

# **Does place attachment matter? Top-management characteristics, institutional pressures and SMEs' pro-environmental behaviour**

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## **Abstract**

This study examines the influence of institutional factors on SMEs' environmental performance. It further demonstrates the relative importance of institutional factors and place attachment of top-management (owner-manager), by examining the moderation effect of place attachment of owner-managers on the relationship between institutional factors and SMEs' environmental performance. The empirical results based on a questionnaire survey of 509 SMEs in China demonstrate that institutional pressures and place attachment of top-management positively influence SMEs' environmental performance. Moreover, negative interaction effects are identified between place attachment of top-management and institutional pressures.

**Keywords:** Institutional pressures, Place attachment, SMEs

## **Introduction**

Small and Medium sized Enterprises (SMEs) are playing a very important role in the global economy, albeit SMEs are also known to have contributed to all kinds of environmental impacts. For instance, the European Commission estimated that among EU countries SMEs can be responsible for about 50% of the environmental pollution and waste (Cassells and Lewis, 2011).

Previous studies have taken the environmental economics and the neo-institutional perspectives to show that economic and institutional factors (Berrone et al., 2017) play important roles in shaping firms' pro-environmental behaviour. It is rather recently scholars have called for better understandings of how can SMEs perform better in pro-environmental practices (Sanchez-Medina et al., 2015). The focus of the research has broadened to examine the micro level enterprise characteristics (Shaukat, et al. 2016) and owner-managers' characteristics (Colwell and Joshi, 2013), which are believed to be more important to understand the pro-environmental behaviour of

SMEs.

### **Literature and hypotheses**

The relationship between institutional factors and corporate pro-environmental behaviour has gained growing attention since the last two decades (Kim et al., 2017). In the meanwhile, a comprehensive framework comprising of institutional and micro factors are suggested by researchers to understand why SMEs are lagging behind the “green business” initiatives (Gadenne et al., 2009).

Environmental psychology and social psychology scholars point out that it is very difficult to interpret and understand one’s environmental behaviour if the specific environmental setting is ignored (Stedman, 2002). This paper believes that SMEs’ pro-environmental behaviour should be conceived as a place-situated phenomenon and therefore should be observed taking the places they are located into account.

#### *Institutional pressures*

Institutional theory proposes that organizations will become increasingly isomorphic over time, as they response to institutional environment. Institutional isomorphic change can increase organizations legitimacy (Berrone et al., 2017) and survival prospects (Meyer and Rowan, 1977).

Three mechanisms have been identified by DiMaggio and Powell: coercive isomorphism, mimetic isomorphism and normative isomorphism (DiMaggio and Powell, 1983). Coercive isomorphism stems from the pressures exerted on organizations by other organizations which they are dependent upon, or by cultural expectations in the society which organizations function within. Mimetic isomorphism refers to organizations’ modeling on other organizations because of poorly understood technologies, ambiguous goals, or environment uncertainty. Normative isomorphism refers to professionalization.

#### *Place attachment*

Among most of place concepts, the place attachment lies at the very heart of the studies on current people-place literature. As a related concept of place attachment, *place identity* is a sub-structure of the self-identity of the person, consisting of cognitions represent memories, ideas, feelings, attitudes, values, preferences, meanings, and conceptions of behaviour and experience which relate to specific physical settings (Proshansky et al., 1983).

Literature review suggests that place identity is often related to place attachment, which is defined as the affective bond or link between people and specific places (Hidalgo and Hernández, 2001). This study follows Stedman (Stedman, 2002) to take the place identity and place attachment as the same concept and does not attempt to differentiate the two concepts.

#### *Hypotheses development*

According to Campbell (2007), corporations are more likely to act in socially responsible ways if there are strong enforced state regulations, or a well-organized

and effective industrial self-regulation system to ensure such behaviour. For instance, in China, numerous policy instruments have also been implemented to achieve pollution control of businesses, such as chemical industry zone management, environmental impact assessment, and so forth. Since 1996, an environmental pollution rectification program, which specifically targeted fifteen types of pollution-intensive small enterprises, has been carried out every year (Guofa, 1996, No.31). In addition, administrative assistance system, which emphasized on cooperation between different administrative agents, has been adopted to support the environmental management implementation in China. All these regulative and administrative pressures have forced more and more Chinese firms to adopt environmental practices.

