Navigating Knowledge Boundaries: The Role of Academic Self-Conception in Open Innovation Practices

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Abstract: This study investigates the role of academic self-conception in knowledge-hiding behaviours and their impact on open innovation within academic contexts. Drawing on Social Exchange Theory, we examine how individuals' perceptions of their academic abilities influence their tendencies to engage in various forms of knowledge hiding, including evasive hiding, rationalised hiding, and playing dumb. This research was a quantitative study conducted among 262 Indonesian academicians. The data was collected through an online survey and tested using SEM-PLS. Our findings reveal that academic self-conception positively influences all three types of knowledge-hiding behaviours. Interestingly, while evasive hiding does not significantly impact open innovation, rationalised hiding negatively affects open innovation outcomes, whereas playing dumb positively influences open innovation. These results underscore the importance of understanding individual-level factors, such as academic self-conception, in shaping knowledge-hiding behaviours and their implications for innovation processes within academic settings.

Keywords:Self-conception, Knowledge hiding, Open innovation, Academic innovation

1. Introduction

Open innovation has gained significant attention in scholarly research and practical business applications over the past few decades. Evidence from innovation literature indicates that firms that use open innovation practices tend to perform better in innovation activities because they can use external insights and technologies that complement their internal capabilities (Milana & Ulrich, 2022). The growing use of open innovation approaches by leading companies such as IBM and Procter & Gamble confirms its importance in enhancing economic welfare and competition (Chesbrough, 2017). Additionally, McGahan et al. (2021) reported that open innovation is essential not only for economic purposes but also for addressing societal issues. Open innovation is founded on the premise that the linear innovation model can only partially explain innovation activities in the present competitive environment where enterprises must operate (Bigliardi et al., 2020).

Chesbrough (2003) introduced open innovation as a new paradigm concerning how firms should innovate. He described open innovation as the intentional use of knowledge in businesses' input and output to accelerate internal innovation and broaden the market for external use of innovation. Traditionally, firms relied on internal R&D activities to develop new products and technologies, following a linear innovation model. Chesbrough argued that more than this closed approach to innovation is needed in today's dynamic and competitive environment. It includes the co-creation of knowledge and inventions, as well as knowledge transfer, through interactions with many sorts of stakeholders (Aouinaït, 2021). The linear innovation model, which assumes that all innovation activities occur within the firm's boundaries, is increasingly being challenged. As a result, open innovation has become necessary as a source of competitive advantage for an organisation (Schneckenberg, 2015).

Organizations nowadays must engage with external stakeholders by iteratively exchanging information, technology, and resources across boundaries (Galati & Bigliardi, 2017). Open innovation acknowledges that valuable knowledge and expertise exist outside the firm and that collaborating with external partners can lead to mutually beneficial outcomes (Almeida, 2021). Hence, the concept of open innovation has changed the dynamics of businesses, helping companies increase their innovative potential through the utilization of external

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knowledge and resources in their processes. Firms have indeed greatly benefitted from the move from 'closed' models of innovation to an open framework, enabling them to utilize different types of innovations, such as joint efforts with universities (Inauen & Schenker-Wicki, 2012). This recognition has led to a shift in mindset among organisations, prompting them to adopt more open and collaborative approaches to innovation. Nonetheless, many areas require additional research based on the increased attention and interest in the notion among scholars and practitioners.

Most of the research on open innovation is conducted at the industry level. The open concept of innovation has centred on the firm's context and has adopted the firm's perspective on how innovation is shaped and developed (Howells, Ramlogan & Cheng, 2012). However, according to Gassmann, Enkel & Chesbrough (2010), gaps exist, one of which is the role of universities in what may be referred to as the new open innovation landscape. This has led to a concern in understanding the role of universities in the evolving landscape of open innovation. While firms have been the primary focus of open innovation research, universities play a crucial and often overlooked role in driving innovation (Huggins, Prokop & Thompson 2020; Ramirez-Montoya, 2020).

Universities can be an important linkage in the innovation systems, bridging the gap between research and use (Huggins, Prokop & Thompson 2020; Costa, Neves & Reis 2021). In the context of universities, open Innovation can foster closer cooperation with industry partners and thus provide an environment where academic research can be published and its findings put into practice (Fitriasari et al., 2024; Oliveira et al., 2020). Traditionally, universities have been viewed as knowledge producers through research and education. However, in recent years, universities have been recognised as key contributors to the open innovation ecosystem (Padilla-Meléndez & Garrido-Moreno, 2012).

Universities are the major pillars of the knowledge creation and dissemination cycle. It promotes mutually exchanging ideas and resources since businesses, governments, and other research institutions can collaborate (Mochnacs et al., 2024). On top of that, education institutions are now seen as important actors in regional innovation ecosystems where they no longer focus on teaching but also involve themselves in society's economic and social development (Ye, Zeng & Cao, 2020). Other players in the open innovation ecosystem may see changes in their separate roles due to universities' evolving roles within the context of open innovation (Striukova & Rayna, 2015). However, universities must reconsider how they engage with business and society, emphasizing information transfer and entrepreneurial academics in light of the open innovation paradigm (Alexander, Miller & Fielding, 2015).

Studies examining interactions between the academic world and external stakeholders outside the linear commercialization funnel are few and far between (Jonsson et al., 2015). Previous research has mainly focused on individuals' relevance for open innovation practices, with little emphasis on the underlying mechanisms determining individuals' aspects and actions that influence open innovation practices (Bogers et al., 2017; Lowik, Kraaijenbrink & Groen, 2017). Although these studies provide valuable insights, there is a lack of focus on investigating the difficulties related to persons and how their attitudes can influence the outcome of collaboration conducted through Open Innovation (Ismail et al., 2023). There is a need to investigate open innovation at the individual level because open innovation does not just happen; individuals execute it. Thus, this study seeks to address the aforementioned gaps.

As individuals working at universities, researchers are the main actors in university open innovation. The university's contribution to a knowledge economy is more complicated than simply producing inventions for commercialisation (Jonsson et al., 2015). Because research settings in business and academia differ in terms of long-term orientation, goals, and reward systems, unique characteristics of university research must be considered in an open innovation context (Grosse Kathoefer & Leker, 2012). The university was entirely of knowledgeable individuals. This condition allows them to have a high academic self-concept. Self-concept refers to an individual's beliefs about their characteristics, especially in an educational setting (Campbell et al., 1996). Academics with a high academic self-concept are confident in their abilities, and even if they find a weakness, they tend to downplay its significance (Ommundsen, Haugen & Lund, 2005). Individuals who believe they can carry out activities only through their ability are less likely to collaborate. Knowledge hiding will result from this action. Knowledge hiding describes someone deliberately concealing knowledge from another person, even after explicitly requesting it (Connelly et al., 2012). Hence, based on that explanation, a highly self-conception individual will harm open innovation by hiding knowledge.

A number of studies contend that knowledge hiding can negatively influence the dynamics of an organization and its capabilities to innovate. For example, organizations with a high degree of knowledge hiding may have difficulties in innovating products, as the lack of creativity and collaboration (Butt & Ahmad, 2019; Issac & Baral,

2018). Additionally, knowledge hiding can spread distrust across the entire organization, affecting their general culture and motivation and leading to the organization losing its competitive advantage (Alaydi et al., 2021). This is particularly relevant in open innovation contexts, where collaboration and the free flow of information are paramount for success (Hopkins et al., 2011; Malbašić & Aleksić, 2019).

