

EXPLORING THE SOCIAL SUSTAINABILITY OF RUBBER FARMERS – INDIVIDUAL FARMERS PERSPECTIVE

/

สำรวจความยั่งยืนทางสังคมของชาวสวนยาง — มุมมองของเกษตรกรรายบุคคล

Kajohnjak NUANPHROMSAKUL¹⁾, Lucian-Ionel CIOCA²⁾, Singha CHAVEESUK¹⁾,
Wornchanok CHAIYASOONTHORN¹⁾

¹⁾ KMITL Business School, King Mongkut's Institute of Technology Ladkrabang, Bangkok 10520, Thailand

²⁾ Lucian Blaga University of Sibiu, Faculty of Engineering, Industrial Engineering and Management Department,
Emil Cioran, Street, no. 4, 550025, Sibiu, ROMANIA

Tel: (+66-02-329-8460); E-mail: singha.ch@kmitl.ac.th

DOI: <https://doi.org/10.35633/inmateh-68-29>

Keywords: Social Sustainability, Sustainability, Rubber Farmers, Satisfaction, Loyalty, Brand Image

ABSTRACT

This research was geared towards analyzing the factors that influence the social sustainability of rubber farmers from an individual perspective. The research was driven by the fact that in Thailand, rubber farmers are still underprivileged and lack knowledge of marketing, finance, technology, business, and economic opportunities. The research adopted a model that evaluated the relationship between study variables with a focus on their effect on social sustainability. A quantitative methodology was adopted, where the data was collected from 436 individual rubber farmers in Thailand. The proposed model and constructs were evaluated using reliability and validity tests and CFA fitness. The data analysis utilizes structural equation modeling. The findings indicated that social sustainability was directly and significantly influenced by brand image and loyalty factors. Additionally, it was found to be indirectly influenced by satisfaction and trust. The research recommended that improvement in the brand image of the rubber farmers in states both locally and internationally would result in increased business sustainability.

บทคัดย่อ

งานวิจัยนี้มุ่งสำรวจวิเคราะห์ปัจจัยที่มีอิทธิพลต่อความยั่งยืนทางสังคมของชาวสวนยางในมุมมองของแต่ละคน

การวิจัยได้รับแรงหนุนจากข้อเท็จจริงที่ว่าเกษตรกรชาวสวนยางในประเทศไทยยังคงต้องอาศัยโอกาสและขาดความรู้ด้านการตลาด การเงิน เทคโนโลยี ธุรกิจ และโอกาสทางเศรษฐกิจ

การวิจัยได้นำแบบจำลองที่ประเมินความสัมพันธ์ระหว่างตัวแปรการศึกษาโดยเน้นที่ผลกระทบต่อความยั่งยืนทางสังคม

วิธีการเชิงปริมาณถูกนำมาใช้ โดยรวบรวมข้อมูลจากเกษตรกรชาวสวนยางในประเทศไทยจำนวน 436 ราย

แบบจำลองและโครงสร้างที่เสนอได้รับการประเมินโดยใช้การทดสอบความน่าเชื่อถือและความถูกต้องและความเหมาะสมของ CFA การวิเคราะห์ข้อมูลใช้

แบบจำลองสมการโครงสร้าง ผลการวิจัยพบว่าความยั่งยืนทางสังคมได้รับอิทธิพลโดยตรงและอย่างมีนัยสำคัญจากภาพลักษณ์ของแบรนด์และปัจจัยความภักดี

นอกจากนี้ยังพบว่าได้รับอิทธิพลทางอ้อมจากความพึงพอใจและความไว้วางใจ

การวิจัยชี้ให้เห็นว่าการปรับปรุงภาพลักษณ์ของเกษตรกรชาวสวนยางในรัฐทั้งในประเทศและต่างประเทศจะส่งผลให้ธุรกิจมีความยั่งยืนเพิ่มขึ้น

INTRODUCTION

The rubber farmers, a large group of people in Thailand, are still underprivileged, and they lack knowledge of marketing, finance, technology, business, and economic opportunities. Furthermore, they are facing several problems, such as losses from low product prices, high production costs, and natural disasters. Social sustainability depends on recognizing and managing corporate effects on people, both beneficial and detrimental. However, many problems have affected the livelihoods of rubber farmers and the activities of the farmer institutions, and the government has been required to resolve the issues of rubber prices every year as follows: "More than 200 rubber farmers from Surat Thani Province gathered to submit the letter to the Prime Minister through the provincial governor." They demand that the rubber price be set at 80 baht per kilogram. They are also compelled to gather again if there is no progress within seven days" (*Manager, 2014*). Additionally, "The leader of Trang Province's small rubber farmer network claimed that he would discuss with other leaders of rubber farmers in all 14 southern provinces on Jan. 12 so that they could conclude their demands proposed to the government if the policy is not effective" (*Thairat Online, 2016*).

