New York: Doubleday/Currency.

Stoddart, L. (2020). Determining the impact of knowledge sharing initiatives in international organizations: Case studies. IFLA Journal, 46(1), 64-71. https://doi.org/10.1177/0340035219870198

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. Strategic Management Journal, 18(7), 509-533. https://doi.org/10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Tushman, M. L. & O'Reilly, C. A. (1996). Ambidextrous organizations: managing evolutionary and revolutionary change. California Management Review, 38(4), 8-29. https://doi.org/10.2307/41165852

Vasconcelos, A. C., Martins, J. T., Ellis, D., & Fontainha, E. (2019). Absorptive capacity: a process and structure approach. Journal of Information Science, 45(1), 68-83. https://doi.org/10.1177/0165551518775306

Volberda, H. W. & Lewin, A. Y. (2003). Co-evolutionary dynamics within and between firms: from evolution to co-evolution. Journal of Management Studies, 40(8), 2111- 2136. https://doi.org/10.1046/j.1467-6486.2003.00414.x

Walsham, G. (2006). Doing interpretive research. European Journal of Information Systems, 15(3), 320-330. https://doi.org/10.1057/palgrave.ejis.3000589

Ward, S. & Carter, D. (2019). Information as an asset - today's board agenda: the value of rediscovering gold. Business Information Review, 36(2), 53-59. https://doi.org/10.1177/0266382119844639

Zahra, S. A. & George, G. (2002). Absorptive capacity: a review, reconceptualization, and extension. Academy of Management Review, 27(2), 185-203. https://doi.org/10.5465/amr.2002.6587995