

## **ChatGPT: A Game Changer for Knowledge Management in Organizations**

### **Abstract**

**Purpose** – Generative AI and more specifically ChatGPT has brought a revolution in the life of people by providing them with required knowledge that it has learned from exponentially large knowledge base. In this viewpoint, we are initiating the debate and offer the first step towards Generative AI based knowledge management system in organizations.

**Design/methodology/approach** – This study is a viewpoint and develops a conceptual foundation using existing literature on how ChatGPT can enhance the KM capability based on Nonaka's SECI model. It further supports the concept by collecting data from university to strengthen our argument of ChatGPT mediated knowledge management system.

**Findings** – We posit that all four processes, i.e., Socialization, Externalization, Combination, and Internalization can significantly improve when integrated with ChatGPT. ChatGPT users are, in general, satisfied with the use of ChatGPT being capable of facilitating knowledge generation and flow in organizations.

**Originality:** This is one of the earliest studies on the linkage of knowledge management with ChatGPT and lays a foundation for ChatGPT mediated knowledge management system in organizations.

**Implications:** The study provides a conceptual foundation to further the knowledge on how ChatGPT can be integrated within organizations to enhance knowledge management capability of organizations. Further, it develops an understanding on how managers and executives can use ChatGPT for effective knowledge management through improving the four processes of Nonaka's SECI model.

**Keywords** *ChatGPT, Generative AI, SECI Model, Knowledge Management, Explicit Knowledge, Tacit Knowledge, ChatGPT Mediated Knowledge Management System*

## 1. Introduction

The latest technological breakthrough is the ChatGPT, an artificial intelligence based integrated prototype of deep learning and language model that is based on the Generative Pre-training Transformer (GPT) architecture launched on 30th November 2022 and reached with 1 million users within first 5 days (Dwivedi et al., 2023) making it the most used tool these days. Its evolution brings us with different versions depending on the diversity and length of the data sets and language learning models. ChatGPT is a public tool developed by OpenAI and claimed as the most significant innovation of artificial intelligence with the capability to communicate in human language (Lund & Wang, 2023). The latest version ChatGPT 4 has trained on text from diverse sources such as websites, books, research articles, social media etc. on 175 billion parameters (Dwivedi et al., 2023; Wu et al., 2023). ChatGPT, by using natural language processing algorithms, is capable to analyze and interpret human language, extract useful and meaningful information and respond in human language (Lund & Wang, 2023).

We are evident of the integration of search engine and ChatGPT, i.e., you.com, providing search facilities along with artificial intelligence chat results. Similar initiatives have also been announced by Google and Microsoft. It has also been extensively adopted for education purpose such as teaching and learning, library and reference services, writing and research, information and digital literacy and plagiarism check and copyright (Cox & Tzoc, 2023). Adopting ChatGPT in organizations as a standalone framework to support organizations is not feasible due to the challenges and dark sides of the ChatGPT such as privacy and security concerns, ethical issues etc. (Budhwar et al., 2023; Deng & Lin, 2022; Haque et al., 2022). Therefore, the appropriate way to adopt generative AI is to combine with the already established frameworks in organizations (Ritala et al., 2023), i.e., enterprise resource management system and knowledge management system. ChatGPT has the capability to serve organizations and employees by improving the knowledge flow in organizations through better and improved knowledge generation.

The field of knowledge management is highly correlated with technology (Sian Lee & Kelkar, 2013). Organizations manage their knowledge resources, i.e., explicit and tacit, and facilitate decision making by establishing knowledge repository (Abubakar et al., 2019). Knowledge is asset for organizations and its management leads organizations to gain multiple advantages such as entrepreneurial mindset (Bandera et al., 2017), innovation (Songkram & Chootongchai, 2020), competitive advantage (Magnier-Watanabe & Senoo, 2009), sustainability (Klingenberg

& Rothberg, 2022) etc. Knowledge management, especially in the era of Industry 4.0, is not only necessary for gaining competitive advantage and sustainability but it is also imperative for survival of organizations (Anshari & Hamdan, 2022; Narendra et al., 2017; Sanzogni et al., 2017). Industry 4.0 through autonomous robots, simulation, horizontal and vertical system integration, Internet of Things (IoT), Cybersecurity, cloud computing and additive manufacturing, has contributed towards effective knowledge management in organization (Anshari & Hamdan, 2022; Iaia et al., 2023). Moreover, valuable knowledge creation through big data played significant role in advancement of knowledge management in organizations (De Bem Machado et al., 2022; Sumbal et al., 2021; Sumbal et al., 2015).

Furthermore, revolution in artificial intelligence and outcomes such as ChatGPT have multiplied the potential for exponential improvement of knowledge management systems and knowledge based decision making in organizations (Sharma & Dash, 2020; Yang & Wang, 2023). ChatGPT is highly correlated with knowledge management in organizations in terms of maintaining the knowledge base and providing support for informed decision making through valuable knowledge creation, however, being an evolving technological breakthrough, the research efforts are scarce (Abubakar et al., 2019; Englund & Jayne, 2023; Jarrahi et al., 2023; Korzynski et al., 2023; Kummar et al., 2021). Therefore, the aim of this paper is to explore how ChatGPT may facilitate knowledge management with the focus on Nonaka's SECI (Socialization, Externalization, Combination, Internalization) model. It will enhance our understanding of the role ChatGPT can play in enhancing existing knowledge management system in organizations. Section 2 gives an overview of the available literature. Section 3 develops a conceptual foundation on how ChatGPT can be linked to Nonaka's SECI model of knowledge management. Section 3 and Section 4 explains the methodology and supports the conceptual foundation developed in section 2 with actual insights from a group of researchers on how ChatGPT can be linked to valuable knowledge creation and knowledge flow based on SECI model through a case study respectively. Section 5 elaborates discussion and provides theoretical framework followed by conclusion in section 6.