Social Exchange Theory (SET) provides a valuable lens through which we can understand how academic self-conception influences various forms of knowledge hiding—evasive, rationalised, and playing dumb— on open innovation within academic contexts. According to SET, individuals engage in social exchanges based on their actions' perceived costs and benefits (Stafford, 2017). In the context of academic self-conception, individuals may perceive themselves as having a certain status or reputation within their academic community. This self-conception can influence their motivations and behaviours in social interactions. Individuals with a high academic self-conception may perceive themselves as having valuable knowledge or expertise to protect and maintain. They may view knowledge hiding as a strategy to maintain their perceived superiority or competitive advantage over others. Thus, their high academic self-conception motivates them to engage in knowledge-hiding behaviours. In the context of open innovation, organisations seek to commercialise their internal and external knowledge or technology (Chesbrough & Bogers, 2014). Knowledge hiding within an organisation can hinder the dissemination of valuable knowledge assets needed for innovation projects (Bogilović, Černe Škerlavaj & 2017). When individuals withhold information or expertise, it can impede the development and commercialisation of innovative products or services, negatively impacting outbound open innovation efforts.

Although open innovation at the organisational and inter-organizational levels has been well studied, little is known about how individual behaviours—particularly knowledge hiding motivated by academic self-concept—affect the process of innovation as a whole. Based on the above explanation, academic self-conception's influence on knowledge-hiding behaviour is considered significant in open innovation. Addressing this challenge of knowledge hiding would enable organizations to improve their creativity and innovation through enhanced cooperation. For this reason, there is a gap in the literature seeking empirical evidence about how self-concepts are associated with knowledge-hiding behaviours and open innovation performance. Filling this gap is critical because clues for improving knowledge culture in an academic environment and organizations are useful for increasing innovation efficiency (Arain et al., 2020).

This study aims to thoroughly understand the mechanisms that promote or restrict knowledge flow in educational settings by exploring the junction of open innovation, social exchange theory, and academic self-concept. The literature on the variable under investigation in this study is reviewed in the first section. Next, we explore the theoretical framework guiding our investigation and combine ideas from academic self-concept and knowledge hiding with Social Exchange Theory. The research design, data collection methods, and analytical strategies used to analyse these phenomena are all covered in the methodology section. The following sections present the results, where self-concept-influenced individual behaviours can support or impede open innovation processes. The ramifications of these findings for theory and practice are discussed in the paper's conclusion, along with methods for improving open innovation in academic contexts by better managing individual-level characteristics.

2. Literature Review

2.1 Open Innovation

During most of the 20th century, technical inventions were attributed to a company research and development (R&D) laboratory that was part of a vertically integrated commercialization infrastructure (West & Bogers, 2014). Traditionally, companies kept innovation in-house. Open innovation flips this idea on its head by strategically bringing in knowledge from outside and sharing some of their innovations to speed up internal development and open up new markets for their creations. Open innovation emerged through observing significant innovative organisations' deviations from standard innovation methods (Bigliardi et al., 2020). "Open innovation uses purposive inflows and outflows of knowledge to accelerate internal innovation and expand the markets for external use of innovation (Chesbrough, 2003)." While initial studies on open innovation focused on its practical applications, researchers now emphasise the importance of a broader theoretical understanding. This refined definition of open innovation highlights it as a collaborative process where knowledge is intentionally shared across different organisations and industries that can be either financially motivated or driven by non-monetary benefits, aligning with the overall business strategy (Bogers et al., 2017). Several scholars have examined how companies with commercially complementary assets could leverage those advantages to benefit from external sources of innovation.

While much research has explored open innovation at the company-wide and strategic level, it's equally important to understand how individuals within organisations contribute to this process. Traditional organizational culture and structure produce internal challenges that impede intra-organizational collaboration, while firms' lack of technological capabilities and knowledge integration generates external challenges that generate collaborative complexity (Shahzad et al., 2024). In other words, open innovation is not just about company policies but also about the mindset and behaviours of the individuals who make it happen in different settings (Locatelli et al., 2021; Scuotto et al., 2020). Open innovation at universities is one area that still needs further exploration.

Academic institutions serve as a unique pool of external innovations, and studies have analyzed the advantages of university technology that companies can exploit, either collectively or at the individual business level (West & Bogers, 2014). Nevertheless, there needs to be more focus on professionalizing the diverse connections between academics and external entities that are not part of the traditional commercialization funnel (Jonsson et al., 2015). Within this framework, scholars have the potential to serve as significant providers of ideas that the industry might utilize to create novel products and technologies under the concepts of open innovation.

2.2 Academic Self Concept

Two essential factors in academic achievement are self-concept and self-efficacy. In this research, we use the term self-conception to capture the phenomenon. Self-concept refers to the collection of perceptions or reference points an individual has about themselves (Marsh & Yeung, 1997). As defined by Wigfield & Krpathian 1991), academic self-concept refers to an individual's overall perception of their abilities in a subject. Self-concept is described as consisting of several dimensions, sections, or features, some of which are more associated with specific personality traits, while others seem to be more connected to academic success (Ghazvini, 2011).

Self-concept encompasses the characteristics, attributes, qualities and deficiencies, capacities and limits, values and relationships that individuals can identify as descriptive of themselves and consider as data about their identity. According to (Schunk, 1991), academic self-efficacy focuses on an individual's belief in their ability to successfully complete specific tasks within that subject. While these terms are sometimes interchangeable, Bong & Skaalvik (2003) highlight a crucial distinction. They argue that self-concept reflects a more general sense of ability in a subject area, often shaped by past achievements and comparisons. Fundamentally, it is considered a descriptive evaluation with a cognitive nuance (Ghazvini, 2011). In contrast, self-efficacy is more specific and future-oriented, focusing on confidence in tackling particular tasks. Interestingly, Bong & Skaalvik (2003) also suggest that a robust academic self-concept, based on past success, might make someone less inclined to collaborate, feeling they can handle things independently and thus increase knowledge hiding.

The phenomenon of knowledge hiding has the potential to impact the outcomes significantly (Mubarak et al., 2021). Consequently, it is crucial to comprehend the underlying causes of this behaviour to prevent it. Knowledge hiding can harm the person seeking the knowledge and the entire organisation, including academic institutions (Hernaus et al., 2019. Even though individuals have the right to decide how and when to share their knowledge, some might see it as a power source and hoard it (Gustina & Sitalaksmi, 2023). Thus, this study suggests that individuals with high academic self-conception, who are confident in their abilities, are less likely to rely on others to boost their performance. In contrast, those with low academic self-conception, struggling with doubt and insecurity, might see collaboration as a way to gain an advantage and become more inclined to share knowledge to gain benefits. For them, collaboration becomes a way to compensate for their perceived shortcomings. Thus, the first hypothesis of this research was:

H1a: Academic self-conception positively influences evasive hiding-hiding behavior.

H1b: Academic self-conception positively influences rationalized-hiding behavior.

H1c: Academic self-conception positively influences playing dumb-hiding behaviour.

2.3 Knowledge Hiding

The academic literature on open innovation suggests that individuals should enhance their openness by assisting others, sharing knowledge, and avoiding knowledge hiding (Ismail et al., 2023). Nevertheless, this seems to be more challenging in practice than in theory. It also highlights the significance of transferring knowledge and enabling its reuse by others. The issue of knowledge hiding gained traction around 2000, with influential studies by Connelly et al. (2012, 2019) and Peng (2012) highlighting its prevalence across organisations. These studies define knowledge hiding as the deliberate withholding of requested knowledge. Research suggests academicians

are likelier to exhibit knowledge-hiding tendencies (Ghani et al., 2020; Zutshi et al., 2021). Understanding these factors behind knowledge hiding is crucial to successfully implementing Knowledge Management (KM) strategies within higher education institutions (Demirkasimoglu, 2015; Fauzi, 2022).

