

# OCBE among Construction Industry Employees: Does Environmental Leadership, Environmental Management Practices and Perceived Organizational Support Play a Role?

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## Abstract:

The expanding demand for the merger of environmental policies that inquire organizational sustainability strategies has urged most researchers to no longer be concerned with the importance of environmental programs of the organization per se, but with how organizations can build a highly environmentally engaged workforce. This study examined factors that affects organizational citizenship behavior for environment (OCBE) that happens in Malaysia's construction organizations. The aim is to examine if environmental values, environmental management practices and perceived organizational support influence organizational citizenship behavior for environment. A quantitative research approach using survey was employed to get insights from employees of G7 construction companies in Northern Malaysia. To examine the relationship between the variables, Structural Equation Modelling (SEM) technique was utilized. The results indicated that environmental values, environmental management practices and perceived organizational support influenced OCBE. This study furthers the understanding of OCBE in the construction industry in Malaysia.

**Keywords:** OCBE, environmental values, environmental management practices, perceived organizational support

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## 1. INTRODUCTION

Environmental issues have been getting concern by the Malaysian government, public and Non-Governmental Organizations (NGOs). This is reflected in the Malaysian 11th Plan, which has included green initiatives and green growth being one of the emphasized for the 2016-2020 plans of the government. Owing to the increased government, public and NGOs concern for environmental protection, the organizations are more accountable for their environmental responsibilities (Robertson & Baling, 2013). The implementing of environmental practices in the organization is one of the effects that came from

the increased of environmental awareness and the implementation will benefit organization to be more competitive and green organization (Yong, Yusliza&Fawehinmi, 2019). Promoting ways in the workforce in order to reduce carbon releases and highly used environmental friendly materials in the practices of organization can also be an interest of organizations in encouraging employees to commit to environmental behaviors (Graves, Sarkis& Zhu, 2013; Wu &Pazell, 2011). Further, creating a culture of sustainability in the organizations to engage the employees in activities of environmental protections to ensure employees interpret the meaning of sustainability and the

importance of it to assist the organization's initiatives efficiently (Chou, 2014).

To participate in a worldwide economy that is extremely competitive, an organization must include environment in one of the responsibilities aside from delivering value and being an effective organization (Yong, Yusliza & Fawehinmi, 2019). Despite many ways organizations do to motivate employees to be engaged in environmental behaviors, the issues on how organizations are able to achieve organizational citizenship behavior for the environment is unclear and debatable (Cantor, Morrow & Montabon, 2015; Potoski & Callerry, 2017; Wu & Pazell, 2011). This situation restricts practical insight on how organizations can promote organizational citizenship behavior for the environment. Therefore, this paper aims to examine organizational citizenship behavior for environment and factors associated to it in order to narrow the gap.

Environmental leadership has not been considered in previous studies in relation to environmental behavior citizenship for environment. The effects of environmental leaders on organizational citizenship behavior for environment have been disregarded in previous studies (Norton et al., 2015; Robertson & Barling, 2015). However, Baard, Deci & Ryan (2004); Gagné & Deci (2005); Van den Broeck et al., (2008) mentioned that in order to shape organizational citizenship behavior for the environment, environmental leaders are an important element. A committed leader is important in delivering the organization's mission because it will improve the organization's performance (Yusliza et al., 2019). By going through the literatures, this study's objective is to fill the gaps of knowledge by investigating how and under what condition organizational citizenship behavior for the environment will be affected by environmental leaders.

Besides that, policies in companies should be change to increase the organizational citizenship

behavior for the environment among the employees. Less training regarding the environment might create low awareness of organizational citizenship behavior for the environment. To enhance the level of organizational citizenship behavior environment among employees, the organization can implement environmental management practices. The developing interest of research in environmental management practices showed the difficulty and challenges that are involved with organization's environmental concerns (Boiral, 2002). Environmental management practices can be defined as an official practices designed to combine environmental issues into management's structure and to show company's dedication towards environment by providing physical evidence to the stakeholders such as report of environmental activities, ISO14001 adoption and environmental policy's implementation (Paille et al., 2013).

