



# Integrating ESG into competitive strategies: The role of employee behavior, organizational culture, and communication in Thailand's automotive industry

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# Abstract

This study aimed to investigate the relationship between employee behavior, organizational culture, and environmental communications, and the practice of ESG and organizational competitiveness in the automotive industry in Thailand using a quantitative study that utilized a questionnaire-based sampling method on 400 perspectives of automobile industry employees. The data analysis applied the partial least squares structural equation modeling (PLS-SEM). The study results offer evidence that employee environmental behavior has a direct effect on ESG practices and organizational competitiveness among the three factors of employee environmental behavior, organizational culture, and environmental communication as mediating variables. This study shows that to create ESG practices in Thailand's automotive industry, companies should build an organizational culture focused on sustainable practices, encourage pro-environment behavior among employees, and emphasize the importance of organizational communication. This practical study can serve as a roadmap for optimizing the international competitiveness of organizations and is of interest to the business sector, investors, and regulators in order to create appropriate relevance for the future of the automotive industry in accordance with ESG standards.

Keywords: Automotive industry communication, Competitive strategies, Employee behavior, ESG, Organizational culture.

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**Transparency:** The author confirms that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

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# **1. Introduction**

One of the huge economic-impact industries is the modern automotive industry, showing tremendous importance in the global economy and facing high expectations of operating in an environmental, social, and governance (ESG) manner, especially in the environmental dimension that directly impacts the development of international competition standards [1, 2]. All these facts point out that those organizations that are able to implement ESG successfully have business advantages, indeed: they can decrease their operation costs, improve the efficiency of resources, and attract investors among the new pool that values sustainability [3]. Besides, such a trend indicates the signal of a global policy shift to focus more on environmental standards, resulting in immediate impacts on the automotive industry in every corner of the world, including Thailand, such

as net-zero emissions and Europe's tough carbon emissions standards [4]. With regard to the automotive industry, it is part of the key industries that earn export revenue and invite foreign direct investment (FDI) for Thailand. However, ESG pressures have the automotive manufacturers and their related supply chains attempting to operate under tighter environmental policies. Internal organizational factors like employee behavior, organizational culture, and organizational communication can be important internal drivers towards ESG implementation in organizations [5, 6].

The issue of how ESG impacts competitiveness is still a hot topic, but there is still little consensus on whether ESG positively impacts competitiveness directly. Some studies have shown that ESG can be a factor that attracts investors and increases confidence in the market, while others have claimed that ESG has an impact on companies' operations due to the increase in costs [7]. Thus, the research is able to explain the impact of internal organizational factors on ESG and the organization's competitiveness, which is very critical in forming future business strategies [8, 9]. Moreover, while ESG has become a significant concern facing the automotive industry, organizational implementation is still challenging, particularly in Thailand's automotive sector, which is competing with neighboring countries like China and Vietnam. Having a robust policy that supports green technology is crucial [10, 11]. Therefore, for ESG to work well, there need to be internal organizational enablers that can help and reinforce change. For example, promoting a culture of sustainability, getting staff to help with environmental measures, and discussing ESG would turn strategies into measurable results and actions when put into practice [12]. Nevertheless, previous research has not developed an in-depth analysis of the internal organizational factors and the international competitiveness of Thai automotive organizations.

It considers the policies that will allow companies to utilize the facilities as efficiently as possible, as well as the most important factors in maintaining competitiveness, especially in an era of fierce competition between businesses in the market; such policies help to reduce operating costs. For ESG specifically, it helps an organization to develop viable environmental practices related to energy expenditures, waste in production, and supply chain efficiency; thereby, it leads organizations to sustainable stewardship and sustainable management, resulting in long-term benefits [13, 14]. Moreover, ESG can improve the reputation of an organization among investors and consumers, who are more concerned with environmentally friendly practices. Therefore, companies that are able to adopt ESG appropriately will have a higher possibility of attracting investors, namely due to the company being perceived as having better business stability, lower environmental regulation risk, and being better able to respond to market trends that focus on sustainability compared to other competitors who have not systematically adopted ESG.

