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The influence of top management green commitment and green intellectual capital on sustainable business performance of Thailand's thrift and credit cooperatives

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ABSTRACT

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This article aims to conceptualize and examine the influence of top management green commitment and green intellectual capital on sustainable business performance of Thailand's thrift and credit cooperatives. Data were collected from a sample of 319 top and middle managers and full-time employees of Thailand's thrift and credit cooperatives and analyzed using Structural Equation Model (SEM). The study's findings demonstrated that top management green commitment and green intellectual capital have a positive influence on sustainable business performance. Top management green commitment and green intellectual capital also have a positive influence on green human resource management. Furthermore, green human resource management has a positive influence on sustainable business performance. Additionally, the novelty of this study is the contribution of green intellectual capital as an intangible resource for organizations integrated with top management green commitment through green human resource management practice to drive an operation in achieving sustainable business performance and a competitive advantage for future researchers. All business sectors can implement this strategy in operation, which may improve their cleaner production and service capacities.

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1. Introduction

Previously, business organizations thought the globe was rich in natural resources that could be used freely and without limits, until forgetting that when these resources were exhausted, it would result in tragedy for humanity (Yusliza et al., 2020) and it has also caused environmental concerns to get more serious by the day, resulting in a terrible worldwide crisis that is one of the major challenges for all business sectors to adapt to survive and thrive (Tran et al., 2022). The business sector should discover more than just a profit from its activities. Nonetheless, it should prioritize environmental concerns and preserve the environment (Bombiak & Marciniuk-Kluska, 2018) due to the obligation to manage the business with caution on environmental concerns to promote and support the organization's great image in highly competitive business conditions (Tang et al., 2018). These occurrences contribute to the sustainability of corporate efficiency in achieving economic, societal, and environmental success goals (Bombiak & Marciniuk-Kluska, 2018). The issue of sustainable business performance has received widespread attention, requiring all business sectors to innovate and proactively apply it to their operations to decrease the environmental damage caused by human activity. Furthermore, it aspires to gain profit while simultaneously improving people's quality of life in society (Ray & Grannis, 2015; Yusliza et al., 2020). Consequently, organizations must innovate appropriate strategies to deal with changing environmental trends and sustainable business practices, urgently needed and required for all organizations to drive their business concretely (Ray & Grannis, 2015). Numerous studies have explored environmentally friendly management practices that promote operational efficiency. These practices include green innovation (Aboelmaged & Hashem, 2019), green human resource management (Zaid et al., 2018), green supply chain management (Jabbour & de Sousa Jabbour, 2016), green purchasing (Zhang et al., 2018) as well as the development of carbon reduction

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technologies (Ma et al., 2019). Then Chen (2008) proposed that green intellectual capital was the sum of all intangible resources managed and was another interesting strategy for preserving and protecting the environment because green intellectual capital was not only responding to environmental management but could also create sustainability for all business sectors (Chen, 2008; Yaseen et al., 2016). Furthermore, it was a crucial mechanism proper for organizations that did not rely on intangible resources as the core factor of their business operations (Yusoff et al., 2019).

However, academic research on green intellectual capital strategies is still in its early stages because it is the most sensible approach for improving a business's performance and gaining a sustainable competitive advantage. Previous research examining the relationship between green intellectual capital on business performance has been widely published in the context of the tourism and hospitality industries (Dang & Wang, 2022; Haldorai et al., 2022) manufacturing industry (Mansoor et al., 2021; Yusliza et al., 2020), and information technology industry (Wang & Juo, 2021). However, there were just a few implementations of green intellectual capital to measure performance in the context of financial business (Ali et al., 2021), particularly in Thailand has been still a trace amount of research applying green intellectual capital strategies to assess the organization's performance in many industries (Jirakraisiri et al., 2021). Consequently, thrift and credit cooperatives are Thailand's micro-financial institutions that drive the economy and society. If the thrift and credit cooperatives' business operations are successful, it will increase the organization's wealth and repay the cooperatives' members in proportion to their business. Therefore, it can infer that top management and green intellectual capital are essential components that efficiently lead to an organization's success. Unfortunately, the thrift and credit cooperative business sector lacks knowledge and comprehension of integrating green intellectual capital with environmentally friendly practices to promote business sustainability. Therefore, this article examines the influence of top management green commitment and green intellectual capital of Thailand's thrift and credit cooperatives on sustainable business performance. The article's findings on top organizational management can be used to prescribe guidelines for an organization's operations development and knowledge management to achieve maximum benefits and efficiency. The ultimate goal of achieving economic, social, cultural efficiency and sustainability are accomplished by promoting a collaborative culture of sharing knowledge among employees and not ignoring environmental issues.