Even though studies of organizational citizenship behavior environment have grown rapidly (Chou, 2014; Daily et al., 2009), but, comparatively only few conceptual and practical understanding have look if employees get support from organization to engage in organizational citizenship behavior environment. Carter and Dresner (2001); Gattiker and Carter (2010) argue progressively that it is difficult to achieve organizational citizenship behavior for the environment except if there are business practices' transformation in the organization to encourage such behaviors. Therefore, these study aims to examine the influence of perceived organizational support towards organizational citizenship behavior for the environment.

## 2. LITERATURE REVIEW

### *2.1 Organizational Citizenship Behavior for the Environment*

To achieve corporate greening, extra-role behaviors such as organizational citizenship

behavior environment is needed (Ramus and Killmer, 2007). Norton et.al, (2015) agreed that organizational citizenship behaviour for the environment also can be indicated as green behaviors that involve personal efforts that go beyond the expectations of the organization. At the same time, Boiral (2009); Boiral and Paille (2012); Boiral, Talbot and Paillé (2015); Daily, Bishop and Govindarajulu (2008); Temminck, Mearns and Fruhen (2013), refer organizational citizenship behavior for the environment as a behavior of an individual that is voluntary, not mentioned in the job description, not clearly acknowledged in official reward structure but is beneficial to the environment and the organization. According to Boiral&Paille (2012), there are three dimensions of organizational citizenship behavior for the environment, namely eco-initiative, eco-civic engagement and eco-helping. Eco-initiative is a behavior that is voluntary and suggesting ways to improve performance of environment (Boiral&Paille, 2012). For example, employees give recommendations to reduce water usage and improve the efficiency of energy. While eco-civic engagement is the employees' commitment in supporting the organization's activities and will increase the organization's reputations (Boiral&Paille, 2012). As an example, employees take part in the committee of green and ISO 14001's execution. Meanwhile eco-helping is employees voluntarily helping their colleagues to care for the environment in the organization (Boiral&Paille, 2012). For instance, new staff been assisted and explain by senior employees about the environmental procedures and policy.

## ***2.2 Environmental leadership and organizational citizenship behavior for the environment***

Environmental leaders are role models when they share their environmental views, clearly deliver the importance of sustainable environment and most importantly develop and implement the ideas for confronting the impact of environment (Robertson

&Barling, 2013). Environmental leaders also emphasize on conveying an understandable and reasonable environmental vision for their responsibility's area (Graves, Sarkis& Zhu, 2013). There are two dimensions of environmental leadership which are transformational leadership and transactional leadership. The internalization of organization's vision and objective for employees that change employees' view, objectives and behaviors is what define transformational leadership. While transactional leadership is using penalty and positive reinforcement depends on performance to control the behaviors of the followers.

Ramus (2001); Ramus & Steger (2000); Mittal &Dhar (2016) have done studies about the consequence of leadership towards organizational citizenship behavior for the environment. As a leader, the organization's top management can be a role model that inspire employees and shows that the sustainable of environment is important, valued and prioritized (Mittal &Dhar, 2016; Ramus & Steger, 2000; Robertson &Barling, 2017). In the exact sense of the word, employees are driven to practice environmental behaviors willingly by observing and communicating with environmental leader and automatically will increase organizational citizenship behavior for the environment. Precisely, when environmental leader inspires their followers questioning assumptions on environmental issues and come out with new suggestion to overcome the problem, they will automatically influence the employees to carry out environmental behaviors and organizational citizenship behavior for the environment willingly (Kim &Stepchenkova, 2018). Yusliza et al., (2019) also agreed that defining and designing policies to implement is the responsibility of the leaders and the policies must be delivered systematically through the organization. On top of that, by assessing motivational needs of each employees and giving rewards individually, the leader may increase the

capability of employees to deal with environmental problems (Graves et al., 2013). Another way of saying, a leader's commitment will determine if the implemented green policies will be a success or not (Yusliza et al., 2019) Therefore, it is hypothesized that:

H<sub>1</sub>: Environmental leadership is positively related to organizational citizenship behavior for the environment.

### ***2.3 Environmental management practices and organizational citizenship behavior for the environment***

Environmental management practices (EMPs) has been the topic of developing research that showed the difficulty and challenges involved with environmental concerns in the organization (Boiral, 2002). Paille et.al, (2013) agreed that EMPs can be defined as an official practice that was designed to combine environmental issues into management's structure and to show company's dedication towards environment by providing physical evidence to the stakeholders such as report of environmental activities, ISO14001 acceptance and environmental policy's implementation.

