

## HUMAN RESOURCE MANAGEMENT | RESEARCH ARTICLE

# The Influence of Complexity Knowledge and System Thinking on Knowledge Hiding Mediation Psychological Ownership in Private Banking

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## ARTICLE HISTORY

**Received:** December 4, 2025

**Revised:** December 25, 2025

**Accepted:** January 20, 2026

## DOI

<https://doi.org/10.52970/grhrm.v6i1.1919>

## ABSTRACT

The aims of this research are to analyze the effect of complexity knowledge and system thinking's impact on Knowledge Hiding with psychological ownership as a mediation variable in private banking services at Central Jakarta. Knowledge hiding is a key problem in the banking industry as competitive and stressful environments may lead employees to conceal knowledge, thus inhibiting cooperation and performance. Method This research is a quantitative research with hypothesis-testing approach, where data are collected through online questionnaires being circulated to 160 respondents suitably selected by purposive sampling. The instrument was synthesized using a process of testing its validity and reliability, while data were analyzed by the Structural Equation Modeling (SEM) assisted by AMOS as well as mediation testing conducted by Sobel Test. When the model provided a good fit to the data was verified with goodness-of-fit-test. The findings of this study could potentially enhance our insights regarding the role of complexity knowledge, system thinking ability and psychological ownership in influencing knowledge hiding. To combat knowledge hiding, practitioners have suggested that management should work to improve the culture of knowledge sharing by developing a system thinking capacity, managing job complexity more transparently and fostering a collective sense of ownership among employees. Research implications It is recommended for future research to expand the research settings and incorporate other organizational dimensions for a more comprehensive model.

**Keywords:** Complexity Knowledge, System Thinking, Psychological Ownership, Knowledge Hiding.

**JEL Code:** D83, D23, M12, M10.

## I. Introduction

In recent years, Indonesian banking industry has changed significantly as a result of global competition and fast pace of technological development (Arrayan et al., 2024). Public sector banks are usually considered more stable than their private counterparts, thanks in part to strict labour laws and the government's involvement in banking. By contrast the private banks have more flexibility but also greater job insecurity due to their focus on output, short term contracts, outsourcing and restructure. In leadership angle, private banks prefer transformational style of leadership so they can reach their target aggressively and in contrast of state-owned banks because it always want to have stability, sustainability, and always conforms



with government long term policy (Hapsari et al., 2025). Banking sector has a highly responsible role in ensuring stability and growth, yet the growing competing environment leads to working stress and knowledge issues especially in private banking which is undeniable. The intensified competition amongst these banks also makes use of good employees, extremely critical. Let the human resource side of a business be neglected and it will not survive in competition with other firms (Faiz et al., 2024). The psychological structure of employee perceptions of knowledge ownership and how such perceptions are managed in organizations becomes key within competitive environments given that they both directly affect the level of likelihood to share or withhold knowledge (Putra et al., 2023; Sandi et al., 2025).

Central Jakarta's private banking sector is the dominant sector of the domestic economy. Abu Khalaf & Awad, (2024). noted that for private banks private of Indonesia higher competitive operating efficiency has been attributed than state-owned bank, although this was differing by Firm level. Private banking staff in Central Jakarta generally feel the psychological state of the knowledge hiding for competitive environment and high pressure factors, particularly when complex knowledge and performance pressures increase psychological ownership of information, psychosocial stressor that come from stimulation of risk as a valuable asset and protection owned personally. Types of knowledge hiding such as playing dumb and evading nurturing knowledge will rapidly take place whenever the employees are uncertain that these behaviors may affect their rating or position within the organization (Sulistiawan et al., 2022) negatively experience in workplace, which includes such as interpersonal conflict, pay inequity and unfair treatment that women usually face according to (Sustiyatik & Jauhari, 2025), increases the likelihood of knowledge hiding in banking organization that has hierarchical and competitive culture make it likely for perceived organizational support to apply. Results The findings from Iqbal et al., (2022) also show that while workplace effort increases with competition, the stronger competition comes from outside worker's own organization, workers are more reluctant to reveal information to others by being more conservative, as they want to avoid losing prestige or putting their safety in jeopardy at work. The fact is that as much of the knowledge in banking is intricately complex, dynamic and emergent in nature it becomes not only essential but ever more difficult to share information among knowledgeable workers in competitive systems such as retail banks.

The information on complexity knowledge contributes substantively to psychological ownership argument that with respect to the processing of complex information, people are likely to experience strong sense of psychological ownership towards knowledge or tasks they process. Hang & Kim, (2025) demonstrate that complexity knowledge has a direct effect on psychological ownership and contend that complex knowledge increases strength of personal connection. Tao & Sun, (2025) further submit that personnel with a system thinking capability mindset have the ability to view an organisation's process in totality and understand cross-functional relationships of organizations and have greater flexibility while dealing with complex control variables and thus strong antecedents for generating psychological ownership. Psychological ownership reflects in the employees' attitudes and behaviors including knowledge hiding and sharing. Ghani et al., (2020) showed that psychological ownership operates as a moderator for abusive supervision and knowledge hiding showing a negative effect between the two; the higher the level of psychological ownership, employees are less likely to potentially hoard their knowledge. Implication of the study The results of this research suggest that complexity knowledge and system thinking are the antecedents for KH through the role of psychological ownership among employees in private bank at Jakarta.