The rubber farmer institutes' request for government assistance demonstrated a lack of resilience and capacity to function independently of the government and tackle issues bedeviling the farmers. Besides, the world rubber price situation has been volatile and uncertain. The prices of natural rubber depend on the price in the futures market and the speculation of market investors.

In the situation of global rubber production in 2015, there were 28 rubber-producing countries with a total of 77.60 million rai, and the total production was 12.0 million tons (*Office of Agricultural Economics, 2015*). Thailand is the no. 2 country with the most rubber plantation areas (the rubber plantation area in Thailand is 22,176,714 million rai, followed by Indonesia (*Rubber Research Institute, The Rubber Authority of Thailand, 2017*). Moreover, Thailand produces and exports the most natural rubber in the world, at a rate of 4,473,370 tons annually, with an annual export of 3,749,456 tons (*Rubber Research Institute, 2014*). Based on these statistics, this research is focused on developing a framework and model proposition for the social sustainability of the rubber farmer institute. When the rubber farmer institutes are stable and sustainable under a successful model of establishment, it will result in gathering members, products, dividends, working capital, brainstorming, and the concept of activity. It will not only create a stable and sustainable situation for natural rubber prices but also affect the livelihood of rubber farmers. It also strengthens the social sustainability of rubber farmer institutes.

MATERIALS AND METHODS

Sustainability aspect in rubber farming

Sustainable development refers to the development strategy that manages all resources, whether they are natural, human, financial, or physical resources, to create wealth, well-being, and complete happiness. Sustainable development depends on correct and proper environmental management. In short, the development is within ecological limits. Sustainable development is, according to the *World Commission on Environment and Development, (1990)*, when development satisfies demands of the situation devoid of jeopardizing the potential for the unborn generations to gratify their expectations. Sustainable development is essential for enhancing individual wellbeing because it can encourage adequate management of public resources. Additionally, it establishes a sustainable financial system independent of external interventions and offers a strong environmental quality so that people may utilize natural resources effectively, particularly when used as a base for production to support economic growth (*Brundtland Commission, 1987*).

Dey et al., (2020), reasoned that sustainable development is integrated development as a whole. It aims to harmoniously gather and combine all variables in a balanced manner, even in a diverse context of economic differences; it can be considered development according to the competitiveness based on their resources, society, and environment, which must be emphasized to consistently respond to the needs of relevant people in their social and cultural contexts (*Suksanchananun et al., 2020; Slusarczyk et al., 2016; Kot & Brzezinski, 2015*).

Aaker, (2014), noted that brand loyalty is the positive view and satisfaction of the consumer with a product. Consumers have a tendency to frequently buy the products as a result of this notion. In contrast, *Chaudhuri, (1999)*, indicated that brand loyalty occurs when the consumer continues to purchase a particular brand's products over another. It occurs when the consumer is satisfied with the quality of the products. *Haque, (2013)*, and *Das, (2014)*, stated that brand loyalty is the consumer behavior that they maintain when purchasing a particular product. The same goes for *Schiffman and Kanuk, (2010)*. However, the marketing strategy plays a crucial role in brand loyalty since brand loyalty should be built otherwise the consumer will purchase other brands. Previous research suggests that image of the brand is also linked to customer loyalty as well as perceived value. For instance, *Jung et al., (2020)*, conducted a study on sustainable ad initiatives in the conventional apparel industry and customers loyalty to the brand. The finding revealed that sustainable marketing activities resulted in brand image, trust, and satisfaction positively. When applied to rubber cooperatives, the study sought to ascertain the loyalty of rubber farmers to the collective, and if they will prefer alternatives or operate their farms individually.

Robinson and Barlow (1959) define a brand image as the self-image of the institute and organization that people connect in their minds. They can perceive and gain from direct experience or word of mouth. *Jeffkins, (1993)*, explained that brand image is the overall impression of the organization that the people can recognize as a positive image. The element of brand image proposed by *Wijaya, (2013)*, has been adopted as one of the frameworks since it is relevant to the sustainable model of the rubber farmer institute registered as a juristic person. The elements of brand image were demonstrated as follows: (1) brand identity refers to the name, logo, color, slogan, tagline, and vision; the personality of the executive; or typeface of the institute/group of rubber farmers. (2) Brand personality refers to the institute/group's disposition of the rubber farmer. (3) Activity refers to the income, profit, satisfaction, management, and administration of an institute/group in terms of training and the participation of rubber farmers, and so forth. *Pool et al., (2016)*, studied the association of brand image and perceived value utilizing Structural Equation Modeling technique.

