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## The Impact of Green Knowledge on Public Interest in Eco-Friendly Gold Management Services: The Mediating Role of Attitude

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**Abstract:** This study investigates the impact of green knowledge on public interest in environmentally friendly gold mining services, with a particular focus on the mediating role of attitudes. Despite widespread concerns about the environmental and health risks associated with mercury use in small-scale gold mining, traditional practices continue to be prevalent due to various socio-economic factors. Using a quantitative approach, data were collected from 143 small-scale gold miners in Situbabakan Village, Lebak Regency, Banten Province, through a structured questionnaire. The study employed Partial Least Squares Structural Equation Modeling (PLS-SEM) to analyze the relationships between green knowledge, attitudes, and purchase intentions. The findings reveal that while green knowledge alone does not significantly influence the purchase intention of gold mining services, it positively affects the attitudes of miners towards environmentally friendly practices. Moreover, the study demonstrates that attitudes significantly mediate the relationship between green knowledge and purchase intention, highlighting the crucial role of psychological factors in promoting sustainable behavior. These results underscore the need for targeted educational interventions that not only increase environmental awareness but also foster positive attitudes toward sustainability. The study concludes that enhancing green knowledge and attitudes could play a vital role in encouraging the adoption of eco-friendly gold mining practices.

**Keyword:** Green Knowledge, Attitude, Intention to Use Gold Mining Services.

### INTRODUCTION

Safeguarding environmental functions is vital for sustaining life on Earth. Recognizing the elements that lead to changes in these functions is equally important. A healthy environment is indispensable for achieving robust economic growth, cultural enrichment, and high-quality human resources. Environmental degradation often hinders human progress towards specific objectives, despite the fact that the environment underpins sustainable human existence and advancement. Consequently, environmental protection has emerged as a global development priority (Jianping et al., 2014). A significant example of environmental harm is water pollution

resulting from small-scale gold mining, such as in the Sekonyer River Basin, Teluk Kayeli, and Batanghari River in Indonesia, where mercury contamination from these activities is prevalent (Fikri et al., 2023). With small-scale gold mining occurring in 850 locations across Indonesia, approximately 1,400 tons of mercury are used annually in the gold extraction process, making this sector the largest consumer of mercury worldwide (Kristianingsih, 2018). This industry, while contributing 12-15% of global gold production, is also a leading source of mercury pollution and provides a livelihood for millions (Pinontoan et al., 2019). The gold separation process relies heavily on mercury amalgamation (Stoffersen et al., 2018).

Mercury, a heavy metal classified as hazardous and toxic waste (B3), poses significant risks to both the environment and human health due to its toxicity and persistence (Lensoni et al., 2023). Under Law Number 32 of 2009 on Environmental Protection and Management, specifically Article 69, the disposal of B3 waste into the environment, including rivers, is strictly prohibited (Lensoni et al., 2023). Discharging mercury into rivers not only contaminates the water but also threatens the health of communities that rely on these water sources for drinking and other essential uses. Despite these dangers, mercury remains widely used in small-scale gold mining (PESK) (Sonata et al., 2021). Traditional miners frequently employ mercury, or quicksilver, in gold processing—a practice that involves crushing gold ore, milling it in trommels (Afrika et al., 2019), and mixing it with mercury to extract gold from other minerals (KLHK, 2017). The amalgam formed is then filtered, separated from the mercury, and heated to produce "sponge gold," with further heating often required to eliminate residual mercury (Maramis et al., 2022).

The use of mercury in Small-Scale Gold Mining (SSGM) is particularly hazardous due to the limited knowledge and primitive technology employed, which result in the release of mercury into the environment, harming ecosystems and human health in surrounding areas (KLHK, 2017). As a safer alternative, cyanide leaching technology has been introduced. This method involves grinding gold ore to a fine powder, then cyanidating it in a tank with a pH adjustment using lime, followed by adsorption with activated carbon (Razak et al., 2023). The gold absorbed by the carbon is subsequently burned, and the resulting ash is smelted with borax at high temperatures (Pino et al., 2019). Cyanide leaching is seen as a more environmentally friendly method compared to mercury, offering gold extraction rates of up to 91%, significantly higher than the 40% yield from mercury (BPPT, 2018). Given the severe impacts of mercury use, the Indonesian government has banned its use in SSGM, providing mercury-free processing facilities and promoting the adoption of cyanidation technology as a safer, more effective alternative (KLHK, 2017). This shift aims to reduce the environmental and health risks associated with traditional gold mining practices while supporting miners in achieving higher yields with lower ecological impact.