## II. Literature Review and Hypothesis Development

### 2.1. Complexity Knowledge

Hou et al., (2023) define complexity knowledge as the union of all schemas in an specific knowledge domain and its corresponding attributes and interattribute relations. Li & Shen, (2025), complexity knowledge is a characteristic of the breadth, depth and interconnections between different types technical and managerial knowledge in a region. You need to be able to build a constellation of knowledge about different

and related types of technologies in order for innovation to occur and in order avoid carbon lock-in. According to Broekel et al., (2023), is based on three dimensions of complexity knowledge: diversity, which has to do with the capacity to integrate across different technological domains; ubiquity/rarity, which indicates how widespread technology is deployed across sites (the more it's widely distributed, the less complex a national identifier often reflects low diversity); and combinational interdependency, or how hard technical components are and how they are needed in combination. Audretsch & Belitski, (2024), the complexity of knowledge is a part-whole phenomenon and one whereby individual bound across levels of organization that is, it results in differences depending on an assortment of sorts knowledge as well as the ability to bring together several types in a single aggregate. Such complexity has been shaped by ICT, managerial readiness and capacity, inter-organizational collaboration, sound operational capital and the firm's persistence in using knowledge to enhance performance.

## 2.2. System Thinking

Systems thinking is the process of understanding how things influence one another within a whole. In organisations, this is observed when employees understand how decisions made in one department impact processes, performance and information sharing across other units. Most people are linear thinkers and sit down and think step by step about solving problems, whereas system thinkers concentrate on looking at how the parts in a whole relate to each other (Monat et al., 2020). According to Thelen et al., (2023), critical thinking involves the capacity to see patterns and relationships, understand feedback loops underlying a changing configuration, and identify where relatively small moves can have big effects. The last aspect is also about 'getting a sense of the dynamics of systems,' to use mental models (tools) in order to generate alternatives matching decision actor thinking and at last using simulation models for testing policies before decisions are made more directly and less independently. Cruz-Bohorquez et al., (2024) system thinking is impacted by instigating factors, orientating factors and learning factors. Collectively, they shape one's readiness and capacity for systemic thinking.

## 2.3. Psychological Ownership

Collaborative consumption of access-based goods may jeopardize individual psychological ownership on owner owned goods (Morewedge et al., 2021). Emar and Asim 2016) Psychological ownership is the feeling that something belongs to a person, as such how each individual feels joint workownership has been an emergent area offocus in the psychological ownership literature, in fact among employees; when they have a s item which they feel it A simple indicator of psychological ownership among employees level effects on work is their own their responsibility, emotional attachment about that it increases their sense of responsibility affective attachment towardtheir significant work. Previous research shows that a motivational orientation and the degree of emotional engagement enhance psychological ownership which in turn affects knowledge sharing and hiding behaviors (Batool et al., 2023).