According to *Fehrenbach and Herrando, (2021)*, a consumer's perception of value depends on how pleased they are with the service/product. It is divided into two types: the perceived value of a product and the perceived value of quality. *Petrick, (2002)*, reasoned that the instrument that had been used to measure the perceived value could merely indicate that tangible results were discernible from utilizing the product or service. Perceived value can be developed as a primary differentiating tool to preserve competitive advantage. Perceived value is one of several aspects that influence client happiness and trust in marketing, according to numerous studies (*Anderson et al., 1992; Chen & Lin, 2015*). Other studies show that by assessing sustainability and consumer intents, perceived value can be used as a metric for marketing success (*He et al., 2022; Brychko et al., 2022; Muangmee et al., 2021; Rahardja et al., 2021; Lakatos et al., 2021*). Assessing customer's perception of the value of the service and the product can be used as a metric or indicator of perceived value. What value do members of the rubber association place on the group? How valuable do members consider the group in running and maintaining their rubber farms? These are important questions that need clarification.

Skowron, (2020), noted that satisfaction refers to a result of participating in an activity that leads to a positive attitude towards that activity; a negative attitude can indicate dissatisfaction. Prior research on the notion of satisfaction, classified it into two types: positive and negative feelings (*Jiang et al., 2021; Kuan et al., 2020*). The positive feeling produces a sense of pleasantness, but this type of pleasantness is different. To explain this, the feeling of pleasure can make other favorable feelings. The positive and negative feelings as well as the complicated feeling can create the concept of satisfaction (*Di Castro et al., 2018*). *Gerdt et al., (2019)*, identified an association where sustainability and customer satisfaction were linked and mediated by ranking. Additionally, the findings reveal that the link varies depending on the sustainability metric used. *Chaudhuri and Holbrook, (2001)*, averred that trust is the inclination where individual customers trust the capacity of the brand towards accomplishing its objectives. Trust comes from the words, actions, and commitment of a person or institute. *Alam and Yasin, (2010)*, explained that trust is the expectation that a person can rely on other persons. Trust can refer to the anticipation of positive results including risk and uncertain results. According to *Schurr and Ozanne, (1985)*, trust fosters positive sentiments toward suppliers and increases client loyalty. It also aids members in projecting their future interactions (*Deheshti et al., 2016*). In uncertain situations, trust boosts competitiveness, lowers search and transaction costs, and minimizes opportunism (*Nazari et al., 2015*). According to *Reast, (2005)*, trusted brands will fare better than their rivals' less reliable competition. Similarly, rubber associations and cooperatives that provide satisfaction to members are more likely to be trusted, and provide satisfaction to members.

Conceptual framework

Figure 1 illustrates the study model based on a survey of the extant literature.

The research hypotheses are presented next.

- ❖ H1: The brand image of the rubber farmers has a positive influence on customers' perceived value.
- ❖ H2: The brand image of the rubber farmers' group positively influences the loyalty of the members to the group.
- ❖ H3: The brand image associated with the rubber farmers' group positively and significantly influences the adoption of sustainability practices by its members.
- ❖ H4: The perceived value of the rubber farmers' group positively influences members' satisfaction with the group activities.
- ❖ H5: Trust in the rubber farmers' group positively influences member satisfaction.
- ❖ H6: The perceived value of the rubber farmers' group positively influences trust by members of the collective.
- ❖ H7: Satisfaction with the rubber farmers' group has a positive effect on the loyalty of the members to the group.
- ❖ H8: Trust in the rubber farmers' group positively influences the loyalty of the members to the group.
- ❖ H9: Loyalty of the group members towards the policies of the rubber farmers' group positively impacts the adoption of sustainability practices.
- ❖ H10: The impact of independent variables on sustainability is significantly moderated by loyalty.