Prolonged exposure to mercury poses significant health risks, particularly for communities residing near gold mining areas. In these regions, mercury poisoning tends to be chronic, with residents being seven times more likely to exhibit elevated mercury levels in their hair. Biomarkers, such as urine samples, are invaluable for evaluating mercury exposure, with urine serving as a reliable indicator of acute inorganic mercury exposure. Research by Lensoni et al. (2023) revealed that small-scale gold miners in Kalimantan, Indonesia, exhibited the highest mercury levels in their urine, measuring 5.24 µg/L with creatinine at 1.697 µg/g. These miners use mercury to extract gold through the amalgamation process, during which mercury is evaporated, releasing a substantial amount into the environment. Mercury emissions from active gold processing units are alarmingly high, reaching 173.58 g/m<sup>3</sup>, compared to 33.35 g/m<sup>3</sup> in less active units and 2.54 g/m<sup>3</sup> in inactive ones. The concentration of emissions also varies with the height of the sampling point (Lensoni et al., 2023).

Small-scale gold miners often struggle with limited financial resources, which restricts their access to advanced technology and proper planning, leading to inefficiency and a heavy reliance on mercury. Initiatives like planetGOLD aim to enhance access to formal financing,

enabling miners to adopt more sustainable, environmentally friendly techniques. Schettino et al. (2022) underscore the critical importance of formalizing mining operations in Latin America to ensure sustainability. They emphasize the need for government and international support in implementing best practices that mitigate the adverse environmental and health impacts of mining activities (Schettino et al., 2022).

Government assistance is expected to help miners transition from using mercury to more environmentally friendly technology provided to the community. This aims to increase the economic income of the community while preserving the environment. However, in late January 2022, the Banten Provincial Government found two illegal mercury sellers in Lebak Regency who sold mercury as a chemical for gold production (Iman, 2020). This finding indicates that public interest in using mercury is still high, reflecting the low interest of miners in adopting sustainable, environmentally friendly mining practices. Therefore, it is essential to identify the factors influencing miners' interest in using equipment and materials supporting environmental sustainability.

Previous studies have demonstrated a generally positive relationship between green knowledge and consumer attitudes. For instance, research by Liu et al. (2020), Rahman et al. (2020), and Muliadi et al. (2020). However, Widowati and Raushanfikri (2021) found that increased awareness and understanding of environmental issues positively influenced how consumers perceive eco-friendly products and practices. These findings suggest that the more consumers know about environmental sustainability, the more likely they are to develop favorable attitudes toward green products. However, contrasting evidence from Widowati and Raushanfikri (2021) indicates that this relationship is not always significant, suggesting that other factors may mediate or moderate the impact of green knowledge on consumer attitudes.

Similarly, green knowledge has been found to positively affect purchase intentions. Studies by Wang et al. (2019), Indriani et al. (2019), and Saleh et al. (2020) support the idea that as consumers become more informed about environmental issues, they are more inclined to purchase environmentally friendly products. This suggests that enhancing green knowledge can be a key strategy for encouraging sustainable consumer behavior. Yet, this connection is not universally observed, as Riptiono and Yuntafia (2021) reported no significant relationship between green knowledge and purchase intention, indicating that other variables, such as price sensitivity or brand loyalty, may also play crucial roles in influencing consumer decisions. These mixed findings highlight the complexity of the relationship between green knowledge, consumer attitudes, and purchase intentions, suggesting the need for further research to explore the conditions under which green knowledge effectively drives positive consumer behavior.

Given the outlined problem statement, this study seeks to investigate the key factors that shape public interest and attitudes toward environmentally friendly gold mining services. Specifically, it will explore the influence of green knowledge, pricing, and service innovation on public engagement and perceptions. Furthermore, the research will assess the role of public attitudes as a mediating factor between these variables and the level of interest in sustainable gold mining services. The ultimate goal is to uncover valuable insights that can enhance the adoption of eco-friendly mining practices. These insights will also assist policymakers in crafting effective strategies that promote environmental sustainability and improve community well-being.

## **LITERATURE REVIEW**

### **Theory of Planned Behavior**

The Theory of Planned Behavior (TPB), introduced by Ajzen in 1991, suggests that human behavior is largely rational, driven by the consideration of information and the anticipated outcomes of actions, whether consciously or subconsciously. According to TPB, the strongest predictor of whether an individual will engage in a particular behavior is their intention to do so. This intention is shaped by three key determinants: personal attitudes, social

influences (subjective norms), and perceived behavioral control. Essentially, when an individual has a positive attitude towards a behavior, perceives social approval for it, and feels they have control over performing it, their intention to carry out the behavior strengthens.

