

CHAPTER V

CONCLUSION

5.1 Conclusion

This study aimed to analyze the influence of Perceived Innovation Characteristics, Attitude, and Perceived Behavioral Control on the intention to adopt green practices among independent coffee shops in Padang City. It also examined whether Attitude mediates the relationship between Perceived Innovation Characteristics and Behavioral Intention. After the data-cleaning process, 30 usable responses were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SmartPLS 4.0.

The measurement model was evaluated before interpreting the structural relationships. Following the indicator refinement process, the final first-stage measurement model retained the indicators that satisfied the required measurement criteria, while the second-stage model was used to represent the higher-order constructs. The final measurement results showed acceptable internal consistency reliability and convergent validity. However, some discriminant-validity diagnostics indicated that several constructs remained relatively closely related. Therefore, the structural findings should be interpreted within the context of the research sample and the diagnostic results of the model.

Based on the results presented in Chapter IV, Perceived Innovation Characteristics was the strongest significant predictor of Attitude and also had a significant positive direct effect on Behavioral Intention. In contrast, Attitude did not have a statistically significant direct effect on Behavioral Intention, Perceived Behavioral Control did not significantly affect Behavioral Intention, and Attitude did not significantly mediate the relationship between Perceived Innovation Characteristics and Behavioral Intention. Thus, the empirical results indicate that the perception of green practices as an innovation is more influential in shaping adoption intention than attitude or perceived behavioral control in the final structural model.

Perceived Innovation Characteristics had a positive and significant direct effect on Behavioral Intention under the predetermined one-tailed testing criterion

($\beta = 0.459$; $t = 1.663$; $p = 0.048$). This indicates that coffee shop decision-makers who perceive green practices as advantageous, compatible with their existing operations, understandable, and capable of producing observable outcomes tend to demonstrate stronger intentions to adopt them. Although the coefficient is positive and statistically significant under the selected one-tailed criterion, the result is relatively close to the significance boundary. Therefore, the relationship should be interpreted cautiously and within the context of the limited sample and the structural-model diagnostics.

Perceived Innovation Characteristics also had a positive and significant effect on Attitude ($\beta = 0.724$; $t = 10.993$; $p < 0.001$). This was the strongest significant structural relationship in the final model. The result indicates that how coffee shop decision-makers evaluate the characteristics of green practices strongly shapes their attitudes toward those practices. When green practices are perceived as beneficial, compatible with existing operations, understandable, and capable of generating observable outcomes, decision-makers tend to develop more favorable evaluations toward their implementation. This finding reinforces the central role of innovation perceptions in the early evaluation of green-practice adoption.

In contrast, Attitude did not have a significant effect on Behavioral Intention ($\beta = 0.298$; $t = 1.123$; $p = 0.131$). Although the coefficient was positive, the p-value exceeded the predetermined 0.05 significance level. Consequently, H3 was not supported. The result suggests that a favorable attitude toward green practices alone was not sufficient to explain differences in adoption intention among the coffee shop decision-makers in this study. In the final structural model, intention appears to be more directly associated with how the green practices themselves are perceived as an innovation rather than with the respondents' general evaluation of those practices.

Similarly, Perceived Behavioral Control did not significantly affect Behavioral Intention ($\beta = -0.083$; $t = 0.283$; $p = 0.388$). The negative coefficient should not be interpreted as evidence that stronger perceived behavioral control reduces adoption intention because the relationship was statistically insignificant. Rather, the finding indicates that perceptions regarding authority, capability,

organizational resources, equipment, technology, and available opportunities did not independently explain Behavioral Intention after Perceived Innovation Characteristics and Attitude were included in the model. This result also suggests that perceived control may become more relevant at the implementation stage than at the stage of forming adoption intention.

The mediation analysis further showed that Attitude did not significantly mediate the relationship between Perceived Innovation Characteristics and Behavioral Intention. The specific indirect effect was positive but statistically insignificant ($\beta = 0.216$; $t = 1.103$; $p = 0.135$). Therefore, H5 was not supported. Although Perceived Innovation Characteristics significantly influenced Attitude, and the indirect coefficient was positive, the effect was not strong enough to establish a statistically significant indirect pathway to Behavioral Intention. Thus, the latest results do not support the conclusion that PIC increases Behavioral Intention through Attitude.

