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Knowledge Communication Strategy in Infrastructure Business

Ratna Widianingrum

* Department of Communication Science, Gadjah Mada University, Jalan Sosio Yustisia No. 1, Bulaksumur, Yogyakarta 55281, Indonesia

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Corresponding author:
ratnawidianingrum@mail.ugm.ac.id

ABSTRACT

Infrastructure development is a program that usually includes mega projects and involves many stakeholders in its implementation, thus providing great opportunities for knowledge creation. However, the complexity that arises often prevents the creation of knowledge, either through the process of improving existing knowledge or through the process of discovering new knowledge. The process of changing knowledge through knowledge management to facilitate intra- and inter-organizational knowledge transfer has been discussed in various studies on knowledge management, but specific discussion on how to communicate strategies in knowledge management, especially in the infrastructure industry, is still sparse. This study aims to determine how the knowledge management process and public relations program actions in knowledge communication strategy can be adopted. The strategy will motivate systematic efforts to develop information and knowledge and create value in the future. The methodology used in this paper is searching for data and information through books, journals, and articles related to the topic. The results of this paper provide an understanding of the concepts and strategies of knowledge communication in knowledge management and its application to the infrastructure industry.

SARI PATI

Kata Kunci:
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Pembangunan infrastruktur merupakan program yang biasanya bersifat mega proyek dan melibatkan banyak stakeholders, sehingga memberikan peluang besar bagi penciptaan pengetahuan. Namun kompleksitas yang terjadi seringkali melewatkan hal tersebut, sehingga penciptaan pengetahuan melalui proses perbaikan pengetahuan yang sudah ada ataupun yang baru seringkali tidak terjadi. Proses mengubah pengetahuan melalui knowledge management untuk memfasilitasi transfer pengetahuan intra dan antar-organisasi telah banyak dibahas, namun pembahasan secara spesifik pada bagaimana strategi komunikasi dalam knowledge management masih minim. Penulisan bertujuan untuk melihat bagaimana proses knowledge management pada industri infrastruktur, dan penggunaan formulasi aksi program public relations dalam strategi knowledge communication pada pengelolaan manajemen pengetahuan. Penggunaan strategi knowledge communication yang tepat sebagai upaya sistematis untuk membuat informasi dan pengetahuan berkembang, mengalir dan menciptakan nilai baru. Metodologi yang digunakan adalah pencarian data dan informasi melalui buku, jurnal, maupun artikel. Hasil penulisan berupa pemahaman akan konsep dan strategi knowledge communication dalam knowledge management dan penerapannya pada industri infrastruktur.

INTRODUCTION

Infrastructure development in Indonesia is one of the main focuses of the Indonesian government's programs. The relatively high level of economic growth causes infrastructure needs in Indonesia to increase (IIGF, 2013). Ironically, on the other hand, Indonesia's infrastructure ranking globally is at the bottom and experiences a downward trend every year (IMD, W., 2023). Based on the parameters set by the International World Competitiveness Yearbook, Indonesia's infrastructure is lagging behind in several performance aspects, which leaves various problems in the infrastructure sector. Among these problems, there are 3 (three) main challenges for infrastructure development in Indonesia, including: first, problems related to land acquisition, second, problems related to project planning and preparation and third, problems with infrastructure funding (www.kppip.go.id). The issue of project planning and preparation is closely related to human resource issues, especially in terms of capacity and knowledge. Research shows that there is a relationship between Human Resource Management (HRM) practices and knowledge management, where this relationship has an impact on organizational performance (Memon, K. R., et.al 2022). Thus, there is a strong and positive relationship between human resource capacity and knowledge, and in the context of the infrastructure industry, both are needed in planning and preparing infrastructure projects. However, the concept of knowledge is often understood with an academic emphasis and is rarely seen from an industrial or public perspective, so development is not field-oriented.