Wijayanti and Hartini (2019) further elaborate that TPB illustrates how individuals weigh their decisions and possible outcomes, which then guide their actions. The theory posits that a belief in positive outcomes fosters a favorable attitude toward the behavior, while a belief in negative outcomes does the opposite. Notoatmodjo (2012) expands on this by stating that behavior encompasses all human activities, whether observable or not, as responses to external stimuli.

TPB also emphasizes the importance of considering subjective norms and perceived behavioral control alongside attitudes when predicting behavior. Safitriani and Auliya (2023) suggest that a positive attitude, environmental support, and the perceived ease of performing a behavior collectively enhance an individual's intention to act. TPB builds on the earlier Theory of Reasoned Action (TRA), which was also developed by Ajzen and focuses on the role of attitudes and social norms in shaping behavioral intentions within contexts such as information system technology (Wikamorys & Rochmah, 2017). Waqingah (2019) explains that according to TRA, behavior is directly influenced by intention, which in turn is determined by one's attitude towards the behavior and the subjective norms surrounding it. Furthermore, beliefs about the consequences of the behavior and the normative expectations of significant others are crucial in forming these intentions and, ultimately, the behavior itself (Murtiningsih et al., 2024).

### **Green Knowledge**

The demand for green knowledge has surged in response to escalating environmental challenges (Yu, 2022). As Kotler and Keller (2016) note, purchase intention reflects consumer behavior that indicates a desire to buy or choose a product, driven by factors such as experience, usage, and underlying desires. Green knowledge plays a crucial role in shaping public interest in environmentally friendly gold mining services. When individuals are informed about environmental issues and the impact of human activities on ecosystems, they develop a heightened awareness of the need to preserve the environment. This awareness often leads to a stronger interest in gold mining services that prioritize sustainable and eco-friendly practices.

People who value environmental protection are more inclined to select gold mining services that are committed to minimizing negative environmental impacts and promoting ecosystem sustainability. Moreover, green knowledge can be a catalyst for innovation within the gold mining industry. It encourages companies to implement more environmentally responsible practices, thereby expanding the range of service options that cater to environmentally conscious consumers. This shift not only meets consumer demand but also supports the industry's transition toward more sustainable practices.

Research by Wang et al. (2019), Indriani et al. (2019), and Saleh et al. (2020), reinforces this idea, showing a positive and significant relationship between green knowledge and purchase intention for environmentally friendly products. As consumers become more knowledgeable about environmental issues, their intention to purchase sustainable products and services increases, driving positive changes in industries like gold mining toward more sustainable and responsible operations. Therefore, the hypothesis in this study is as follows:

H1. There is a positive and significant impact of green knowledge on the purchase intention of environmentally friendly gold mining services.

### **Attitude to Use Gold Mining Services**

The demand for green knowledge has surged in response to the pressing environmental challenges of our time (Yu, 2022). In this context, consumer attitudes—formed through the evaluation of products and services, whether viewed favorably or unfavorably—play a crucial role. Green knowledge significantly shapes public attitudes toward environmentally friendly gold mining services. As awareness of environmental issues grows, green knowledge becomes a vital tool for the public to comprehend the profound impact that gold mining activities can have on the environment. This understanding underscores the importance of adopting sustainable practices within the industry.

Informed consumers are more likely to develop positive attitudes toward businesses that prioritize environmental responsibility. Green knowledge equips them with the insights needed to critically assess the sustainability of gold mining services, leading to more informed and conscientious purchasing decisions. As the public becomes more educated about the ecological consequences of traditional mining practices, their preference for companies that employ eco-friendly methods strengthens, driving demand for services that align with sustainable values.