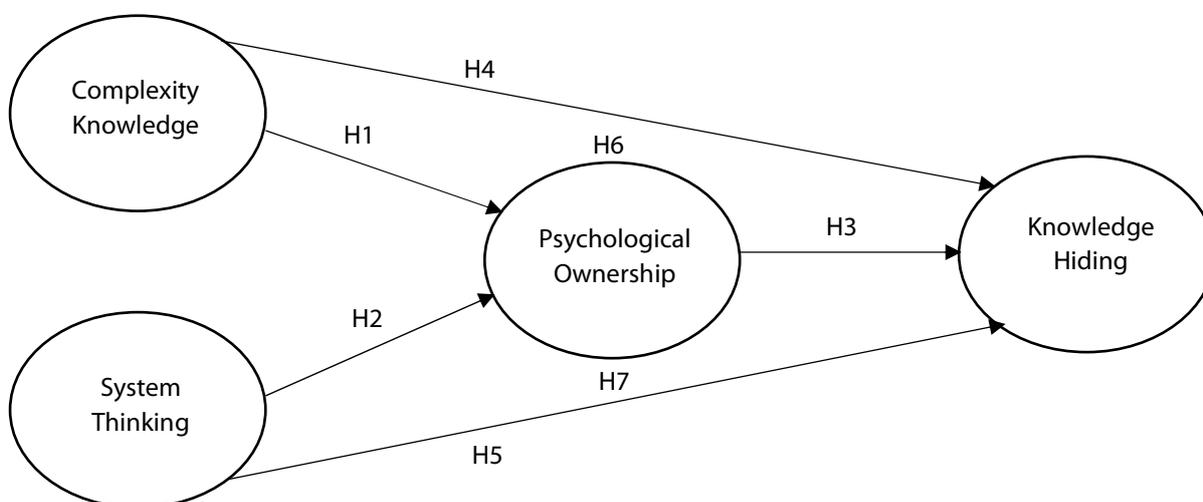
## 2.4. Knowledge Hiding

Knowledge hiding is the intention to withhold or conceal knowledge requested Tang et al., (2022), for example, when employees are intentionally withholding information by giving vague answers to questions or claiming not to hold requested knowledge to protect personal interests or work positions in competitive organizational contexts. It is a purposive hiding of a knowledge "sought" after by someone else (Xia et al., 2022). We consider knowledge hiding as detrimental to knowledge management and find that it can have many detrimental effects on organizations (Styvans Dion et al., 2022). According to (Dion et al., 2022), we can classify three different forms of knowledge hiding on the part of employees. First off, pretending dumb about something we know they damn well have an answer for. Second, moderate knowledge hiding,

in which employees seem to commit to sharing information but, do not really intend to do so. Third is justified hiding which includes the withholding of knowledge with justification such as feeling not being able to share or blaming others who blocked the process of sharing knowledge.

## 2.5. Conceptual Framework

Complexity knowledge and system thinking are important drivers in generating individual psychological ownership, that is, when people have such information complexity they feel more responsible and work control in relation to the outcomes. According to Hang & Kim, (2025), complexity of knowledge can also affect knowledge hiding as it allows participants to withhold or control the dissemination of their knowledge to a certain extent in order to maintain their expertise. System thinking aids in capturing the relationship between elements, and the implications with respect to actions effect on (increasing) PSW, as described by (Tao & Sun, 2025). Psychological ownership, on the other hand, is negatively related with knowledge hiding behaviors and mediates higher sharing tendency for teams' success.



**Figure 1. Conceptual Framework**

## 2.6. Hypothesis Development

Workers on the private banking system in Central Jakarta will behave more responsibly and feel ownership over their work when they possess metacognitive knowledge as well as complex knowledge with multi-dimensions such as detailed procedures and more advanced-problem-solving. That is, the more they can comprehend these complexities; (the more) and in touch they are with their work, also believing what ought to as psychological resources of an organization's collective knowledge. This is in line with previous literature on banks and other knowledge-intensive industries (Hang & Kim, 2025).

*H1: Complexity Knowledge has a positive effect on Psychological Ownership*

Tao & Sun, (2025) suggested that system thinking can enhance employees' psychological ownership by enhancing their perceptions for status of control and autonomy, and involvement in one's work. For example, "in our private banking areas in Central Jakarta, we have teams who could connect 'oh and this is what all links together - what are the flows across different things – how do the consequences of them affect this other part of their work?' and "understand that if they propose something more realistic, there would be a virtuous effect" are inclined to have a stronger ownership and increased accountability. Taken together,

these findings suggest that cultivating systems thinking acumen via training, cross-functional teamwork and encouraging workers to appreciate the interdependencies in workflows may be a potent approach for building stronger feelings of psychological ownership and emotional attachment towards the organization.

*H2: System Thinking has a positive effect on Psychological Ownership*

Ghani et al., (2020) suggest, employees with a strong feeling of ownership towards their organization are far less likely to engage in knowledge hiding. This ownership helps them become more loyal, responsible and even more willing to pass on the news rather than stocking it. It further increases their loyalty to the company and it makes them even more inclined to rally around their teammates. In Central Jakarta private banking employees, being stronger social identification is facilitated for sharing knowledge more openly to promote collaboration and reduce keep-away knowledge which can impair the team performance.

*H3: Psychological Ownership has a negative effect on Knowledge Hiding*

There is a negative correlation between complexity knowledge and the degree of knowledge hiding behavior. And finally, private bankers in Central Jakarta that will have someone high on the infinite regard for complex as simple products profiles and financial regulations & multi-channel service systems and digital integration – feel less cautious to withhold information. That's in part because when people are forced to interact with knowledge that is difficult they become more social and cooperative as it becomes impossible to work on these kinds of problems by themselves. Sulistiawan et al., (2022) additionally highlights that “complexity of knowledge” as well as being a determinant of why employees decide whether to retain or share their knowledge.

*H4: Complexity Knowledge has a negative effect on Knowledge Hiding*

The result of this research was system thinking have significant negative effect on knowledge hiding in private banking employees in Central Jakarta. When systems thinking is applied in everyday work and decisions, the informants are more sensitive to this kind of information hoarding. Accordingly, fostering systems-thinking capacity through training, effort-prevention and habitual supporting skills manner may be an important means to reduce knowledge-hiding behavior while promoting collaboration and enterprise performance (Lee et al., 2022).

*H5: System Thinking has a negative effect on Knowledge Hiding*

Hang & Kim, (2025) suggest that complexity knowledge is a good predictor of knowledge hiding and it is rooted in the psychological ownership. For private banking staff in Central Jakarta, the higher they are exposed to information complexity may result in possessive feelings that indirectly induce their knowledge hiding behaviour. These results have implications for banks in taking careful measures on knowledge complexity management through the simplification of procedures and information clarification as well as creating a sharing culture to configure psychological ownership in such a way that it would foster collaboration instead of acting an inhibitory trigger for hiding knowledge.