Connelly et al. (2012) were among the first to define KH as the deliberate act of concealing knowledge from someone who has requested it. They identified three ways this can happen: Playing dumb is when someone pretends they don't know something. Evasive hiding involves transferring incorrect information or making false promises to share requested knowledge in the future. Rationalised hiding involves justifying the non-transfer of requested knowledge by claiming confidentiality or not being allowed to share it. Interestingly, (Xiao & Cooke, 2019) argue that knowledge hiding is sometimes harmful. There might be legitimate reasons to withhold knowledge, such as protecting confidentiality or stakeholder interests (Connelly et al., 2019). The decision to hide knowledge can also be influenced by various internal and external factors, making it situational behaviour (Anand, Centobelli & Cerchione, 2020).

Knowledge-hiding behaviours like evasive hiding, rationalised hiding, and playing dumb can significantly hinder academic innovation (Donate et al., 2022; Duan et al., 2022; Gustina, Indartono & Darmawati, 2023). While the successful implementation of open innovation relies on the motivation of individuals, most research in this field primarily concentrates on the organizational level rather than the individual level, so overlooking the significance of people's motivation in open innovation (Ismail et al., 2023). These behaviours create a climate of distrust and suspicion. Academics encountering misinformation through evasive hiding or resistance to sharing (rationalised hiding) become less likely to seek knowledge from colleagues or collaborate on research projects. The fear of being misled or needing help accessing information discourages them from engaging in inbound open innovation. Outbound open innovation also suffers. Academics might hesitate to share their valuable findings externally because they fear exploiting or using their ideas without proper credit (evasive hiding, playing dumb). Additionally, rationalised hiding, where academics downplay the value of sharing knowledge, can make them less likely to see the broader benefits of open collaboration.

Social exchange theory (SET) serves as a lens through which we can comprehend the underlying aspects of knowledge hiding in organizations and its consequences on innovation processes. SET suggests that social actions result from an exchange process to optimise dividends and costs. Employees who partake in knowledge hiding have the ability to disturb the reciprocal relationships necessary for effective innovation. Such actions set in motion a phenomenon that creates an environment of distrust, cynicism, and unwillingness to share knowledge, which only worsens the situation of knowledge hiding, resulting in both outbound and inbound innovation efforts being suppressed (Arain et al., 2020; Guo, Brown & Zhang, 2022).

Outbound innovation relies on external collaborations and is particularly sensitive to knowledge-hiding behaviours. This occurs mainly because when an employee decides to hide a piece of information, they not only reduce their input but also diminish the organizational capability to use any potential external information sources. This lack of openness can result in missed opportunities for learning and adaptation, ultimately leading to stagnation in innovative potential (Guo, Brown & Zhang, 2022; Wang, Feng & Li, 2021). By fostering an environment where knowledge sharing is encouraged and rewarded, organizations can mitigate the negative impacts of knowledge hiding and enhance their innovative capabilities (Babič et al., 2019; Fong et al., 2018).

The knowledge-hiding phenomenon also influences inbound innovation as barriers within the organization make it hard to incorporate useful external knowledge. This unwillingness to share information is often caused by perceived competition from within or lack of trust towards one's colleagues, one of the most important aspects of social exchange theory (Riaz, Xu & Hussain, 2019). More importantly, employees can adopt a self-defeating view in which sharing knowledge is seen as a threat to their own standing in the organization, and this leads to a protective posture that damages an organization’s collective learning and adaptive capabilities (Bogilović et al., 2017). Therefore, analyzing knowledge hiding practices from the perspective of SET is vital for achieving innovative performance, as trust and other reciprocal relations are the basis for the free flow of ideas and information (Weng et al., 2020; Zhao et al., 2019).

Overall, these behaviours stifle the free flow of knowledge, a crucial element for open innovation. A less receptive environment for external ideas (inbound) and a reluctance to share their work (outbound) ultimately hinder progress and innovation within the academic field. Previous studies have found that knowledge hiding is a huge detriment to open innovation processes as it creates barriers that harm both outbound and inbound innovation. Rationalized hiding, playing dumb, and evasive hiding are all three types of knowledge hiding, which sub-serve this effect differently. Rationalized hiding is associated negatively with employee well-being, creating distrust that inhibits creativity and innovation (Khoreva & Wechtler, 2020). Particular types of evasive hiding

include intentionally not sharing knowledge, blocking the exchange of vital information required for working collaboration and limiting innovation capabilities within organizations (Mubarak, Khan & Osmadi, 2022). This behaviour limits the possibility of the emergence of new ideas and fosters an environment for less knowledge sharing, which adds to the difficulties in dealing with innovation in open contexts (Černe et al., 2017). Thus, the last hypothesis of this research was:

H2a: Evasive hiding behaviour negatively influences inbound open innovation orientation.

H2b: Rationalized hiding behaviour negatively influences inbound open innovation orientation.

H2c: Playing dumb hiding behaviour negatively influences inbound open innovation orientation.

H3d: Evasive hiding behaviour negatively influences outbound open innovation orientation.

H2e: Rationalized hiding behaviour negatively influences outbound open innovation orientation.

H2f: Playing dumb hiding behaviour negatively influences outbound open innovation orientation.

The summary of the model proposed in this research can be seen in Figure 1.

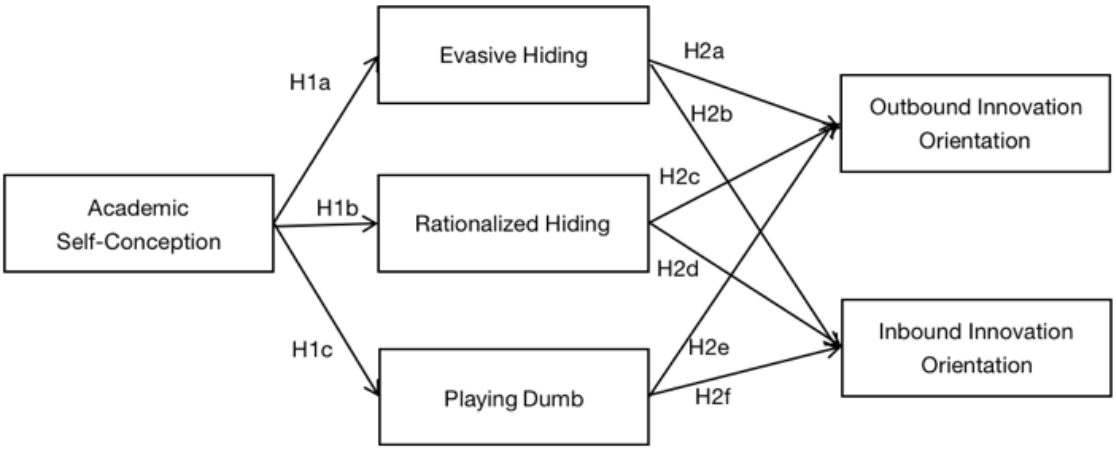

Figure 1: Research Model

3. Method

3.1 Measurement

This study builds on existing research to explore the relationships between variables. To measure these concepts, we used established scales. Open innovation orientation was measured using eight-scale questionnaires by Sun, Liu & Ding (2020), knowledge hiding was measured using 12 items developed by Connelly et al. (2012), and academic self-conception was assessed with 22 items questionnaires by Goñi et al.,2011). All these scales relied on a 7-point Likert scale, where respondents indicated their level of agreement with statements related to each concept. The study participants were academics from Indonesia. The questionnaire was first translated into Indonesian and then translated back to capture the meaning of the items accurately. The collection of data was done using online platforms. After receiving the answers to the questionnaire, the items were coded, and the instrument and hypothesis tests were performed. Following the research model in Figure 1, the study analyses the effect of academic self-conception on knowledge hiding (evasive hiding, rationalized hiding and playing dumb). Knowledge-hiding is then examined in relation to open innovation, which comprises inbound open innovation and outbound innovation. Finally, a statistical technique called partial least squares structural equation modelling (PLS-SEM) was used to analyse the data and test the proposed relationships.