Moreover, green knowledge empowers consumers to advocate for more responsible business practices. By understanding the environmental implications of gold mining, individuals can influence industry standards, pushing for broader adoption of sustainable practices. This shift not only benefits the environment but also enhances the reputation and long-term viability of companies that embrace these principles. In essence, green knowledge serves as a catalyst for both consumer behavior and industry innovation, fostering a market that values and supports environmentally sustainable gold mining practices. Therefore, the hypotheses in this study are as follows:

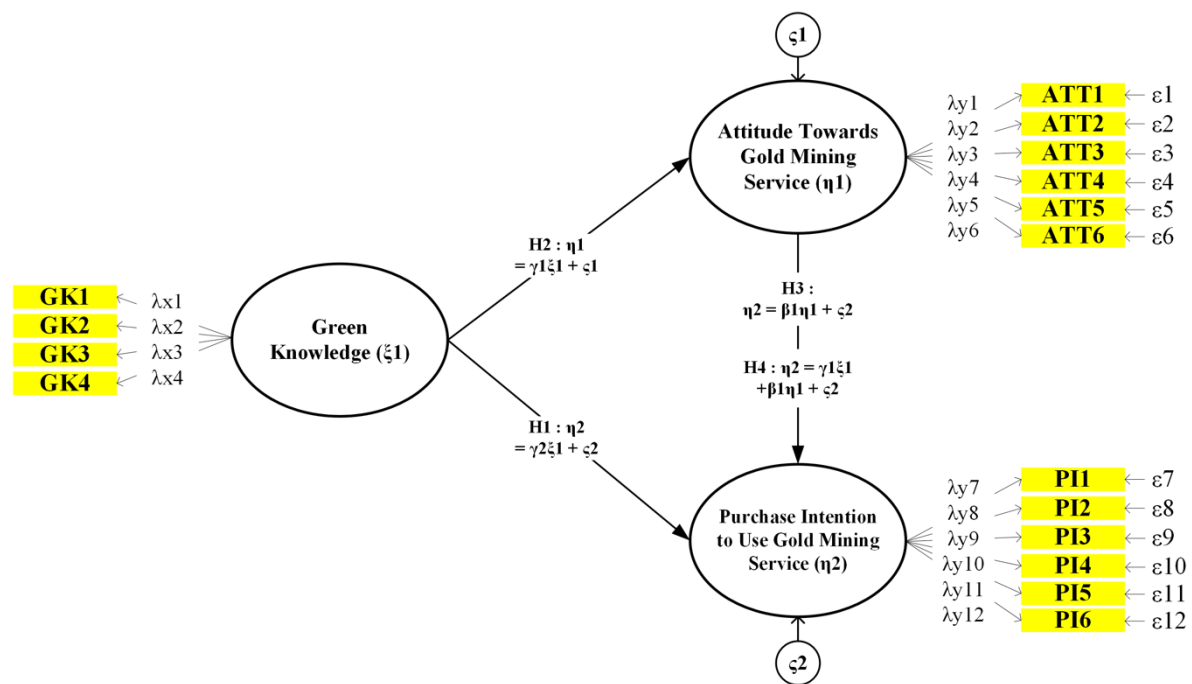
- H2. There is a positive and significant impact of green knowledge on public attitude.
- H3. There is a positive and significant impact of attitude on public purchase intention.
- H4. Attitude mediates the relationship between green knowledge and public purchase

## **METHOD**

### **Research Design**

This study employs a quantitative approach with a causal research design to examine the impact of Green Knowledge on the intention to use gold management services, with Attitude serving as a mediating variable (Figure 1). The research specifically focuses on public interest in environmentally friendly gold management services in Lebak Regency, Banten Province. Data collection was conducted through an online survey, utilizing a structured questionnaire distributed via Google Forms. The survey targeted variables such as Green Knowledge, Attitude, and the intention to use gold management services, with respondents' responses measured on a Likert scale.

To operationalize the variables, established definitions were used, ensuring consistency and clarity in the measurement process. The relationships between these variables were analyzed using the Partial Least Squares (PLS) technique, which is a component of Structural Equation Modeling (SEM) (Ringle et al., 2024). The study's analysis was carried out in two stages: first, evaluating the validity and reliability of the outer model (measurement model) and second, conducting hypothesis testing and mediation analysis within the inner model (structural model). This approach allows for a comprehensive understanding of how Green Knowledge influences consumer intentions, with Attitude acting as a crucial intermediary in the decision-making process.