2. Literature Review

2.1 Resource-Based View Theory (RBV)

This article focuses on the resource based view theory, initially proposed in the early 1980s and gained popularity in the 1990s (Barney, 1991; Barney et al., 2001; Wernerfelt, 1984). It played an essential role in causing scholars to concentrate more on strategic research in resource management (Wright et al., 1994). According to the resource-based view theory, an organization must be composed of valuable, rare, imperfectly imitable, and non-substitutable resources to generate and maintain a competitive advantage over competitors (Hoskisson et al., 1999) by enhancing the organization's strengths and resolving its weaknesses within the constraints of the organization's resources (Barney, 1991), whether from the physical, human, and organizational capital help develop capacity-creating strategies and increased organizational efficiency (Barney, 1991). Moreover, it could assist an organization in achieving sustainable business performance.

2.2 Top Management Green Commitment (TMGM)

An organization's commitment to implement an ecologically friendly work process must begin with top management's commitment because its top management has a vital role in responding and considering utilizing its existing resources to accomplish its strategic objectives. Additionally, Kassar and Singh (2019) found that top management commitment advocated a transformation, supported employee efforts, and conveyed environmental information that was an essential mechanism to the success of environmental management initiatives. Top management green commitment teams frequently discover possible advantages and market possibilities that help the organization accomplish its operational goals (Haldorai et al., 2022).

2.3 Green Intellectual Capital (GIC)

Green intellectual capital comprises three components that are a critical driving force in value-added creation and operational efficiency for the business, namely (1) green human capital refers to the skills and information that people gain while working for an organization (Bontis, 1998) such as education, experiences, attitudes, knowledge, professional skills, psychological capacities, abilities, and creativity altogether toward environmental protection. According to a study by Wright et al. (1994) found that also having robust human capital benefits companies significantly since it not only provides value creation for the organization but other rivals cannot imitate it, (2) green structural capital refers to an organization's intangible constructions, such as its organizational structure, management philosophy, corporate governance, patents, intellectual property, information systems and technology, performance indicators, procedures and manuals, databases, and technological state that demonstrates environmental concerns or green innovation within the company. Furthermore, (3) green relational capital refers to intangible assets of the firm based on the relationship between the organization and its suppliers, consumers, green innovation, network members, and partners about corporate environmental management to gain a competitive advantage.

2.4 Green Human Resource Management (GHRM)

Previous research has shown that organizations with adequately motivated personnel as a consequence of human resource management practices achieve organizational efficiency (Haldorai et al., 2022). Therefore, green human resource management

is an approach that motivates and drives employees' work. Furthermore, Yusoff et al. (2020) indicated that green human resource management practices such as “green recruiting and selection”, “green training”, “green performance assessments”, and “green compensation” were crucial strategies for enhancing an organization's performance.

2.5 Sustainable Business Performance (SBP)

Currently, sustainability has become a critical issue for many organizations due to environmental, legal, and societal pressures on organizational social and environmental responsibility. Therefore, all organizational leaders are concentrating more on sustainability. Furthermore, for many organizations, sustainability has become an essential business strategy and aim (Amjad et al., 2021). By the way, social sustainability is directly related to the context of the people, which focuses on the fair distribution of opportunities to fellow human beings, including minimizing problems related to education, health, economic disparity, and poverty (Aggerholm et al., 2011). In addition, it leads to the ultimate goal of sustainability, which indicates that business success is not measured only in financial terms such as profit and return on investment but also in both social and environmental dimensions (Amjad et al., 2021; Gardberg & Fombrun, 2006)

2.6 Hypotheses and Model Development

Few studies have investigated the relationship between top management green commitment and sustainable business performance. However, mainly only examine the relationship between top management green commitment and the organization's environmental performance (Haldorai et al., 2022; Spencer et al., 2013) because top management impacts employee behavior and enhances the organization's environmental performance. As a result, top management green commitment drives environmental performance, contributing to sustainable business performance. Therefore, it can be hypothesized that:

H₁: *Top management green commitment has a positive influence on sustainable business performance.*

Green intellectual capital is a valuable resource that drives wealth creation (Bontis, 1998) and is essential for increasing organizational efficiency (Haldorai et al., 2022). There are three types of green intellectual capital, namely: (1) green human capital, (2) green structural capital, and (3) green relational capital. For the vital purpose of managing the organization's environment and creating environmentally friendly innovations to generate the positive business outcome for the organization (Chen, 2008). According to a literature review of the past, green intellectual capital had a positive influence on sustainable business performance because intellectual capital generated from organizational intangible assets could indicate that employees' skills, competence, commitment, and creativity were essential mechanisms for sustaining an organization's performance (Yusliza et al., 2020). Therefore, it can be hypothesized that:

H₂: *Green intellectual capital has a positive influence on sustainable business performance.*

Top management is regarded as an organization's senior member who prescribes environmental strategies as a guideline for all workers to make the most excellent use of the organization's resources to minimize the impact on the environment (Haldorai et al., 2022) and considers that all organization's member has responsibility for the utilization of organizational resources as well as raising employee's awareness to the importance and not being ignorant of environmental issues. Therefore, top management involvement is essential to achieve the organization's strategic goals (Yusliza et al., 2019). Whenever top management commits to solving environmental issues, policies and strategies or practices must be formulated through the human resources management department to raise awareness and encourage employees to implement them. Similarly, Yusliza et al. (2019) and Haldorai et al. (2022) asserted that top management green commitment positively influenced green human resource management because green human resource management improved the organization's operational efficiency by providing support and training. Therefore, it can be hypothesized that:

H₃: *Top management green commitment has a positive influence on green human resource management.*

Green intellectual capital is an intangible resource generated by an organization through the talents of its employees. It is also regarded as a resource with tremendous potential and the possibility to provide enormous value to the organization in the future (Haldorai et al., 2022). In addition, it is a strategic practice associated with human resource management practices (Ali et al., 2021; Yong et al., 2019) because it is an intangible asset of an organization that assists in decision-making and the optimization of human resource operations (Inkinen, 2015). However, a resource-based view theory perspective indicates that the relationship between organizational intangible resources, such as green intellectual capital, tends to support and promote the organization's green human resource management practices. Similarly, Haldorai et al. (2022) and Yusoff et al. (2020) asserted that a balance of green human capital, green structural capital, and green relational capital led to improved operational efficiency through green human resource management practices. Therefore, it can be hypothesized that:

H₄: *Green intellectual capital has a positive influence on green human resource management.*

In summary, green human resources management practices include various activities intended to encourage and improve the behavior of employees in the organization concerned with environmental issues. Green human resources management is also an important driving force in assisting organizations by enhancing operational efficiency, reducing cost, and achieving superior sustainable performance. A review of the previous literature demonstrated that green human resource management practices were a vital driving force that led to the organization's sustainable performance (Amjad et al., 2021; Malik et al., 2020; Zaid et al., 2018). Therefore, it can be hypothesized that:

H₅: *Green human resource management has a positive influence on sustainable business performance.*

The suggested research conceptual model constructed is illustrated in Fig. 1 based on the study's research objectives, literature review, and creation of the hypotheses.

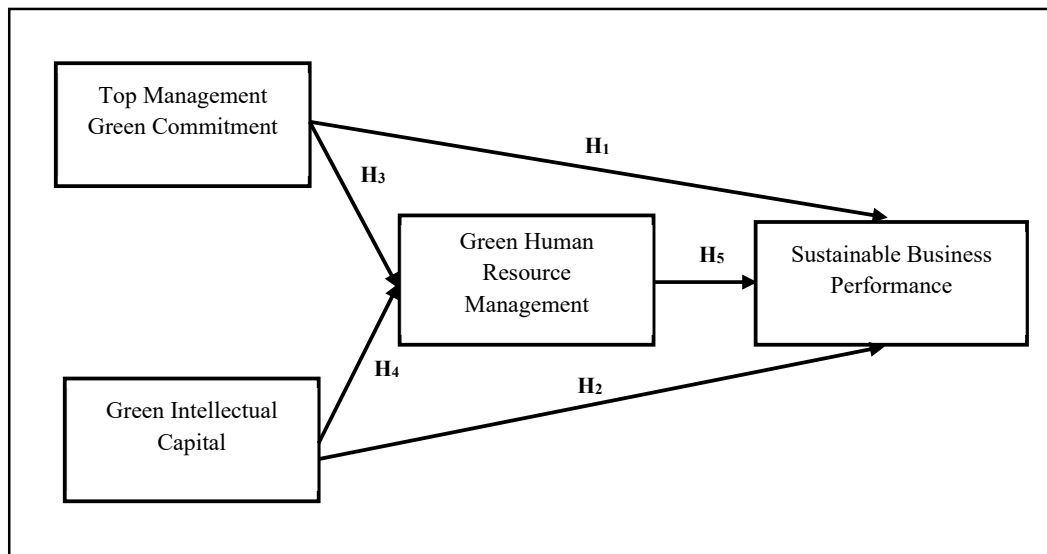


Fig. 1. The conceptual model constructed in this study

3. Research Methodology

This article is a cross-sectional quantitative study that collected data through online questionnaires. The aim is to examine the influence of top management green commitment and green intellectual capital on sustainable business performance of Thailand's thrift and credit cooperatives. The following are the steps for conducting research:

3.1 Sample and Data Collection

The population and sample for this study were both top and middle managers, as well as full-time employees who met the following criteria: they were involved in the adoption of green practices, had knowledge of the environmental performance of their organization, and had a minimum of one year of work experience in an organization of Thailand's thrift and credit cooperatives who determined numerous operational policies and strategies to ensure the organization's sustainable performance.