3.2 Reliability and Validity

The internal consistency of these items is computed using Cronbach's alpha coefficient and the validity assessment. Confirmatory factor analysis was performed to fit the model and ensure that the variables under consideration were distinct. The reliability test is adequate when the value of Cronbach's alpha is greater than 0.70, while the validity test is conducted on a loading factor and AVE value greater than 0.50 (Hair et al., 2017;

Hair & Brunsveld, 2019). Table 1 exemplifies the validity of the scale data based on convergent and reliability criteria. The average variance extracted (AVE) value for each construct is reported to be more than 0.5. A subsequent step in the analysis consisted of omitting values of the loading factor, which were less than 0.7, as these were not included in the calculation. The detailed results of the questions item are included in table 1, alongside reliability and validity tests.

4. Result and Discussion

4.1 Respondent Demographic Profile

The sample from this research consisted of 262 respondents. The sample comprised 46.90% male (n=123) and 51.10% female (n=139). According to tenure, 34.73% (n=91) have been working under five years, 29.38% (n=77) have worked for six to ten years, 24.04% (n=63) have been working for 11 to 15 years, and 11.83% (n=31) have been worked more than 16 years.

4.2 Result

This research was carried out by assessing the validity and reliability of the measuring instrument, and afterwards, it proceeded to hypothesis testing. The loading factor and AVE score measure the validity of the test. On the other hand, the HTMT and Cronbach alpha indices are used to measure the reliability of this study. In this validity test, those values of loading factor below 0.7 are not accepted and, therefore, excluded from this study. This study's latent variables have Cronbach's alpha and composite reliability values greater than 0.7. The figures for outer loading and average variance extraction in this investigation met the criteria. The heterotrait monotrait ratio (HTMT) is used to measure discriminant validity. Table 2 shows that all research variables are genuine; no HTMT values surpass 0.9 (Hair et al., 2017). Table 3 shows the R-squared and adjusted R-squared values. The partial least squares (PLS) analysis results demonstrated that seven out of nine hypotheses are supported (see Table 4).

Table 1: Validity and Reliability Test

Variables	Dimension	Item	Code	Factor Loading	Cronbach's alpha	AVE
Knowledge Hiding	Evasive Hiding	In a specific situation, I agreed to help my colleague but never really intended to	KH1	0.810	0.813	0.727
		In a specific situation, I agreed to help my colleague but instead give them information that different from they wanted	KH2	0.872		
		In a specific situation, I told my colleague I would help them later but stalled as much as possible	KH3	0.875		
		In a specific situation, I offered information instead of what they really wanted	KH4	0,626		
	Playing Dumb	In a specific situation, I pretend that I didn't know the information	KH5	0.989	0.892	0.826
		In a specific situation, I said that I did not know, even though I did	KH6	0.989		
		In a specific situation, I pretend I didn't know what my colleague talking about	KH7	0,693		
		In a specific situation, I said that I was not very knowledgeable about the topic	KH8	0.975		
	Rationalized Hiding	In a specific situation, I explained that I would like to tell to my colleague, but was not supposed to	KH9	0.952	0.984	0.970
		In a specific situation, I explained that the information is confidential and only available to the people on the particular project	KH10	0.826		
		In a specific situation, I told my colleague that my boss would not let anyone share this knowledge	KH11	0.944		

Variables	Dimension	Item	Code	Factor Loading	Cronbach's alpha	AVE
		In a specific situation, I said that I would not answer my colleague questions	KH12	0,621		
Academic Open Innovation	Outbound-Innovation	I often sells licenses, such as patents, copyrights, or trademarks, to external partners to better benefit from our innovation efforts	OI1	0.794	0.899	0.765
		I often offers royalty agreements to other firms to better benefit from our innovation efforts	OI2	0.894		
		I strengthens every possible use of our own intellectual properties to better benefit our firm	OI3	0.910		
		I founds spin-offs to better benefit from our innovation efforts	OI4	0.896		
	Inbound-Innovation	External partners are directly involved in all our projects	OI5	0.632	0.798	0.630
		All our innovation projects are highly dependent upon the contribution of external partners	OI6	0.822		
		My university often buys R&D related products from external partners	OI7	0.855		
		My university often buys intellectual property, such as patents, copyrights, or trademarks, belonging from external partners to be used in our innovative projects	OI8	0.845		
Self-Conception	Self-Fulfilment	I am satisfied with what I am achieving in my life	SC1	0,551	0.924	0.541
		So far, I have achieved every important goal I have set myself	SC2	0.832		
		I have yet to achieve anything I consider to be important in my life	SC3	0,601		
		I have always overcome any difficulties I have encountered in my life	SC4	0.835		
		If I could start my life over again, I would not change very much	SC5	0.809		
		I feel proud of how I am managing my life	SC6	0.898		
	Honesty	I am a trustworthy person	SC7	0.807		
		I am a man/woman of my word	SC8	0,569		
		My promises are sacred	SC9	0.810		
		I am a decent, honest person	SC10	0,281		
		I try not to do anything that might hurt others	SC11	0,079		
	Autonomy	I depend on other people more than the majority of those I know	SC12	0.448		
		In order to do anything, I first need other people's approval	SC13	0.817		
		I find it hard to embark on anything without other people's support	SC14	0.022		
		When taking a decision, I depend too much on other people's opinions	SC15	0.852		
		I find it difficult to take decisions on my own	SC16	0.795		
	Emotional Adjustment	If I'm feeling down, I find it hard to snap out of it	SC17	0.780		
		I consider myself to be a very uptight and highly strung person	SC18	0,859		

Variables	Dimension	Item	Code	Factor Loading	Cronbach's alpha	AVE
		I am more sensitive than the majority of people	SC19	0,706		
		I am an emotionally strong person	SC20	0.880		
		I suffer too much when something goes wrong	SC21	0.764		
		I know how to look after myself so as not to suffer	SC22	0,291		

Table 2: HTMT

	Evasive Hiding	Rationalized	Playing Dumb	Outbound	Inbound
Rationalized	0.669				
Playing Dumb	0.776	0.757			
Outbound	0.107	0.269	0.060		
Inbound	0.139	0.190	0.164	0.770	
Self-Conception	0.451	0.299	0.407	0.111	0.112

Table 3: R-Square and R-Square adjusted

	R-square	R-square adjusted
Evasive Hiding	0.163	0.160
Rationalized Hiding	0.095	0.092
Playing Dumb	0.152	0.149
Inbound	0.134	0.124
Outbound	0.123	0.112

Table 4: Hypothesis Testing Result

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
SC -> Evasive	0.404	0.412	0.063	6.437	0.000
SC -> Playing Dumb	0.390	0.395	0.067	5.790	0.000
SC -> Rationalized	0.308	0.315	0.062	4.978	0.000
Evasive -> Inbound	-0.007	-0.012	0.074	0.096	0.924
Evasive -> Outbound	0.018	0.014	0.073	0.254	0.800
Rationalized -> Inbound	-0.495	-0.503	0.082	6.064	0.000
Rationalized -> Outbound	-0.501	-0.505	0.082	6.141	0.000
Playing Dumb -> Inbound	0.465	0.474	0.094	4.966	0.000
Playing Dumb -> Outbound	0.322	0.328	0.098	3.291	0.001

5. Discussion

This study confirms the social exchange theory (SET). Firstly, based on the statistical result, individuals with a high academic self-conception may engage in evasive hiding to protect their perceived status or reputation within their educational community. According to Zhang et al. 2018), individuals use the SET technique to make decisions based on predicted economic benefits and self-efficacy. Self-efficacy refers to belief in one's ability to manage future problems (Bandura, 2010). According to self-concept motivation theories, individuals desire, seek, and attempt to establish positive reflected assessments, favourable social comparisons, and self-perceptions that attest to competence and morality. In the case of academics, maintaining a high academic self-conception is often associated with being perceived as knowledgeable and competent in their field (Varshney &

Varshney, 2023). Thus, individuals may engage in evasive hiding by avoiding sharing certain information or expertise with others to uphold their perceived superiority or competitive advantage. This behaviour is driven by the desire to protect their status within the academic community, as sharing specific knowledge may diminish their perceived expertise.