*H6: Complexity Knowledge has a negative effect on Knowledge Hiding through the mediation of Psychological Ownership*

The findings of this study suggest that system thinking has negative impact on KT hiding through psychological ownership as mediating variable in private banking employees in Central Jakarta. In theory at least, employees who use system thinking see the organization as an interdependent whole and take more

ownership of their roles and responsibilities in managing information flows. This understanding reinforces their sense of psychological ownership here over the work and knowledge they hold (and is supported by results in (Tao & Sun, 2025).

*H7: System Thinking has a negative effect on Knowledge Hiding through the mediation of Psychological Ownership*

### III. Research Method

This paper builds on previous studies, and it was constructed based on hypothesis testing to investigate the complexity knowledge, system thinking, psychological ownership, and knowledge hiding of the employees in a private banking ergonomics middle office located in Central Jakarta. The study is descriptive and quantitative in its approach, cross-sectional as the data only can be collected once within a certain period of time during a year. Employees are treated as a case in this study. The study has proposed: complexity knowledge and system thinking (independent variable), knowledge hiding (dependent variable) with psychological ownership as intervening and participants responses were measured on 5-point scale that based on from 1 to 5. Purposive sampling was intended to help capture respondents with particular attributes that were likely to be relevant to the objectives of the survey, but it may introduce selection bias and reduce inferences. Thus, the findings presented in this study need to be viewed within the context of private banking employees in Central Jakarta. The main data source was an online survey created in Google Form. The social media platforms, WhatsApp as an example, and the direct sharing of the questionnaire link with selected private banks staffs at work in Central Jakarta passed on including employees working for private bank which met the inclusion criteria. Such a distribution method enabled participants to self-administer the questionnaire in the data collection period.

The high response rate from the 160 questionnaires sample showed that the topic surveyed received much interest/relevance in this group of subjects and distribution through online approach was practical for use. Sampling Performed purposive sampling, the sample was bank employees who (1) work in private banking located at Central Jakarta, (2) has worked for at least 1 year, and (3) are directly involved in operational or managerial activity related to knowledge utilization and information sharing, a minimum sample size is recommended that is between 5-10 times the number of items on the questionnaire's which consists of 16 items so that amount population being included in this study were able to reach a total respondent by 160 people. The questionnaire items were based on previously employed scales in existing studies/ Before full distribution, the issue-content validity of the questionnaire was checked after modifying and refining its question items. Finally, we established construct validity in three stages based on factor loadings  $\geq 0.45$  to demonstrate that all items were valid and measurable, a test of reliability using Cronbach's Alpha  $> 0.60$  for each variable showed that research variables were reliable. Interviewed Subjects The subjects of this study are employees of private banking institutions in Central Jakarta, who are mostly female (54.4%). Regarding age, majority of the respondents belong to the age group 21–30 (68.1%), demonstrate that they were youth as young employees are more in private banks. Most of respondents, 60%, are graduated bachelor. Most respondents have less than 5 years of work experience (57.5%).

### IV. Result and Discussion

#### 4.1. Result of the Study

This section presents the empirical results derived from the systematic analysis of the reviewed studies, with particular emphasis on the distribution and characteristics of complexity knowledge within unplugged coding research in primary and secondary education. Complexity knowledge is examined to capture the depth, focus, and conceptual sophistication of research contributions, including the types of

computational thinking components addressed, methodological rigor, and instructional designs employed across studies. Table 1 summarizes the complexity knowledge identified in the selected literature, providing an overview of how unplugged coding activities have been conceptualized and operationalized to support learning outcomes, effectiveness, and equity across diverse educational contexts.

**Table 1. Complexity Knowledge**

No	Complexity Knowledge	Mean
1.	The knowledge used in my organization requires prior learning of other technologies and related knowledge.	3.73
2.	The knowledge used in my organization requires a large amount of information to be well explained.	3.71
3.	The knowledge used in my organization is advanced technology and difficult to apply.	3.57
4.	The knowledge used in my organization is complex.	3.68
Mean		3.67

Based on the table above, the overall mean value is 3.67, indicating that respondents working in the private banking sector possess a fairly good level of knowledge about complexity applied within the organization. The highest mean value of 3.73 suggests that banking employees are required to deal with work systems and technologies that demand deep understanding and specific skills in order to be used effectively.

**Table 2. System Thinking**

No	System Thinking	Mean
1.	I can identify positive feedback loops related to user growth.	3.74
2.	I can anticipate the delayed impact of technology updates or iterations.	3.60
3.	I can determine the boundaries of interactions between platforms.	3.75
4.	I can design a modular system architecture.	3.71
5.	I can focus on user paths with high conversion rates.	3.63
Mean		3.69

Based on the table above, the total average score 3.69 indicates that respondents working private banking apply system thinking in their work environment. This is reflected in the highest average score of 3.75, as it shows that banking employees possess the ability to think holistically in understanding the relationships among various work processes, technologies, and interactions between units within the organization.