## **2. Literature Review**

ChatGPT is considered a highly sophisticated chatbot which has the capability to respond to all kinds of queries from answering simple questions to completing complex tasks such as providing customized guidance or writing a report. It has a built in capability to understand and interpret queries and respond on queries in natural human language (Lund & Wang,

2023). Using ChatGPT has multiple advantages, i.e., more reliable access, faster response time etc., however, using it in an effective way is highly dependent on individuals as Cox & Tzoc (2023) mentioned “[s]uch a model could produce a knowledge trade with haves and have-nots depending on an individual’s ability to foot the bill” (p. 102). ChatGPT is thus impacting all aspects of organizations such as strategic, functional, administrative, HR, decision making, managerial, leadership, employees etc. (Budhwar et al., 2023; Korzynski et al., 2023; Singh, 2023). Although it is at the initial stage of its launch, it is making an impact in every sphere of life such as health, education, research, libraries, construction, agriculture, programming etc. (Amber & Hashmi, 2023). Table 1 provides evidence of its impact in various fields.

**Table 1: Research Evidence of ChatGPT in Different Fields of Life (source: authors)**

<b>Dimensions and/or Fields</b>	<b>Source</b>
Health and Public Health	(Sallam, 2023)
Supply Chain	(Verma, 2023a)
Medical	(Khan et al., 2023)
Nursing	(Gunawan, 2023)
Education	(Adiguzel et al., 2023; Ausat et al., 2023; Cox & Tzoc, 2023; Firat, 2023; King, 2023; Li et al., 2023; Raman et al., 2023; Sallam, 2023)
Construction	(Prieto et al., 2023)
Environment	(Zhu et al., 2023)
Clinical Decision Support	(Liu et al., 2023)
Agriculture	(Ray, 2023)
Research	(Burger et al., 2023; Islam & Islam, 2023; Qasem, 2023; van Dis et al., 2023)
Libraries and Information Centers	(Chen, 2023; Cox & Tzoc, 2023; Fernandez, 2023; Kirtania, 2023; Kirtania & Patra, 2023; Lund & Wang, 2023; Verma, 2023b)
Literature	(Gunawan, 2023)
Programming	(Sobania et al., 2023; Surameery & Shakor, 2023; Tian et al., 2023)
Cybersecurity	(Sharma & Dash, 2020)
Knowledge Acquisition	(Hu et al., 2023)
Personal Knowledge Management	(Raftis, 2023)
Knowledge Management	(Berg & Gmyrek, 2023; Englund & Jayne, 2023; Jarrahi et al., 2023; Korzynski et al., 2023; Kummar et al., 2021)
Military	(Biswas, 2023)
Journalism and Mass Media	(Pavlik, 2023)
Government	(Yang & Wang, 2023)
Organizations	(Budhwar et al., 2023; Singh, 2023)

In knowledge management perspective, the evidence is lacking in literature. Two studies have theoretically discussed the integration of generative AI with knowledge management in organizations. Hu et al. (2023) have come up with the idea of using generative AI for acquisition of knowledge for design engineering along with the pros and cons of doing so. Korzynski et al., (2023) partially discussed the importance and applicability of generative AI

for knowledge management in organizations. They argued that generative AI may facilitate effective knowledge management by efficient acquisition, creation, transfer and retrieval of knowledge which facilitates organizational workforce.

Moreover, Raftis, (2023) has discussed the avenues for how ChatGPT could be used to enhance divergent and convergent thinking that is the prerequisite to solve multi-faceted problems. Berg and Gmyrek (2023) are of the view that ChatGPT has the capability to facilitate knowledge workers. Kummar et al. (2021) comes up with the idea to use ChatGPT for managing knowledge in educational institutions and termed it as “Edu-bot”. In light of this discussions available in literature so far, it is apparent that ChatGPT has the capability to serve organizations and employees to a broader extent, however, yet is a black box and require in-depth investigations on how it can serve organizations. To lay the initial foundation, let’s explore the role of ChatGPT in organizations with the lens of Nonaka’s SECI model.

### ***2.1 ChatGPT and Nonaka’s SECI Model***

The field of knowledge management is profoundly built on the concept provided by Nonaka and explained the creation of knowledge by four mechanism of socialization, externalization, internalization and combination (Nonaka, 1994; Nonaka & Takeuchi, 1995). The explicit knowledge is expressed in formal language and easily recorded in different formats, whereas, tacit knowledge is the personal knowledge that is shared when individuals interact and share ideas, values, emotions, experiences etc. and hard to formalize (Nonaka et al., 2000). Nonaka has explained knowledge transformation in organizations with different combinations of tacit and explicit knowledge, i.e., Socialization, Externalization, Internalization and Combination. The fundamental purpose of SECI model is to synthesize subjective knowledge into objective, sharable and usable knowledge so that individuals and organizations could benefit from it (Magnier-Watanabe & Senoo, 2009). We will further explore how ChatGPT has enhanced this linkage to enhance the KM capability of organizations through this combination of tacit and explicit knowledge.

#### ***Socialization***

Socialization is the exchange of tacit knowledge. It is sharing of knowledge among individuals. Knowledge is shared through social interactions such as face-to-face conversations or group activities. Knowledge sharing has a direct relationship with innovation (Songkram & Chootongchai, 2020). Creating knowledge through socialization is the best mental model for

sharing technical skills and experiences (Magnier-Watanabe & Senoo, 2009). ChatGPT can enhance socialization by providing a platform for remote communication and collaboration. For example, virtual assistants or chatbots powered by language models could facilitate online discussions or provide support for remote team members. ChatGPT provides a platform for conversational interaction with dynamic interactive platform that could manage knowledge sharing in organizations (Hu et al., 2023). ChatGPT facilitates interaction among employees and serve as a platform where employees communicate with each other, share ideas and discuss issues. ChatGPT enabled socialization creates a culture in organization where tech-based collaboration and interaction among employees create a culture of collaboration and teamwork in organization. ChatGPT provides a podium where employees can also learn from each other by observing and imitating their work practices, behaviors, and attitudes. This can help to spread knowledge and skills throughout the organization and can lead to the development of shared mental models and a common understanding of how work should be done in an effective and efficient way.