As such, the researcher is interested in studying employee behavior, organizational culture, organizational commitment, environmental communication, environmental ESG practices, and organizational competitiveness in the automotive industry in Thailand because the internal organizational factors can provide support for organizations to efficiently and effectively implement ESG and eventually lead to the establishment of international competitive advantage. The research would aid in explaining the significance of ESG in building organizational competitiveness from the lens of Porter's competitive advantage theory and enable organizations to adopt ESG as a business tool for deriving business value instead of as a mere compliance requirement. Moreover, the study's findings could serve as guiding principles for formulating organizational management strategies that emphasize systematic ESG development, as well as provide useful information for investors, regulators, and industry in pursuing more effective ESG support measures with the potential to ensure Thailand's global competitiveness within the automotive industry in the future.

# 2. Literature Review

#### 2.1. Employee Behavior

Employee behavior is an employee's behavior, attitude, and involvement in activities impacting the organization and environment, which is a key contributor that allows organizations to appropriately implement ESG. Sustainable performance involves carrying out assigned tasks in an eco-friendly manner, engaging in supplementary actions, and voluntarily implementing sustainability principles at work [15, 16]. Numerous studies have shown that internal organizational factors, such as a sustainability-oriented culture and effective internal communication, are important drivers of pro-environmental employee behavior [15, 17, 18]. Furthermore, employees' successful adoption of environmental guidelines is positively associated with employees' satisfaction with and engagement in the organization, which are motivating factors that induce them to contribute standard practices in order to upcycle the environmental performance process of the organization [19, 20]. A study by Dathe, et al. [2] highlighted that employees are more likely to care about the ESG standards of the company when the company shows that it values ESG and involves itself in the decision-making for environmental guidelines. Finally, employee engagement with ESG activities fosters the organization's competitiveness, even in sectors that need to align with global sustainability goals [1, 3]. Nonetheless, outside elements, such as regulatory forces and industry standards, can also influence employee conduct and the extent of an organization's compliance with ESG approaches [5, 12].

# 2.2. Organizational Culture

Organizational culture refers to the values, beliefs, attitudes, and practices that characterize an organization and are multidimensional variables that affect the behavior and productivity of staff in an organization, including the organizational model that plays the most important role in stimulating environmentally friendly behavior and operations within the organization. Such organizations focus on cultivating work knowledge about environmental issues, thereby providing employees with tools for meaningful engagement with corporate ESG performance [21-23]. According to a study by Jin and Kim [20] organizational culture that promotes ESG impacts the employee adaptation and motivation levels regarding the sustainability transformation process. Developing an organizational culture that encourages flexibility and responsiveness to changes in the environment can further support organizations in aligning their strategies with globally accepted standards

and curbing the risk of increasingly intensified environmental regulations [2, 24]. Also, the organizational culture promoting green values is likely to improve ESG performance, as organizations with governance structures encouraging environmentally sustainable behavior are, overall, able to minimize operating costs, therefore improving their competitiveness [1, 3]. Those that successfully integrate their organizational culture with their ESG approaches are more likely to win the trust of investors and customers. That allows the company to achieve stable and sustainable operations in the long run [5, 12].

### 2.3. Organizational Communication

Organizational communication acts as a key enabler for effectively implementing environmental ESG (EESG) practices. It was found that organizations that can clarify to their employees the information about environmentally friendly operations would better promote behaviors that are in accordance with the umbrella of sustainability approaches [25, 26]. Organizations that place a strong emphasis on environmental communication utilize different communication channels—including internal public relations, training workshops, and digital media information—enabling employees to access relevant information on demand [27]. Giving employees a chance to express their opinions on environmental performance is another way to expand ESG practices and can be useful in achieving changes that are suitable for the work environment [2, 28]. Besides, organizations that continuously educate their employees regarding environmental practices can increase the comprehension level of employees regarding ESG and inspire each of them to align their behaviors with organizational objectives [1, 3]. According to Saeed and Cek [5], organizations that are capable of providing consistent communication of useful knowledge and information about ESG for their employees are more likely to trigger their employees' level of engagement in sustainability-related activities [12].