Ramus &Montiel (2005) agreed that if organizations have an incentive in publishing their environmental policy statements, which will help in influencing public perceptions of organization's commitment towards environment and automatically will increase the market share and improve the relationship between organization and stakeholder. Increasing the employees' organizational commitment can be done by implementing EMPs (Pailleet.al, 2013). A better environmental performance can be developed through implementation of EMPs (Pailleet.al, 2014). Working environment also helps in shaping an individual's behavior even though the behavior is related to their own values (Zientara&Zamojska, 2016). Employees tend to be more pro-environmental if the organization commit to the environment by implementing EMPs (Paille

et.al, 2013). For example, when organization introduce environmental policy and implement the environmental management system, employees seem voluntarily to do the action. Hence, it is hypothesized that:

H<sub>2</sub>: Environmental management practices are positively related to organizational citizenship behavior environment.

### ***2.4 Perceived organizational support and organizational citizenship behavior environment***

When an employee believes that the organization acknowledges and look after their well-being is what indicate perceived organizational support (Cheng & Yang, 2018). Meanwhile, Rhoades and Eisenberger (2002) agreed that perceived organizational support occurred when employees' felt their organization's support are responsible for the employees' welfare, the organization's goals will be improved. Perceived organizational support also can be defined as an individual belief that organization has both positive and negative intention for the employees that include comprehensively acknowledgement for any contribution and care for the employees' well-being (Eisenberger, Huntington, Hutchison and Sowa, 1986).

Employees assumed that perceived organizational support reflects the employers' commitment for employees (Paille et.al, 2013). Workers feel the supportive actions from the employer should be voluntary and not obliged by government or negotiations with a union (Eisenberger et.al, 2002). Therefore, according to Paille et.al, (2013), if an organization is adopting environmental policy because of government's order, employees tend to believe that organization is not exactly committed into executing environmental goals and activities. Voluntary actions and decisions create a feeling that employers' dedication to a problem like environmental protection are voluntary and not forced (Paille et. al, 2013). Thus, it is hypothesized that:



H3: Perceived organizational support is positively related to organizational citizenship behavior environment.

Figure 1 showed the conceptual framework in this study after reviewing the literatures. This study propose that perceived organizational support, environmental values and environmental

leadership will have direct relationship with organizational citizenship behaviour environment based on studies by Zientara and Zamojska (2016); Kim, Kim, Han & Holland (2016); Kim & Stepchenkova (2018); Dumont, Sheng and Deng (2016).

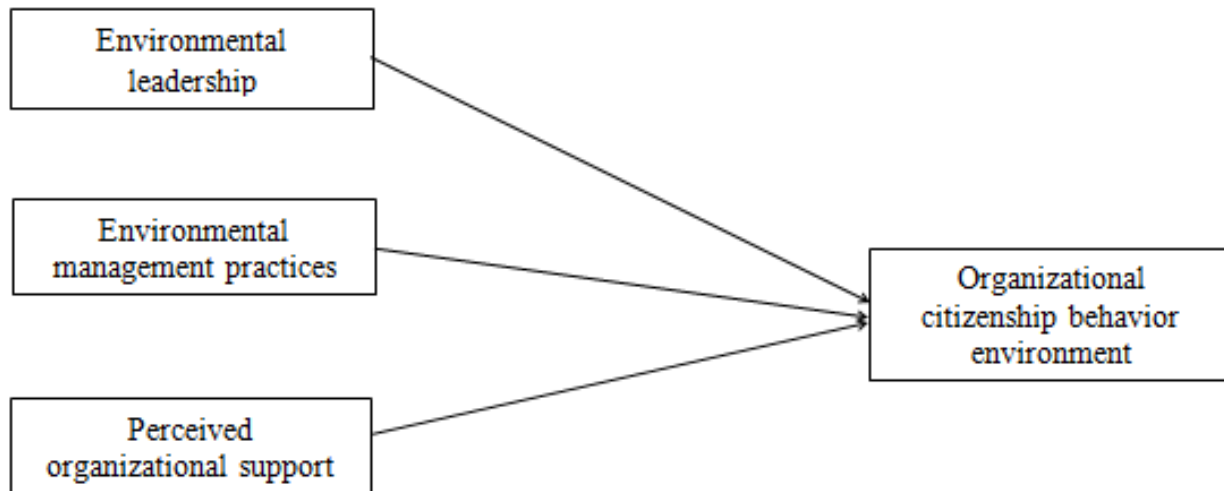


Figure 1: Relationship between perceived organizational support, environmental values, environmental leadership and organizational citizenship behavior environment.