ChatGPT could facilitate dialogue and aid employees in their work by providing them informal learning on their tasks similar to students' learning in educational institutions (e.g. (Hill et al., 2015)). In this regard, ChatGPT works like a chatbot, as a dialogue system and conversational tool that understands and interprets the content and queries during a dialogue and effectively identifies social and emotional needs of the person (Adiguzel et al., 2023). Unlike google, ChatGPT has the ability to respond on users' queries in a specialized way of explaining or providing factual information in a precise way rather than information overload (Cox & Tzoc, 2023). Moreover, ChatGPT linked with the internal and external organizational knowledge base is able to discuss on employees' queries and concerns and give them an experience that they are interacting with human in a same way as people feel while using chatbots (Ciechanowski et al., 2019).

ChatGPT can improve knowledge management in organizations by acting as a reliable and efficient virtual assistant, providing access to information, assisting in training and onboarding, troubleshooting issues, facilitating collaboration, and continuously learning to enhance its capabilities. Literatures discusses a variety of examples in education sector for the collaborative use of chatbots such as chatbots for learning English, i.e., "BookBuddy" (Ruan et al., 2019), tutorials, i.e., "Sammy" (Chen et al., 2023; Gupta et al., 2019), collaboration activities, i.e., "colMOOC" (Tegos et al., 2019) and academic information systems, i.e., "StudBot"

(Vijayakumar et al., 2019). A similar integrated expanded platform could be developed in organizations to facilitate employee learning and networking. Here are few options of how ChatGPT may facilitate socialization in organizations:

- ***Chatbot for Knowledge Base:*** ChatGPT can be trained on the organization's knowledge base and integrated as a chatbot. Users can interact with the chatbot to ask questions and receive relevant information from the knowledge base. This can help with quick retrieval of information and provide employees with self-service options.
- ***Virtual Assistant for Employee Support:*** ChatGPT can act as a virtual assistant to provide support and guidance to employees. It can assist with onboarding processes, answer frequently asked questions, and provide step-by-step instructions for various tasks and assist with orientation and onboarding processes. This can help improve employee productivity and reduce the need for manual support.
- ***Collaboration and Discussion Platform:*** ChatGPT can be integrated into collaboration platforms to facilitate knowledge sharing and discussions. It can assist in connecting employees with subject matter experts, providing insights, encourage collaborative problem-solving and suggestions, and fostering a culture of knowledge sharing and innovation within the organization.

### ***Externalization***

Externalization is the process of transferring tacit knowledge into explicit. Tacit knowledge is made explicit through language or other forms of expressions. It is recording of knowledge shared by individuals in any form. Brainstorming techniques are used to obtain or acquire tacit knowledge and it is transferred to organizational knowledge base (Songkram & Chootongchai, 2020). Technological support made transfer of knowledge and creation of new knowledge efficient in the stage of externalization (Anshari & Hamdan, 2022). Machine models have the ability to efficiently codify explicit knowledge available in organizations and thus promote innovation by providing required knowledge efficiently (Magnier-Watanabe & Senoo, 2009). ChatGPT not only creates a tech-based collaborative culture where employees socialize with each-others and with the chatbot but also maintain knowledge repository of employees' interactions by recording it. It can enhance externalization by providing tools for natural language processing and generation. For example, language models could be used to generate summaries or reports based on verbal or written descriptions of tacit knowledge. Learning from employee interaction or input from humans/experts is used to populate the knowledge base of

ChatGPT. Here are few options of how ChatGPT may facilitate externalization in organizations:

- ***Continuous Learning and Improvement:*** ChatGPT can continuously learn from interactions and feedback to improve its responses and knowledge base. This can be accomplished by incorporating feedback mechanisms and regularly updating the training data to ensure that the information provided is accurate and up to date.
- ***Efficient Search using Natural Language:*** ChatGPT can be used to enhance the search capabilities of knowledge management systems. By understanding natural language queries, ChatGPT can provide more accurate and relevant search results, making it easier for employees to find the information they need.

### ***Internalization***

Internalization is the process of conversion of explicit knowledge into Tacit. New knowledge is internalized through practice or experience in this stage. Internalization leads to creativity and innovation in organizations (Songkram & Chootongchai, 2020). The process of embodying unfamiliar, explicit knowledge into work routines so that it becomes a part of daily custom (Nonaka & Konno, 1998). This is the most important stage of knowledge transformation for that technology can provide support at its optimum level (Sian Lee & Kelkar, 2013) by managing knowledge base and provide it to employees. Technology can support internalization by virtual learning, better opportunities for self-development, development of global community etc. (Sian Lee & Kelkar, 2013). ChatGPT is a knowledge base that continuously learns from the data and information provided to it along with what has already been learnt by it as we can see the evolving versions of ChatGPT 3.5 and 4.0 which are more powerful and intelligent than their predecessors. Hence, ChatGPT has a very impressive internalization capability. The integrated knowledge base of ChatGPT can enhance internalization by providing tools for simulation and training. For example, language models could be used to create virtual environments or scenarios for practicing new skills or procedures. Here are few options of how ChatGPT may facilitate internalization in organizations:

- ***Self-Service Options:*** Integrating ChatGPT with the knowledge management system allows employees to access information and resources independently. They can quickly find answers to their questions without relying on others, enabling self-service options, and promoting a culture of continuous learning and empowerment.

- ***Improved Information Retrieval:*** By utilizing natural language processing capabilities, ChatGPT can enhance the search functionality of the knowledge management system. Employees can ask questions in their own words and receive accurate and relevant information from the system, making it easier and faster to find the information they need.