### 2.4. Environmental ESG

Being one of the three key components of environment (E), social (S), and governance (G), the environmental ESG practices are fundamental strategies employed by organizations to mitigate their environmental risks while improving efficiency in their business. Reducing wasteful energy, raw materials, and equipment consumption is an important method to cut costs and decrease the amount of waste produced by the production process [2, 3]. The research of Chong and Loh [1] shows that organizations that utilize intensive ESG strategies can create more business value while establishing greater credibility with investors. Furthermore, maintenance is also in line with the circular economy, which aims at minimizing negative environmental impacts in the long run, as it prolongs the life of materials, equipment, and spare parts and reduces the demand for new resources [5, 12, 17]. Collaboration with raw material input suppliers to procure and supply green raw materials is another key element. This is an emerging approach under the following concept for sustainable supply chain management [4, 22]. Moreover, establishing collaborations with suppliers that align with ESG criteria not only minimizes ecological footprints but also enhances an organization's global competitive edge Intarakumnerd [8] and Lee, et al. [11]. Wongsansukcharoen and Thaweepaiboonwong [6] further indicated that a strong commitment to ESG has helped organizations achieve better international standards compliance and reduced environmental regulatory risk compared to their peers.

## 2.5. Organizational Competitiveness

Organizational competitiveness is an organizational capability that enables it to differentiate itself from its competition by maximizing operational efficiency and positioning itself in the global market. This includes enhancing organizational productivity, achieving greater profits, lowering production costs, and reducing waste and pollution. To better respond to market demands and increase operational efficiency, organizations that have the ability to raise productivity will be more competitive [13, 21]. Profit growth is generated due to effective product management and efficient use of existing resources [29], which creates an advantage over existing competitors, thus increasing organizational competitiveness [6, 14, 22]. Another way for organizations to compete in foreign markets is to have the ability to reduce production costs. Organizations can lower costs related to energy, raw materials, and inefficient production processes. They will have a better competitive advantage over organizations to meet their trading partners' environmental standards, one of the global commercial factors [10]. Referring to Wongsansukcharoen and Thaweepaiboonwong [6], the study also revealed that companies can lower regulatory risk and improve their future financial standing by effectively managing their resources and waste.

# 2.6. Conceptual framework and Hypothesis Development

Porter [29] theory of competitive advantage states that added value is derived from differentiated, effective strategies that help firms develop and sustain international competitiveness over time, particularly in the automotive sector, where ESG pressure is strong [1, 2]. Thus, this study hypothesizes that environmental employee behavior positively influences the organization's competitiveness by enhancing environmental and sustainability practices [5, 6]. Additionally, as a major mechanism of an organization, the organizational culture can foster employees' green practices and impact the organizational culture in organizations allows them to respond better to worldwide changing trends [4]. Another point that leads employees to recognize their role in the implementation of environmental measures that impact the competitiveness of the organization, or through organizational culture, is organizational communication [12]. Furthermore, environmental ESG practices may also directly or indirectly affect competitiveness by increasing efficiency, reducing costs, and attracting investors [3, 10]. The conceptual framework and hypothesis can be shown as follows.

#### 2.7. Conceptual Framework



Note: EMB = Employee Behavior, CUL = Organizational Culture, OCOM = Organizational Communication, EESG = Environmental ESG Practices, COMP = Organization Competitiveness.

## 3. Hypotheses

H<sub>1</sub>: Employee behavior influences organizational competitiveness.

H<sub>2</sub>: Organizational culture mediates the influence of employee behavior on organizational competitiveness.

 $H_{3}$ : Organizational communication mediates the influence of employee behavior on organizational competitiveness.

H<sub>4</sub>. Environmental ESG practices mediate the influence of employee behavior on organizational competitiveness.

 $H_{5:}$  Organizational culture and organizational communication mediate the influence of employee behavior on organizational competitiveness.

 $H_{6}$ . Organizational culture and environmental ESG practices mediate the influence of employee behavior on organizational competitiveness.

*H<sub>7</sub>: Organizational communication and environmental ESG practices mediate the influence of employee behavior on organizational competitiveness.* 

 $H_{8:}$  Organizational culture, organizational communication, and environmental ESG practices mediate the influence of employee behavior on organizational competitiveness.