Source: Research Results  
**Figure 1. Research Model**

Figure illustrates the research model used in this study to explore the relationships between Green Knowledge, Attitude Towards Gold Mining Services, and Purchase Intention to use gold mining services. The study employs a quantitative, causal research design and focuses on understanding the influence of Green Knowledge on Purchase Intention, with Attitude serving as a mediating variable. In the model, Green Knowledge ( $\xi_1$ ) is the independent variable, represented by four indicators (GK1 to GK4). These indicators reflect various aspects of green knowledge that contribute to the overall understanding of environmental issues related to gold mining. Attitude Towards Gold Mining Services ( $\eta_1$ ) is the first dependent variable and mediator in the model, represented by six indicators (ATT1 to ATT6), which measure the respondents' attitudes toward environmentally friendly gold mining practices. Purchase Intention to Use Gold Mining Services ( $\eta_2$ ) is the final dependent variable, represented by six indicators (PI1 to PI6), which assess the respondents' intentions to choose gold management services that align with sustainable practices.

**Unit Analysis**

The study's sample comprised all 143 small-scale gold miners in Situbabakan Village, located in Lebak Regency, Banten Province. The sampling method employed was saturation sampling, which involves including every member of the population in the sample. Sugiyono (2017) refers to this approach as a census, emphasizing its suitability for research with relatively small population sizes. By utilizing saturation sampling, the study aimed to minimize potential errors in generalizing the findings, ensuring that the results accurately reflect the entire population. Saturation sampling is a form of non-probability sampling, meaning that every individual in the population has an equal opportunity to be part of the sample. This method was particularly appropriate in this context, given the limited number of small-scale gold miners in the village. By applying this technique, the study ensured comprehensive coverage of the population, thereby enhancing the reliability and validity of the research outcomes.

**Measurement Item(s)**

Ahmad and Zhang (2020) conceptualise purchase intention as a multi-dimensional construct that predicts the likelihood of consumers opting for green products, comprising three dimensions: Likelihood, which measures the probability and inclination to choose or endorse sustainable products; Desire, which reflects the consumer's motivation and willingness to prioritise green options; and Identification of Need, which denotes the consumer's awareness of and concern for environmental issues. Complementing this, Mubarok (2018) classifies consumer attitudes into Cognitive (beliefs and knowledge), Affective (emotions and feelings), and Conative (intentions and actions), elucidating how attitudes are shaped by an interplay of information, emotions, and behavioural intentions. Furthermore, Amoako et al. (2020) distinguish environmental knowledge into Abstract Knowledge, involving general understanding of environmental issues, and Concrete Behavioural Knowledge, which emphasises actionable steps for sustainability. These frameworks collectively underscore the interconnectedness of purchase intention, consumer attitude, and environmental knowledge, offering a holistic perspective on the determinants that motivate consumers to select sustainable products and adopt environmentally responsible behaviours.

## RESULTS AND DISCUSSION

### Measurement Model Evaluation

Evaluating the measurement model in this study through Partial Least Squares Structural Equation Modeling (PLS-SEM) was a critical step in effectively assessing both validity and reliability. The outer model was instrumental in clarifying the relationships between the indicators and their corresponding latent constructs. Convergent validity was a key focus, with the accepted standard being that outer loadings should exceed 0.70. However, it is also recognized that reflective indicator loadings above 0.50 can be deemed sufficient in certain contexts (Fahmi, Novel, et al., 2022; Putra, 2022). In this study, all items demonstrated outer loadings greater than 0.7, with p-values below 0.05, which provides strong evidence supporting the validity of the indicators (Andriani & Putra, 2019; Putra & Ardianto, 2022).

Additionally, the average variance extracted (AVE) was used to further establish convergent validity. The AVE should exceed 0.5, indicating that the latent variables account for more than half of the variance in their reflective indicators (Putra, 2022; Putra et al., 2020). In this study, the AVE values comfortably surpassed this threshold, reinforcing the robustness of the model's convergent validity. The rigorous approach employed to assess the measurement model using PLS-SEM ensured the precision and reliability of the study's findings (Fahmi, Kostini, et al., 2022; Kasmoo et al., 2018). This thorough validation process underpins the credibility of the research, confirming that the constructs were accurately measured and that the relationships between variables were appropriately represented in the model.