**Table 3. Psychological Ownership**

No	Psychological Ownership	Mean
1.	This knowledge is mine.	3.71
2.	I feel a very high level of personal ownership over this knowledge.	4.21
3.	I feel that this knowledge truly belongs to me.	3.90
Mean		3.94

Referring to the above table, overall average point is taken as 3.94, respectively and it can be concluded that private banking sector employees feel enough psychological ownership for knowledge

owned. It is also noteworthy that since the mean score of 4.21 is calculated by taking the highest value, it provides evidence that employees commit their knowledge and competencies which are not available in market for sale because of strong emotional connection with them.

**Table 4. Knowledge Hiding**

No	Complexity Knowledge	Mean
1.	I am reluctant to transfer personal knowledge and experience to others.	2.51
2.	I hide useful information or knowledge from others.	1.98
3.	I am unwilling to transform valuable skills and expertise into organizational knowledge.	1.81
4.	I am reluctant to share innovative achievements	2.20
Mean		2.12

As per the table above, the aggregated mean is 2.12 and it indicates that respondents who work in private banking are predisposed to a low extent of knowledge hiding behaviour. The maximum mean score (2.51) also shows that majority of banking industry staffs are eager to share information, experiences or expertise with their coworkers.

#### 4.2. Discussion

##### a. Complexity Knowledge Positively Influences Psychological Ownership

For hypothesis test 1, the positive effect of complexity knowledge towards psychological ownership among private banking workers in Central Jakarta confirmed. In simple terms, the more that staff use knowledge deeply and can influence it as a result of these uses, the greater will be their sense of psychological ownership towards their work and/or organization. Having higher levels of complexity knowledge are associated with employees becoming more involved in their work processes, perceiving that their input is important and taking personal responsibility for team, and organisational results. This finding is in line with empirical evidence, according to which more sophisticated knowledge gives employees a feeling of being recognized and appreciated, and enjoying prestige within the organization, fostering loyalty, emotional attachment and commitment (Cao, 2022; Hang & Kim, 2025; Jing & Yan, 2022; Wang et al., 2025). Complexity knowledge, in the private bank context, includes multi-dimensional financial products; risk control mechanisms; digital banking technology as well as a variety of customer service processes. Workers who structure these complex areas of expertise well have a sense of ownership in both the responsibility for organizational success. This implies that management can create a positive force for complexity knowledge development by providing employees with opportunities to acquire the skills and knowledge necessary through ongoing learning, challenging assignments and information sharing programs in order to experience stronger levels of psychological ownership.

The research instruments also show that individuals experience the more knowledge/complexity in relation to a greater sense of personal responsibility and emotional engagement with their work. The sample (majority of female employees age 21–30 with bachelor education) shows that young educated employees can particularly handling such complex knowledge tasks like financial analysis, risk assessment and so on digital integrated banking processes. This ability develops not only their competence but also fosters ownership and commitment towards the firm; the positive influence of complexity knowledge on psychological ownership is consistent with earlier findings (Hang & Kim, 2025; Jing & Yan, 2022; Malhotra et al., 2022; Wang et al., 2025). Thus, complexity knowledge not only operates as a technical necessity but it is an inherent motivator that makes staff feel valued and acknowledged, emotionally involved in their work as doing so they create deeper bonds with the organization and cultivate professional commitment within a competitive market condition of change in banking.

#### b. System Thinking Positively Influences Psychological Ownership

The second test of hypothesis indicated that systems thinking had a positive significant impact on psychological ownership among private banking's employees in Central Jakarta. Workers who engage with systems thinking with a respect to the interconnection of organizational units and problems are more likely to gain heightened level of psychological ownerships for their tasks. This power encourages more participation and feeling of significance in accommodating company objectives. The results imply that systems thinking approach is capable to positively influencing employees' ownership and responsibility, which strengthens promise and personal interest on the part of the employees. Accordingly, for the management of private banks in Central Jakarta to cultivate systems thinking ability among employees via cross-functional training and tasks that give rise to holistic decision-making with the purpose to further build psychological ownership and emotional attachment towards an organization. Empirical evidence supports this conclusion. "Systems thinking increases self-investment and sense of control, which in turn enhance psychological ownership," showed (Tao & Sun, 2025). Staff who can appreciate interconnected systems and foresee the implications of their decisions feel more connected to both the work they do as well as the organization. Similarly, Cabrera et al., (2022) found that systems thinking enables employees to understand the link between cause and effect in any work activities, which heightens emotional connection with the organization as well as responsibility for what 'this' doing aspect brings about. This enables the staff of workers in the private sector bank with headquarter at Central Jakarta to have consideration on the effect of their performance towards run and service delivery, thereby creating feelings of responsibility, thus commitment. A more balanced sample would be preferred but does not mitigate the validity of our results on its own (cf. Systems thinking enable employees to recognize their place within the macro organizational system, increasing their sense of psychological ownership and ultimately loyalty and commitment to the organization's goals (Hsieh & Chiu, 2024; Tao & Sun, 2025). In general, systems thinking increases work productivity and adds to the psychological attachment of staff towards organization resulting more committed and loyal workforce.