## 4. Research Methodology

This study focuses on employees in the automotive manufacturing sector in Thailand, as they represent a group with significant potential to drive ESG practices within their organizations. Using the formula of Krejcie and Morgan [30] to ascertain the appropriate sample size for a large population at a 95% confidence level with a  $\pm$ 5% error [31], a sample size of 400 people was determined. In the study, stratified random sampling was utilized in selecting samples based on company size and characteristics of the job position to ensure that the results genuinely reflect the employees in this industry sector [21]. The study area consists of automotive factories located in Thailand's primary industrial areas, including the Eastern Seaboard Industrial Estate in Rayong Province, Amata City Industrial Estate in Chonburi Province, Navanakorn Industrial Estate in Pathum Thani Province, and Gateway City Industrial Estate in Chachoengsao province.

A questionnaire in the form of a 5-point Likert scale was the research instrument. Its content validity using the index of item-objective congruence was assessed by the field experts, while the reliability of the instrument using Cronbach's Alpha was determined [32] to ensure the validity and reliability of the data. The questionnaire consisted of 6 general sections: 1. profiles of respondents; 2. employee behavior, including working for the environmental strength, participation in some related activities, and the practice in daily work [15, 16] 3. organizational culture, including the importance of environmental knowledge, response to environmental change, and creation of environmental value of the organization [21, 23] 4. organizational communication, such as providing information about sustainability practices, providing employees with opportunities to express their opinions, and continuous feedback on sustainability practices [25, 26] 5 environmental ESG practices, including reducing energy and resources usage, increasing material life span, and environmentally friendly supply chain partnerships [1, 3] and 6 organizational competitiveness, such as improving productivity, profitability, cost-efficiency, and minimizing waste and pollution [13, 22].

As noted by Hair, et al. [32], the partial least squares structural equation modeling (PLS-SEM) technique used to analyze the data in this study is appropriate for analyzing models with multiple latent variables in order to investigate possible relationships between them. The R<sup>2</sup> and standardized root mean square residual (SRMR) values were used to assess how well the model can account for variance in the dependent variable and the overall goodness of the model. An R<sup>2</sup> value  $\ge 0.75$ indicates high explanatory ability, an R<sup>2</sup> value between 0.50 and 0.74 is moderate, and if R<sup>2</sup> is less than 0.25, it indicates low explanatory ability [33]. Moreover, an SRMR value  $\le 0.08$  represents a good model fit, a value of 0.08–0.10 is acceptable, and if the SRMR > 0.10, it indicates poor model fit [31]. The model was also examined. To analyze convergent validity, the average variance extracted (AVE) value must be  $\ge 0.50$  to ensure that the latent variable can significantly explain the variance of the related indicators, which was also the case [32]. As for discriminant validity, it was assessed according to Fornell and Larcker [33], whereby the square root of the AVE of a variable must be greater than the value of the correlations between that variable and other variables to ensure that the variables are sufficiently different from one another. The validity of the latent variables was evaluated using composite reliability (rho\_c), reliability coefficient (rho\_a), Cronbach's Alpha ( $\alpha$ ), and AVE, which are common indicators derived from the analysis of structural equation models. Confirmation of good internal consistency of latent variables requires these rho\_c and rho\_a values to be  $\geq 0.70$ , and to indicate good reliability of the measure, the Cronbach's Alpha ( $\alpha$ ) value must also be  $\geq 0.70$  [32, 33]. Bootstrapping analysis (5,000 resamples) was also conducted on the model to ensure the statistical significance of the path coefficients.

# 5. Research Results

# 5.1. Profile of Respondents

In the study on the profile of respondents, this study collected data on gender, age, education level, income, experience, and position, which are detailed as follows:

Table	1.
D f.1.	-fD-

Profile of Respondents.		1	
Personal information	Frequency	Percent	
Gender			
Male	199	49.8	
Female	201	50.3	
Age			
Between $21 - 30$ years old	302	75.5	
Between 31 - 40 years old	73	18.3	
Above 40 years old	25	6.3	
Education Level			
Below bachelor's degree.	14	3.5	
Bachelor's degree	288	72.0	
Higher than bachelor's degree	98	24.5	
Income			
Less than or equal to 15,000 Baht	7	1.8	
15,001 Baht – 25,000 Baht	136	34.0	
25,001 Baht – 35,000 Baht	159	39.8	
35,001 Baht – 45,000 Baht	73	18.3	
45,001 Baht and above	25	6.3	
Experience			
Less than 1 year	6	1.5	
1 - 5 years	99	24.8	
6 - 10 years	152	38.0	
11 - 15 years	78	19.5	
More than 15 years	65	16.3	
Position			
Executive/Executive Board	23	5.8	
Manager/Head of Department/Department	102	25.5	
Operational Staff	275	68.8	