The total effect results provide additional context. The total effect of Perceived Innovation Characteristics on Behavioral Intention was positive and significant ($\beta = 0.675$; $t = 2.762$; $p = 0.003$). This indicates that the overall relationship between innovation perceptions and adoption intention remains meaningful when the direct and indirect pathways are considered together. However, because the indirect effect through Attitude was not significant, the total relationship is primarily associated with the direct contribution of Perceived Innovation Characteristics rather than a statistically established mediating mechanism.

Overall, the structural model explained 52.4% of the variance in Attitude (adjusted $R^2 = 50.7\%$) and 41.0% of the variance in Behavioral Intention (adjusted $R^2 = 34.2\%$). The model also demonstrated positive predictive relevance, with Q^2_{predict} values of 0.468 for Attitude and 0.222 for Behavioral Intention. Taken together, the findings indicate that Perceived Innovation Characteristics is the key explanatory variable in the model, particularly because it significantly shapes both Attitude and Behavioral Intention. The findings should nevertheless be interpreted

as evidence within the participating coffee shops rather than as a basis for broad generalization beyond the study context.

5.2 Implication

The findings provide theoretical and managerial implications for understanding and encouraging the adoption of green practices among independent coffee shops. The theoretical implications explain how the results contribute to Diffusion of Innovation Theory and the Theory of Planned Behavior, while the managerial implications translate the findings of each hypothesis into practical actions for coffee shop decision-makers and supporting stakeholders.

5.2.1 Theoretical Implication

First, the findings provide support for the relevance of Diffusion of Innovation Theory in explaining green-practice adoption among coffee shop decision-makers. Perceived Innovation Characteristics had a positive and significant effect on Behavioral Intention and an even stronger positive effect on Attitude. These findings suggest that the way decision-makers evaluate the characteristics of green practices is important during the innovation adoption process. When green practices are perceived as offering relative advantages, being compatible with existing operations, not being excessively difficult to implement, and producing observable outcomes, decision-makers are more likely to develop favorable evaluations and stronger intentions to adopt them. This finding is consistent with Rogers' (2003) argument that perceived innovation characteristics influence the persuasion and decision processes of innovation adoption.

Second, the stronger PIC → ATT relationship, together with $R^2 = 0.524$ for Attitude, indicates that innovation perceptions are particularly important in explaining how coffee shop decision-makers evaluate green practices. However, the results also show that a favorable Attitude did not significantly translate into Behavioral Intention after the other predictors were included in the model. Similarly, the indirect effect of PIC on BI through ATT was not significant. Therefore, the findings do not support the assumption that innovation characteristics necessarily influence adoption intention through Attitude as a

mediating mechanism in this context. Instead, the results suggest that decision-makers may respond more directly to the practical characteristics and perceived value of the innovation.

Third, the unsupported effect of Attitude provides a contextual implication for the Theory of Planned Behavior. Although TPB identifies Attitude as an important antecedent of Behavioral Intention, the present study did not find sufficient statistical evidence that Attitude independently increased the intention to adopt green practices among the participating coffee shop decision-makers. This does not mean that Attitude is theoretically unimportant. Rather, within this specific model and sample, the practical evaluation of the innovation itself appears to have a more direct role in explaining intention. The result therefore suggests that the formation of a positive attitude alone may be insufficient if decision-makers do not clearly recognize the operational advantages and innovation-related benefits of the green practice.

Fourth, the insignificant effect of Perceived Behavioral Control further demonstrates that perceived authority, resources, capability, opportunity, and external support did not independently explain Behavioral Intention in the final model. This finding provides a contextual boundary for applying TPB to organizational adoption decisions. Resources and control may still be necessary for actual implementation, but their presence alone may not be sufficient to create the initial intention to adopt. Future research could therefore distinguish more clearly between the determinants of adoption intention and the determinants of actual green-practice implementation.