### 3. RESEARCH METHODOLOGY

#### 3.1 Research Design

This paper adopted the quantitative research methodology. Quantitative study is about collecting and analyzing data to explain the phenomena (Sekaran&Bougie, 2016). This study involved the collection of data to test relationship and presented in numerical form and analyzed through statistical tools (Sekaran&Bougie, 2016). Questionnaires were used in this study and allow the research to collect data directly from respondent through a set of organized questions (Kumar et al., 2013). Survey is widely used in quantitative studies as the method captures information on the given phenomena through the questions' formulations that reflect the thought, insight and attitudes of a group of people (Creswell, 2013). Surveys using questionnaires is quick and cost less compared to other methods of

gaining information, especially from a large sample of respondents (McLeod, 2018). Nevertheless, the survey structure and the accuracy of the respondents' answers will determine the reliability of the data. A cross-section design was used to identify factors that influence OCBE among employees of construction companies in the northern states of Malaysia. The questionnaires consisted of items to measure OCBE, perceived organizational support, environmental values and environmental leadership.

#### 3.2 Sample

Systematic random sampling method was utilized for the data collection among employees in Grade 7 construction companies located in the states of Perlis, Kedah and Pulau Pinang. Data was collected through questionnaires. 350 questionnaires were distributed to 70 construction

companies in three states of Northern Malaysia but only 204 completed questionnaires were received, producing a response rate of 58.6%. Data from 5 respondents were excluded as the respondents failed to complete the questionnaires. Hence, only the data from 199 respondents (56.9%) were usable for further analysis. The unit of analysis is individual, namely employees who worked at the construction companies.

### **3.3 Measurement**

The measurement for OCBE consists of 9 questions adapted from Boiral and Paille (2012). The perceived organizational support variables were measured using 7 items developed by Eisenberger, Huntington, Hutchison & Sowa (1986). For environmental management practices, the Ramus & Montiel (2005) measurement was used. The environmental leadership instrument comprised of 8 items adapted from Bass (1985). The pilot test result indicated reliability results between 0.7 and 0.85 for the variables. Five-point Likert scale from 1- strongly disagree to 5- strongly agree were used to ask the level of agreement from the respondents.

## **4. RESULTS**

### **4.1 Data Analysis and Results**

Statistical Package for Social Science (SPSS) software version 23 has been used to enter and coded all the collected data from the survey. Statistical analysis techniques are performed using SPSS version 23 software for data screening and preliminary analysis. For the hypotheses testing, SmartPLS version 3.2.7 were utilized to determine the instrument's validity and reliability. The data were cleaned from any missing data and 2 cases of outliers were detected and deleted.

The basic features of the data in this study have been described by descriptive statistics. The number of occurrences of each answer by the respondents has been showed by using a descriptive statistical method which is frequency

analysis. The sample and measures were also summarized using frequency analysis. Descriptive analysis comprises the process of transforming data of general characteristics.

To analyse the data of this study and at the same time answering the study's objectives, Structural Equation Modelling (SEM) technique has been used. Besides SEM, the technique also has been acknowledged as a second generation and it also enables the simultaneous modelling of connection between several variables (Gefen, Straub, & Boudreau, 2000). Differently from technique in the first-generation like regression model, SEM merges the structural model and measurement in the same study.

The observed variables (manifest variables) and the underlying unobserved variable (latent variable) are created to measure the measurement model. Simply put, a latent variable (construct) was linked to its indicator (items) in a measurement model, while relationships between latent variables was determined in a structural model. Therefore, by using SEM, researches can do the evaluation of factor analyses' set and multiple regression at the same time (Hair Jr, Hult, Ringle, & Sarstedt, 2014; Hair Jr et al., 2017). To determine the relationship between OCBE, POS, EV and EL, the structural model has been instigated in this paper and Structural Equation Modelling (SEM) has been utilized to find out which variables have the most significant influence on OCBE.