From Table 1, it was found that males and females were in similar proportions, with 49.8% males and 50.3% females. The highest age group was 21-30 years old (75.5%), followed by 31-40 years old (18.3%) and over 40 years old (6.3%). The majority of education levels were bachelor's degrees (72.0%). The majority of incomes were in the range of 25,001-35,000 baht (39.8%) and 15,001-25,000 baht (34.0%). The most work experience was 6-10 years (38.0%) and 1-5 years (24.8%). The majority of job positions were operating staff (68.8%), followed by managers/heads of departments (25.5%) and executives (5.8%).

Measure	Mean	S.D.	CV	Kur	Skew	Loading	t-value	rho_c	rho_a	AVE	α
EMB1	4.040	0.767	0.190	0.027	-0.535	0.882	71.151	0.928	0.898	0.763	0.897
EMB2	4.090	0.810	0.198	0.065	-0.590	0.845	52.718				
EMB3	3.900	0.812	0.208	0.180	-0.573	0.890	86.363				
EMB4	3.980	0.827	0.208	-0.485	-0.415	0.878	72.549				
CUL1	4.018	0.786	0.196	0.346	-0.621	0.916	90.037	0.911	0.859	0.774	0.853
CUL2	4.005	0.806	0.201	-0.232	-0.440	0.892	81.227				
CUL3	4.298	0.727	0.169	1.327	-0.994	0.829	44.183				
OCOM1	4.117	0.734	0.178	0.292	-0.607	0.884	82.783	0.900	0.836	0.751	0.834
OCOM2	4.152	0.842	0.203	-0.151	-0.698	0.871	64.972				
OCOM3	4.367	0.723	0.166	0.760	-0.965	0.844	55.020				
EESG1	4.060	0.791	0.195	0.403	-0.684	0.884	78.080	0.915	0.864	0.782	0.861
EESG2	4.207	0.793	0.188	-0.012	-0.750	0.881	72.768				
EESG3	4.380	0.732	0.167	0.689	-1.038	0.889	70.433				
COMP1	3.922	0.925	0.236	-0.795	-0.358	0.897	83.622	0.941	0.917	0.800	0.917
COMP2	4.072	0.896	0.220	-0.989	-0.436	0.896	93.980				
COMP3	4.295	0.767	0.179	-0.401	-0.726	0.888	76.540				
COMP4	4.497	0.671	0.149	0.374	-1.088	0.898	90.037				

 Table 2.

 Description statistics and measurement validation

Note: EMB = Employee Behavior, CUL = Organizational Culture, OCOM = Organizational Communication, EESG = Environmental ESG Practices, COMP = Organization Competitiveness

# 5.2. Descriptive Statistics and Measurement Validation

From Table 2, studying descriptive statistics by considering the mean and standard deviation (S.D.) values, it was found that the data had an appropriate central value and spread because the mean value was between 3.90 and 4.50, indicating that the respondents tended to answer at the level of agree or very agree. The S.D. value was not more than 1.0, reflecting that the data was not too spread out. Furthermore, the study analyzed the coefficient of variation (C.V.) to show the relative variance, as well as kurtosis (Kur) and skewness (Skew) to check the distribution of the data. The study found that C.V. was below 0.30 and the values of Kur and Skew were between  $\pm 3.000$ , reflecting good data. In the meantime, the loading and t-value values were employed to show the level of relationship between the indicators and the latent variables. From the results, the loading values of all indicators were more than 0.7, which is an acceptable criterion, and the t-values of all indicators were higher than 1.96, indicating that the indicators were statistically significantly different from zero. Lastly, the composite reliability (rho\_c) and reliability coefficient (rho\_a) values were higher than 0.7, and the average variance extracted (AVE) was more than 0.5, ensuring that the latent variables can explain the variance of the indicators well, and the Cronbach's Alpha ( $\alpha$ ) value was higher than 0.7, indicating good internal consistency of the indicators.