Today, competence related to knowledge/ experience has become an intangible asset enabling a company to compete globally. Ownership of knowledge is considered a market value that can create added value for its shareholders and stakeholders through the utilization of organizational knowledge. This includes infrastructure and typically mega projects involving numerous stakeholders with vast information, knowledge, and experience. However, research has failed to identify what communication strategies are applied in knowledge management (KM) to ensure that relevant knowledge reaches those who need it. Furthermore, how is communication conducted in efforts to gather understanding, subsequently uniting and integrating it into a cohesive whole? Communication is a crucial factor in directing corporate activities and ensuring the flow of knowledge necessary for institutional sustainability. In addition to benefiting internal human resources within the company, KM will also contribute to enhancing external performance that drives the success of an infrastructure project. This article compiles the input from management information experts on this subject.

METHODS

This research uses a systematic approach using literature study methodology to link it with pre-existing knowledge. A literature review is a general method that involves researching, reading, analyzing, evaluating, and summarizing scientific literature, usually from journals and articles, on a specific topic. This methodology involves searching for data and information through various sources such as books, journals, and articles on a particular topic. The steps in conducting a literature review are carried out using four stages: (1) designing the review (2) carrying out the review (3) conducting analysis) and (4) writing (Snyder, H., 2019). By conducting a literature study, researchers also hope to provide a more comprehensive understanding of how to facilitate the exchange, sharing, and application of knowledge which can ultimately lead to increased competence in the infrastructure sector.

RESULTS AND DISCUSSION

Communication Strategy and Knowledge Communication

Communication is an integral part of the strategic management process aimed at achieving goals and enhancing organizational performance. It serves as a tool to direct organizational objectives both internally and externally. According to Kohler (1981), effective communication, whether internal

or external to the company, is essential to achieve smooth processes. Therefore, leaders and members of the organization must understand and refine their communication skills. The book "Techniques for Effective Communication" by R. Wayne Pace, Brent D. Peterson, and M. Dallas Burnett (in Effendy, 2009:32) mentions three main objectives that constitute the central goals of communication activities. The first is to secure understanding, ensuring that the recipient comprehends the received message. The second is to establish acceptance, nurturing the recipient's acceptance of the message. The third is to motivate action, thus inspiring activity. Organizational actors can achieve these communication goals by delivering messages appropriately through a two-step analysis which includes deciding how the message should be conveyed (choosing the communication channel) to its stakeholders and determining the approach to shaping the message itself.

Considering that communication is a complex process, the creation of a coherent communication strategy is necessary during its implementation. Developing a communication strategy involves considering various supporting and inhibiting factors. According to David Clutterbuck (2001:30), in addition to setting goals and assessing supporting and inhibiting factors, the success of a corporate communication strategy depends on how closely the communication strategy is linked to the overall business plan of action. Therefore, when developing an overall strategy, organizations need to take into account their corporate communication efforts. Andrew Crane (2003:11) mentions that theories of public relations, as proposed by Grunig and Hunt (1984), provide a comprehensive understanding of corporate communication useful for navigating stakeholder relations through the company's public relations model. This model distinguishes between one-way and two-way forms of communication and between the communicator's goals in communication, whether to manipulate/persuade or to educate/facilitate understanding.

This study applies foundational theories of public relations, which influence the form of stakeholder communication, through stakeholder communication programs to determine the most suitable program for implementing KM, whether through a proactive or reactive strategy. According to Smith (2013:113), proactive strategy is an approach that enables organizations to initiate a communication program under the right conditions and at the right time according to the organization's interests. It also involves actions and communications. On the other hand, reactive strategy is applied in response to the influences and opportunities from the organizational environment, including preventive actions, offensive and defensive responses, sympathy, and corrective behavior. If the communication process is understood initially as a linear, concrete, and relatively fixed process of transferring and transmitting messages, or what McQuail (1994) refers to as the transmission model, then, according to Schramm (1971:8), this concept shifts to a relationship characterized by sharing information. In the application of KM, information within the company is managed to become knowledge that can be used for various innovations. Its implementation in various fields is carried out by adjusting the activities conducted within the company.