### **4.2 Demographic profile of respondents**

Results indicated that majority respondents in this study were male 140 (70.4%) while female's respondents 59 female (29.6%). 76 (38.2%) of the respondents were between 40-49 years old and 107 (53.8%) have bachelor's degree. Majority had served their organizations between 5-25 years as Management position 48 (24.1%) and 143 (71.9%) had worked in the Civil Engineering of the construction Industries.

**Table 1: Demographic Profile of Respondents**

Demographic Profile		Frequency (N=199)	Percentage (%)
<b>Gender</b>	Female	59	29.6
	Male	140	70.4
<b>Age</b>	<30	31	15.6
	30-39	61	30.7
	40-49	76	38.2
	50 and above	31	15.6
<b>Academic Qualification</b>	Diploma	72	36.2
	Bachelor's Degree	107	53.8
	Master's Degree	13	6.5
	Others	7	3.5
<b>Position</b>	Project Manager	39	19.6
	Project Officer	31	15.6
	Management	48	24.1
	Safety Officer	27	13.6
	Site Manager	32	16.1
	Others	22	11.1
<b>Tenure</b>	<5 years	27	13.6
	5-10 years	42	21.1
	11-15 years	31	15.6
	16-20 years	28	14.1
	21-25 years	56	28.1
	26-30 years	14	7.0
	> 30 years	1	.5
<b>State</b>	Kedah	100	50.3
	Penang	81	40.7
	Perlis	18	9.0
<b>Type of Construction</b>	Building	135	67.8
	Civil Engineering	143	71.9
	Mechanical & Electrical Engineering	45	22.6
	Facility Management	7	3.5
<b>ISO 14001</b>	Yes	106	53.3
	No	93	46.3
<b>Green Building Index</b>	Yes	114	57.3
	No	85	42.7
<b>Implement Green Technology Policy (2009)</b>	Yes	121	60.8
	No	78	39.2

### 4.3 Measurement Model

A path model that covers the indicators and the constructs' relationships define the measurement model. Measurement model analysis includes the assessment of composite reliability (CR) to

indicate internal consistency, outer loadings to specify individual indicator reliability, average variance extracted (AVE) to accomplish convergent validity, and discriminant validity through Fornell-Larcker criterion.

**Table 2: Results of measurement model analysis**

Variables	Items	Loading	Mean	Cronbach Alpha	Composite Reliability	AVE
Organizational Citizenship Behaviour for Environment (OCBE)	OCBE1	0.716	4.01	0.944	0.953	0.691
	OCBE2	0.847				
	OCBE3	0.842				
	OCBE4	0.849				
	OCBE5	0.818				
	OCBE6	0.825				
	OCBE7	0.878				
	OCBE8	0.856				
	OCBE9	0.842				
Environmental Management Practices (EMP)	EMP10	0.779	4.18	0.830	0.876	0.543
	EMP11	0.783				
	EMP12	0.707				
	EMP13	0.639				
	EMP8	0.75				
	EMP9	0.752				
Perceived Organizational Support (POS)	POS1	0.764	3.85	0.863	0.895	0.553
	POS2	0.782				
	POS3	0.773				
	POS4	0.822				
	POS5	0.751				
	POS6	0.793				
Environmental Leadership (EL)	EL1	0.745	3.43	0.904	0.922	0.596
	EL2	0.758				
	EL3	0.757				
	EL4	0.786				
	EL5	0.802				
	EL6	0.758				
	EL7	0.772				
	EL8	0.797				

Table 2 shows that all constructs have passed the internal consistency reliability (i.e. CR more than 0.708) and convergent validity (i.e. AVE more than 0.5) tests (Fornell&Larcker, 1981; Gefen et al., 2000; Hair Jr et al., 2014). According to Hair Jr et.al, (2014), although outer loadings of one item (EMP13) are below than the benchmarking value (i.e. 0.708), the values are still acceptable since this study is regarded as an exploratory research. In an exploratory research, the minimum

acceptable outer loading value for its measurement item is 0.60 (Hair Jr et al., 2014), while item POS7 was deleted as it does not achieve the minimum acceptable loadings.

