

Mediating effect of corporate environmental responsibility on the relationship between external supervision and pro-environmental behaviour: evidence from renovation sector

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The renovation projects experienced vigorous growth due to the fast urbanization and city renewal. An increasing number of waste has been generated within renovation activities and throw huge environmental and social hazards accordingly (Hao et al., 2020; Sun et al., 2020). Promoting individual pro-environmental behavior (PEB) and corporate environmental responsibility (CER) can help to address the renovation waste problems. Incorporating PEB initiatives in an organization is identified as a strategic tool for realizing CER and achieving sustainable performance (Suganthi, 2019; Yang & Gao, 2021). The previous studies revealed the impact of external supervision on corporate environmental responsibility, namely public supervision, media supervision, governmental supervision and environmental regulations (Graafland, 2019; Wan et al., 2021). However, little research has been done to explore the influence of external supervisions on PEB and the role of CER on the relationship between them. This empirical study aims to examine the impact of external supervisions on the individual PEB and mediating effect of CER.

After a review of the literature, nine hypotheses have been proposed and tested with CER as a mediating variable. All the hypotheses are summarized in Fig. 1.

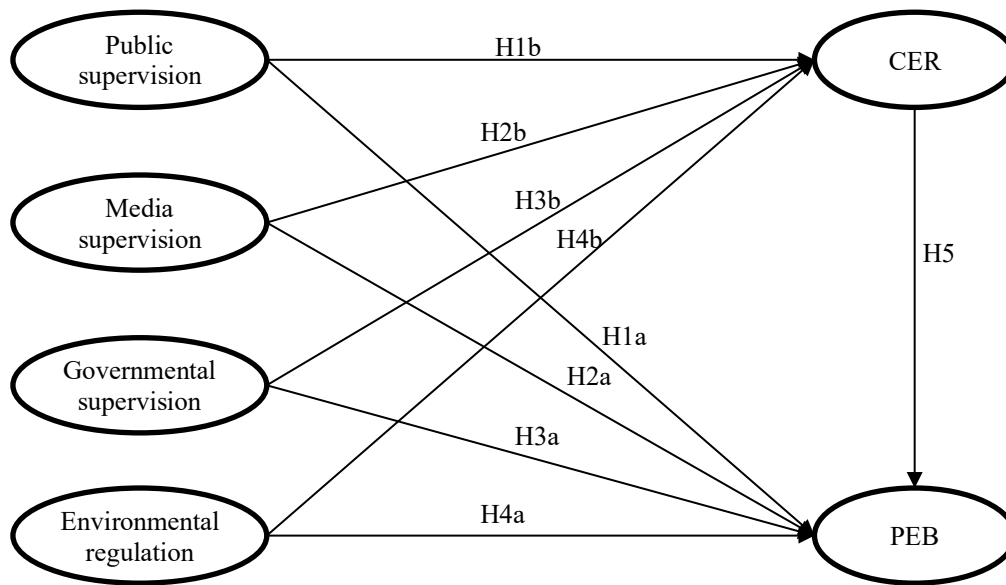


Figure 1. Theoretical framework

In support of the proposed hypotheses, a questionnaire including the respondents' demographic information and their perception about the variables of the hypotheses was designed and distributed to the employees in renovation companies in Jiangsu Province, China. Among the valid survey respondents (n=148), 37.43% were renovation workers, 24.56% were renovation designers, 25.15% were technical and management staff, and 12.87% were others, meaning a good representative sample.

SmartPLS 3.3.2 was employed for the data analysis. The partial least squares technique was used for the data assessment and prediction of the results based on the hypothesis testing for a range of determinants. Composite reliability analysis of determinants showed that all items gave a value of 0.8, representing an acceptable level of reliability of each determinant. The discriminant validity for the measurement model also confirms the reliability of the variables (see Table 1.).

Table 1. The discriminant validity (Fornell-Larcker criterion) for the measurement model

Variables	PEB	CER	Public supervision	Media supervision	Governmental supervision	Regulation
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PEB	0.873					
CER	0.773	0.824				
Public supervision	0.722	0.729	0.888			
Media supervision	0.689	0.676	0.693	0.871		
Governmental supervision	0.65	0.662	0.598	0.638	0.86	
Regulation	0.717	0.661	0.619	0.651	0.703	0.876

Note: diagonals (in bold) represent square roots of average variance extracted, while the other entries represent the squared correlations.

Nine hypotheses were tested via structural equation modelling and the results shows that all the hypotheses were supported except H2a and H3a which can be seen in Table 2.

Table 2. T-values and path analysis of structural model

Hypotheses	Hypotheses paths	Standardized coefficient	T-value	Results
H1a	PS → PEB	0.201	2.857**	Supported
H1b	PS → CER	0.385	6.178***	Supported
H2a	MS → PEB	0.121	1.709	Rejected
H2b	MS → CER	0.168	2.283*	Supported
H3a	GS → PEB	0.045	0.610	Rejected
H3b	GS → CER	0.207	2.850**	Supported
H4a	ER → PEB	0.251	3.199**	Supported
H4b	ER → CER	0.168	2.626**	Supported
H5	CER → PEB	0.349	4.621***	Supported

Note: *p<0.05, **p<0.01, ***p<0.001; PS-public supervision; MS-media supervision; GS-governmental supervision; ER-environmental regulation

The mediating effect of CER on the relationship between external supervision and PEB was also examined. The result shows that CER mediates the impact of public supervision, media supervision and governmental supervision on PEB. CER do not mediate the impact of environmental regulation on PEB. The result can be found in Table 3.

Table 3. Effect size

CER as Mediator	Direct effect	Indirect effect	Total effect	VAF	Effect	Results
PS→CER→PEB	0.201	0.134	0.335	40.065%	Partial mediation	Supported
MS→CER→PEB	0.121	0.059	0.180	32.640%	Partial mediation	Supported
GS→CER→PEB	0.045	0.072	0.117	61.618%	Partial mediation	Supported
ER→CER→PEB	0.251	0.059	0.310	18.936%	Non-mediation	Rejected

The findings reveals the important role of CER on individual PEB. The possible contribution of the research findings to the literature or the design of policy interventions that consider external supervision to CER and PEB, and future research directions are discussed.

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