The presence of knowledge and communication in the transfer process introduces the concept of knowledge communication. This aspect is the primary driver in interacting and generating knowledge, encompassing the information and emotions that are transmitted. Therefore, every knowledge transmission exhibits knowledge communication and two-way communication as the mutual interaction. M.J. Eppler (in H. Buluthan Cetintas, 2012) defines knowledge communication as "All corporate decisions and actions in maintaining effective delivery of qualified and experience, intuition, and technical knowledge transfer within the corporation [in an] effective and efficient manner." Based on this definition, the use of knowledge communication provides an overview of the process carried out herein.

First, the information within the company is managed optimally and transformed into

knowledge essential for the organization. The existing knowledge can be utilized for innovation, making informed decisions, and supporting the sustainability of an organization in achieving its goals. Second, the knowledge transfer process involves the transmission of knowledge through interactive and two-way communication: the transmission of knowledge (events, figures, facts, developments, etc.) or emotions (fear, hope, doubt, commitment, etc.) from intuition and personal experience through communication. The processes within knowledge communication then divide KM into two processes: knowledge seen as a product resulting from the collection of data obtained through storing and retrieving existing data. The second process generates knowledge derived from collaboration and connections, thereby creating new knowledge. In the case of knowledge as a product, the output comprises notes, files, documents, information, and data, including Standard Operating Procedures (SOPs). On the other hand, with knowledge as a process, the output takes the form of thoughts, experiences, competencies, and actions.

Strategies for Knowledge Communication in Knowledge Management

Organizations today face various challenges, including those in the infrastructure sector. Globalization presents a constantly changing environment amid boundless connectivity and intense competition; furthermore, firms need to adapt to various conventional communication patterns due to the ongoing pandemic. One way to address these challenges is to maximize the use of information within the organization, utilize it to meet the informational needs of an organization, and consolidate it into a KM system.

Kei states, "The capacity of effective management of information and knowledge needed for innovation is a basic requirement for firms that want to be competitive in both domestic and international markets" (Wai K Law, 2007). To meet these challenges, organizations must adapt and collaborate to generate various innovations through mastery of technology and the market. At this point, information management plays a crucial role in implementing KM: managing the intellectual assets of the organization.

Knowledge management (KM) is defined as an action required to acquire as much knowledge as possible from existing knowledge sources (Rernandez, 2015). Knowledge within an organization is divided into two categories:

a. Tacit knowledge: Knowledge inherent to specific individuals due to their direct practices. This includes experiences, thoughts, actions, competencies, and commitments (Polanyi, 1958, as cited in Mie Auger, 1999).
b. Explicit Knowledge: Knowledge that has been documented in the form of procedures or other media, such as files, notes, recordings, documents, data, and information, stemming from experiences (I. Nonaka, 1994).

The relationship between explicit and tacit knowledge can be metaphorically illustrated as an iceberg, where tacit knowledge is significantly greater than explicit knowledge. Each individual in an organization possesses different competencies, experiences, thoughts, actions, and commitments according to their respective job descriptions. However, not everyone can articulate these aspects into explicit knowledge, transforming their knowledge based on their competencies into documents, data, information, recordings, files, and SOPs. Generally, in an organization, most knowledge exists in the form of tacit knowledge, with only a small amount of explicit knowledge.

Systematic efforts are made to develop both types of knowledge to ultimately create value for optimal performance through the process of knowledge transfer. In implementing KM, an organization typically engages in at least one of the four processes: knowledge discovery, knowledge capture, knowledge sharing, and knowledge application (I. Becerra-Fernandez, 2010).

a. The knowledge discovery process is defined as the development of previously existing tacit/explicit knowledge through

sub-processes such as combination (explicit knowledge) and socialization (tacit knowledge).

b. The knowledge capture process is defined as the process of acquiring existing explicit/tacit knowledge within the community through sub-processes such as internalization (tacit becoming explicit through words, images, concepts, etc.) and externalization (explicit becoming tacit).
c. The knowledge sharing process is defined as the process through which explicit/ tacit knowledge is communicated to other individuals through sub-processes such as socialization and exchange (explicit among individuals, groups, and organizations).
d. The knowledge application process directly contributes to organizational performance and depends on sub-processes such as direction and routines.