The constructs are consistently reliable exhibiting scores of composite reliabilities between 0.876 to 0.953 and Cronbach alpha reliability between 0.830 and 0.944 (Table 2). By verifying the discriminant validity, the model of measurement



is further evaluated. By comparing the square root of each construct's AVE with its correlations with another constructs in the model is a measure of discriminant validity and that defines the Fornell-Larcker criterion. In particular, the highest

correlation with any other construct must be lower than the square root of each construct's AVE. Table 3 showed all diagonal values are higher than other values, indicate the measurements have established discriminant validity.

**Table 3: Results of Fornell and Larcker (1981) criterion**

	OCBE	EL	EMP	POS
Organizational Citizenship Behaviour for Environment (OCBE)	<b>0.831</b>			
Environmental Leadership (EL)	0.344	<b>0.772</b>		
Environmental Management Practices (EMP)	0.564	0.341	<b>0.737</b>	
Perceived Organizational Support (POS)	0.781	0.319	0.657	<b>0.781</b>

#### 4.4 Structural Model

Analysing the structural model involves assessing the basic measures such as coefficient of

determination ( $R^2$ ), path coefficient ( $\beta$ ) and the empirical t-values (t-statistics) (Hair Jr et al., 2014, 2017).

**Table 4: Results of structural model analysis.**

Relationship/ Effect	Path Coefficient ( $\beta$ )	T Statistics	P Values	Coefficient of determination ( $R^2$ )	Decision
EL -> OCBE	0.125*	1.853	0.064	0.454	Accepted
EMP -> OCBE	0.230**	2.645	0.008		Accepted
POS -> OCBE	0.444***	6.848	0.000		Accepted

Note. One-tailed test. Significant at  $p < 0.1^*$ ,  $p < 0.05^{**}$ , and  $p < 0.01^{***}$

The results in Table 4 conclude that EL ( $\beta = 0.125$ ,  $t = 1.853$ ,  $p < 0.01$ ), EMP ( $\beta = 0.230$ ,  $t = 2.645$ ,  $p < 0.05$ ), and POS ( $\beta = 0.444$ ,  $t = 6.848$ ,  $p < 0.01$ ) positively influenced OCBE, explaining 45.4% ( $R^2 = 0.454$ ) of the variance in OCBE.

These results support all hypothesised relationships/effects (i.e. H1, H2, and H3) in this paper. Below (Figure 1) is the illustration of the structural model of OCBE.