### ***Combination***

Combination is the process of converting explicit knowledge into explicit. Explicit knowledge is combined and organized to create new knowledge by using the concept of knowledge networks (Songkram & Chootongchai, 2020) and a best way to generate affective knowledge in organizations by managing documents such as SOPs, reports, memorandum etc. in a repository such as content management system or document management system for easy retrieval (Magnier-Watanabe & Senoo, 2009). Technological advancements provide support to combination stage of knowledge transformation by providing support to distributed and globalized teams, promoting cooperation and collaboration among them and promoting awareness of business objectives (Sian Lee & Kelkar, 2013). ChatGPT can enhance combination by providing tools for knowledge management and organization. For example, language models could be used to analyse and categorize large datasets or to generate recommendations based on patterns in existing knowledge. As compared to conventional organizational combination process, the data in ChatGPT has a lot of variety, being generated at huge velocity, and is huge in volume. Thus, the combination process of ChatGPT may enhance the knowledge management capability through sheer volume, variety and pace of explicit knowledge generation. Here are few options of how ChatGPT may facilitate combination in organizations:

- ***Continuous Update of Databases:*** ChatGPT can continuously update the knowledge base with the published and unpublished material from internet and from organizational database. It can adapt to new information and updates in the organization, ensuring that the knowledge management system remains up-to-date and accurate.
- ***Analytics and Insights:*** ChatGPT can provide valuable insights on frequently asked questions, areas of improvement, and gaps in the knowledge management system. This data can be used to optimize the system, identify training needs, and make informed decisions to enhance organizational knowledge.

### 3. Case Study Methodology

A case study has been conducted to strengthen our argument of ChatGPT mediated knowledge generation and flow. Qualitative approach was adopted for obtaining responses from researchers working in one of the engineering departments (industrial and systems engineering) of a university in Hong Kong. This department is selected for the reason that individuals working in this department related to diverse fields such as electrical, mechanical, civil, biosciences, computing, organizational management and knowledge engineering, design etc. Moreover, selected individuals represent diversity in the level of position they serve, i.e., researchers, research students, research staff and faculty who are working in different hierarchal positions. Furthermore, the selected individuals are the ones who are working/researching on the practical side of their field of study with industry collaboration. The findings of the case study to support our arguments is, therefore, justified and covers diverse opinion with the perspective of position and field of study and practical dimensions.

The respondents who actively used ChatGPT for their work activities were selected. Formal and informal discussions were conducted to obtain users' feedback purely based on their experiences. Informal discussions with fourteen individuals and a group discussion of five members were conducted. Respondents' profile for their use of ChatGPT is given in Table 2. The respondents were asked for their experience of using ChatGPT in all four dimensions of SECI model along with three additional questions to assess their usage frequency, comparative analysis and overall satisfaction with ChatGPT. The questions posed to our respondents are: (a) Socialization: Do you think ChatGPT gives you experience like you are interacting with human? (b) Externalization: Do you think your debate/dialogue with ChatGPT will also facilitate it to learn? It keeps a log of all conversation? (c) Combination: How much are you satisfied with the relevance of the data provided by ChatGPT in response to your query? (d) Internalization: Do you think ChatGPT has the capability to understand your emotions and feelings and respond accordingly? (e) How frequently do you use ChatGPT for personal and professional information/activities? (f) What difference do you feel interacting with ChatGPT in comparison with interaction with colleagues (g) Overall, are you satisfied with the use of ChatGPT for your work activities? These indirect questions lead us to identify the role ChatGPT mediated knowledge management system can play to facilitate employees' 'tacit to tacit', 'tacit to explicit', 'explicit to explicit' and 'explicit to tacit' knowledge conversion in organizations. All the obtained responses are analyzed using a content analysis approach. Our

analysis and findings facilitate exploring employees' perceptual level of acceptance, motivation, and satisfaction for the use of ChatGPT mediated knowledge management system.

**Table 2: Respondents' Profile for the Use of ChatGPT (source: authors)**

Respondent	ChatGPT Usage Level (Frequency of use for Personal Information)	ChatGPT Usage Level (Frequency of use for Professional Knowledge)	Duration to Use ChatGPT
A1	Daily	Daily	5 Months
A2	Twice a week	5 Days a week	2 Months
A3	Daily	Daily	8 Months
A4	Almost daily	Daily	1 Month (few Weeks)
A5	5 Days a week	5 Days a week	8 Months
A6	Twice a week	Twice a week	3 Months
A7	Twice a week	Once a week	4 Months
A8	Daily	Twice a week	5 Months
A9	Never	Daily	10 Months
A10	Twice a week	Daily	8 Months
A11	Daily	Daily	6 Months
A12	Twice a week	Daily	5 Months
A13	Once a month	Once a week	6 Months
A14	Daily	Once a week	1 Month (few Weeks)
<b>Focus Group Members</b>			
F1	Daily	Daily	8 Months
F2	Daily	Daily	4 Months
F3	Once a week	Twice a week	5 Months
F4	Daily	Daily	8 Months
F5	Once a week	Daily	10 Months

#### 4. Findings of the Case Study

In response to our posed questions, we received mix of responses in support and against of ChatGPT usage for knowledge generation. Though most of the responses are positive, we tried to highlight both dimensions. It will facilitate organizations for realistic integration and implementation of ChatGPT with the existing organizational knowledge management system. Here is a detailed overview of our analysis:

##### ***Socialization***

Participants demonstrated mixed views when they were asked about their experience with ChatGPT is similar like they are interacting with a human. Majority of the respondents are satisfied with the dialogue they have with ChatGPT; however, we also receive few negative responses. Regarding positive responses, ChatGPT users are of the view that ChatGPT is more comfortable to interact with in comparison to formal and informal interaction with colleagues.

Colleagues usually hide knowledge or sometimes they just give hints that do not satisfy their knowledge requirements. According to respondents:

*“If our colleagues are from the same field or they are my competitor, they never provide complete information, they rather give hint or a surface level information. They can’t guide you and you have to search things from different sources like google, blogs etc. This is, fortunately, not the case with ChatGPT. We can get complete information with all required details.” (A3)*

*“Yes, I do think ChatGPT gives me the experience of interacting with a human to some extent” (A11)*

*“ChatGPT is my friend. It helped me save time. It makes me efficient. I can learn anything and everything from it. It helps me solve my problems. I don’t need friends anymore for guidance” (F2)*

ChatGPT users feel that interaction with ChatGPT gives them liberty to ask anything and everything without hesitation that usually is not possible in interaction with colleagues.