In the implementation of KM for the four processes mentioned above, communication strategies are essential in conveying messages, whether directed internally or externally. Like strategies in other fields, communication strategies must also be supported by theories based on tested and proven experiences. According to Argenti (2010:45), effective message delivery involves a two-step analysis for companies: deciding how the message should be conveyed (choosing a communication channel) and determining the approach to shape the message itself. The implementation of knowledge communication in KM, according to public relations concepts, can be done using proactive and reactive strategies. Proactive strategies encompass actions and communications, while reactive strategies include preventive actions, offensive and defensive responses, diversions, sympathies, corrective behaviors, and strategic delay.

Proactive strategies initiated by an organization are the most effective strategies for the KM process, as they are implemented based on the organization's planning, not in response to external pressures and societal expectations. This proactive strategy is initiated by the organization and is most effective as it is implemented based on the organization's planning, not in response to external pressures and societal expectations. Classifications of strategies that fall under the category of proactive strategies include action strategies and communication strategies. Action strategies involve tangible actions taken by the organization in an effort to achieve organizational goals and comprise six categories: organizational performance, audience engagement, special events, alliance and coalition development, sponsorship, strategic philanthropy, and activism. Proactive communication strategies include presenting information that is credible, news (publicity), and the development of a transparent communication process. Choosing the communication channels in KM communication strategies for stakeholders should be done with careful consideration after determining the message format and the content to be included in the message. The communication channels used will determine the process of transforming tacit knowledge into explicit knowledge, which is crucial to maintain the sustainability of an organization.

Discussions

Knowledge Management and Knowledge Communication in Infrastructure

Communication has a strong connection with the development process, particularly in the field of infrastructure. The role of communication is to facilitate the dissemination of ideas, knowledge, or technology within the organization and the broader community. Research on the Change in Development Communication Models (Siti Aminah et al., 2014) defines development as strengthening the capacity of individuals and institutions to control the use of resources as a means of improving the quality of life. Consequently, capacity building becomes a primary focus in development activities, and infrastructure as a crucial part of development is an essential system in modern society. While KM have been extensively discussed in various organizations, its implementation in the infrastructure industry

requires a different approach. This is due to the current issues in the infrastructure sector, in which not only are the quantity of resources lacking but also human resources is of low quality. Intellectual capital has become a determinant in the current knowledge era during which the environment is constantly changing. Therefore, the implementation of KM in the infrastructure sector should receive attention and be a priority. This is essential, as the long-term benefits of infrastructure development are not only influenced by cost factors but also human resources, a source of innovation and productivity. Therefore, quality infrastructure development requires a high level of human resource empowerment, and this can only be achieved if the tacit knowledge within the organization is systematically transformed into explicit knowledge through KM efforts. It is stated that in the infrastructure sector, effective KM will support knowledge creation and integration, minimize knowledge loss, and fill knowledge gaps throughout the project cycle (Al Shatti et al., 2018)

The nature of complexity and multi-engagement stakeholders, on the one hand, presents a significant challenge in this process. However, if managed effectively, these aspects can contribute to efforts to improve the quality and performance of infrastructure development in the future. The multitude of sectors involved in infrastructure development, including social infrastructure such as education and healthcare and economic infrastructure such as toll roads, ICT, and water supply, undoubtedly requires accurate knowledge. The extensive nature of infrastructure development conducted by various parties often leads to the oversight of evolving knowledge, resulting in the repetition of the same mistakes. If KM processes are implemented effectively from the early stages of infrastructure development planning, pertinent knowledge can reach those who need it. This ensures that they can take timely actions, optimizing performance and preventing the recurrence of errors.