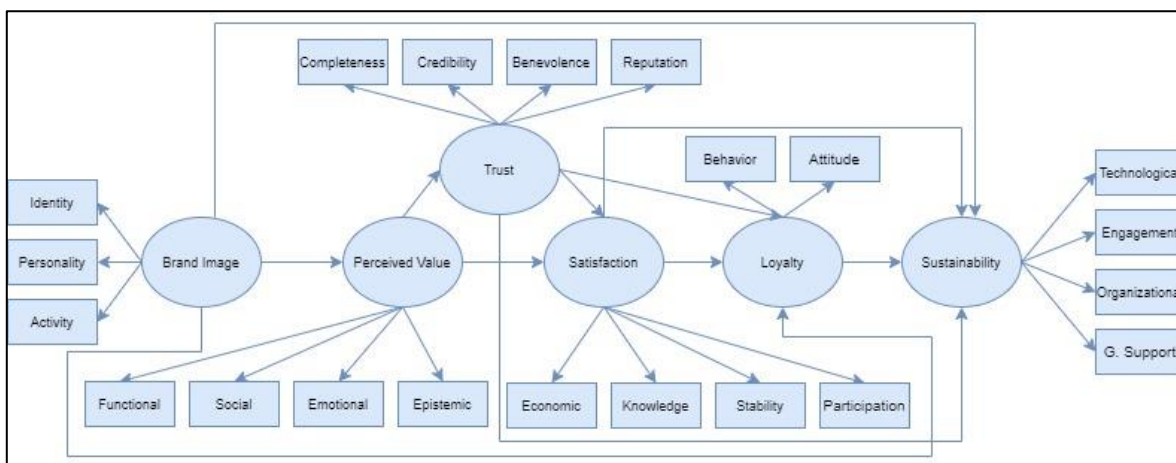


Fig. 1 - Conceptual framework

Population and sample size

The research adopted a quantitative survey design, using primary data from individual rubber farmers in Thailand. This research aimed to create a model of sustainability for rubber farmers who were individual farmers. According to *Dejchanchaiwong et al., (2019)*, there are 535 rubber farmers' groups in Thailand, with a combined membership of 112,556. This served as the research population. *Krejcie and Morgan, (1970)*, recommended a sample size of 384 for a population size equal to or greater than 100,000. This number is considered as being statistically relevant. The researchers distributed 600 copies of the questionnaire to accommodate the large study universe available to the researchers. Of the 600 copies of the questionnaire shared with the respondents, 487 were returned, representing a response rate of approximately 81%. After validating the returned copies, removing those partially completed and those missing information considered critical, 436 were considered fit for analysis.

The rubber farmers were categorized into three groups:

- (1) The group of rubber farmers in the advanced or developed stage.
- (2) The group of rubber farmers in the developing stage.
- (3) The group of rubber farmers in the initial stage.

The instrument for data collection for the survey was a structured questionnaire using close-ended questions. The closed-ended questions were utilized to ask respondents to choose from distinct sets of responses. The data collection process included the following steps; the research was authorized by the King Mongkut's Institute of Technology Ladkrabang's Research Ethics Committee, Thailand, and was assigned the code EC-KMITL_64_050. The Ethics Committee granted the study an exemption waiver following the guidelines of the Helsinki Declaration. The researchers affirm that all respondents voluntarily have provided explicit consent to take part in the study. There was no information on the questionnaire that might be used to identify responders.

RESULTS AND DISCUSSION

Demographic characteristics

The demographic variables evaluated include gender, age, period of rubber farming and the rubber products produced. Most of the respondents evaluated were male (72%) while the females were the minority (28%). The highest age group was 31 – 40 years (37%) while the lowest group was 50+ years (12%). For the farming period, the majority indicated having farmed for 6 – 10 years (50%) while for the rubber products, the majority indicated having 20 – 50 kgs (54%). The data are summarized in Table 1. Table 2 and Figure 2 also present the findings and model evaluation.

Demographic data of respondents

Table 1

Variables	Values	n	%
Gender	Male	312	0.72
	female	124	0.28
Age	20-30	82	0.19
	31-40	163	0.37
	41-50	137	0.31
	50+	54	0.12
Farming period (years)	0-5	57	0.13
	6-10	217	0.50

	11+	162	0.37
Rubber Products (kg)	0-20	72	0.17
	20-50	237	0.54
	50+	127	0.29

Table 2

Model Evaluation					
Path Relationships		Factor Loadings	Cronbach's alpha	Composite Reliability	AVE
BI	→	Loyalty	0.878		
BI	→	Acti	0.81		
BI	→	Pers	0.893	0.782	0.927
BI	→	Iden	0.718		
Loyalty	→	Beh	0.795		
Loyalty	→	Atti	0.792	0.827	0.872
Perceived	→	Epis	0.869		
Perceived	→	Emo	0.87	0.782	0.892
Perceived	→	Soc	0.77		
Perceived	→	Func	0.7		
Satisfaction	→	Par	0.893		
Satisfaction	→	Stab	0.868	0.872	0.972
Satisfaction	→	Know	0.842		
Satisfaction	→	Eco	0.83		
Sustainability	→	GovS	0.726		
Sustainability	→	Org	0.84		
Sustainability	→	Enga	0.897	0.852	0.897
Sustainability	→	Tech	0.748		
Trust	→	Comp	0.709		
Trust	→	Cre	0.916	0.871	0.971
Trust	→	Ben	0.857		
Trust	→	Rep	0.799		

Discriminant validity, as shown in Table 3, was also used to assess the constructs' validity. To make sure that each notion for the latent variable is distinct from other latent variables, discriminant validity is used. The Fornell-Larker criteria demand that all constructs must have an AVE square root value that is greater than their correlation with other latent constructs, indicating that the discriminant validity was attained.