This study data was collected from February to March 2023. A total of 331 participants responded; however, 12 were incomplete, with the remaining 319 participants representing 96 percent, deemed extremely excellent (Baruch, 1999). This amount was adequate for data analysis and hypothesis testing using the Structural Equation Model (SEM) (Wang & Juo, 2021). The author chose the samples at random without relying on probability using the Purposive Sampling Method.

3.2 Scale Development

A questionnaire developed from a previous study was used as a measuring instrument. The author improved and translated it into Thai so the respondents could readily understand it. The question of the influence of top management green commitment and green intellectual capital on sustainable business performance of Thailand's thrift and credit cooperatives had four dimensions. The first component, top management green commitment, contained four items developed from Yusliza et al. (2019) and six items of green intellectual capital were developed from Haldorai et al. (2022) and Yusliza et al. (2019). Eight items of green human resource management were developed from Haldorai et al. (2022) and Yusliza et al. (2019), whereas eight items of sustainable business performance were developed from Chow and Chen (2012). All measures were defined on a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

3.3 Statistics and Data Analysis

The data in this study were examined using descriptive statistics to define the respondents' characteristics and opinion levels. Confirmatory Factor Analysis (CFA) was used in this study to evaluate the suitability and validity of the structural equation model, which was then investigated with Structural Equation Model (SEM) for hypothesis testing.

3.4 Measurement Model Analysis

The author used a panel expert review approach to determine whether the contents were appropriate and comprehensive. Cronbach's alpha coefficients with values greater than 0.70 were chosen for reliability analysis (Hair et al., 2017). The

Composite reliability (CR) should exceed 0.70, and the average extracted variance (AVE) should be greater than 0.50 (Hair et al., 2014). Furthermore, it examined discriminant validity using the square root approach of the average variance extract of the latent variable (Hair et al., 2017) to demonstrate the ability of variables in each measurement model that could only measure components of its measurement model.

4. Results

Testing of Model Suitability

Confirmatory factor analyses (CFA) were performed to first examine the fitness of the reliability test, and then to analyze the constructs' reliability and validity. When assessing the Chi-squared for overall fit evaluation (χ^2/df), the obtained result was 1.306 (<5), the Comparative Fit Index (CFI) was 0.991 (>0.95), and the Goodness of Fit Index (GFI) was 0.935 (>0.90), Root Mean Square Error of Approximation (RMSEA) was 0.031 (<0.06), and the Standardized Root Mean Square Residual (SRMR) was 0.047 (<0.05). The loading analysis proved satisfactory, with values ranging from 0.720 to 1.150 (Hair et al., 2016). The results revealed that the Confirmatory Factor Analysis was extremely high. In addition, Cronbach alpha values ranging from 0.927 to 0.940 assert that the data examined were excessively reliable. The average variance extracted (AVE) and composite reliability (CR) for each variable were determined to assess convergent validity, showing that the average variance extracted was 0.695 - 0.820 greater than 0.50, and the composite reliability was 0.932 - 0.951 greater than 0.70, which were both acceptable and demonstrated that convergent validity is acceptable. As shown in Table 1.