With regard to industry self-regulation, the function of business associations has been discussed in the current literature (Greenwood et al., 2002). There are significant influences of business associations on organizational learning of adaptive responses to environmental change (Kraatz, 1998). Given the lack of slack resources of SMES and the voluminous market uncertainty facing them, it is expected that SMEs are more likely to take the environment issues into account until government agencies are demanding so. When facing strong regulation pressures, most of them are likely to exercise compliance, or to imitate other similar organizations in their field to gain legitimacy. Therefore,

Hypothesis 1a: Coercive pressure is positively related to SMEs' environmental performance.

Hypothesis 1b: Mimetic pressure is positively related to SMEs' environmental performance.

Hypothesis 1c: Normative pressure is positively related to SMEs' environmental performance.

Higher place attachment is expected to be linked with greater willingness to engage in place-protective action (Stedman, 2002). Most of SMEs start from family owned enterprises and are usually own by managers who established the firms. Thus, the micro level management attitude of owner-managers such as place attachment becomes an important factor that shapes the decision making of SMEs. For instance, the place attachment in China is usually linked with the cognitions of place-related social relationships. In China, members of family and acquaintance are usually considered as "self" (Fei et al., 1992), named as *quanzi*, and one usually display a tendency to act on behalf of his own *quanzi* and being loyal to it. The local *quanzi* of owner-managers then constructs the main business relationships of SMEs. In this case, it is expected that owner-managers of SMEs with higher level place attachment are more likely to take their *quanzi*'s benefits (such as environmental standards or social wellbeing) under consideration. Therefore,

Hypothesis 2: Place attachment of owner-manager is positively related to SMEs' environmental performance.

Despite the positive effect stemming from institutional pressures, several studies revealed the evidences of inefficiency and underperformance of regulation practices (Drake et al., 2004). Carrus et al. (2005) provide explanations from the social

dilemma theory. Many environmental issues can be defined as large-scale social dilemma (Carrus et al., 2005). For example, the regulation in the use of local natural resources may put SMEs into a social dilemma situation. By compliance, SMEs make it more likely that local environment will be protected over time, but obviously, they go against their immediate business benefits.

In addition, the positive effect may change and become weaker if there is a conflict between the enforcement of environmental policy imposed by local authorities and the place attachment of top-management. For example, one of the reasons of the strong opposition to the construction of the natural preserved area by local communities in Gennargentu, is resulted from the identity issues, which involves a perceived potential threat to the political or administrative autonomy of the local residents (Bonaiuto, Carrus and Martorella, 2002).

Hypothesis 3a: Place attachment of owner-manager will negatively moderate the relationship between coercive pressure and SMEs' environmental performance.

Hypothesis 3b: Place attachment of owner-manager will negatively moderate the relationship between mimetic pressure and SMEs' environmental performance.

Hypothesis 3c: Place attachment of owner-manager will negatively moderate the relationship between normative pressure and SMEs' environmental performance.

## **Methodology**

### *Data collection*

This study took a random sample of 2000 SMEs from China. A mailing list of top management/owner managers of SMEs was obtained from four sources: Shanghai Pudong New Strict Industry and Commerce Federation, Shanghai Chamber of Commerce, Sichuan Chamber of Commerce, and Xinjiang Chamber of Commerce.

A survey questionnaire based on an online survey tool was developed and e-mailed to owner-managers or top-management of the sample SMEs in December 2017. After several rounds of survey, 509 completed questionnaire were received which gives a response rate of 25.5 percent. Top five provinces with higher number of response are Jiangsu (33%), Shanghai (17.4%), Guangdong (6.3%), Beijing (6.3%), and Shandong (5.1%). The sectors distribute in manufacturing (24.2%), construction (15.5%), wholesale and retail (14.5%), mining (9.8%), agriculture and aquaculture (7.7%), Transportation, warehousing, and postal (5.7%), business service (5.5%), accommodation and catering (4.1%), energy supply (3.3%), others (9.6%).

### *Measurement*

This study developed the questionnaire following Dillman, Smyth and Christian's (2014) tailored design method to ensure a better response rate. In order to enhance the reliability and validity, all variables were adopted from previous studies and adjusted to fit the target sample and the research aim.