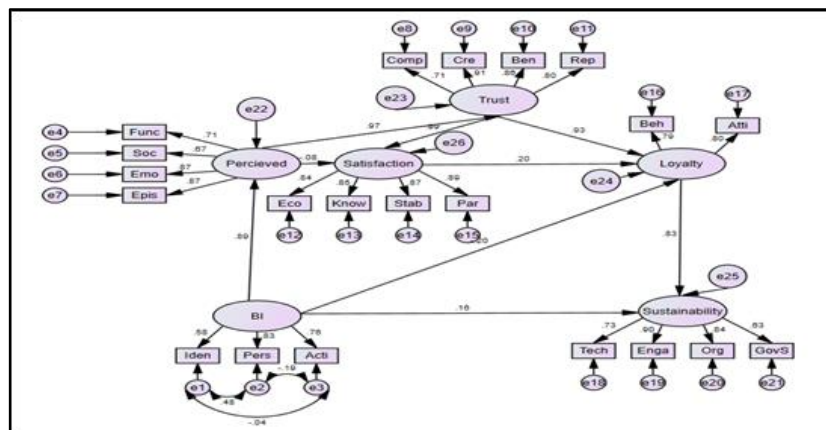


Fig. 2 - Empirical Results

Table 3

	Discriminant Validity					
	1	2	3	4	5	6
BI	0.828					
Loyalty	0.618	0.927				
PV	0.728	0.789	0.829			

	1	2	3	4	5	6
Satisfaction	0.835	0.756	0.772	0.854		
Sustainability	0.872	0.729	0.872	0.761	0.792	
Trust	0.836	0.863	0.723	0.792	0.773	0.872

Empirical results

The empirical findings of the investigation of the correlation between the various study variables are presented in this section. The results are summarized in Table 6, for both direct and indirect effects.

Table 4

Empirical Results							
Path Relationships				Estimate	S.E.	C.R.	P
Direct Effects							
H1	BI	→	Perceived	.774	.212	3.648	***
H2	BI	→	Loyalty	-.163	.175	-.929	.353
H3	BI	→	Sustainability	.129	.110	1.173	.024
H4	Perceived	→	Satisfaction	-.087	.289	-.300	.765
H5	Trust	→	Satisfaction	.935	.262	3.565	***
H6	Perceived	→	Trust	1.091	.063	17.251	***
H7	Satisfaction	→	Loyalty	.179	.082	2.187	.029
H8	Trust	→	Loyalty	.789	.182	4.333	***
H9	Loyalty	→	Sustainability	.803	.132	6.098	***
Indirect Effects							
	BI	→	Loyalty → Sustainability	.672	.283	6.811	***
H10	Satisfaction	→	Loyalty → Sustainability	.028	.189	1.872	***
	Trust	→	Loyalty → Sustainability	.427	.897	5.278	0.002
	Satisfaction	→	Trust → Loyalty	.719	.236	3.852	***

The results of the study indicated that brand image bears a strong and positive effect on perceived value ($\beta = 0.774$, $p < 0.05$) confirming hypothesis 1 of the study. The brand image was deemed to have a negative and insignificant influence on loyalty ($\beta = -0.163$, $p > 0.05$), hence rejecting hypothesis 2. Brand image has a positive and significant effect on sustainability ($\beta = 0.129$, $p < 0.05$) confirming hypothesis 3 of the study. Perceived value was determined to have a negative and insignificant effect on satisfaction ($\beta = -0.087$, $p > 0.05$) hence rejecting hypothesis 4. Trust was shown to have a positive and significant effect on satisfaction ($\beta = 0.935$, $p < 0.05$) confirming hypothesis 5 of the study. Perceived value was seen to have a positive and strong effect on trust ($\beta = 1.091$, $p < 0.05$) confirming hypothesis 6 of the study. Satisfaction was revealed to positively and significantly affect loyalty ($\beta = 0.179$, $p < 0.05$) confirming hypothesis 7 of the study. Trust was found to have a positive and significant effect on loyalty ($\beta = 0.789$, $p < 0.05$) confirming hypothesis 8 of the study. Loyalty was confirmed to have a positive and significant effect on sustainability ($\beta = 0.803$, $p < 0.05$) confirming hypothesis 9 of the study. In addition, the researchers also evaluated the mediating role of loyalty. The research showed that brand image, customer satisfaction, and trust were all significantly mediated by loyalty when it came to the adoption of sustainability in rubber farming.

The research indicated that loyalty is a crucial element in bringing about aspects of sustainability of individual farmers. The respondents believed when there is loyalty, there is the sustainability of the concerned aspect. For this study, the loyalty of customers regarding the rubber farmers would increase the associated sustainability. The aspects of loyalty considered in this case are behavior and attitude. Loyalty referred to the commitment and obligation between the rubber farmer members that willingly participate in the activities of the group. It leads to a positive relationship and encourages the members to maintain their commitment. It is the result of brand loyalty that the consumer has towards the product and service and the result of a source of inspiration that the consumers can gain. For this reason, the consumers not only continue to purchase the brand's products but also promote the product. Furthermore, the result can bring confidence in executives and staff as well as the supplier to become a partnership.