**Table 1. Measurement Model Results**

Variables	Items	Construct Validity							Construct Reliability		
		Loadings	AVE	Cross Loadings					CA	CR	CR
				X1	X2	X3	M	Y			
<b>Green Knowledge (X1)</b>	GK1	0.929	0.866	<b>0.929</b>	0.739	0.771	0.788	0.687	0.948	0.949	0.963
	GK2	0.938		<b>0.938</b>	0.805	0.839	0.833	0.773			
	GK3	0.971		<b>0.971</b>	0.763	0.814	0.816	0.731			
	GK4	0.881		<b>0.881</b>	0.785	0.867	0.815	0.738			
<b>Attitude of Use Gold Mining Service (M)</b>	ATT1	0.879	0.768	0.753	0.756	0.768	<b>0.878</b>	0.819	0.939	0.940	0.952
	ATT2	0.906		0.773	0.793	0.814	<b>0.906</b>	0.828			
	ATT3	0.876		0.783	0.865	0.84	<b>0.878</b>	0.776			
	ATT4	0.865		0.801	0.768	0.814	<b>0.866</b>	0.736			
	ATT5	0.896		0.768	0.786	0.842	<b>0.897</b>	0.782			
	ATT6	0.834		0.719	0.716	0.793	<b>0.832</b>	0.867			

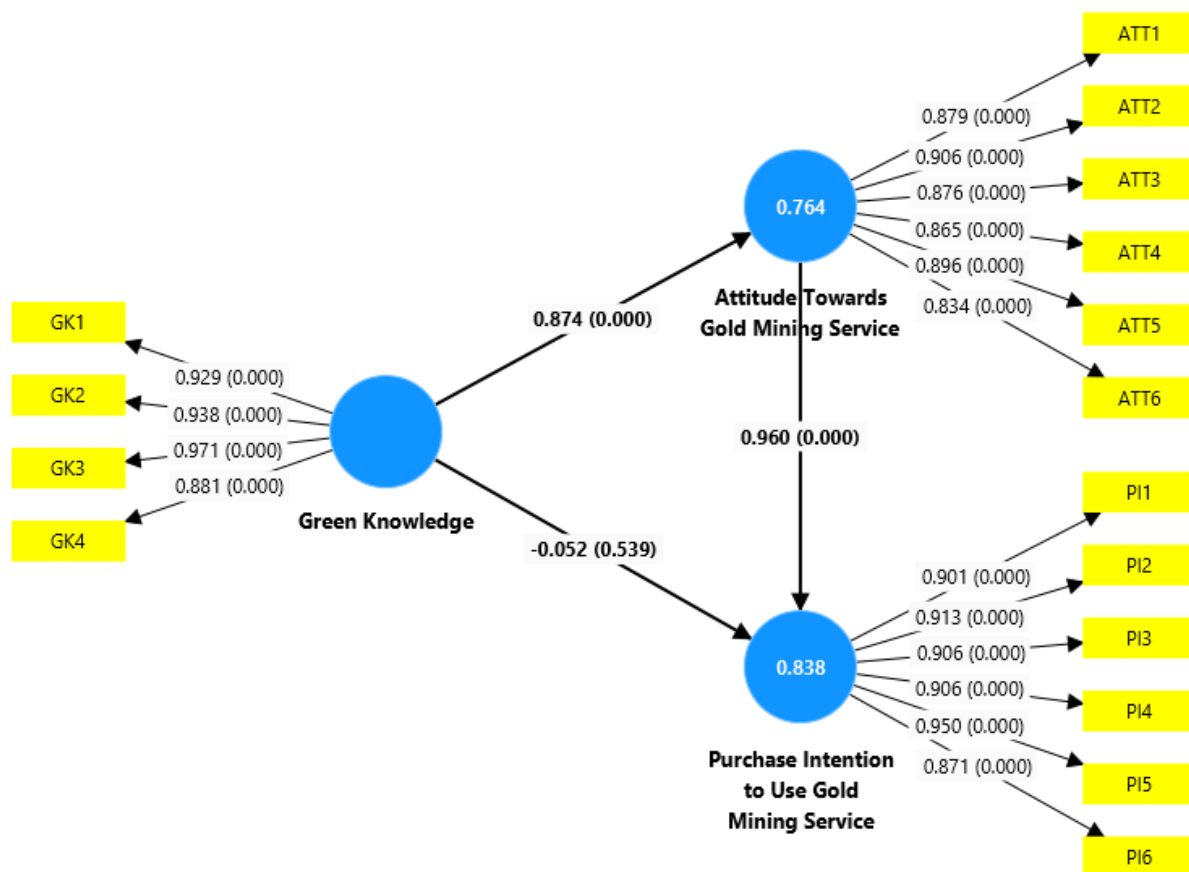
Variables	Items	Construct Validity							Construct Reliability		
		Loadings	AVE	Cross Loadings					CA	CR	CR
				X1	X2	X3	M	Y			
<b>Intention to Use Gold Mining Service (Y)</b>	PI1	0.901	0.824	0.754	0.743	0.819	0.854	<b>0.902</b>	0.957	0.958	0.966
	PI2	0.913		0.747	0.746	0.822	0.85	<b>0.913</b>			
	PI3	0.906		0.705	0.777	0.774	0.808	<b>0.906</b>			
	PI4	0.906		0.64	0.677	0.681	0.786	<b>0.904</b>			
	PI5	0.950		0.692	0.755	0.755	0.821	<b>0.949</b>			
	PI6	0.871		0.746	0.764	0.830	0.852	<b>0.872</b>			