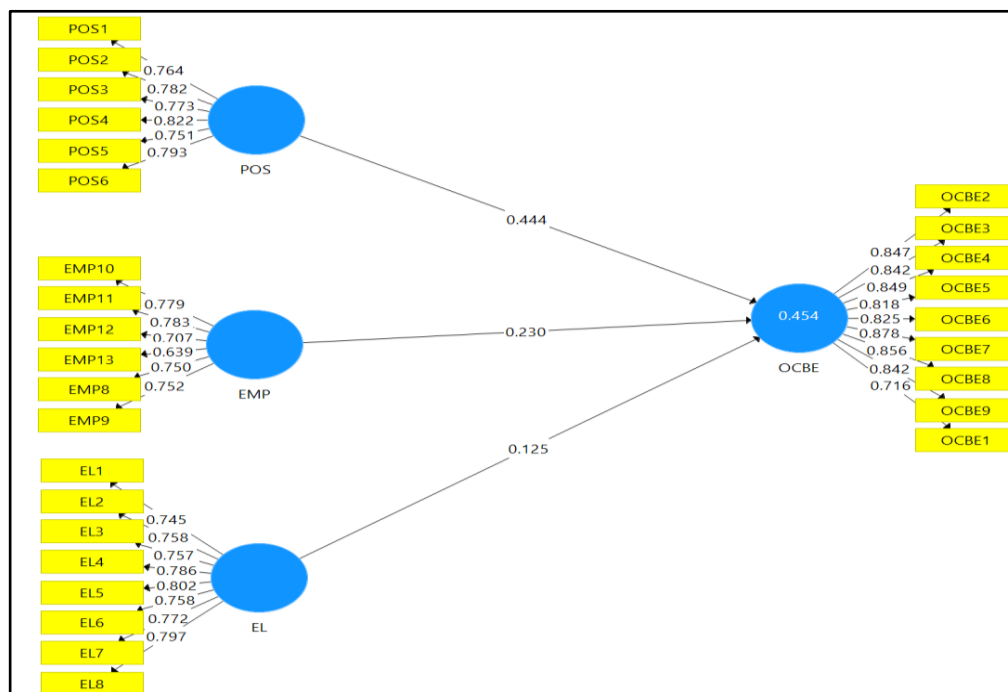


Figure 1: *Structural model of OCBE.*

## 5. DISCUSSION

The results revealed that perceived organizational support, environmental management practices and environmental leadership have significant influence on OCBE. The results showed that a role model that share their environmental views, clearly deliver the importance of sustainable environment and most importantly develop and implement the ideas for confronting the impact of environment such as an environmental leader has influence on OCBE. Thus, employees are driven to practice environmental behaviours willingly by observing and communicating with environmental leader and automatically will increase organizational citizenship behaviour for the environment. As stated by Kim & Stepchenkova (2018), when environmental leader inspired their followers on environmental issues and come out with new suggestion to overcome the problem, they will automatically influence the employees to carry out environmental behaviors and indirectly effect their organizational citizenship behaviour for the environment.

Furthermore, perceived organizational support also showed that it has influence on OCBE.

According to Cheng and Yang (2018), employees tend to have higher OCBE if the employees trust that the organization appreciates and take good care of their well-being. Meanwhile Rhoades and Eisenberger (2002) agreed that perceived organizational support being employees' faith towards the organization especially when they get support from the organization; automatically the sense of responsibility for the organization increased and indirectly would increase the organization's goals. As a result, these study produced similar result with Lamm, Tosti-Kharas and Williams (2013) and Temminck et al. (2013) that showed positive relationship between OCBE and perceived organizational support. This brings to the understanding that employees will be more committed to the environmental behaviours when delivering their job if they feel that the organization is supporting them. Similarly, as agreed by Paille et.al, (2013), increasing the employees' organizational citizenship behavior for the environment can be done by implementing environmental management practices. Paille et.al, (2014) indicated in their study that a better environmental performance will be developed

through execution of environmental management practices. Even though the behavior of an individual is shaped by their own values, it is also determined by their working environment (Zientara&Zamojska, 2016). Employees would tend to be more pro-environmental if the organization commit to the environment and environmental management practices had been implemented (Paille et.al, 2013).

In view of the above, it is essential to ponder the interaction between employees' behaviour and their environment because continuous interaction with the physical environment increases their OCBE. Thus, the integration of environmental leadership, perceived organizational support and environmental management practices have influence on OCBE particularly in constructions' organizations. For that reason, organizations should provide greater emphasis on environmental leadership, perceived organizational support and environmental management practices to ensure the achievement of OCBE.

## 6. CONCLUSION

The findings show that environmental leadership, perceived organizational support and environmental management practices have significant influence on OCBE. This was reflected in the results from the construction employees in the northern states in Malaysia. Thus, the construction organizations need to put greater efforts to upgrade and maintain their environmental programs and activities carried out in their organizations. The objectives of this study which is to examine the relationship between environmental leadership, perceived organizational support and environmental management practices have been achieved when the result showed those variables have significant influence on OCBE.

The findings have provided a better comprehension on the relationship between these variables particularly on the factors which

influence construction industries OCBE in Malaysia. Environment aspects being an important element for employees and organizations to increase as the activities and programs can be used to shape employees' attitude and behavior regarding environmental concern. This paper also contributes a deeper grasp of organizational citizenship behavior environment while opening a new path on unexplored dimensions of these behaviors. The study advances the knowledge on how perceived organizational support linked to OCBE. Factors associated with OCBE are discussed such as perceived organizational support that helps to explain theoretical mechanisms underlying OCBE.

Besides that, a fresh idea for the study of OCBE in construction industry setting behaviors is given, which not only benefit the organizations but also the society. This study extends research on OCBE by examining environmental leadership as the predecessor and developed a potential awareness of the significance of environmental leadership in order to develop OCBE. In term of practical view, lengthening and reproducing the extant literature in this way draw special attention to the significance of developing environmental leadership initiatives and strategies from human resource management that targeted in hiring and developing environmental leaders. The items used to measure OCBE in this study help the administrators to observe the concentration of the employees' voluntary environmental behavior in the office.

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