If there is brand loyalty—a collection of favorable evaluations and unwavering convictions about a certain brand, the consumers continuously purchase the same brand. In addition to the aspects above, trust and satisfaction were found to have a significant and indirect influence on sustainability. In this case, loyalty was considered the mediating factor. In other words, satisfaction and trust would influence loyalty, and in turn rubber farmers sustainability. In this case, satisfaction was considered and found to be an important aspect in improving the sustainability of the respondents.

CONCLUSIONS

This study sought to identify characteristics that, from a personal standpoint, affect the viability of rubber farmers. The research developed and adopted a comprehensive model that was considered suitable to evaluate the sustainability aspect. The model considered sustainability as the endogenous variable. Brand image, perceived value, contentment, trust, and loyalty made up the external factors. Important conclusions were developed after the examination of the findings. These include that brand image is important to sustainability, and satisfaction is important to sustainability. Rubber farmers groups in Thailand can leverage on the results to understand the needs of their members by understanding the relevance of the brand image, perceived value and build trust which can lead to sustainability of the group.

For the model evaluation, model chi-square, root mean square error of approximation (RMSEA), comparative fit index (CFI), root mean square residue, adjusted goodness of fit (AGFI), and the goodness of fit (GFI) were among the fitness factors that were assessed. The following results were obtained; RFI = 0.923, GFI = 0.902, TLI = 0.948, NFI = 0.937, CFI = 0.957, IFI = 0.958 which satisfied the required threshold of >0.900. AGFI = 0.867 satisfied the required minimum threshold of >0.800. The Chi-square/df = 2.941 satisfied the required threshold for <5.00. The RMSEA = 0.067 which satisfied the required threshold of <0.08. These thresholds were suggested by *Andersson et al., (2022)*, *Byrne, (1994)*, *Schumacker and Lomax, (2004)*, and *Kline R.B., (2015)*. The satisfaction of these thresholds confirmed that the data and study constructs fitted well with the model.

In addition to the model fitness tests, the reliability and validity of the constructs utilized in the research were also assessed. Standardized factor loadings and the average variance were used to assess the validity. Reliability was evaluated using composite reliability and Cronbach's α . To measure the validity, factor loadings ranged from 0.70 to 0.916, while the values for AVE ranged from 0.628 to 0.982. These values, according to *Hair et al., (2010)*, and *Ghozali, (2014)*, should be above 0.5, this threshold requirement was satisfied. The composite reliability ranged from 0.872 to 0.972, while Cronbach's α values ranged from 0.782 to 0.871. The required threshold is that the values should be above 0.7, the requirement that was met (*Khalid, 2021*).

Kaojan, (2003), asserted that satisfaction is a positive feeling that the employees have towards their profession. This feeling can arouse the feeling of appreciation, enthusiasm, determination, and the morale of the employee work. All these feelings have impacted the effective work and the organization's success. The features of a service are sometimes best identified by customer satisfaction. The executive must survey consumer satisfaction towards the product and service because the results can reveal the attitude and comments of the consumers on the product and service. Thus, the providers can offer services that meet the need of each aspect of the consumers. Consumer satisfaction is a significant variable in evaluating the quality of service. If any providers can offer a service that meets the need and expectations of the consumers, the consumers continue to get the same service. The quality of service depends on the place, equipment the personality of the staff, the creditability of the service, the willingness of the staff as well as the ability to provide service with reliability and compassion. One measure of a service business' performance is employee satisfaction. Giving precedence to employee satisfaction is as crucial as consumer satisfaction. If the employees are fulfilling the desires of their career, they can perform their tasks effectively and that leads to consumer satisfaction and the success of the business.

The research also revealed that loyalty, trust, and satisfaction significantly influenced the sustainability of rubber farmers. Brand image is a critical and significant factor for the improvement of sustainability. The improvement in the brand image of the rubber farmers in states both locally and internationally would result in increased business sustainability. In this case, brand image referred to the positive perception of the rubber farmer institutions that are cooperating so that the memberships, non-memberships, and other people can recognize the products and the organization. Satisfaction was considered and found to be an important aspect in improving the sustainability of the respondents. The aspects of satisfaction that are critical in improving sustainability include economics, knowledge, stability, and participation. When there is loyalty, there is the sustainability of the concerned aspect.

To this study, the loyalty of customers regarding the rubber farmers' institutes would increase the associated sustainability. Future studies can consider the influence of loyalty towards attracting new members to the farmers' cooperative and foster a sustainable relationship between the government and farmers cooperatives. Future studies can also replicate the study in other cooperative groups to ascertain the consistency of the results. A limitation of the study was that respondents were virtually always self-selected. That is, no matter how often they are reminded or what incentives are provided, not everyone who receives a survey will respond. This limitation was minimized by following up with reminders to the respondents. There were also response accuracy issues. This was however, limited to 51 copies of the questionnaire. This did not significantly affect the results.