Table 1

Factor loadings, validity and reliability and of the Questionnaire

Dimensions and manifest variables	Factor Loading	AVE	CR
Top Management Green Commitment Cronbach Alpha = 0.927		0.820	0.948
Environmental preservation is a high priority for top management.	1.05		
Top management devotes appropriate resources to environmental projects.	0.99		
Top management follows up on proposals to increase environmental protection.	1.02		
Top management is driving the environmental action plan.	1.00		
Green Intellectual Capital Cronbach Alpha = 0.931		0.695	0.932
Employees' capacity to preserve the environment is superior to that of other organizations.	1.15		
Employees' goods or services are more ecologically friendly than other organizations.	1.12		
Organization's capacity to provide more ecologically friendly products/services than other organizations	1.08		
A knowledge-management system of environmental management is advantageous for collecting environmental management knowledge.	1.06		
The organization creates goods or services that satisfy members' environmental needs.	1.11		
The organization has a positive connection with its corporate partners regarding environmental protection.	1.00		
Green Human Resource Management Cronbach Alpha = 0.940		0.711	0.951
The organization is diligent in hiring and selecting staff primarily concerned with environmental attitudes and knowledge.	0.72		
Applicants will be questioned using cleverly designed questions. It focuses on attitudes, knowledge, and environmental concerns.	0.81		
All employees undergo environmental training from the organization.	1.05		
Employees in an organization who have received ecology training can utilize their environmental knowledge in everyday operations.	1.00		
All employees are required to follow environmental aims and objectives.	1.04		
Evaluate performance as a result of participation in environmental management.	1.07		
Employees who achieve or exceed environmental goals will get bonuses or other incentives.	0.98		
Employees who take the initiative to solve environmental challenges will be rewarded individually and as a team.	1.00		
Sustainable Business Performance Cronbach Alpha = 0.939		0.701	0.949
The organization minimizes energy use.	1.00		
The organization's products/services have such a decreased environmental effect.	0.93		
The organization earns money by selling waste/unused things.	0.92		
The organization works with government authorities to preserve the cooperative's interests.	0.97		
The organizations invest in technologies that could be utilized in other business areas.	0.90		
The organization cares about the health and safety of its members.	0.91		
The organization considers the interests of stakeholders by drafting a signed contract.	0.91		
The organization funds local community efforts.	0.95		

The squared correlation between latent variables and average variance was also used to measure discriminant validity in this study. Regarding discriminant, demonstrated that all values of square roots of AVE were higher than all correlation coefficients between variables. Therefore, the measurement model is discriminant validity (Fornell & Larcker, 1981). As shown in Table 2.

Table 2

Descriptive statistics and correlation matrix

Variable	GHRM	GIC	SBP	TMGM
GHRM	0.68			
GIC	0.64	0.78		
SBP	0.53	0.73	0.78	
TMGM	0.50	0.55	0.59	0.87

The results of the structural model analysis to examine the relationship between top management green commitment, green intellectual capital, green human resource management, and sustainable business performance indicate that all four overall fit indices values having passed the accepted criteria of $\chi^2/df = 1.306$, CFI = 0.991, GFI = 0.935, RMSEA = 0.031, and SRMR = 0.047, which means the model was consistent with the empirical data (Byrne, 2016), as shown in Fig. 2.

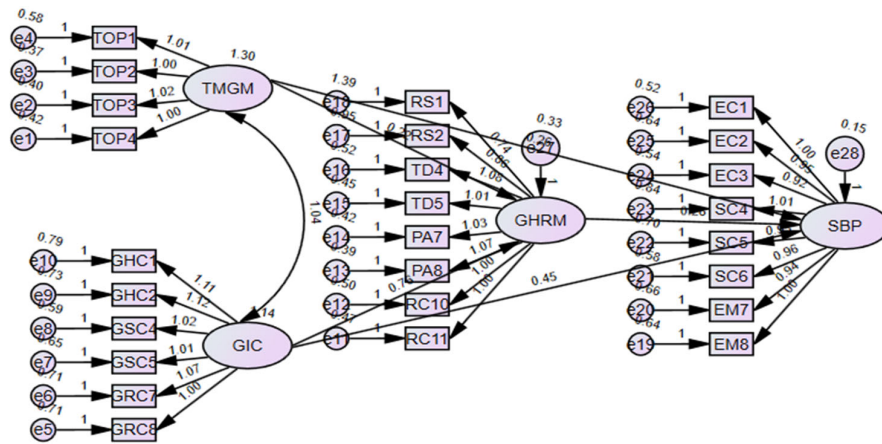


Fig. 2. Analysis of the SEM model

Table 3 depicts the hypothesized relationships between the constructs tested using a structural equation model, demonstrating that TMGM (H1; $\beta = 0.280$) and GIC (H2; $\beta = 0.418$) have a positive influence on SBP, H1, and H2 were supported. The positive influence of TMGM (H3; $\beta = 0.329$) and GIC (H4; $\beta = 0.578$) on GHRM were confirmed. In addition, the relationship of GHRM (H5; $\beta = 0.292$) has a positive influence on SBP and was also verified. Thus, the t-values of H1, H2, H3, H4, and H5 are more than 1.96, suggesting that these hypotheses are significant at the 1% level. These theories were so validated.