Secondly, based on the result, rationalised hiding can also be influenced by academic self-conception within the framework of SET. Schlegel et al. (2011) defined self-concept as a reflection of one's desires that are influenced by feelings of self-worth. Self-conception was found to be related to counterproductive work behaviour (Varshney & Varshney, 2023). Individuals with a high academic self-conception may rationalise their hiding behaviour by justifying it as necessary for their advancement or success. According to SET, an individual transfers resources with another individual because they want to receive something through interaction (Yan et al., 2016). In the case of rationalised hiding, individuals may perceive the benefits of withholding specific knowledge as outweighing the potential costs. For instance, individuals may rationalise hiding by arguing that sharing specific knowledge could undermine their research projects or career prospects. Thus, their positive academic self-conception may lead them to justify hiding particular knowledge as a strategic decision to further their interests within academia.

Finally, academic self-conception can also influence playing dumb as a form of knowledge hiding. Playing dumb involves pretending to lack knowledge or expertise in specific areas to avoid sharing information with others. Individuals with a positive academic self-conception may play dumb to protect their perceived status or reputation within the educational community. By pretending to lack knowledge in certain areas, individuals may avoid situations where others could question or challenge their expertise, thus maintaining their perceived status within academia.

Based on the statistical analysis, four of six from the second hypothesis were supported. Evasive hiding involves individuals avoiding sharing certain information or expertise (Garg et al., 2021). This research was conducted among Indonesian scholars. The cultural attributes of Indonesia provide one of the most probable explanations regarding the insignificance result of evasive hiding on open innovation. Culture in Indonesia is usually described as collectivistic, whereby group sustainability and cooperation are of great importance (Ghasemaghaei & Turel, 2021). Indonesian communication styles can be more indirect. Consequently, people in such settings might be less motivated to use evasive hiding techniques because these techniques may negatively affect their relationship with the group and its collaborative efforts. Second, the nature of the knowledge-hiding behaviours may also explain the absence of a notable effect of evasive hiding on open innovation. Evidence shows that evasive hiding is considered less socially acceptable than other techniques of knowledge hiding, for instance, feigning ignorance (Arain et al., 2024). This phenomenon of preferring less severe ways of hiding knowledge or even not hiding knowledge at all leads to the conclusion that this behaviour is beneficial. The absence of a negative influence on a grey area of innovation that allows for some restricted behavioural evasion supports the notion that there is little to no impact on open innovation.

Based on the result, rationalised hiding negatively influences outbound and inbound innovation orientation. Rationalised hiding among scholars involves justifying their hiding behaviour as necessary for their advancement or success (Gustina & Sitalaksmi, 2023) within academia. Scholars may rationalise hiding in the context of outbound innovation by arguing that sharing specific knowledge could undermine their research projects or career prospects. Similarly, in the context of inbound innovation, scholars may rationalise hiding information from external collaborators to protect their perceived status or competitive advantage. From a SET perspective, rationalised hiding reflects individuals' motivations to maximise their benefits in social exchanges, even if it negatively impacts innovation outcomes by limiting collaboration and knowledge exchange.

Finally, the last hypothesis, which stated that playing dumb negatively influences outbound and inbound open innovation orientation, was not supported but interestingly showed the contrary result, where playing dumb positively influences outbound and inbound open innovation orientation. Playing dumb can be a strategic behaviour adopted by scholars with a self-conception that, in turn, enhances collaboration and promotes innovation. Playing dumb happens when someone pretends not to know about the requested knowledge (Garg et al., 2021). They tend to pretend to play dumb and engage in collaboration to protect their stand. Individuals may encourage sharing information and expertise from external sources by pretending to lack knowledge or expertise in certain areas. Scholars may signal openness to collaboration and knowledge exchange with external stakeholders by pretending to lack knowledge or expertise in certain regions.

By intentionally withholding certain knowledge, individuals may create opportunities for others to explore alternative solutions or ideas, stimulating creativity and innovation. Moreover, playing dumb may also be a

coping mechanism in environments characterized by high interpersonal conflict or competition. Research indicates that when individuals experience conflict, they may resort to knowledge-hiding behaviours, including playing dumb, as a way to manage stress and navigate complex social dynamics (Venz & Nesher Shoshan, 2022). Thus, playing dumb creates room for discussion. By creating space for others to contribute ideas, playing dumb can inadvertently enhance the collective innovation efforts of a team. Playing dumb is often perceived as less deceptive and more socially acceptable, reducing the potential for conflict and fostering a more collaborative atmosphere (Burmeister, Fasbender & Gerpott, 2019). Playing dumb might not be perceived as a complete refusal to share but rather as a way to encourage further discussion or negotiation. This indirectness could leave room for eventual knowledge exchange despite the initial knowledge-hiding behaviour.

From a SET perspective, playing dumb reflects individuals' motivations to maximise the benefits of social exchanges by fostering collaboration and knowledge exchange with external sources. In outbound innovation, playing dumb can encourage scholars to seek external expertise or knowledge outside their academic institution, enhancing their organisation's innovation capabilities. In outbound innovation, playing dumb can foster collaboration with external experts or partners, facilitating the development and commercialisation of innovative products or services. Similarly, in the context of inbound innovation, playing dumb can attract external knowledge or technology by signalling openness to new ideas and expertise.

6. Theoretical Implication

Our study contributes to developing SET by demonstrating its applicability in understanding knowledge-hiding behaviours within academic contexts. We enhance our understanding of the social dynamics of knowledge hiding processes by elucidating how academic self-conception influences knowledge-hiding tendencies. We extend the literature on open innovation by highlighting the significance of individual-level factors, such as academic self-conception, in shaping knowledge-related behaviours and their impact on innovation outcomes. This underscores the importance of considering individual characteristics alongside organisational factors in studies of open innovation processes.

7. Practical Contribution

Our research results explain the crucial aspects of knowledge-hiding behaviour and its impact on the suppressive open innovation culture in academia. First, the negative effects of academic self-perception on knowledge-hiding behaviour suggest that, as a first step, institutions need to promote a stronger sense of community and social identity for their academic staff. Institutions need to establish a culture that fosters shared goals to lessen the desire for self-protective knowledge concealment behaviours. Second, the adverse issues created by rationalized hiding on open innovation clearly indicate that institutions need to understand the rationales around knowledge concealment by some faculty. Training programs focusing on knowledge sharing and the consequences of rationalized hiding can help deter faculty from problematic communication and foster more open relations. Moreover, the non-significant effect of evasive hiding on open innovation implies that this kind of behaviour is not as detrimental as others, but it may lend support to the more entrenched concerns of distrust or alienation.

8. Implications for Future Studies

Our study's results pose numerous possibilities for further inquiries that would help reveal additional findings surrounding knowledge hiding and its impact on open innovation in the academic context. First, examining the indirect and conditional effects of particular psychological factors in the link between knowledge-hiding behaviours and open innovation results is crucial. For instance, the role of psychological disengagement, as highlighted in studies examining playing dumb behaviours, could provide insights into how such behaviours influence innovation performance (Xie et al., 2022). Secondly, further exploration of the contextual factors that influence knowledge-hiding behaviours is warranted. Research indicates that cultural and organizational contexts significantly shape knowledge-sharing and hiding dynamics (Guo, Brown & Zhang, 2022; He et al., 2021). Future studies could examine how different organizational cultures, leadership styles, and team dynamics impact the prevalence and consequences of knowledge-hiding behaviours, particularly in diverse academic settings. Moreover, future research should consider the implications of knowledge-hiding behaviours on team dynamics and creativity. Given that playing dumb has been shown to have a nuanced influence on open innovation, it would be interesting to explore how this behaviour interacts with team interdependence and collaborative processes (Fong et al., 2018). Investigating the conditions under which playing dumb can stimulate creativity and innovation instead of hindering it could provide practical insights for fostering a more innovative academic environment.