ACKNOWLEDGEMENT

The authors highly appreciate the thorough and detailed reviews provided by anonymous reviewers and editors, who contributed immensely to the improved final output quality.

REFERENCES

- [1] Aaker D. (2014). *Aaker on branding: 20 principles that drive success*. Morgan James Publishing, New York/USA.
- [2] Alam, S.S., & Yasin, N.M. (2010). What factors influence online brand trust: evidence from online tickets buyers in Malaysia. *Journal of Theoretical and Applied Electronic Commerce Research*, 5(3).
- [3] Andersson, B., Luo, H., & Marcq, K. (2022). Reliability coefficients for multiple group item response theory models. *British Journal of Mathematical and Statistical Psychology*, 75(2), 395–410.
- [4] He, K., Oláh, J., & Hasan, M. (2022). The influence of psychological ownership and social support on organizational resilience: the mediating role of organizational identity. *Journal of Business Economics and Management*, 23(3), 650–667. <https://doi.org/10.3846/jbem.2022.16571>
- [5] Brychko, M., Bilan, Y., Lyeonov, S., & Streimikiene, D. (2022). Do changes in the business environment and sustainable development really matter for enhancing enterprise development? *Sustainable Development*. <https://doi.org/10.1002/sd.2410>
- [6] Byrne B.M. (1994). *Structural equation modeling with EQS and EQS/Windows: Basic concepts, applications, and programming*. Thousand Oaks, Sage, California/USA.
- [7] Chaudhuri, A., & Holbrook, M. B. (2001). The Chain of Effects from Brand Trust and Brand Affect to Brand Performance: The Role of Brand Loyalty. *Journal of Marketing*, 65(2), 81–93.
- [8] Chen, S. C., & Lin, C. P. (2015). The impact of customer experience and perceived value on sustainable social relationship in blogs: An empirical study. *Technological Forecasting and Social Change*, 96, 40–50.
- [9] Deheshti, M., Adabi Firouzjah, J., & Alimohammadi, H. (2016). The Relationship between Brand Image and Brand Trust in Sporting Goods Consumers. *Annals of Applied Sport Science*, 4(3), 27–34.
- [10] Dejchanchaiwong, R., Kumar, A., & Tekasakul, P. (2019). Performance and economic analysis of natural convection-based rubber smoking room for rubber cooperatives in Thailand. *Renewable Energy*, 132, 233-242.
- [11] Dey, P. K., Malesios, C., De, D., Chowdhury, S., & Abdelaziz, F. B. (2019). The Impact of Lean Management Practices and Sustainably-Oriented Innovation on Sustainability Performance of Small and Medium-Sized Enterprises: Empirical Evidence from the UK. *British Journal of Management*, 31(1), 141–161.
- [12] Di Castro, V. C., Hernandez, J. C., Mendonça, M. E., & Porto, C. C. (2018). Life satisfaction and positive and negative feelings of workers: a systematic review protocol. *Systematic Reviews*, 7(1).
- [13] Fehrenbach, D., & Herrando, C. (2021). The effect of customer-perceived value when paying for a product with personal data: A real-life experimental study. *Journal of Business Research*, 137, 222–232.
- [14] Gerdt, S. O., Wagner, E., & Schewe, G. (2019). The relationship between sustainability and customer satisfaction in hospitality: An explorative investigation using eWOM as a data source. *Tourism Management*, 74, 155–172.
- [15] Ghozali I. (2014). *Structural Equation Modeling, Metode Alternatif dengan Partial Least Square (PLS)*, 4th edition. Badan Penerbit Universitas Diponegoro, Semarang/Indonesia.
- [16] Hair, J.F., Black W.C., Babin B.J., & Anderson R.E. (2010). *Multivariate data analysis*, 7th ed. Pearson Prentice Hall, New Jersey/USA.