Table 3

The outcomes of hypotheses testing

Hypothesis	Beta value	t - value	P - value	Decision
H1	0.280	4.208	0.000	Supported
H2	0.418	5.293	0.000	Supported
H3	0.329	4.128	0.000	Supported
H4	0.578	6.821	0.000	Supported
H5	0.292	4.482	0.000	Supported

5. Discussion

The article examines the influence of top management green commitment and green intellectual capital on sustainable business performance of Thailand's thrift and credit cooperatives. Therefore, it can summarize and discuss the findings regarding the following research aim:

The finding found that top management green commitment has a significant influence on sustainable business performance at the 0.001 level, demonstrating that the top management team has a strong commitment and vision of environmental issues that is committed to monitoring the environmental activities of its organization. Hence, their commitment is necessary to achieve an organization's strategic goals and can improve its performance by not working to anticipate short-term earnings. In addition, establishing a robust foundation for Thailand's thrift and credit cooperatives' operation based on cooperative governance principles will result in sustainable operational efficiency in providing economic, social, and environmental benefits. This result is also in line with the findings of Jahanshahi and Brem (2017) that top management teams are crucial in developing policies and strategies for sustainable business performance. Especially when management teams collaborate and share information to promote social responsibility within and beyond the organization without sacrificing the well-being of the organization's employees and operate the business in a manner that has no negative impact on the environment or society. In addition, to generate products and services ethically and engage in fair trade with suppliers. These empirical findings were critical in driving the organization's performance toward sustainability.

Green intellectual capital has a significant influence on sustainable business performance at the 0.001 level, indicating that the balance of green intellectual capital is essential for Thailand's thrift and credit cooperatives. However, employee competency is a crucial driving factor in resolving environmental concerns and lowering energy consumption in the

organization. Especially employees' knowledge, talents, skills, attitudes, organizational culture, innovations, technology, databases, and relationships with the cooperative's members and stakeholders are not only essential for environmental conservation but can also contribute to increasing the organization's economic, social, and environmental efficiency. This is consistent with Yusoff et al., (2019) and Yusliza et al. (2020) assertion that green intellectual capital composed of the organization's employees' skill, knowledge, and competence primarily would provide an organization with a competitive advantage that tends to promote economic, society, and the environment efficiency. Consistent with the resource-based perspective theory, which asserts that organizational efficiency is related to intangible resources.

Top management green commitment has a significant influence on green human resource management at the 0.001 level, assertion that the green commitment of top management is one of the essential competencies of Thailand's thrift and credit cooperatives that assist in developing and promoting environmental management practices. The top management is responsible for setting the direction of the human resources department, one of the organization's departments. If top management realizes the necessity of environmental efficiency, this leads to deploying green human resource management practices to protect the organization's environmental results. This finding is aligned with the results of a previous study by Yusliza et al. (2019) and Haldorai et al. (2022), showing that green human resource management was promoted when the high commitment was one of the most common human resource management practices. Furthermore, top management might influence and spread green human resource management practices to employees at all levels of the business through behavioral expressions and positive role models for employees to perform work that improves the company's environmental quality.

Green intellectual capital has a significant influence on green human resource management at the 0.001 level, demonstrating that green intellectual capital is an essential intangible asset since it is not only the resource that creates Thailand's thrift and credit cooperatives' competitiveness, but thrift and credit cooperatives may also use a total of knowledge to establish proactive strategies for creating operational processes for achieving sustainable business performance goals. It also is accomplished through green human resource management support, which encourages employees to be environmentally conscious. Consistent with previous research by Haldorai et al. (2022) and Ali et al. (2021), the findings indicated that green intellectual capital was a crucial driving factor in human resource management; for example, if the employee in an organization's had good environmental knowledge, it could be communicated to employees at all levels. More experienced employees could help the human resource management department's activities, including establishing organizational culture and connections with stakeholders, since it increases the organization's competitiveness, which means green human resource management practices could lead to sustainable business efficiency.

Green human resource management has a significant influence on sustainable business performance at the 0.001 level, illustrating that green human resource management strategy is essential for improving Thailand's thrift and credit cooperatives' operating effectiveness, and it plays a crucial role in raising employee understanding of environmental concerns. The more opportunities an organization provides for employees to participate in formulable strategies to enhance operations, the more influential the organization's sustainable operations will be. This finding is aligned with the results of a previous study by Abbas et al. (2022) and Zaid et al. (2018), showing that green human resource management was a critical strategy for transforming organizational employees' behavior and values into superior resources. The organization used different and valuable resources to create business strategies and optimize sustainable operations. On the other hand, if an organization did not have a green human resource management procedure in place, it would result in a lack of readiness for employees to perform tasks and might be a considerable impediment to the organization's sustainable goal.