The unsupported relationships in H3, H4, and H5 also provide an important empirical boundary to the commonly assumed role of TPB variables in green adoption research. The findings of Prabowo et al. (2022) similarly showed that Attitude did not significantly predict green entrepreneurial intention, while Timpanaro et al. (2023) found that Perceived Behavioral Control did not significantly predict sustainable innovation intention. In addition, Tang et al. (2022) demonstrated that green consumption Attitude did not directly predict intention and did not function as a significant mediator. Together, these studies indicate that the

explanatory role of Attitude and Perceived Behavioral Control is context-dependent and should not automatically be assumed to be significant across all green-related intention models. In the present study, this reinforces the importance of examining green practices as organizational innovations and considering the characteristics and practical value of the innovation itself when explaining adoption intention.

Finally, the model explained 52.4% of the variance in Attitude and 41.0% of the variance in Behavioral Intention. These results indicate that the integration of innovation-related and behavioral variables provides moderate explanatory value, while also showing that additional factors may influence adoption intention. Future research may therefore expand the model by considering innovation-specific factors such as adoption cost, trialability, observability of business outcomes, customer demand, competitive pressure, organizational readiness, or actual implementation experience. Such development would be particularly relevant because green-practice adoption is not only a behavioral decision but also an innovation adoption process involving changes in business routines and operations.

5.2.2 Managerial Implication

The findings indicate that coffee shop managers should approach green practices primarily as business innovations rather than only as environmental activities. Since Perceived Innovation Characteristics had a significant positive effect on both Behavioral Intention, green practices should be selected and communicated based on their relative advantage, compatibility with existing operations, ease of implementation, and observable outcomes. Management should therefore begin by identifying operational problems such as excessive packaging, food waste, energy use, water consumption, or inefficient inventory, and then select green innovations that can directly address those problems.

In the quick term, approximately one to three months, coffee shops can implement one or two low-cost pilot innovations, such as waste separation, reducing single-use packaging, monitoring electricity and water use, or encouraging reusable tumblers. Each pilot should have a clear target, responsible employee, implementation period, and measurable outcome. The results should then be evaluated in terms of operational benefits, environmental improvement, cost,

employee response, and customer response. This allows managers to observe whether the innovation is actually compatible with their business before expanding it.

In the long term, approximately six months to two years, successful pilot practices should be standardized and incorporated into routine operations through SOPs, employee training, periodic monitoring, and continuous improvement. Coffee shops can gradually expand from simple operational innovations toward product, service, supplier, and partnership innovations. A regular green-innovation scorecard can monitor waste reduction, resource consumption, implementation costs, savings, and customer participation. Although Perceived Behavioral Control was not significant in explaining Behavioral Intention, resources, equipment, knowledge, and external partnerships remain important for maintaining and scaling innovations after adoption decisions have been made.

The findings also suggest that managerial efforts should not rely solely on building positive attitudes toward sustainability. Evidence from Prabowo et al. (2022), Timpanaro et al. (2023), and Tang et al. (2022) shows that positive attitudes and perceived behavioral control do not consistently translate into stronger green intentions across different contexts. Therefore, coffee shop managers should prioritize innovations that demonstrate clear relative advantages, fit existing operations, are simple for employees to implement, and produce observable results. This means that sustainability initiatives should be evaluated not only as environmentally desirable practices but also as operational innovations with measurable cost, efficiency, resource-use, and competitive implications.

Overall, the managerial priority is to create visible evidence that green innovations provide practical value. Rather than introducing many initiatives simultaneously, coffee shops should follow a gradual process of identifying operational problems, testing suitable innovations, evaluating results, standardizing successful practices, and continuously developing new improvements.

5.3 Limitation

First, this study involved 33 respondents from coffee-centric coffee shops in Padang City. Although the study attempted to include all accessible eligible

respondents, the small sample limits the stability of the estimated relationships and restricts the extent to which the findings can be generalized beyond the participating businesses. The results should therefore be interpreted as contextual evidence of independent coffee shops in Padang rather than as a representation of all coffee shops in Indonesia.