#### c. Psychological Ownership Negatively Influences Knowledge Hiding

Third, a significant negative impact of psychological ownership on knowledge hiding behavior was evidenced among private banking workers in Central Jakarta. This suggests that the greater the psychological ownership of employees, the lower their tendency to withhold information from co-workers. Employees that have a "stake" or feel like they own and have ownership of their company, believe in successes as theirs and open to share. The implications show that a sense of ownership is very important and acts as an enabler for knowledge sharing culture in the banking setting. Thus, private banks located in Central Jakarta are suggested to apply such efforts as enhancing employee psychological ownership in the form of awarding through performance reward program, employees' participation in decision making and open communication between management and their subordinates. Creating such conditions can help to create a collaborative working environment, reduce knowledge hiding behavior and improve team performance in general. Previous studies support these results. Ghani et al., (2020) suggested that people who possess ownership have high organisational commitment and strong intentions to remain in the organisation. Similarly, Wu et al., (2023) discovered that psychological ownership increase the likelihood of employees' sharing, rather than hoarding, knowledge and develop trust and affective commitment for the organization. Batool et al., (2023) also found that psychological ownership enhances organizational identification and social connectedness of employees, whereby it decreases the knowledge-hiding behavior. Survey instruments utilized in this research also found that employees of private banking institutions in Central Jakarta have high affective commitment and responsibilities to their work. Especially for female employees with bachelors in the same age range (S1), PWO plays a significant role by contributing to conditional sharing, where the team success attitude is taken advantage of as personal profit and costs from holding back are understood. This is in agreement with Nguyen et al., (2024; Zhang et al., 2025), who highlight the role of psychological ownership

in stimulating cooperation within a culture of openness and transparency, decreasing knowledge hiding, and increasing prosocial motivation to help colleagues and organization.

d. Complexity Knowledge Negatively Influences Knowledge Hiding

The fourth hypotheses testing showed there was a significant negative impact of complexity knowledge on knowledge hiding in employees at private banking Central Jakarta. In other words, the more an employee is aware of complexity, the less likely he or she will hide their knowledge from co-workers. To put it simply, intelligent employees have all the colors of the rainbow of knowledge. What's more, they not only realise that by working together and being willing to share information with others they'll better be able to serve their organisation's objectives, but also acknowledge that what matters isn't how clever everyone is, but how well members of an organisation can make one another stronger. There are collaboration, openness and common understanding required from complexity knowledge such as cross-product banking knowledge, financial regulations, multi-channel service processes and digital integration that reduces the chance of intentional hoarding of knowledge. Our findings are consistent with these results: Sulistiawan et al., (2022) find that knowledge complexity is an important antecedent of knowledge hiding, and (Xia et al., 2022) (attesting that the distinctiveness and structural nuancedness of the construct of knowledge are key contributing factors in research addressing knowledge hiding). The resulting implications indicate that increasing the sophistication of employees' complexity knowledge can serve as an effective measure to reduce knowledge hiding, and private banks in Central Jakarta need to promote cross-functional development of knowledge and develop a strong knowledge-sharing culture if they wish to realize a more collaborative, transparent, and innovative work atmosphere. Respondent characteristics are dominated by female millennial employees (aged 21–30) with bachelor's degrees (S1) and knowledge with high complexity such as dynamic financial regulations, multi-channel banking products, and integrated internal processes also decreases the tendency to hide knowledge. S1-educated employees, which have normatively great analytical and systemic competencies, may be able to handle complex data in more collaboration and less hiding. This is in accordance with research by Sulistiawan et al., (2022) who demonstrated that higher knowledge complexity decreases individuals' knowledge hiding and by (Su & Chen, 2023) who highlight the importance of interpersonal mechanisms such as workplace envy in shaping knowledge-hiding behavior. Accordingly, for female S1 employees in private banking sector (central Jakarta) which offers the potential that the more complex knowledge promoted collaboration, transparency and shared understanding leading to lower hidden knowledge and better flow of organization knowledge.

e. System Thinking Negatively Influences Knowledge Hiding

In the fifth hypothesis testing, it was found that there was a significant negative effect of systems thinking on knowledge hiding for private banking employees in Central Jakarta. In other words, the stronger a person's ability to think in terms of systems – the less likely they are to hide knowledge at work. This finding implies that an approach of systems thinking may be adopted to manage knowledge hiding effectively and foster collaboration, transparency, and sharing within firm. Therefore, private banks in Central Jakarta should address the systems thinking ability of the employees through increasing training, workshops and career development programs to minimize knowledge hiding which results effective performances of individual and organization. Empirical evidence supports this conclusion. Bratianu et al., (2023) concluded that knowledge hiding by leaders had a negative impact on employees' citizenship behavior because of decreased trust in leadership, revealing that a comprehensive and transparent domain-based systems thinking perspective can mitigate these effects. Kunc, (2024) argued that by the interpretative perspective of systems thinking employees can see the links between organizational subunits and how they are affected when there is knowledge sharing or hiding. In the sample worked in this study which are female millennial employees who have bachelor degree systems thinking bring about more analytic, systematic and relational toward knowledge rather than hiding knowledge. In essence, training, cross-section communication and

organizational culture are three methods to promote a systems thinking trend among employees and these also reduce knowledge hiding along which individual performance and group performance can be improved.