6. Conclusions

The findings of this study have enriched the existing knowledge on establishing more significant levels of business sustainability in Thailand's thrift and credit cooperatives sector. The importance of top management green commitment and green intellectual capital are crucial driving factor in assisting the cooperatives sector in achieving sustainable business performance because there are more than just a resource that can be used as a strategy to enhance competitiveness but has been discovered that green intellect capital is a crucial aspect to extend beyond environmental concerns, it is also related to economic and social performance. Therefore, the thrift and credit cooperative's top management should adopt policies to promote and enhance the organization's intellectual capital through green human resource management practices to coach employees and provide frequent advice on environmentally friendly procedures. Moreover, to integrate the organization's green intellectual capital to capitalize on opportunities for value-added creation and superior competitiveness. However, Top management must realize pollution regulations and diligently adhere to them to lead the organization to become a green organization.

References

- Abbas, Z., Sarwar, S., Rehman, M. A., Zámečník, R., & Shoab, M. (2022). Green HRM promotes higher education sustainability: A mediated-moderated analysis. *International Journal of Manpower*, 43(3), 827–843.
- Aboelmaged, M., & Hashem, G. (2019). Absorptive capacity and green innovation adoption in SMEs: The mediating effects of sustainable organisational capabilities. *Journal of Cleaner Production*, 220, 853–863.
- Aggerholm, H., Esmann Andersen, S., & Thomsen, C. (2011). Conceptualising employer branding in sustainable organisations. *Corporate Communications: An International Journal*, 16(2), 105-123.

- Ali, M., Puah, C.-H., Ali, A., Raza, S. A., & Ayob, N. (2021). Green intellectual capital, green HRM and green social identity toward sustainable environment: A new integrated framework for Islamic banks. *International Journal of Manpower*, 43(3), 614–638.
- Amjad, F., Abbas, W., Zia-UR-Rehman, M., Baig, S. A., Hashim, M., Khan, A., & Rehman, H.-. (2021). Effect of green human resource management practices on organizational sustainability: The mediating role of environmental and employee performance. *Environmental Science and Pollution Research*, 28(22), 28191–28206.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99–120.
- Barney, J., Wright, M., & Ketchen, D. J. (2001). The resource-based view of the firm: Ten years after 1991. *Journal of Management*, 27(6), 625–641.
- Baruch, Y. (1999). Response Rate in Academic Studies-A Comparative Analysis. *Human Relations*, 52(4), 421–438.
- Bombiak, E., & Marciniuk-Kluska, A. (2018). Green Human Resource Management as a Tool for the Sustainable Development of Enterprises: Polish Young Company Experience. *Sustainability*, 10(6), 1739.
- Bontis, N. (1998). Intellectual capital: An exploratory study that develops measures and models. *Management Decision*, 36(2), 63–76.
- Byrne, B. M. (2016). *Structural Equation Modelling with AMOS: Basic Concepts, Applications, and Programming* (3rd ed.). New York: Routledge.
- Chen, Y.-S. (2008). The Positive Effect of Green Intellectual Capital on Competitive Advantages of Firms. *Journal of Business Ethics*, 77(3), 271–286.
- Chow, W. S., & Chen, Y. (2012). Corporate Sustainable Development: Testing a New Scale Based on the Mainland Chinese Context. *Journal of Business Ethics*, 105(4), 519–533.
- Dang, V. T., & Wang, J. (2022). Building competitive advantage for hospitality companies: The roles of green innovation strategic orientation and green intellectual capital. *International Journal of Hospitality Management*, 102, 103161.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39–50.
- Kassar, A.-N., & Singh, S. K. (2019). Green innovation and organizational performance: The influence of big data and the moderating role of management commitment and HR practices. *Technological Forecasting and Social Change*, 144, 483–498.
- Gardberg, N. A., & Fombrun, C. J. (2006). Corporate Citizenship: Creating Intangible Assets Across Institutional Environments. *Academy of Management Review*, 31(2), 329–346.
- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications
- Hair, J., Hult, T., Ringle, C. and Sarstedt, M. (2017), *A Primer on Partial Least Squares Structural Equation Modeling*, 2nd ed., Sage, Thousand Oakes, CA.
- Haldorai, K., Kim, W. G., & Garcia, R. L. F. (2022). Top management green commitment and green intellectual capital as enablers of hotel environmental performance: The mediating role of green human resource management. *Tourism Management*, 88, 104431.
- Hoskisson, R. E., Hitt, M. A., Wan, W. P., & Yiu, D. (1999). Theory and research in strategic management: Swings of a pendulum. *Journal Of Management*, 25(3), 40.
- Inkinen, H. (2015). Review of empirical research on intellectual capital and firm performance. *Journal of Intellectual Capital*, 16(3), 518–565.
- Jabbour, C. J. C., & de Sousa Jabbour, A. B. L. (2016). Green Human Resource Management and Green Supply Chain Management: Linking two emerging agendas. *Journal of Cleaner Production*, 112, 1824–1833.
- Jahanshahi, A. A., & Brem, A. (2017). Sustainability in SMEs: Top Management Teams Behavioral Integration as Source of Innovativeness. *Sustainability*, 9(10), 1899.
- Jirakraisiri, J., Badir, Y. F., & Frank, B. (2021). Translating green strategic intent into green process innovation performance: The role of green intellectual capital. *Journal of Intellectual Capital*, 22(7), 43–67.
- Ma, L., Liu, Y., Zhang, X., Ye, Y., Yin, G., & Johnson, B. A. (2019). Deep learning in remote sensing applications: A meta-analysis and review. *ISPRS Journal of Photogrammetry and Remote Sensing*, 152, 166–177.
- Malik, S. Y., Cao, Y., Mughal, Y. H., Kundi, G. M., Mughal, M. H., & Ramayah, T. (2020). Pathways towards Sustainability in Organizations: Empirical Evidence on the Role of Green Human Resource Management Practices and Green Intellectual Capital. *Sustainability*, 12(8), 3228.
- Mansoor, A., Jahan, S., & Riaz, M. (2021). Does green intellectual capital spur corporate environmental performance through green workforce? *Journal of Intellectual Capital*, 22(5), 823–839.
- Ray, A. D., & Grannis, J. (2015). From Planning to Action: Implementation of State Climate Change Adaptation Plans. *Michigan Journal of Sustainability*, 3.
- Tang, G., Chen, Y., Jiang, Y., Paillé, P., & Jia, J. (2018). Green human resource management practices: Scale development and validity. *Asia Pacific Journal of Human Resources*, 56(1), 31–55.
- Tran, H. L., Hoang, N. T., Do, V. V., Nguyen, T. D., Nguyen, V. H., Phan, T. T. H., & Doan, T. D. U. (2022). Impact of green supply chain management on competitive advantage and firm performance in Vietnam. *Uncertain Supply Chain Management*, 10(4), 1175–1190.