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AI Declaration: Regarding the application of Artificial Intelligence (AI), the authors declare that no generative AI has been used for writing except for language correction purposes.

References

Alaydi, B., Imm, N. G. S., Bali Mahomed, A. S., & Hwa, C. J. (2021). The consequences of knowledge hiding behavior in organizations: A systematic literature review. In *Estudios de Economia Aplicada* (Vol. 39, Issue 10). https://doi.org/10.25115/eea.v39i10.5392

Alexander, A. T., Miller, K., & Fielding, S. (2015). Open for business: Universities, entrepreneurial academics and open innovation. *International Journal of Innovation Management*, *19*(6). https://doi.org/10.1142/S1363919615400137

Almeida, F. (2021). Open-innovation practices: Diversity in portuguese smes. *Journal of Open Innovation: Technology, Market, and Complexity*, *7*(3). https://doi.org/10.3390/joitmc7030169

Anand, A., Centobelli, P., & Cerchione, R. (2020). Why should I share knowledge with others? A review-based framework on events leading to knowledge hiding. *Journal of Organizational Change Management*, *33*(2). https://doi.org/10.1108/JOCM-06-2019-0174

Aouinaït, C. (2021). Collaboration - collaborative and open innovation in highly competitive contexts. In *Innovation Economics, Engineering and Management Handbook 1: Main Themes*. https://doi.org/10.1002/9781119832492.ch9

Arain, G. A., Bhatti, Z. A., Ashraf, N., & Fang, Y. H. (2020). Top-Down Knowledge Hiding in Organizations: An Empirical Study of the Consequences of Supervisor Knowledge Hiding Among Local and Foreign Workers in the Middle East. *Journal of Business Ethics*, *164*(3). https://doi.org/10.1007/s10551-018-4056-2

Arain, G. A., Bhatti, Z. A., Hameed, I., Khan, A. K., & Rudolph, C. W. (2024). A meta-analysis of the nomological network of knowledge hiding in organizations. *Personnel Psychology*, *77*(2). https://doi.org/10.1111/peps.12562

Babič, K., Černe, M., Connelly, C. E., Dysvik, A., & Škerlavaj, M. (2019). Are we in this together? Knowledge hiding in teams, collective prosocial motivation and leader-member exchange. *Journal of Knowledge Management*, *23*(8). https://doi.org/10.1108/JKM-12-2018-0734

Bandura, A. (2010). Self-efficacy -Bandura. *The Corsini Encyclopedia of Psychology*.

Bigliardi, B., Ferraro, G., Filippelli, S., & Galati, F. (2020). The influence of open innovation on firm performance. In *International Journal of Engineering Business Management* (Vol. 12). https://doi.org/10.1177/1847979020969545

Bogers, M., Zobel, A. K., Afuah, A., Almirall, E., Brunswicker, S., Dahlander, L., Frederiksen, L., Gawer, A., Gruber, M., Haefliger, S., Hagedoorn, J., Hilgers, D., Laursen, K., Magnusson, M. G., Majchrzak, A., McCarthy, I. P., Moeslein, K. M., Nambisan, S., Piller, F. T., … Ter Wal, A. L. J. (2017). The open innovation research landscape: established perspectives and emerging themes across different levels of analysis. *Industry and Innovation*, *24*(1). https://doi.org/10.1080/13662716.2016.1240068

Bogilović, S., Černe, M., & Škerlavaj, M. (2017). Hiding behind a mask? Cultural intelligence, knowledge hiding, and individual and team creativity. *European Journal of Work and Organizational Psychology*, *26*(5). https://doi.org/10.1080/1359432X.2017.1337747

Bong, M., & Skaalvik, E. M. (2003). Academic Self-Concept and Self-Efficacy: How Different Are They Really? In *Educational Psychology Review* (Vol. 15, Issue 1). https://doi.org/10.1023/A:1021302408382

Burmeister, A., Fasbender, U., & Gerpott, F. H. (2019). Consequences of knowledge hiding: The differential compensatory effects of guilt and shame. *Journal of Occupational and Organizational Psychology*, *92*(2). https://doi.org/10.1111/joop.12249

Butt, A. S., & Ahmad, A. B. (2019). Are there any antecedents of top-down knowledge hiding in firms? Evidence from the United Arab Emirates. *Journal of Knowledge Management*, *23*(8). https://doi.org/10.1108/JKM-04-2019-0204

Campbell, J. D., Trapnell, P. D., Heine, S. J., Katz, I. M., Lavallee, L. F., & Lehman, D. R. (1996). Self-Concept Clarity: Measurement, Personality Correlates, and Cultural Boundaries. *Journal of Personality and Social Psychology*, *70*(1). https://doi.org/10.1037/0022-3514.70.1.141

Černe, M., Hernaus, T., Dysvik, A., & Škerlavaj, M. (2017). The role of multilevel synergistic interplay among team mastery climate, knowledge hiding, and job characteristics in stimulating innovative work behavior. *Human Resource Management Journal*, *27*(2). https://doi.org/10.1111/1748-8583.12132

Chesbrough, H. (2003). The logic of open innovation: Managing intellectual property. In *California Management Review* (Vol. 45, Issue 3). https://doi.org/10.2307/41166175

Chesbrough, H. (2017). The Future of Open Innovation: IRI Medal AddressThe future of open innovation will be more extensive, more collaborative, and more engaged with a wider variety of participants. *Research Technology Management*, *60*(6). https://doi.org/10.1080/08956308.2017.1373048

Chesbrough, H., & Bogers, M. (2014). Explicating Open Innovation: Clarifying an Emerging Paradigm for Understanding Innovation Keywords. *New Frontiers in Open Innovation*.

Chesbrough, H. W. (2003). The era of open innovation. *MIT Sloan Management Review*, *44*(3).

Connelly, C. E., Černe, M., Dysvik, A., & Škerlavaj, M. (2019). Understanding knowledge hiding in organizations. *Journal of Organizational Behavior*, *40*(7). https://doi.org/10.1002/job.2407

Connelly, C. E., Zweig, D., Webster, J., & Trougakos, J. P. (2012). Knowledge hiding in organizations. *Journal of Organizational Behavior*, *33*(1), 64–88. https://doi.org/10.1002/job.737

Costa, J., Neves, A. R., & Reis, J. (2021). Two sides of the same coin. University-industry collaboration and open innovation as enhancers of firm performance. *Sustainability (Switzerland)*, *13*(7). https://doi.org/10.3390/su13073866

Demirkasimoglu, N. (2015). Knowledge Hiding in Academia: Is Personality a Key Factor? *International Journal of Higher Education*, *5*(1). https://doi.org/10.5430/ijhe.v5n1p128

Donate, M. J., González-Mohíno, M., Paolo Appio, F., & Bernhard, F. (2022). Dealing with knowledge hiding to improve innovation capabilities in the hotel industry: The unconventional role of knowledge-oriented leadership. *Journal of Business Research*, *144*. https://doi.org/10.1016/j.jbusres.2022.02.001

Duan, Y., Yang, M., Huang, L., Chin, T., Fiano, F., de Nuccio, E., & Zhou, L. (2022). Unveiling the impacts of explicit vs. tacit knowledge hiding on innovation quality: The moderating role of knowledge flow within a firm. *Journal of Business Research*, *139*. https://doi.org/10.1016/j.jbusres.2021.10.068