Source: Research data

To evaluate discriminant validity in this study, three methods were employed: the Fornell-Larcker criterion, the Heterotrait-Monotrait ratio (HTMT), and the cross-loading method. The analysis revealed that the square root of the Average Variance Extracted (AVE) for each latent variable was greater than the correlations with other latent variables, indicating satisfactory discriminant validity (Fahmi, Novel, et al., 2022; Rinaldi & Putra, 2022). However, it's important to note that the Fornell-Larcker criterion may sometimes fail to detect certain issues with discriminant validity, which is why the HTMT was also utilized. The HTMT values in this study were all below the critical threshold of 0.85, further confirming that there were no concerns regarding discriminant validity. Reliability was evaluated using Cronbach's alpha and composite reliability. According to established benchmarks, composite reliability should be at least 0.7, and Cronbach's alpha should be 0.6 or higher to ensure adequate reliability (Putra, 2022; Putra et al., 2020). The latent variables in this study met or exceeded these thresholds, affirming the reliability of each construct. This thorough evaluation process, encompassing both discriminant validity and reliability, reinforces the integrity of the study's constructs. Ensuring that these constructs are distinct and reliable is essential for validating the research findings and supporting the overall robustness of the study.

### Structural Model Evaluation

The research findings indicate that the coefficient of determination (R-Square, R<sup>2</sup>) for the Attitude Towards Gold Mining Service construct is 0.885, meaning that the measured exogenous variables can explain 88.5% of the variability in Attitude Towards Gold Mining Service, while factors outside the scope of this study influence the remaining. For the Intention to Use Gold Mining Service construct, R<sup>2</sup> is 0.838, indicating that its exogenous variables explain 83.8% of the variability in Purchase Intention to Gold Mining Service. Furthermore, the higher than zero value of predictive relevance (Q<sup>2</sup>predict) signifies good predictive relevance of the model. Model fitness evaluation using standardized root mean square residual (SRMR) and normed fit index (NFI) criteria by Hu and Bentler (1998), as referenced in Ramayah et al. (2017) and Bentler & Bonett (1980), shows that the model has a good fit. The SRMR value of 0.072 is below the threshold of 0.10 (2014), and the Chi-square value exceeding 0.9 benchmarks confirms the excellent fit of the model tested in this study.



Source: Research Results  
**Figure 2. Bootstrapping Output**

**Hypotesis Testing**

This study focused on analyzing public interest in environmentally friendly gold mining services in Lebak Regency, Banten Province, with hypothesis testing conducted to explore the direct and indirect effects of the variables involved. The testing process included the assessment of path coefficients, T-statistics using bootstrapping procedures, and p-values. According to Hair (2020), path coefficients within the range of -1 to +1 indicate the strength of relationships, with values nearer to +1 or -1 suggesting stronger connections. The bootstrapping method, using 5,000 re-samples, was employed to determine significance, with a hypothesis acceptance threshold set at a T-statistic value of  $\pm 1.96$ .

The results revealed that Green Knowledge did not significantly influence Purchase Intention toward gold mining services, as evidenced by a path coefficient of -0.052, a T-statistic of 0.614, and a p-value of 0.539, leading to the rejection of this hypothesis. However, Green Knowledge demonstrated a strong positive influence on Attitude Towards Gold Mining Services, with a path coefficient of 0.874, a T-statistic of 29.889, and a p-value of 0.000, confirming the significance of this relationship. Furthermore, the study found that Attitude Towards Gold Mining Services had a significant and substantial impact on Purchase Intention, with a path coefficient of 0.960, a T-statistic of 13.153, and a p-value of 0.000.