Second, the study used a cross-sectional and self-reported questionnaire, so the findings capture respondents' perceptions and intentions at one point in time. This is particularly important because the final results show that Perceived Innovation Characteristics had a significant direct effect on Behavioral Intention, while Attitude and Perceived Behavioral Control did not have significant direct effects. These findings cannot establish whether the same relationships would remain stable when a coffee shop actually begins, maintains, or expands green practices over time.

Third, the dependent variable measured Behavioral Intention rather than actual implementation. Consequently, the study cannot determine whether the reported intention resulted in measurable changes in business operations. For example, the research did not directly measure reductions in packaging use, waste generation, water and electricity consumption, food waste, or operating costs. This creates an important practical gap because green innovation is ultimately valuable when it produces observable operational and environmental outcomes.

Fourth, the final measurement model still showed some overlap among constructs. The HTMT results exceeded the commonly used 0.90 threshold for PIC–PBC (1.015) and Attitude–PBC (0.942), although other evidence such as the Fornell-Larcker results provided partially acceptable separation. This indicates that respondents may perceive some aspects of innovation characteristics, attitudes, and perceived control as closely connected. Therefore, the structural relationships should be interpreted as associations within the present measurement structure rather than as completely independent effects.

Fifth, the research focused on PIC, Attitude, PBC, and Behavioral Intention, while actual innovation adoption can also be influenced by practical business conditions. Factors such as investment capacity, supplier availability, employee

capability, customer demand, regulatory pressure, management commitment, and access to environmentally responsible technologies were not modeled. Their absence means that the study provides a useful explanation of intention formation but does not capture the entire decision environment surrounding green innovation in coffee shops.

5.4 Recommendation

Future research should use a larger sample and broader geographic coverage so that the findings can be tested across different types of coffee shops and business environments. A larger sample would also allow researchers to compare owners, managers, and employees with different levels of decision-making authority and to examine whether business characteristics such as size, age, revenue, and number of employees influence the adoption process.

More importantly, future studies should move from intention-based analysis toward actual green-innovation implementation. Researchers should follow coffee shops over time and record whether proposed innovations are actually introduced and maintained. Indicators can include the percentage reduction in single-use packaging, waste volume, electricity and water consumption, food waste, sustainable-material usage, and operating costs. This would allow future research to determine whether the innovations perceived as attractive in this study produce measurable business and environmental benefits.

The findings also suggest that Perceived Innovation Characteristics should become the central managerial starting point for future green-practice development. Since PIC had a strong positive relationship with Attitude and a significant direct relationship with Behavioral Intention, future research and managerial programs should examine innovation characteristics in greater detail. Green innovations should be evaluated according to their relative advantage, compatibility, simplicity, and observability. For example, a coffee shop could prioritize innovations that reduce waste while also lowering costs, fit existing equipment and workflows, are easy for employees to operate, and generate visible results that can be monitored.

Coffee shops should therefore adopt a staged innovation strategy. In the short term, they can test relatively simple innovations such as waste sorting,

reusable-cup incentives, coffee-ground utilization, inventory monitoring, and energy-saving routines. Successful practices can then be developed in the longer term into broader innovations involving sustainable packaging, energy-efficient equipment, water-saving systems, sustainable sourcing, waste-management partnerships, and redesigned operational processes. Each innovation should be evaluated using clear criteria such as implementation cost, operational compatibility, environmental impact, employee readiness, customer response, and measurable savings before wider implementation.

Finally, future studies should investigate why Attitude and Perceived Behavioral Control did not show significant direct effects on Behavioral Intention in the present model. The findings suggest that simply having a favorable evaluation or perceiving greater control may not be sufficient to generate stronger intention once innovation characteristics are considered. Future research should therefore examine whether factors such as financial readiness, actual organizational capability, customer pressure, employee involvement, supplier constraints, or management commitment better explain the transition from recognizing an attractive innovation to making and executing an adoption decision. This would provide a more practical understanding of how coffee shops move from seeing an innovation as valuable to actually implementing it.