Fauzi, M. A. (2022). Knowledge hiding behavior in higher education institutions: a scientometric analysis and systematic literature review approach. In *Journal of Knowledge Management*. https://doi.org/10.1108/JKM-07-2021-0527

Fitriasari, N. S., Sensuse, D. I., Hidayat, D. S., & Purwaningsih, E. H. (2024). A Systematic Literature Review on University Collaboration in Open Innovation: Trends, Technologies, and Frameworks. *The Electronic Journal of Knowledge Management*, *22*(1), 40–58. www.ejkm.com

Fong, P. S. W., Men, C., Luo, J., & Jia, R. (2018). Knowledge hiding and team creativity: the contingent role of task interdependence. *Management Decision*, *56*(2). https://doi.org/10.1108/MD-11-2016-0778

Galati, F., & Bigliardi, B. (2017). Does different NPD project's characteristics lead to the establishment of different NPD networks? A knowledge perspective. *Technology Analysis and Strategic Management*, *29*(10). https://doi.org/10.1080/09537325.2016.1277581

Garg, N., Talukdar, A., Ganguly, A., & Kumar, C. (2021). Knowledge hiding in academia: an empirical study of Indian higher education students. *Journal of Knowledge Management*, *25*(9). https://doi.org/10.1108/JKM-10-2020-0783

Gassmann, O., Enkel, E., & Chesbrough, H. (2010). The future of open innovation. In *R and D Management* (Vol. 40, Issue 3, pp. 213–221). https://doi.org/10.1111/j.1467-9310.2010.00605.x

Ghani, U., Zhai, X., Spector, J. M., Chen, N. S., Lin, L., Ding, D., & Usman, M. (2020). Knowledge hiding in higher education: role of interactional justice and professional commitment. *Higher Education*, *79*(2). https://doi.org/10.1007/s10734-019-00412-5

Ghasemaghaei, M., & Turel, O. (2021). Possible negative effects of big data on decision quality in firms: The role of knowledge hiding behaviours. *Information Systems Journal*, *31*(2). https://doi.org/10.1111/isj.12310

Ghazvini, S. D. (2011). Relationships between academic self-concept and academic performance in high school students. *Procedia - Social and Behavioral Sciences*, *15*. https://doi.org/10.1016/j.sbspro.2011.03.235

Goñi, E., Madariaga, J. M., Axpe, I., & Goñi, A. (2011). Structure of the personal self-concept (PSC) questionnaire. *International Journal of Clinical and Health Psychology*, *11*(3).

Grosse Kathoefer, D., & Leker, J. (2012). Knowledge transfer in academia: An exploratory study on the Not-Invented-Here Syndrome. *Journal of Technology Transfer*, *37*(5). https://doi.org/10.1007/s10961-010-9204-5

Guo, M., Brown, G., & Zhang, L. (2022). My knowledge: The negative impact of territorial feelings on employee's own innovation through knowledge hiding. *Journal of Organizational Behavior*, *43*(5). https://doi.org/10.1002/job.2599

Gustina, A., Indartono, S., & Darmawati, A. (2023). The Effect of Knowledge Hiding on Individual Creativity: Dyadic Studies in Educational Background. In *Proceedings of the Unima International Conference on Social Sciences and Humanities (UNICSSH 2022)*. https://doi.org/10.2991/978-2-494069-35-0_124

Gustina, A., & Sitalaksmi, S. (2023). The effect of psychological ownership on knowledge hiding in the banking industry: The role of affective and continuance commitment. *International Journal of Knowledge Management Studies*, *14*(3). https://doi.org/10.1504/IJKMS.2023.132038

Hair, J. F., & Brunsveld, N. (2019). Essentials of business research methods. In *Essentials of Business Research Methods*. https://doi.org/10.4324/9780429203374

Hair, J. F., Hult, G. T., Ringle, C., & Sarstedt, M. (2017). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM) - Joseph F. Hair, Jr., G. Tomas M. Hult, Christian Ringle, Marko Sarstedt. In *Sage*.

He, P., Jiang, C., Xu, Z., & Shen, C. (2021). Knowledge Hiding: Current Research Status and Future Research Directions. In *Frontiers in Psychology* (Vol. 12). https://doi.org/10.3389/fpsyg.2021.748237

Hernaus, T., Cerne, M., Connelly, C., Poloski Vokic, N., & Škerlavaj, M. (2019). Evasive knowledge hiding in academia: when competitive individuals are asked to collaborate. *Journal of Knowledge Management*, *23*(4). https://doi.org/10.1108/JKM-11-2017-0531

Hopkins, M. M., Tidd, J., Nightingale, P., & Miller, R. (2011). Generative and degenerative interactions: Positive and negative dynamics of open, user-centric innovation in technology and engineering consultancies. *R and D Management*, *41*(1). https://doi.org/10.1111/j.1467-9310.2010.00631.x

Howells, J., Ramlogan, R., & Cheng, S. L. (2012). Universities in an open innovation system: A UK perspective. *International Journal of Entrepreneurial Behaviour and Research*, *18*(4). https://doi.org/10.1108/13552551211239483

Huggins, R., Prokop, D., & Thompson, P. (2020). Universities and open innovation: the determinants of network centrality. *Journal of Technology Transfer*, *45*(3). https://doi.org/10.1007/s10961-019-09720-5

Inauen, M., & Schenker-Wicki, A. (2012). Fostering radical innovations with open innovation. *European Journal of Innovation Management*, *15*(2). https://doi.org/10.1108/14601061211220986

Ismail, M., Bello-Pintado, A., García-Marco, T., & Lazzarotti, V. (2023). Enhancing open innovation: Managing not invented here syndrome in collaborative projects. *Technovation*, *128*. https://doi.org/10.1016/j.technovation.2023.102879

Issac, A. C., & Baral, R. (2018). Dissecting knowledge hiding: a note on what it is and what it is not. In *Human Resource Management International Digest* (Vol. 26, Issue 7). https://doi.org/10.1108/HRMID-09-2018-0179

Jonsson, L., Baraldi, E., Larsson, L. E., Forsberg, P., & Severinsson, K. (2015). Targeting Academic Engagement in Open Innovation: Tools, Effects and Challenges for University Management. *Journal of the Knowledge Economy*, *6*(3). https://doi.org/10.1007/s13132-015-0254-7

Khoreva, V., & Wechtler, H. (2020). Exploring the consequences of knowledge hiding: an agency theory perspective. *Journal of Managerial Psychology*, *35*(2). https://doi.org/10.1108/JMP-11-2018-0514

Locatelli, G., Greco, M., Invernizzi, D. C., Grimaldi, M., & Malizia, S. (2021). What about the people? Micro-foundations of open innovation in megaprojects. *International Journal of Project Management*, *39*(2). https://doi.org/10.1016/j.ijproman.2020.06.009

Lowik, S., Kraaijenbrink, J., & Groen, A. (2017). Antecedents and effects of individual absorptive capacity: A micro-foundational perspective on open innovation. *Journal of Knowledge Management*, *21*(6). https://doi.org/10.1108/JKM-09-2016-0410

Malbašić, S., & Aleksić, A. (2019). OPEN INNOVATION AS A NEW PARADIGM IN RESEARCH AND BUSINESS. *Proceedings on Engineering Sciences*, *1*(2). https://doi.org/10.24874/PES01.02.099

Marsh, H. W., & Yeung, A. S. (1997). Causal effects of academic self-concept on academic achievement: Structural equation models of longitudinal data. *Journal of Educational Psychology*, *89*(1). https://doi.org/10.1037/0022-0663.89.1.41

McGahan, A. M., Bogers, M. L. A. M., Chesbrough, H., & Holgersson, M. (2021). Tackling Societal Challenges with Open Innovation. *California Management Review*, *63*(2). https://doi.org/10.1177/0008125620973713