**Table 2. Hypotesis Testing Results**

Direct Path	Original sample (O)	T statistics ( O/STDEV )	P values	Conclusion
<i>Green Knowledge -&gt; Purchase Intention to Gold Mining Service</i>	-0.052	0.614	0.539	Rejected
<i>Green Knowledge -&gt; Attitude Towards Gold Mining Service</i>	0.874	29.889	0.000	Accepted

Direct Path	Original sample (O)	T statistics ( O/STDEV )	P values	Conclusion
<i>Attitude Towards Gold Mining Service -&gt; Purchase Intention to Gold Mining Service</i>	0.960	13.153	0.000	Accepted
Indirect Path	Original sample (O)	T statistics ( O/STDEV )	P values	Conclusion
<i>Green Knowledge -&gt; Attitude Towards Gold Mining Service -&gt; Purchase Intention to Gold Mining Service</i>	0.839	11.559	0.000	Full Mediation

Source: Research data

In terms of indirect effects, the study confirmed that Attitude Towards Gold Mining Services fully mediates the relationship between Green Knowledge and Purchase Intention to use gold mining services. This was supported by an indirect path coefficient of 0.839, a T-statistic of 11.559, and a p-value of 0.000, indicating full mediation. These findings emphasize the pivotal role of Attitude in mediating the impact of Green Knowledge on Purchase Intention, highlighting the necessity of cultivating positive attitudes towards environmentally friendly practices in the gold mining industry.

### Discussion

This study found that green knowledge does not significantly influence the interest of gold miners in Situbabakan Village, Lebak Regency, Banten Province, in hiring environmentally friendly gold mining services. This result is consistent with Riptiono and Yuntafia (2021), who also reported that green knowledge does not have a direct effect on purchase intention. However, this finding contrasts with the research of Liu et al. (2020), Rahman et al. (2020), and Muliadi et al. (2020), all of whom found that green knowledge does impact purchase intention. Such inconsistency suggests a gap between environmental awareness and actual purchasing behaviour, possibly indicating that other factors—such as cost, accessibility, and local socioeconomic conditions—play a more prominent role in influencing the decisions of these miners.

On the other hand, the study demonstrates that green knowledge has a positive effect on the attitudes of gold miners towards environmentally friendly gold mining services, a result that aligns with the findings of Liu et al. (2020), Rahman et al. (2020), and Muliadi et al. (2020), who also observed a significant effect of green knowledge on attitudes. As further emphasised by Nurlaili and Wulandari (2024), these findings highlight the vital role of education and information in fostering positive attitudes towards sustainability. The results also show that attitude itself is a significant predictor of interest in hiring environmentally friendly services, corroborating the conclusions of Hong and Byun (2021), Simanjuntak et al. (2022), and Maksum et al. (2022) regarding the central role of attitude in shaping purchase intention. Moreover, attitude is shown to mediate the relationship between green knowledge and the interest in adopting environmentally friendly services, suggesting that while knowledge alone may not directly increase interest, it supports the development of positive attitudes, which in turn drive sustainable behaviour. This underlines the importance of well-designed educational initiatives and awareness campaigns that not only deliver information, but also connect knowledge with personal values, emotions, and local norms to effectively encourage the adoption of sustainable practices.

### CONCLUSION

The findings of this study provide important insights into the determinants of public interest in environmentally friendly gold mining services, highlighting the nuanced roles of green knowledge and attitudes. The research demonstrates that while green knowledge does not directly influence the purchase intention of gold miners in Situbabakan Village, it plays a

crucial part in shaping their attitudes toward eco-friendly practices, suggesting that awareness alone is insufficient to alter behaviour but is essential for fostering positive attitudes that can lead to sustainable action.

The results further reveal that attitudes serve as a significant mediator between green knowledge and purchase intention, affirming the psychological impact of attitudes on decision-making processes and echoing previous studies that identify attitude as a robust predictor of behaviour, particularly in the adoption of new sustainable practices. These findings indicate that effective interventions to encourage sustainable gold mining must not only raise environmental awareness but also strengthen positive attitudes through educational programmes that connect knowledge to personal and social values, thereby enhancing the psychological drivers of sustainable behaviour.

For policymakers and practitioners, the full mediation effect of attitude highlights the need to prioritise attitude change in strategies aimed at promoting eco-friendly gold mining, as fostering favourable attitudes increases the likelihood of green purchasing decisions and the adoption of sustainable practices within the industry. Overall, this study advances understanding of how green knowledge and attitudes interact to shape interest in environmentally friendly gold mining services, underscoring the importance of integrating both cognitive and affective elements in the design of interventions, and suggesting that future research should investigate additional mediators or moderators to further elucidate the complex dynamics linking environmental knowledge, attitudes, and behaviour in the context of sustainable gold mining.

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