*“The most satisfying thing about ChatGPT is that we can ask multiple questions and clarifications confidently without feeling mocked (laugh). ChatGPT never mind same questions again and again.” (A1)*

Along with the positive responses, few respondents did not agree with the notion that ChatGPT gives them human like experience. For example:

*“ChatGPT aims to simulate human-like interactions, but it does not fully replicate the experience of interacting with a human. While it can generate responses that appear human-like, its responses are based on patterns from its training data rather than true understanding” (A9)*

*It is concluded that most of the respondents are satisfied with ChatGPT’s role for socialization in organizations.*

### **Externalization**

Respondents are of view that ChatGPT learns the pattern of queries we ask it and respond accordingly on our next queries. Here are few responses from our respondents:

*“Yes! I think multiple rounds of conversations are just making ChatGPT more aware of the context” (A9)*

*“The interactions between ChatGPT and users can be recorded to improve the accuracy of solving problems based on the developed vast database” (A8)*

*“Engaging in debates or dialogues with ChatGPT can contribute to its learning process. OpenAI keeps a log of conversations to improve the system and enhance its performance over time” (A6)*

*“I have no idea whether the debate/dialogue will promote its learning, perhaps it will, but it cannot guarantee that this learning is moving in accurate direction” (A7)*

According to the respondents, conversations with ChatGPT will give them liberty to ask detail and queries and continue with the dialogue till the information satisfies their need. According to a respondent:

*“... unlike colleagues ChatGPT, at least, listens what we are stuck in with complete detail and also answers accordingly. We can ask as many questions and clarification as we need.” (A4)*

It is concluded that ChatGPT considers the context of the dialogue and able to provide accurate and relevant information in repeated queries.

### ***Internalization***

According to the respondents, ChatGPT provides personalized assistance and recommendations and helps us to avoid the inevitable extra or irrelevant information that usually is compulsory during interaction with colleagues in meetings and informal sessions. Our respondents have demonstrated this phenomenon as:

*“I feel like ChatGPT, to some extent understand my feeling by the way I asked it the question. It has capability to understanding my actual requirement and respond accordingly” (A13)*

*“Well! ChatGPT made my life easy. I can search solutions for my problems without being distracted with uncountable sources available on internet” (A2)*

*“ChatGPT is far better than my colleagues. It helps me with complete information without wasting my time” (A5)*

*“I think ChatGPT has the ability to understand my emotions and can adjust the following answers accordingly” (A7)*

According to a few respondents, they feel more engaged and motivated while learning with ChatGPT because it gives them liberty to ask as many cross questions as they wish to reach their satisfaction level. It also remembers what we are talking about and keeps a log of our conversations. According to a respondent:

*“ChatGPT remember everything I discuss with it. For this, I initiate a separate dialogue for each topic so that ChatGPT responds to me according to my context. I have a feeling that ChatGPT is my assistant and I feel fully engaged with it.” (F5)*

However, most respondents are of view that ChatGPT is not able to understand emotions and feeling like human do but it does only when explained in chat. Here are some example quotes:

*“I think ChatGPT is just an AI tool that provides advice and examples for users' reference. It is difficult for ChatGPT to understand the emotions from users unless the users have already described the current emotional situations in the chat box” (A8)*

*“ChatGPT does not possess the capability to understand emotions and feelings. It responds based on patterns and information in its training data, rather than emotional understanding” (A6)*

*“No AI is above emotions. It only works according to the prompt” (A12)*

Generative AI is the greatest evolution of artificial intelligence and will have capability to incorporate human feelings and emotions like Chatbots. Therefore, we can predict its active role for internalization in organizations.

### ***Combination***

ChatGPT provides concise, accurate and comprehensive detail on a topic and do not burden users with information overload that usually is the case while using a search engine such as google. It also saves time by providing complete information quickly and not searching file/documents in organizational library or archives or having chit chat with colleagues. Here are few responses from our respondents in this direction:

*“I give you an example. I need to learn software. I searched it on google and it directed me to login for its use. For other things to know about the software, I need to go through multiple options such as blogs, books, articles etc. On the other hand, when I asked ChatGPT about the software, it gives me complete information about software, why to use it, how to use etc. in one go. It saved my time and energy.” (F1)*

*“We can get initial guidance on any topic in a concise manner with ChatGPT that otherwise need lot of time to compile from multiple sources available at multiple places such as internet, libraries, colleagues etc.” (F3)*

*“I think multiple rounds of conversations are just making ChatGPT more aware of the context. I don't think ChatGPT can learn new knowledge unless I actively teach it” (A9)*

In contrast, one of the respondents find ChatGPT lacks information in her field of research, however, this limitation would replaceable as ChatGPT gradually update the database. Here is the respondent's quote:

*“I think that the data provided by ChatGPT is not highly relevant as I expected. I guess the reason is that my research field is not as popular as the hot topics and there is a lack of reference in the vast database” (A8)*

In conclusion, ChatGPT has the capability to provide relevant information by appropriately selecting the latest and/or relevant version.

## **5. Discussion and Framework Development**

Concluding the above findings, it is apparent that ChatGPT can manage tacit and explicit knowledge and has the ability to satisfy organizational and employees' concerns for all four processes of knowledge generation, i.e., socialization, internalization, externalization and combination. It has the capability to store enormous amount of information that is available in diverse formats and respond in coherent and usable format (Budhwar et al., 2023). According to Kalla and Smith (2023), “ChatGPT continues to learn from the vast amounts of data it processes, it could become an even more powerful tool for data analysis, predictive modeling, and decision-making” (p. 832). The most important element of knowledge management in organizations is its ability to engage employees that gives them the feeling of being supported with the available knowledge to improve their efficiency in decisions making. In this direction,

according to case study findings, ChatGPT is capable of satisfying employees with the dialogue. It is aligned with the arguments by Cox & Tzoc (2023) that “ChatGPT’s expertise lies in its ability to answer specific questions, providing an expert explanation of a topic, or factual answers—all without the user having to scroll through dozens of responses” (p.99). People have trust and confidence in using ChatGPT for their work activities. These findings are in line with the evidence provided by Choudhury & Shamszare (2023). They proved through empirical evidence that people have trust in using and intention to use ChatGPT in their work related to medical and health.