f. Complexity Knowledge Negatively Influences Knowledge Hiding through Psychological Ownership

A strong negative effect of complexity knowledge to the knowledge hiding through psychological ownership was supported in H6, for the private banking staffs employed at Central Jakarta. This finding suggests that the more educated and knowledgeable the employees are towards complexity, the less likely they will engage in knowledge hiding behaviour owing to stronger psychological ownership of their work. That is, when employees have a high level of knowledge complexity, they would exhibit a stronger sense of responsibility and care for the organization and therefore are less likely to engage in knowledge hiding. This result implies that a high-level of KM complexity knowledge brings about greater psychological ownership of work and the organization, which in turn results in lower intentions to hide knowledge. Therefore, private banks (in Central Jakarta) need to develop complexity knowledge (knowledge based training and learning), psychological ownership (autonomy, recognition, active participation in making decision) intimate with complexity thinking. This is in line with Hang & Kim, (2025) who found that complexity knowledge has a direct impact on the knowledge hiding, and psychological ownership mediates this relationship. Among private bank employees in Central Jakarta, the sixth hypothesis concerns effect of complexity knowledge on knowledge hiding via psychological ownership indicating that higher complexity knowledge maintained by employees will lead to greater development of psychological ownership towards the knowledge and subsequently reduce their propensity to hide it. According to this finding however, banks have to cautiously deal with treasuring knowledge complexity such as simplifying processes and clearing up information among employees in a knowledge sharing culture-actively directing psychological ownership into the right track instead of turning it into a kind of defensive trigger that can result in knowledge hiding. Psychological ownership measurement instruments also suggest that the personnel employees of private banking at Central Jakarta subjectively feel responsible for end results and resources under their authority.

Staff who have a high level of knowledge complexity understand their work processes, systems and complex information in depth and this influences psychological ownership of the tasks. The higher the sense of psychological ownership, and with it connectedness in terms of organizational trust developed by the individual, results in higher levels of identification and responsibility toward the organization. Along with enhancing feelings of psychological ownership, it may in turn lead employees to view themselves as part and parcel to the organization thereby being encouraged to share knowledge for organization betterment instead of withholding. For example, indirectly complexity knowledge that increases the feeling of psychological ownership has a lower probability of knowing-hiding, since employees realize that the organization's success is their own. Gender, education, and work experience profile of respondents Being represented predominantly by female staff who have studied up to a bachelor degree (S1), it can be inferred that private banking staffs in Central Jakarta tend to hold relatively high level complexity knowledge and responsibility on the part of their roles. Programmer: All we know is computers. Bachelors have advanced analytical and conceptual skills, allowing them to manage complex information effectively. Females in this cluster also display greater psychological ownership, perfectionism, conscientiousness regarding work performance and personal responsibility for team as well as organizational success. The presence of complexity knowledge and psychological ownership leads to desirable outcomes - sharing as opposed to hoarding/practice concealed. The higher complexity knowledge possessed by female employees who have a Bachelor's degree, the stronger psychological ownership over their work and it reduces the knowledge hiding in private banking in Central Jakarta.

g. System Thinking Negatively Influences Knowledge Hiding through Psychological Ownership

The seventh hypothesis was also supported, with systems thinking having a significant negative impact on knowledge hiding through psychological ownership among private banking workers in Central Jakarta. The findings suggest that high-level systems thinking employees decrease knowledge hiding

behavior by feeling a sense of psychological ownership over their work. In short, personnel in banks with systemic views perceive the relationships and influences of various parts to one another in the organization and are able to observe effects of results for each action on whole which brings about willingness take responsibility and ownership toward what one knows and can do. The feeling of possession motivates employees to more openly transfer and contribute information toward achieving organization goals rather than use knowledge hiding for personal interests. Such findings indicate that applying systems thinking might prove to be a successful approach in diminishing KH among the employees through increasing OF. Therefore, to build a collaborative mentality and increase employees' psychological ownership toward the work, as well as the organization, private banks in Central Jakarta are required to develop training programs on systems thinking. The findings also provide empirical evidence to the framework proposed in hypothesis H7 that systems thinking has a negative effect on knowledge hiding via the mediation of psychological ownership among private banking employees in Central Jakarta. In theory, employees using systems thinking would view the organization as an interconnected entity which may increase their likelihood to internalize their information flow roles and responsibilities – factors that are known to increase psychological ownership of work and knowledge. For example, it has been found that systems thinking contributes to psychological ownership (Tao & Sun, 2025). This ownership can drive the opening up of information and shared responsibility, leading to less inclination of not sharing. Similarly, Batool et al., (2023) observed that psychological ownership leads to both knowledge sharing and hiding, depending on the employees' motivation. Nevertheless, literature also posits that the effect of psychological ownership on knowledge hiding may not be unidirectional in the banking sector. Gustina & Sitalaksmi, (2023), a study conducted on bank employees' in Indonesia has suggested that psychological ownership could positively increase knowledge hiding through territoriality mechanisms, suggesting that the mediating role of psychological ownership might vary depending on situational factors such as affective commitment and territorial behaviors in the banking sector. Based on theory and literature, the following hypothesis H7 was developed: among private banking staff in Central Jakarta, there is an expectation that systems thinking will play a role in increasing psychological ownership, while territoriality mechanisms and approach motivation diminish knowledge hiding as POM's indicators (Batool et al., 2023).