The use of communication strategies in the implementation of KM is closely tied to the fundamental competencies aimed to achieve. In the field of infrastructure, applying communication to a participatory approach in the KM process is considered more targeted. The implementation of a participatory approach through proactive action strategies takes the form of audience engagement or audience participation. Audience engagement or participation is defined as a strong two-way communication tactic that involves the audience and the public in communication activities. In this strategy, the elements of audience engagement are as follows (Smith, 2013):

1. Audience Interest
   Involves engaging the audience by communicating relevant audience interests. The formal aspect of this is information accuracy, which is the extent to which information can be applied or is useful to the audience.
2. Audience Participation
   Involves engaging audience members by increasing their participation, achieved through feedback. Creates comfortable ways for the audience to respond to messages and participate in dialogues.
3. Audience Feedback
   Involves engaging the audience by encouraging public participation through gathering feedback. Creates a comfortable environment for the audience to respond to organizational messages and engage in dialogues. Techniques used include Q&A sessions.
4. Triggering Events
   Involves engaging the audience through triggering events and activities that result in binding actions among stakeholders. Examples of triggering events include sessions that end with inviting participating audience members to reach an agreement in a more focused forum. Triggering events can take the form of planned or unplanned activities, all with the goals of allowing the organization to quickly take advantage of the opportunity to present itself and focus on specific issues.

Engaging the audience in the process of extracting tacit knowledge is ideal for KM in the infrastructure due to the multi-engagement nature of stakeholders in this field. Various parties involved at different levels of engagement and backgrounds can be bridged by interacting directly. Therefore, an interactive communication strategy in the form of stakeholder dialogue is an appropriate format. Andrew Crande (2003:3) specifically mentions the positive aspects of stakeholder dialogue as a form of communication in which the audience becomes more involved and interactive. This format offers other significant advantages. Andriof (2001), as cited in Gao and Zhang (2001), adds, "Dialogue is geared toward mutual education, joint problem solving, and relationship building. It can be thought of as a high-quality form of engagement between organizations which occurs as part of a wider process of relationship formation and maintenance." The use of a two-way dialogue format yields better results, and this is also determined by the communicator factor, under which the moderator plays a key role in the success of the dialogue. Project owners can describe the processes involved during infrastructure development; regulatory bodies can speak from the government's perspective; investors act as development sponsors; experts provide input and lessons learned; and various other involved parties, such as communities, mass media, academia, society, and opinion leaders, can participate in the dialogue.

In addition to audience engagement, as mentioned above, involvement through the formation of communities is highly recommended in the field of infrastructure. This is done to address potential confusion arising from the involvement of numerous parties and to break down stiffness among parties who may not be closely connected on a personal level. Inter-community activities that can be carried out include:

a. Communities of interest, made to create a community with the aim of fostering interactions among parties involved both within and outside the organization, facilitate the exchange of knowledge.
b. Communities of practice are designed to create a community consisting of practitioners with the goal of developing strategic themes and validating existing knowledge assets.
c. Shared learning is built to form a community where each member has the ability to disseminate and share practical knowledge acquired from daily business interactions or from international best practices.

The communication strategies implemented in various audience engagement programs with a dialogue format can be realized through various community activity platforms as outlined above. Therefore, it is advisable to adapt its nature and character to the knowledge-transfer process in the field of infrastructure. The options for activities and the formation of communities mentioned above can be further implemented in efforts to facilitate the flow of information.

MANAGERIAL IMPLICATIONS

Research reveals that the Community of Practice (CoP) serves as a social interaction channel with two-way information exchange among practitioners in the infrastructure industry for knowledge transmission (Osborne et al., 2022). There are many benefits from organizing a community of practice, including CoP prevents the loss of tacit knowledge in cases of employee turnover by facilitating appropriate connections for knowledge transfer and retention (Aljuwaiber, 2019). As an effective informal way to facilitate the sharing of tacit knowledge (Osborne et al., 2022), the existence of a community of practice can also encourage collaboration and interaction between organizational members (Choi, H. J., et.al, 2019). Tacit knowledge then must be transferred at various levels to create innovations, respond to unexpected events, make decisions, and create new knowledge (Aljuwaiber, 2019; Pyrko et al., 2019). Tacit knowledge related to infrastructure projects needs to be transformed into explicit knowledge, secured, and stored to be used in the future by all stakeholders or companies involved. Thus, existing knowledge

assets can serve as lessons to avoid repeating the same mistakes and improve the quality of future infrastructure projects. CoP can include face-to-face as well as virtual meetings (Osborne et al., 2022). During face-to-face meetings, members can give and receive direct feedback until they reach a consensus. Face-to-face interaction simplifies the members to communicate complex issues. On the other hand, time constraints and geographical distance can be obstacles in CoP meetings. In such situations, communication technology is effective for virtual interaction (Aljuwaiber, 2019).