### Table 3.

Discriminant validity according to the Fornell-Larcker Criterion.

Variables	EMB	CUL	OCOM	EESG	COMP
Employee Behavior (EMB)	0.874				
Organizational Culture (CUL)	0.828	0.880			
Organizational Communication (OCOM)	0.811	0.841	0.866		
Environmental ESG Practices (EESG)	0.776	0.818	0.838	0.884	
Organization Competitiveness (COMP)	0.767	0.789	0.796	0.814	0.895

Note: Bold values in diagonal line display the square root of AVE meanwhile the others are correlation matrix.

From Table 3, the discriminant validity test using the Fornell and Larcker [33] Criterion was conducted to assess whether the latent variables could be distinguished from each other. It was found that the variables were significantly different, had discriminant validity, and possessed suitable properties for further structural analysis. This was evidenced by the square root of the AVE (bold numbers on the diagonal) being greater than the correlation value between each pair of latent variables, indicating that each latent variable could explain the variance of its own indicator better than explaining the variance together with other latent variables. Additionally, the correlation values between latent variables, which were lower than the square root of the AVE for all variables, indicated that there was no multicollinearity. This ensured that the variables in the study were clearly different and could be used appropriately in the next analysis.

## 5.3. Finalized Model and Hypothesis Analysis



# Finalized model.

Note: EMB = Employee Behavior, CUL = Organizational Culture, OCOM = Organizational Communication, EESG = Environmental ESG Practices, COMP = Organization Competitiveness.

#### Table 4.

			<u> </u>
β	<i>t</i> -Value	<i>p</i> -values	Result
0.173	3.220	0.001	Accepted
0.147	2.966	0.003	Accepted
0.072	2.707	0.007	Accepted
0.055	2.297	0.022	Accepted
0.089	2.888	0.004	Accepted
0.095	4.156	0.000	Accepted
0.061	4.357	0.000	Accepted
0.075	4.651	0.000	Accepted
	β           0.173           0.147           0.072           0.055           0.089           0.095           0.061           0.075	βt-Value0.1733.2200.1472.9660.0722.7070.0552.2970.0892.8880.0954.1560.0614.3570.0754.651	βt-Valuep-values0.1733.2200.0010.1472.9660.0030.0722.7070.0070.0552.2970.0220.0892.8880.0040.0954.1560.0000.0614.3570.0000.0754.6510.000

Note: EMB = Employee Behavior, CUL = Organizational Culture, OCOM = Organizational Communication, EESG = Environmental ESG Practices, COMP = Organization Competitiveness,  $\beta$  = Path Coefficient

From Figure 2 and Table 4, the results show that all hypotheses have a positive path coefficient ( $\beta$ ) and a t-value of more than 1.96 with a p-value lower than 0.05, which means that all hypotheses are accepted and statistically significant. H1 ( $\beta$  = 0.173, p = 0.001) indicates that employee behavior (EMB) has a direct effect on organizational competitiveness (COMP), while H2 ( $\beta$  = 0.147, p = 0.003) and H3 ( $\beta$  = 0.072, p = 0.007) indicate that organizational culture (CUL) and organizational communication (OCOM) act as mediating variables that enhance the relationship between EMB and COMP. In addition, H4 ( $\beta$  = 0.055, p = 0.022) indicates that environmental ESG practices (EESG) play an important role in enhancing organizational culture and organizational communication, EESG significantly enhances the impact on COMP, especially H8 ( $\beta$  = 0.075, p = 0.000) with the highest t-value (4.651), indicating that the combination of all factors is the most effective approach to enhance an organization's competitiveness.

Variables CUL				ОСОМ				EESG		СОМР		
	DE	IE	TE	DE	IE	TE	DE	IE	TE	DE	IE	TE
EMB	0.828	-	0.828	0.363	0.448	0.811	0.150	0.626	0.776	0.173	0.593	0.767
	(***)		(***)	(***)	(***)	(***)	(**)	(***)	(***)	(**)	(***)	(***)
CUL	-	-	-	0.541	0.541	0.541	0.312	0.245	0.557	0.178	0.312	0.490
				(***)	(***)	(***)	(***)	(***)	(***)	(**)	(***)	(***)
OCOM	-	-	-	-	-	-	0.453	-	0.453	0.198	0.167	0.365
							(***)		(***)	(**)	(***)	(***)
EESG	-	-	-	-	-	-	-	-	-	0.368	-	0.368
										(***)		(***)

 Table 5.