This is also consistent with the psychological ownership research measures for private banking employees in Central Jakarta who show an intense level of possession toward their work and job duties, so that, it diminishes knowledge hiding behavior. High systems thinkers among employees can see the interconnectedness of the organisation and how work together brings all towards the same end. This cognition contributes to their psychological ownership of work and organization and results in knowledge sharing behaviors between coworkers. These results are also consistent with the study by Tao & Sun, (2025), which indicated that systems thinking facilitates psychological ownership while employees can easily recognize their contributions effecting overall system. Additionally, Batool et al., (2023) suggested psychological ownership may alleviate knowledge hiding, given that a sense of ownership in the organization encourages employees to disclose their individual ideas for the common good. Hence it can be inferred that as people continue to apply systems thinking among Personal Banker in Central Jakarta, they will lead to a higher psychological ownership and a low tendency among them engage with knowledge hiding especially in competitive banking environment. However, by the profile of the respondent dominated by women S1 degree holder work as employee in private bank in Central Jakarta implies that this group often have an analytical and systemic view of the organization. Women S1 graduates are able to think in system terms seeing interlinkedness between organizations and realistic about their role in the organization (collective flow of knowledge). By practising systems thinking, they will develop psychological ownership of their work and organization, seeing how the latter has a tangible impact on the former. This finding is empirically upheld by Tian et al., (2021) that such knowledge-based psychological ownership is positively related to knowledge hiding; high psychological ownership may cause anxiety of losing control over the knowledge, and result in engaging in the behaviors of knowledge hiding. Also, Hang & Kim, (2025) in the banking sector revealed that psychological ownership moderated to the degree that knowledge complexity

affects knowledge hiding. Thus, for female S1 graduates in the private banking industry in Central Jakarta, applying systems thinking may help improve psychological ownership, and if this is well controlled it will inhibit knowledge hiding behaviour and encourage them to share knowledge.

## V. Conclusion

In this study, complexity knowledge and systems thinking can enhance psychological ownership that in turn reduce knowledge hiding among private banking employees in Central Jakarta which includes 160 respondents working at the private banking organisation in Central Jakarta. This research has the merit in that it contributes to further understand how psychological ownership is mediated and its effect, since there are few works carried out which analyze marketing aspects within this lens, thus this model adds new evidence for their mediating role in a private banking service content. Furthermore, the complexity knowledge and system thinking have a positive effect on the psychological ownership among private banking employees in Central Jakarta, as revealed through path coefficients with statistical significances from SEM. Second, the psychological ownership, complexity knowledge, system thinking are all negatively related to KM-H. The findings of these results show that the employees who are more intelligent and system-oriented exhibit lower level of knowledge hiding. Moreover, the finding of this analysis reveals that psychological ownership fully mediates the relationship between complexity knowledge and knowledge hiding as well as fully mediates the relationship between system thinking and knowledge hiding among private banking sector employees in Central Jakarta. This indirect effect supports the theoretical contribution of this study by showing how cognitive factors and systemic factors affect behavior related to knowledge acquisition and sharing via psychological ownership in line with POS theory and systems thinking literature.

This research takes place in private banking at the heart of Central Jakarta and as such we have to be careful when generalizing our results to other types of knowledge intensive service industries that are exposed to fierce competition and complexity: in the domain of financial services, consulting or technology driven entities. However, generalization to other similar organisational contexts need to be cautious as institutional setting and staff characteristics may differ. These results are important, as they show that cognitive capacities and psychological ownership can be applied to lower the level of KH in hypercompetitive banking sectors. Management implications include improving complexity knowledge by stimulating employees to further grasp about the complex work systems such as through cross-functional training, inter-departmental knowledge sharing and participation in multidimensional problem-solving; enhancing system thinking by making employees to become more familiar with viewing the relationships of parts and elements within a whole system holistically such as strategic discussions, cross division collaborative workshops and emphasis on cause and effect understanding when it comes to decision-making; increasing psychological ownership by providing employees with greater trust and responsibility, involving them in processes of decision-making related to one's work, rewarding them for task-related effort so that they can have a sense of ownership (internal possession) and commitment for the organization.

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