- [17] Jiang, X., Ji, L., Chen, Y., Zhou, C., Ge, C., & Zhang, X. (2021). How to Improve the Well-Being of Youths: An Exploratory Study of the Relationships among Coping Style, Emotion Regulation, and Subjective Well-Being Using the Random Forest Classification and Structural Equation Modeling. *Frontiers in Psychology*, 12.
- [18] Kaojan, P. (2003). *The satisfaction of parents towards the secondary school management in the elementary school: Ubon Ratchathani Primary Educational Service Area Office*. (Master's thesis) Faculty of Education, Ubon Ratchathani Rajabhat University, Ubon Ratchathani/Thailand.
- [19] Khalid, B. (2021). Entrepreneurial insight of purchase intention and co-developing behavior of organic food consumption. *Polish Journal of Management Studies*, 24(1), 142–163.
- [20] Kline R.B. (2005). *Principles and practice of structural equation modeling*, 2nd ed. Guilford Press, New York/USA.
- [21] Kot, S., & Brzezinski, S. (2015). Market orientation factors in sustainable development and corporate social responsibility. *Asian Journal of Applied Sciences*, 8(2), 101-112.
- [22] Krejcie, R.V., & Morgan, D.W., (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*.
- [23] Kuan, M. Y., Wang, J. H., Liou, Y. C., & Peng, L. P. (2020). Exploring the Association between Life Perceptions and Emotional Profiles in Taiwan: Empirical Evidence from the National Well-Being Indicators Survey. *International Journal of Environmental Research and Public Health*, 17(12), 4209.
- [24] Lakatos, E. S., Nan, L. M., Bacali, L., Ciobanu, G., Ciobanu, A. M., & Cioca, L. I. (2021). Consumer Satisfaction towards Green Products: Empirical Insights from Romania. *Sustainability*, 13(19), 10982.
- [25] Manager Online (2014). *Surat rubber farmers assembled to claim the rubber price*. [Online], Available from: <https://mgronline.com/south/detailF9570000141505> [accessed 20 June 2021],
- [26] Muangmee, C., Kot, S., Meekaewkunchorn, N., Kassakorn, N., & Khalid, B. (2021). Factors Determining the Behavioral Intention of Using Food Delivery Apps during COVID-19 Pandemics. *Journal of Theoretical and Applied Electronic Commerce Research*, 16(5), 1297–1310.
- [27] Nazari E., Ghasemi B., & Saeidi S.S. (2015). Explain the relationship between green brand image, green satisfaction and green trust and factors affecting on green brand equity. *Bulletin of the Georgian National Academy of Sciences*, Vol.9, pp. 487-94.
- [28] Pool K.A., Pool M.K., & Taghipourian M.J. (2016). Customer satisfaction through corporate reputation: The mediating role of perceived value. *International Journal of Humanities and Cultural Studies*, Vol.3, no.2, pp. 1424-1434.
- [29] Rahardja, U., Hongsuchon, T., Hariguna, T., & Ruangkanjanases, A. (2021). Understanding Impact Sustainable Intention of S-Commerce Activities: The Role of Customer Experiences, Perceived Value, and Mediation of Relationship Quality. *Sustainability*, 13(20), 11492.
- [30] Reast, J. D. (2005). Brand trust and brand extension acceptance: the relationship. *Journal of Product & Brand Management*, 14(1), 4–13.
- [31] Rubber Authority of Thailand Act, B.E. 2560. 2017. *Rubber Authority of Thailand Annual Report 2017*. [Online], Available from: <http://online.pubhtml5.com/sibs/humw/#pM>. [accessed 20 June 2021],
- [32] Rubber Authority of Thailand Act. 2017. Rubber Research Institute: Hot Issue. [Online], Available from: <https://library2.parliament.go.th/ebook/content-issue/2559/hi2559-032.pdf> [accessed 20 June 2021],
- [33] Schumacker R.E. & Lomax R.G. (2004). *A beginner's guide to structural equation modeling*, Second edition. Lawrence Erlbaum Associates, Mahwah, NJ/USA.
- [34] Schurr, P. H., & Ozanne, J. L. (1985). Influences on Exchange Processes: Buyers' Preconceptions of a Seller's Trustworthiness and Bargaining Toughness. *Journal of Consumer Research*, 11(4), 939.
- [35] Skowron, L., Gąsior, M., & Sak-Skowron, M. (2020). The Impact of a Time Gap on the Process of Building a Sustainable Relationship between Employee and Customer Satisfaction. *Sustainability*, 12(18), 7446.
- [36] Slusarczyk, B., Smoląg, K., & Kot, S. (2016). The supply chain of a tourism product. *Actual Problems of Economics*, 179(5), 197–207.
- [37] Suksanchananun, W., Chaiyasoonthorn, W., & Chaveesuk, S. (2020). The impact of supply chain management competencies on the rice community enterprises. *Polish Journal of Management Studies*, 22(1), 531–544.
- [38] Thairat Online (2016). The rubber farmers in Trang has threatened to starve in protest for speed up the solution. [Online]. Available from: <https://www.thairath.co.th/content/560843> [accessed 20 June 2021].

- [39] Wijaya B.S. (2013). Dimensions of brand image: A conceptual review from the perspective of brand communication. *European Journal of Business Management*, Vol.5, pp. 55-65.
- [40] ***Office of Agricultural Economics 2015. *Agricultural Statistics of Thailand (2015)*. [Online], Available from: <http://www.oae.go.th/assets/portals/l/files/ebook/yearbook58.pdf> [accessed 5 July 2021].