 Direct effect, indirect effect, total effect

Note: EMB = Employee Behavior, CUL = Organizational Culture, OCOM = Organizational Communication, EESG = Environmental ESG Practices, COMP = Organization Competitiveness, \*\* = p-value at 0.01, \*\*\* = p-value at 0.001

From Table 5, the results of the study found that Employee Behavior (EMB) had a direct influence on Organizational Culture (CUL) (DE = 0.828, p < 0.001), Organizational Communication (OCOM) (DE = 0.363, p < 0.001), Environmental

ESG Practices (EESG) (DE = 0.811, p < 0.001), and Organizational Competitiveness (COMP) (DE = 0.173, p < 0.01), with an indirect influence through CUL, OCOM, and EESG (IE = 0.593, p < 0.001), resulting in a total influence on COMP of TE = 0.767. In addition, Organizational Culture (CUL) had a direct influence on OCOM (DE = 0.541, p < 0.001), EESG (DE = 0.312, p < 0.001), and COMP (DE = 0.178, p < 0.01). Including the indirect influences through OCOM and EESG (IE = 0.312, p < 0.001), the total influence of CUL on COMP is TE = 0.490. Meanwhile, OCOM has a direct influence on EESG (DE = 0.453, p < 0.001) and COMP (DE = 0.198, p < 0.01), with an indirect influence through EESG (IE = 0.167, p < 0.001), resulting in a total influence on COMP of TE = 0.365. Finally, EESG has a direct influence on COMP (DE = 0.368, p < 0.001) without an indirect influence, resulting in a total influence of TE = 0.368.

## 6. Discussion and Recommendation

On an organizational level, employee behavior is a vital contributor to competitiveness [1, 2] and in the automotive sector, which experiences growing environmental pressure, this is increasingly the case. Environmental sensitivity employee behavior hypothesis (H) 1 directly affects organizational competitiveness confirmed for significant influence was compatible with Porter [29] and argument, that cost reduction and efficient resource utilization are key factors of competitive gearing [13, 14]. The results of hypotheses (H) 2, 3, and 4, which include organizational culture, organizational communication, and environmental practices under the principles of sustainability, indicate that these elements can be considered complementary mechanisms that reinforce the effect of employee behavior on organizational competitiveness, particularly the second hypothesis. This means that the organizational culture facilitating environmental practices outperforms the environmental communication and environmental practices prior to organizational competitiveness [5, 6]. In addition, H3 and H4 results also suggested that while organizational culture, reflecting that just communicating about and implementing environmental practices is not sufficient to enhance an organization's global competitiveness [3, 4].

Organizational culture and environmental communication are significant organizational mechanisms that mediate the effect of employee behavior on the organization's environmental practices and the organization's global competitiveness. The conclusions of hypothesis (H) 5 and hypothesis (H) 6 prove that supporting sustainability in an organizational culture would drive employees to act environmentally friendly and lead to environmental management practices as part of an organizational strategy that improves competitive advantage [5, 6]. Organizational culture that is environmentally oriented is predicted to be able to reduce operating costs and increase the efficiency of resource management so it is consistent with the opinion of Porter [29] that organizational competitiveness can be built from strategies that reduce costs and increase efficiency [13, 14]. Furthermore, environmental practice implementation is significantly affected by internal environmental communication. The primary finding of hypothesis (H) 7 showed that if employees are provided with information regarding environmental measures, they will act in accordance with the firm, and this improves the overall organization's competitiveness [3, 4]. While organizational culture and environmental communication of the organization affect the implementation performance of environmental practices and competitiveness [5, 6, 34] the analysis results of (H) 6 and (H) 7 suggest that organizations with both organizational culture and communication integrated into their environmental strategies will be more successful in implementing sustainability approaches than organizations that implement each of them separately, implying that in order to accelerate organizational competitiveness in the Thai automotive industry, the development of both factors of organizations must be carried out simultaneously to enable the implementation of environmental practices that can produce sustainable results [10, 11].