- Wang, C. H., & Juo, W. (2021). An environmental policy of green intellectual capital: Green innovation strategy for performance sustainability. *Business Strategy and the Environment*, 30(7), 3241–3254.
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171–180.
- Wright, P. M., McMahan, G. C., & McWilliams, A. (1994). Human resources and sustained competitive advantage: A resource-based perspective. *The International Journal of Human Resource Management*, 5(2), 301–326.
- Spencer, Y. S., Adams, C., & Yapa, P. W. S. (2013). The mediating effects of the adoption of an environmental information system on top management's commitment and environmental performance. *Sustainability Accounting, Management and Policy Journal*, 4(1), 75–102.
- Yaseen, S. G., Dajani, D., & Hasan, Y. (2016). The impact of intellectual capital on the competitive advantage: Applied study in Jordanian telecommunication companies. *Computers in Human Behavior*, 62, 168–175.
- Yong, J. Y., Yusliza, M.-Y., Ramayah, T., & Fawehinmi, O. (2019). Nexus between green intellectual capital and green human resource management. *Journal of Cleaner Production*, 215, 364–374.
- Yusliza, M.-Y., Norazmi, N. A., Jabbour, C. J. C., Fernando, Y., Fawehinmi, O., & Seles, B. M. R. P. (2019). Top management commitment, corporate social responsibility and green human resource management: A Malaysian study. *Benchmarking: An International Journal*, 26(6), 2051–2078.
- Yusliza, M.-Y., Yong, J. Y., Tanveer, M. I., Ramayah, T., Noor Faezah, J., & Muhammad, Z. (2020). A structural model of the impact of green intellectual capital on sustainable performance. *Journal of Cleaner Production*, 249, 119334.
- Yusoff, Y. M., Nejati, M., Kee, D. M. H., & Amran, A. (2020). Linking Green Human Resource Management Practices to Environmental Performance in Hotel Industry. *Global Business Review*, 21(3), 663–680.
- Yusoff, Y. M., Omar, M. K., Kamarul Zaman, M. D., & Samad, S. (2019). Do all elements of green intellectual capital contribute toward business sustainability? Evidence from the Malaysian context using the Partial Least Squares method. *Journal of Cleaner Production*, 234, 626–637.
- Zaid, A. A., Jaaron, A. A. M., & Talib Bon, A. (2018). The impact of green human resource management and green supply chain management practices on sustainable performance: An empirical study. *Journal of Cleaner Production*, 204, 965–979.
- Zhang, L., Li, D., Cao, C., & Huang, S. (2018). The influence of greenwashing perception on green purchasing intentions: The mediating role of green word-of-mouth and moderating role of green concern. *Journal of Cleaner Production*, 187, 740–750.



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