Moreover, majority of the research on ChatGPT demonstrates that people are comfortable using it based on its’ ability to respond in humanistic fashion (e.g., Cheng et al., 2023; Choudhury & Shamszare, 2023; Ray, 2023). It highlights that ChatGPT is a step forward towards artificial intelligence implementation in organizations to support knowledge management. As demonstrating by Iaia et al. (2023), artificial intelligence has the ability to uncover the “the so-called hidden innovators” by having dialogues with employees (p. 5). ChatGPT, in comparison to the artificial intelligence-based system in organizations primarily relying on organizational data, provides access to knowledge from various external sources that may improve the overall quality of decisions in organizations.

ChatGPT mediated knowledge management system could provide better solution for all four processes of knowledge generation in organization, i.e., socialization, externalization, internalization, and combination.

### ***6.1 Socialization***

ChatGPT can play a significant role in facilitating knowledge socialization within organizations. ChatGPT may facilitate socialization being a platform for efficient interaction and collaboration among employees and give them the feeling of human interaction in many ways. First, ChatGPT can act as a virtual assistant chatbot, providing employees with instant access to information and knowledge within the organization. Generative chatbots are the excellent tool to recognize facial expressions and respond accordingly (Kummar et al., 2021). It can help answer questions, provide explanations, and offer guidance on various topics in a human-like way.

Moreover, by fostering a comfortable environment for communication, ChatGPT can help teams combine their collective knowledge and generate innovative ideas. Second, a ChatGPT

mediated assistant may assist new employees with relevant information and resources. It can also support training initiatives by offering explanations, demonstrations, and interactive learning experiences. Third, ChatGPT mediated assistant may facilitate collaboration and communication among employees by acting as a mediator in discussions, helping to clarify ideas, and providing suggestions. It can also assist in organizing and summarizing information from group discussions. Fourth, ChatGPT can facilitate collaborative problem-solving sessions by acting as a virtual team member. ChatGPT has the capability to offer unique insights and answer complicated questions in an efficient manners (Jarrahi et al., 2023). Employees can discuss challenges or brainstorm ideas with ChatGPT, which can provide alternative perspectives, prompt critical thinking, and help generate innovative solutions.

## ***6.2 Externalization***

ChatGPT can serve as a repository for capturing and documenting tacit knowledge that exists within an organization. The externalization process of knowledge creation is enhanced by maintaining and integrating organizational knowledge repository with ChatGPT's knowledge base by different means of tacit to explicit knowledge flow. One, ChatGPT learns the queries and respond in the same context on subsequent queries. It helps employee to obtain context specific solutions to their problems and issues. ChatGPT can serve as a repository of employees' conversations, storing and organizing information for easy retrieval. It is aligned with the notion that "GPT-based conversational assistants can make sense of complex queries and pick up conversations right where they were finished"<sup>1</sup>. Using this feature to record tacit knowledge, employees can access past conversations and discussions to find relevant information and learn from previous. Second, visuals are considered implicit knowledge when they are used to convey information or concepts that are not explicitly stated, for instance, the integration of visual and linguistic information in spoken language can help learners develop implicit knowledge. ChatGPT has the capability to accept visual and audio data as input (Wu et al., 2023).

In organizational context, employees' interactions, and collaborations, in recorded form, serve as input data that ChatGPT mediated knowledge management system can learn and record in their knowledge base. Using ChatGPT in organizations facilitate employees with dual benefits of implicit knowledge, i.e., already built-in capabilities of ChatGPT in terms of its learning

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<sup>1</sup> <https://indatalabs.com/blog/chatgpt-in-business#:~:text=The%20ChatGPT%20statistics%20suggest%20that,the%20tool%20among%20global%20businesses.>

from audio and visual data and learning of organizational data. ChatGPT, being capable to convert audio and visual data to text data (Wu et al., 2023), allows the existing knowledge management system in organizations to learn the existing and ongoing implicit data produced on regular basis in audio and visuals formats. Third, employees can interact with ChatGPT to describe their experiences, best practices, and lessons learned, which can then be stored and accessed by others in the organization. ChatGPT can act as a conversational partner, allowing employees to articulate their thoughts and ideas in a natural language format. By engaging in dialogue with ChatGPT, employees can externalize their knowledge and receive feedback or suggestions, which can further refine their ideas. Fourth, Employees socialize with peers and with chatbots. ChatGPT mediated knowledge management system maintains knowledge repository of employees' interactions with chatbots and among peers.

Fifth, ChatGPT has a built in capability of lifelong learning data (Wu et al., 2023). In an organizational perspective, ChatGPT mediated knowledge management system would have the capability to learn from the organizational data, both explicit and tacit, to respond to future queries for decision making. ChatGPT can help employees reflect on their actions and decisions, encourage them to analyze the outcomes and identify areas for improvement. By engaging in discussions and receiving feedback from ChatGPT, employees can internalize lessons learned and develop a habit of continuous improvement. Sixth, ChatGPT can serve as a repository of organizational knowledge, storing and organizing information for easy retrieval. Employees can access past conversations and discussions to find relevant information and learn from previous experiences.

### ***6.3 Internalization***

Internalization process of knowledge creation could also be supported by ChatGPT through a smart system for retrieval of knowledge from diverse sources that is not possible in the traditional mode of internalization which only facilitates employees with mere the organizational knowledge. ChatGPT mediated knowledge management system may facilitate internalization in organizations by several means. First, ChatGPT can provide decision support by offering insights and recommendations based on the knowledge it has been trained on. Moreover, employees can consult ChatGPT to gather information, analyze data, and gain a broader understanding of complex issues, aiding in informed decision-making. Second, ChatGPT can assist in knowledge transfer during training and onboarding processes. New employees can interact with ChatGPT to ask questions, seek guidance, and access relevant

information, thereby accelerating their learning curve and integrating into the organization more effectively. Third, it is empirically evident that people with high level of learning value have high intentions to adopt ChatGPT (Foroughi et al., 2023).