Milana, E., & Ulrich, F. (2022). Do open innovation practices in firms promote sustainability? *Sustainable Development*, *30*(6). https://doi.org/10.1002/sd.2337

Mochnacs, A. E., Pirciog, S., Sigurjonsson, T. O., & Grigorescu, A. (2024). A conceptual review of the higher education system based on open innovation (OI) perspectives. *Humanities and Social Sciences Communications*, *11*(1). https://doi.org/10.1057/s41599-024-02909-6

Mubarak, N., Khan, J., & Osmadi, A. (2022). How does leader's knowledge hiding kill innovative work behavior. *International Journal of Managing Projects in Business*, *15*(7). https://doi.org/10.1108/IJMPB-01-2022-0014

Mubarak, N., Osmadi, A., Khan, J., Mahdiyar, A., & Riaz, A. (2021). What Makes People Hide Knowledge? Influence of Passive Leadership and Creative Self-Efficacy. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.740880

Oliveira, M. M., Reisdorfer-Leite, B., Rudek, M., & Canciglieri, O. (2020). Evaluation of the impact of open innovation and acceleration programs on research and development performed by universities. *Advances in Transdisciplinary Engineering*, *12*. https://doi.org/10.3233/ATDE200065

Ommundsen, Y., Haugen, R., & Lund, T. (2005). Academic self-concept, implicit theories of ability, and self-regulation strategies. In *Scandinavian Journal of Educational Research* (Vol. 49, Issue 5). https://doi.org/10.1080/00313830500267838

Padilla-Meléndez, A., & Garrido-Moreno, A. (2012). Open innovation in universities: What motivates researchers to engage in knowledge transfer exchanges? In *International Journal of Entrepreneurial Behaviour and Research* (Vol. 18, Issue 4). https://doi.org/10.1108/13552551211239474

Peng, H. (2012). Counterproductive Work Behavior Among Chinese Knowledge Workers. *International Journal of Selection and Assessment*, *20*(2). https://doi.org/10.1111/j.1468-2389.2012.00586.x

Ramirez-Montoya, M. S. (2020). Challenges for open education with educational innovation: A systematic literature review. In *Sustainability (Switzerland)* (Vol. 12, Issue 17). https://doi.org/10.3390/su12177053

Riaz, S., Xu, Y., & Hussain, S. (2019). Workplace ostracism and knowledge hiding: The mediating role of Job Tension. *Sustainability (Switzerland)*, *11*(20).

Schlegel, R. J., Hicks, J. A., King, L. A., & Arndt, J. (2011). Feeling like you know who you are: Perceived true self-knowledge and meaning in life. *Personality and Social Psychology Bulletin*, *37*(6). https://doi.org/10.1177/0146167211400424

Schneckenberg, D. (2015). Open innovation and knowledge networking in a multinational corporation. *Journal of Business Strategy*, *36*(1). https://doi.org/10.1108/JBS-08-2013-0066

Schunk, D. H. (1991). Self-Efficacy and Academic Motivation. *Educational Psychologist*, *26*(3–4). https://doi.org/10.1080/00461520.1991.9653133

Scuotto, V., Beatrice, O., Valentina, C., Nicotra, M., Di Gioia, L., & Farina Briamonte, M. (2020). Uncovering the micro-foundations of knowledge sharing in open innovation partnerships: An intention-based perspective of technology transfer. *Technological Forecasting and Social Change*, *152*. https://doi.org/10.1016/j.techfore.2019.119906

Shahzad, K., Dan, S., Imran, F., Holtkamp, P., Niemi, M. K., & Meyer, M. (2024). Limits of open innovation during the organizational change: a case study of a Partner Campus. *R and D Management*. https://doi.org/10.1111/radm.12675

Stafford, L. (2017). Social exchange theory: A cost-benefit approach to relationships. In *Engaging Theories in Family Communication: Multiple Perspectives*. https://doi.org/10.4324/9781315204321

Striukova, L., & Rayna, T. (2015). University-industry knowledge exchange: An exploratory study of Open Innovation in UK universities. *European Journal of Innovation Management*, *18*(4). https://doi.org/10.1108/EJIM-10-2013-0098

Sun, Y., Liu, J., & Ding, Y. (2020). Analysis of the relationship between open innovation, knowledge management capability and dual innovation. *Technology Analysis and Strategic Management*, *32*(1). https://doi.org/10.1080/09537325.2019.1632431

Varshney, D., & Varshney, N. K. (2023). Self-concept and job performance: the mediating role of resilience. *International Journal of Productivity and Performance Management*. https://doi.org/10.1108/IJPPM-10-2022-0548

Venz, L., & Nesher Shoshan, H. (2022). Be smart, play dumb? A transactional perspective on day-specific knowledge hiding, interpersonal conflict, and psychological strain. *Human Relations*, *75*(1). https://doi.org/10.1177/0018726721990438

Wang, C., Feng, J., & Li, X. (2021). Allies or rivals: how abusive supervision influences subordinates' knowledge hiding from colleagues. *Management Decision*, *59*(12). https://doi.org/10.1108/MD-07-2020-0960

Weng, Q., Latif, K., Khan, A. K., Tariq, H., Butt, H. P., Obaid, A., & Sarwar, N. (2020). Loaded with knowledge, yet green with envy: leader–member exchange comparison and coworkers-directed knowledge hiding behavior. *Journal of Knowledge Management*, *24*(7). https://doi.org/10.1108/JKM-10-2019-0534

West, J., & Bogers, M. (2014). Leveraging external sources of innovation: A review of research on open innovation. In *Journal of Product Innovation Management* (Vol. 31, Issue 4). https://doi.org/10.1111/jpim.12125

Wigfield, A., & Krpathian, M. (1991). Who Am I and What Can I Do? Children's Self-Concepts and Motivation in Achievement Situations. *Educational Psychologist*, *26*(3–4). https://doi.org/10.1080/00461520.1991.9653134

Xiao, M., & Cooke, F. L. (2019). Why and when knowledge hiding in the workplace is harmful: a review of the literature and directions for future research in the Chinese context. *Asia Pacific Journal of Human Resources*, *57*(4). https://doi.org/10.1111/1744-7941.12198

Xie, Q., Li, S., Malik, H. A., Chupradit, S., Chupradit, P. W., & Qadus, A. (2022). Playing-Dumb Behavior of Trainers During Online Streaming and Trainee's Burnout Behavior: Mediating Role of Psychological Disengagement. *Frontiers in Psychology*, *12*. https://doi.org/10.3389/fpsyg.2021.819458

Yan, Z., Wang, T., Chen, Y., & Zhang, H. (2016). Knowledge sharing in online health communities: A social exchange theory perspective. *Information and Management*, *53*(5). https://doi.org/10.1016/j.im.2016.02.001

Ye, L., Zeng, G., & Cao, X. (2020). Open innovation and innovative performance of universities: Evidence from China. *Growth and Change*, *51*(3). https://doi.org/10.1111/grow.12381

Zhang, X., Zhang, Y., Sun, Y., Lytras, M., Ordonez de Pablos, P., & He, W. (2018). Exploring the effect of transformational leadership on individual creativity in e-learning: a perspective of social exchange theory. *Studies in Higher Education*, *43*(11). https://doi.org/10.1080/03075079.2017.1296824

Zhao, H., Liu, W., Li, J., & Yu, X. (2019). Leader–member exchange, organizational identification, and knowledge hiding: The moderating role of relative leader–member exchange. *Journal of Organizational Behavior*, *40*(7). https://doi.org/10.1002/job.2359

Zutshi, A., Creed, A., Bhattacharya, A., Bavik, A., Sohal, A., & Bavik, Y. L. (2021). Demystifying knowledge hiding in academic roles in higher education. *Journal of Business Research*, *137*. https://doi.org/10.1016/j.jbusres.2021.08.030