Knowledge communication initiatives in KM, including CoP, should be supported, since they have a positive impact on the success of infrastructure projects. Companies should encourage employees to share knowledge and provide the necessary information and communication technology (ICT) for knowledge communication. ICT provides a way to support the KM process through the use of networks and databases. It enables information to be captured and stored electronically, accessed, transmitted, and retrieved for use in corporate decision-making (Hamad, Wahid Bakar, Assistant Lecturer, 2018). ICT can help stakeholders in various types of knowledge acquisition processes, such as socialization (through formal and informal activities together), externalization (conversion of tacit knowledge to explicit knowledge), and internalization (conversion of explicit knowledge to tacit knowledge) (Singh, 2022). Companies can combine face-to-face interactions and use ICT as needed in the knowledge communication process, considering that not all information can be shared through technology systems due to its sensitivity (Aljuwaiber, 2019).

CONCLUSION

The extensive development of infrastructure has the potential to eliminate the KM process that should naturally occur. Unfortunately, this learning process tends to vanish on its own if conscious and systematic efforts are not made to retrieve it. It is crucial to capture and leverage the knowledge generated during infrastructure development consciously and systematically to ensure that information and insights flow and can be reused in future infrastructure projects.

In the implementation of KM in the field of infrastructure, a different strategic approach to knowledge communication is required to achieve a shared understanding. This is due to the high complexity of programs involving various stakeholders and the significant impact they generate. Communication here involves interaction with feedback elements, emphasizing two-way knowledge-sharing models akin to transactional concepts.

The proposed form of communication is dialogic communication to foster the ability to disseminate and share practical knowledge, develop strategic themes, and validate knowledge assets. Establishing communities is essential as a means of communication for learning and a platform for sharing knowledge. Since knowledge cannot develop on its own, intentional efforts are required for its development. In the field of infrastructure, this becomes especially crucial due to issues related to the scarcity of human resources and project failures, often rooted in information management competencies, particularly in KM.

REFERENCES

Aljuwaiber, A. (2019). Technology-Based Vs. Face-To-Face Interaction For Knowledge Sharing In The Project Teams. *International Journal of Project Organisation and Management*, *11*(3), 227–242. https://doi.org/10.1504/IJPOM.2019.102943

Aminah S., dan Sumardjo, D. L., Susanto, D. (2014). Perubahan Model Komunikasi dan Pergeseran Paradigma Pembangunan Perspektif Sejarah, *Paramita*, *24*(1).

Augier, M., & Vendelo, M. H. (1999). Network, Cognition and Management of Tacit knowledge. *Journal of Knowledge Management*, *3*(4), 252–261.

Becerra-Fernandez, I., & R. Sabherwal. (2015). Knowledge Management: System and Processes. New York: Routledge.

Hamad, W. B. (2018). The Role of ICT in Knowledge Management Processes: A Review. *International Journal of Engineering Science and Computing*, *8*(3), 8. http://ijesc.org/

Law, I., Wai, K. (1955). Information Resources Management: Global Challenges, Idea Group Publishing (an imprint of Idea Group Inc.)

Nonaka, I. (1994). A Dynamic Theory of Organizational Knowledge Creation. Organization Science, 5(1), 14-37.

Osborne, G. J., Wood, A., & Ishak, S. M. (2022). Knowledge Management Processes in South Australian Infrastructure Projects: Aligning Key Stakeholders Expectations and Practices. *Journal of Modern Project Management*, *10*(1), 127–139. https://doi.org/10.19255/JMPM02908

Pyrko, I., Dörfler, V., & Eden, C. (2019). Communities of practice in landscapes of practice. *Management Learning*, *50*(4), 482–499. https://doi.org/10.1177/1350507619860854

Singh, S. (2022). The Role Of Information Technology In Knowledge Management. *Journal of Positive School Psychology*, *6*(4), 1200–1204.

Smith, R. D. (2013). *Strategic Planning for Public Relations*. New York: Routledge.