ChatGPT mediated knowledge management system can support employees' continuous learning and development by recommending relevant resources, suggesting learning opportunities, and providing personalized feedback and guidance. ChatGPT can also provide personalized learning experiences by tailoring information and explanations to satisfy individual employees' needs and preferences. This personalized approach can enhance knowledge internalization by addressing specific gaps in understanding. Fourth, ChatGPT mediated knowledge management system can provide employees with relevant and diverse resources, helping them reflect on their experiences, articulate their thoughts, and make sense of complex information. By discussing and explaining concepts and by connecting different concepts, providing examples, and highlighting relationships, ChatGPT can support employees build a cohesive understanding of various topics and enable them to internalize knowledge effectively.

#### ***6.4 Combination***

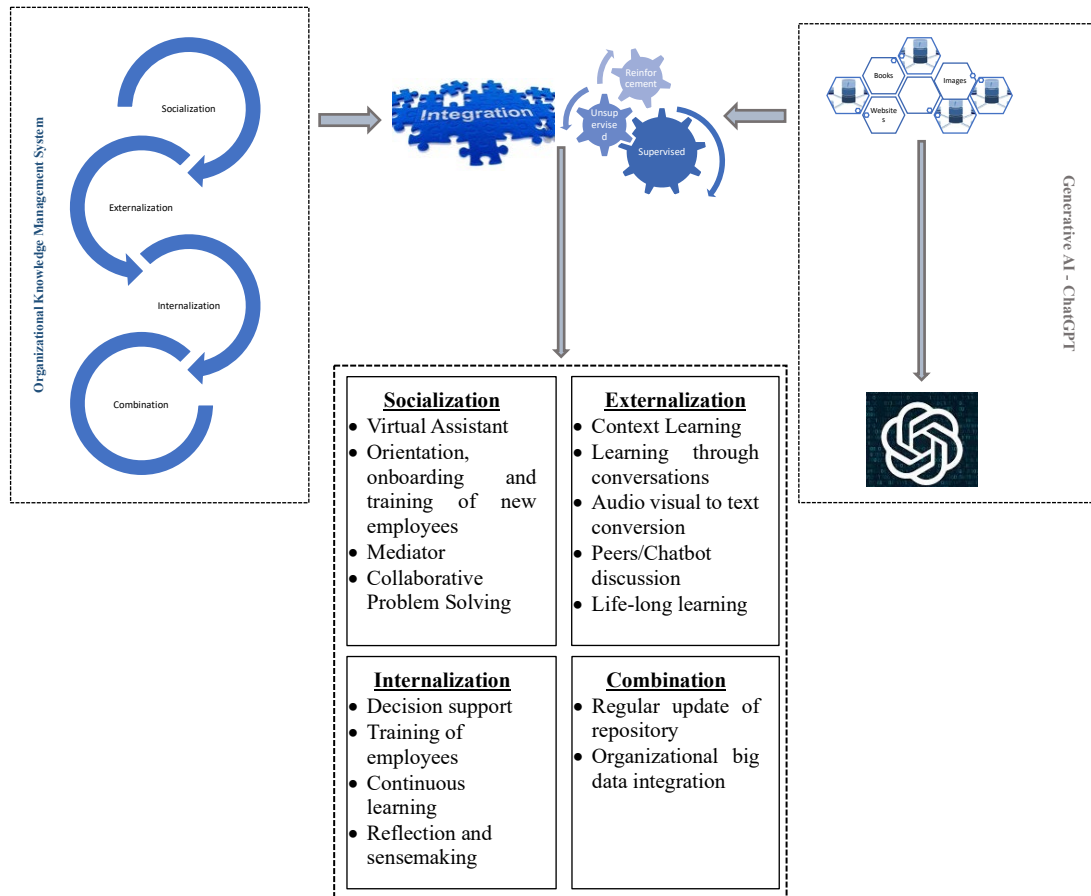
ChatGPT can serve as a knowledge repository, providing quick access to information and resources. Employees can ask questions and receive relevant information, enabling them to combine existing knowledge with new insights. ChatGPT mediated knowledge management system can play role in facilitating knowledge combination within organizations in several ways. First, ChatGPT can utilize the concept of combination far more efficiently by having access to multiple sources of data where new knowledge is continuously being produced in the world wide web/cloud. An example is writing emails to handle day to day matters or generating content for business processes or marketing (Cox & Tzoc, 2023). So, it is populating its database with a wide variety of knowledge on an ongoing basis. Second, organizational data is produced on a regular basis which ChatGPT mediated knowledge management system learns and develops a knowledge base that can be accessed by the organizational members when required.

The brief comparison of the traditional SECI model and ChatGPT based SECI model is given in Table 3. The large set of knowledge base would have the ability to support individuals and organizations that could never be possible before the invention of generative AI.

**Table 3: Conventional and ChatGPT Enhanced Nonaka’s SECI Model (source: authors)**

<b>Conventional SECI Model</b>	<b>ChatGPT Based SECI Model</b>
<b>Socialization:</b> Face to Face Employees interacting with Employees	<b>Socialization:</b> Machines based Employees’ Interaction Machines - Employee knowledge Exchange Machines to machines Interaction
<b>Externalization:</b> Recording of Tacit knowledge Brainstorming	<b>Externalization:</b> Automatic building of knowledge base and learning through online interactions and databases Speech and video recordings of employees’ interaction
<b>Internalization:</b> Maintaining and managing organizational knowledge repositories with efficient retrieval system Facilitate employee learning from these organizational repositories/databases.	<b>Internalization:</b> Exceptionally large knowledge repository based on organizational knowledge and ChatGPT’s learning knowledge with smart retrieval system. Employees can learn from various sources as well as ChatGPT itself can learn from its existing knowledge base and generate new knowledge. Facilitate employee learning and innovative capabilities
<b>Combination:</b> Managing Documents (Manual and/or electronic) Developing databases based on organizational or external documents/sources collected manually through the help of dedicated teams	<b>Combination:</b> Managing Documents/database (electronically) Automatically building the knowledge repository by Integrating data/documents from multiple sources in organization and from ChatGPT

Figure. 1 demonstrates the mechanism of knowledge transformation by integrating ChatGPT with the existing knowledge flow. By facilitating knowledge creation and transfer at each stage of the SECI model, it is predicted that language models can help organizations to improve their employees’ innovation and organizational competitiveness. Furthermore, the quality of ChatGPT mediated knowledge management is far greater than the knowledge management traditionally practiced in organizations. The reason is that knowledge management only support decisions with the knowledge available within organizations, whereas ChatGPT mediated knowledge management would have the capability to support organizational decisions using knowledge available within the organization and validate it with the knowledge available from worldwide.