Specifically, the outcome of hypothesis (H) 8 shows that organizations capable of integrating employee behaviors, organizational culture, organizational communication [2], and environmental practices have a high potential to increase and strengthen their international competitiveness, which are important aspects of international trade and investment [1, 2]. Environmental practices, in this sense, can be seen as a principle of social responsibility but also as a business strategy that enables automotive organizations to retain their position in the international market [3, 17]. Especially in the context of environmental regulations of major trading partners, including the European Union and the United States with stricter environmental standards, enterprises that can meet such standards can enjoy preferential trade privileges and better market access [4]. Companies with excellent environmental maintenance practices attract investors who believe in investment practices in an international context. Effective implementation of ESG practices can help reduce environmental regulation risk, leading to more inviting conditions for investment. It also fosters investor confidence in the business's long-term stability. Moreover, when establishing a plan that incorporates environmental measures along with intrinsic organizational elements, it further strengthens a company's competitiveness through global supply chains, which is crucial to Thailand's automotive sector, where exports and foreign investment are significant factors [8, 10].

# 7. Research Implications

From both the managerial and academic perspectives, the results of this study have crucial implications. In the context of management, organizations within the automotive industry may utilize the findings of this study as a reference for creating green practices with a focus on environmentally friendly employee behaviors, a culture of sustainability within the organization, and systematic, effective communication to successfully implement green operations. Governors can implement strategies targeting raw material input and waste reduction in the production process and advocate for collaboration with supply chains that meet environmental criteria to enhance an organization's competitiveness. Moreover, fluid internal communication contributes to increased employee involvement in enhancing environmental standards and lowers the barriers to implementing ESG measures, which increases the organization's adaptability to international standards. From an academic perspective, this study enriches the relationship between internal organizational characteristics (processes, values, and

capabilities) and environmental performance and international competitiveness, which can provide references for exploring other industries that also encounter environmental pressures, including green technology and sustainable logistics, as well as the relationship between government policies and organizational environmental strategies within an international trade and investment context.

# 8. Conclusion

The current automotive industry is a crucial factor in the global economy and undergoes stress from sustainability (ESG) standards, primarily from the environmental (EESG) level, which translates directly to the arena of global competition. This research will study the association of internal organizational factors such as employee behavior, organizational culture, organizational communication, environmental ESG practices, and organizational competitiveness in the context of the automotive sector in Thailand. This indicates that employee behaviors regarding environmental approaches have a direct impact on the implementation of ESG in the organization and should contribute to improving the competitiveness of the organization in the international market. Beyond the people, there are also culture, environmental communication, and other factors that make ESG execution faster. This research carries significant ramifications in the business and policy world. Organizations need to promote an innovative and pragmatic organizational culture to foster sustainability; therefore, organization strategies to increase employee buy-in for the environmental standard implementation process. Moreover, study results improve ESG learning and can lead to policy formulation to encourage the growth of the Thai automotive sector towards sustainable development and global competitiveness in the paradigm of the green economy.

## 9. Future Research Suggestion

This study serves as a guideline in establishing environmental practices within the automotive industry. However, there are unresolved problems that may be well suited for future research. First, it is worth investigating whether worldwide organizations' environmental measures are influenced by external factors such as state action (public policy), support policies of international organizations, or pressure from 'green consumers,' since some countries cross different measures in trade. Open international trade involves different standards imposed by the importing countries. Second, it is possible to conduct comparative studies in other industries, such as green technology and renewable energy, to study whether the relationship between employee behavior, organizational culture, environmental communication, and ESG practices in the automotive industry can be extended to other industries. Third, instead of merely focusing on the short-term impact of environmental measures on company performance, more rigorous studies on this topic will allow organizations to better tailor their future business strategies, mainly through the exploration of the relationship between increased costs of ESG implementation and global market scope for competitiveness. Moreover, research should be conducted on how to prepare employees' competencies to comply with environmental standards in organizations, especially in the workforce that must adapt to rapidly changing technologies and sustainability trends.

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