**Figure 1: ChatGPT Mediated Organizational Knowledge Flow (source: authors)**

## 6. Conclusion and Recommendations

Knowledge management in organizations is always linked with technology. Creating and generating knowledge in organizations is supported with a knowledge base that is maintained by using technology. Technological advancements, in the last two decades, have gradually improved knowledge management in organizations. Latest technological breakthrough, however, have changed the game by offering a knowledge base that is beyond the limits of organizations. Generative AI, and more specifically ChatGPT, has started a revolution in the life of people by providing them with required knowledge that it has learned from exponentially large knowledge base. Its role is similar to knowledge management in organizations with the only difference of the scope of knowledge base maintained. The traditional organizational knowledge management system maintains a knowledge base from organizational data, whereas ChatGPT's knowledge base includes large amount of textual and image data from around the globe.

ChatGPT mediated knowledge management system uses natural language processing which enables a linkage between human and knowledge base. ChatGPT's advanced capabilities of natural language processing and high-quality text generation make it an ideal solution for knowledge flow and enhancing employee socialization experience in organizations. ChatGPT can be integrated with existing knowledge management systems. This integration can enable employees to access information directly from these systems through conversational interfaces, making it comprehensive, more accessible, and user-friendly. The integration of the technological breakthrough with organizational knowledge management system would provide employees and organizations with more precise, efficient, and robust knowledge base that could help them for improved and informed decision making. ChatGPT can provide employees with fast, comprehensive, and accurate responses in a human-like manner. It is important to note that implementing ChatGPT with knowledge management in organizations requires careful planning, data preparation, and ongoing maintenance. Organizations should also consider privacy and security aspects when integrating ChatGPT with sensitive organizational knowledge.

### ***6.1 Limitations and Future Research Directions***

This viewpoint lays a foundation of ChatGPT mediated knowledge management system in organizations with the lens of SECI model, however, development of an in-depth mechanism to refine our argument is inevitable. Future research should consider our model as a baseline and develop comprehensive frameworks for different organizational contexts. Though we have implied a case of engineering department in support of our arguments, it demonstrates the theoretical aspects of the ChatGPT mediated knowledge management system in organizations. Empirical assessment of our idea on a larger scale is also important at this initial stage to identify the acceptability and scalability of ChatGPT mediated knowledge management model. Moreover, context-based empirical case study will strengthen the argument and will give confidence to organizations for its adoption and implementation.

### ***6.2 Implications for Theory, Practice and Society***

The study contributes to the existing body of knowledge on the role ChatGPT can play in organizations in several ways: First, this study addresses the gap in literature for ChatGPT's role to strengthen the knowledge generation and flow in organizations. Being an evolving technology, research on ChatGPT with the perspective of knowledge management is scarce

(Dwivedi et al., 2023; Englund & Jayne, 2023; Jarrahi et al., 2023). This study initiates the debate on ChatGPT's capability of managing knowledge flow in organization. Second, our research expands the applicability of ChatGPT to enhance Nonaka's SECI model, i.e., socialization, externalization, internalization, and combination. It discusses and evident the strong role can be played by ChatGPT for knowledge generation and flow in all four stages. Third, our research, through a case study, contributes to understanding peoples' perception about using ChatGPT for knowledge generation and flow. It would not only enhance understanding of ChatGPT integration with organizational knowledge management system but also serve as a starting point for researchers to dig deep into the phenomenon towards the practical solutions of the integrated framework.

The study also offers valuable insights for practitioners seeking to develop targeted interventions to promote ChatGPT adoption in organizations. BY examining the role of ChatGPT for knowledge flow in organizations, our research highlights the importance of formal adoption of ChatGPT in organizations. The study offers organizations and leaders to be cognizant of the benefits associated with ChatGPT and its integration with existing organizational knowledge base. In this regard, they must allocate sufficient resources to support the new integrated system. This would include initial investigation for organizational fit for the ChatGPT solutions, technology upgrade and employee training and development. It is also imperative to engage employees and motivate them for the formal use of ChatGPT and ChatGPT mediated knowledge management system in organizations in an efficient manner. It is also critical to streamline the system in a way that it provides user friendly experience to employees (Foroughi et al., 2023).

According to Bornmann (2013), societal impact of a research is assessed in three dimensions. First, research contributes to important issues and debate in society. This research contributes to the society in multiple dimensions. One is to address the ongoing debate for the positive use of ChatGPT and diminish its potential side effects by providing a way forward for ChatGPT adoption in organizations<sup>2</sup>. Two is to address the debate for its adoption in organizations by aligning it with the existing knowledge management system<sup>345</sup>. Three is to contribute towards the global debate of efficient technology adoption and human technology interaction (Cf, 2015). Second, research affects specific stakeholders, i.e., behavioural changes of actors or

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2 <https://indatalabs.com/blog/chatgpt-in-business#:~:text=The%20ChatGPT%20statistics%20suggest%20that,the%20tool%20among%20global%20businesses.>

3 <https://www.linkedin.com/pulse/introduction-chatgpt-knowledge-management-sheebha-austin/>

4 <https://livehelpnow.net/blog/integrating-knowledge-management-systems-with-chatgpt/>

5 <https://www.linkedin.com/pulse/how-chatgpt-can-revolutionize-your-knowledge-management-sahni/>

institutions. This research contributes to behavioural change of the knowledge workers through portraying the positive side and capability of the evolving technology. By adopting ChatGPT in organizations, employees are capable of sharing, transferring, creating, and applying novel ideas, processes and techniques in a two-way interaction that would enhance their satisfaction and engagement. Third, valorisation of the work, i.e., making research results available. This research's outcomes are published and are available to everyone.

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