The measurement of institutional pressures was developed following Colwell and Joshi's reflective measurement (Colwell and Joshi, 2013). The items have been verified and were followed by other researchers as measures of institutional pressures in sustainable development field (e.g., Leonidou and Skarmneas, 2017). The

measurement of place attachment of top-management was based on Williams and Vaske (Williams and Vaske, 2003). For the environmental performances, this study followed Russo and Fouts's (1997) measures. The control variables include: education and management experience, employee numbers, ownership of enterprise, annual-income, and stage of development.

7-point Likert-type scales were used, with 1 equals completely disagree, and 7 equals completely agree. Prior to the final questionnaire administration in China, a translation-back-translation process was undertaken to ensure the Chinese version of the questionnaire is consistent with the English version. A pilot test was conducted in 50 SMEs and 10 field experts to examine the face validity of the items.

### *Validity and Reliability*

In order to check the non-response bias, this study conducted a multivariate t-test to compare early and late responses (Lehman *et al.*, 2013). The non-significant result suggests no non-response bias exists in sample. To ensure common method bias is not a threat several methods were adopted. (1) All items in each of the constructs are randomized; (2) a one factor Harmon's test was employed to check all the items, and the results reveal four distinct factors with eigenvalues greater than 1 which account for 64.6% of the variance, and the first factor account for 42.4% of variance. The results suggest that the common method bias is not a major concern in this study.

*Table 1. Confirmatory factor analysis of original items*

	Place attachment	Coercive pressure	Mimetic pressure	Normative pressure	Performance
Attachment1	0.713				
Attachment2	0.646				
Attachment3	0.813				
Attachment4	0.753				
Attachment5	0.765				
Coercive1		0.757			
Coercive2		0.820			
Coercive3		0.855			
Coercive4		0.824			
Mimetic1			0.849		
Mimetic2			0.766		
Mimetic3			0.832		
Normative1				0.737	
Normative2				0.817	
Performance1					0.760
Performance2					0.751
Performance3					0.817
Performance4					0.674
Performance5					0.769
Performance6					0.753

Performance7					0.782
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Notes: Loadings are completely standardised. All the factor loadings are significant. Goodness of fit indices:  $\chi^2=629.510$ ,  $df=200$ ,  $\chi^2/df=3.148$ ; GFI=0.890; CFI=0.939; RMSEA=0.065; RMR=0.085.

Confirmatory factor analysis (CFA) (based on maximum likely-hood) using AMOS 17.0 was carried out to examine the reliability and validity of the reflective survey items. As shown in table 1, multiple fit indices of the default model indicate a good fit to the data. Only two standardized factors loadings regression weights are less than 0.70 (Attachment2, 0.646 and Performance4, 0.674). These two items were carefully assessed the literature, no inconsistent meanings can be found. Given that they are greater than the minimum threshold (0.6) suggested by Hair et al. (2009), satisfactory convergent validity can still be identified for the instrument.

To verify the discriminant validity, the AVE for each construct should exceed the squared factor correlations between that construct and other constructs. As shown in table 2, only one AVE score is less than the squared factor correlation (mimetic pressure, AVE=0.67, and the squared factor correlation with normative pressure =0.767). Given that the recognition of three forms of institutional pressures is not always empirically distinct (Colwell and Joshi, 2013), the higher correlations between the two constructs does not necessarily indicate uni-dimensionality. Therefore they were kept as independence construct in the following analysis.

Table 2. Confirmatory factor analysis of survey instrument

Construct		Attachment	Coercive	Mimetic	Normative	Performance
Number of items		5	4	3	3	7
Cronbach's alpha		0.827	0.885	0.853	0.832	0.895
Construct reliability		0.856	0.887	0.858	0.831	0.904
AVE		0.617	0.663	0.667	0.597	0.592
Squared factor correlations	Attachment	1.000				
	Coercive	0.157	1.000			
	Mimetic	0.222	0.357	1.000		
	Normative	0.342	0.559	0.767	1.000	
	Performance	0.367	0.534	0.594	0.814	1.000

Notes: n=509. Construct reliability=  $(\Sigma\lambda)^2 / [(\Sigma\lambda)^2 + \Sigma\text{var}(\delta)]$ . AVE=  $\Sigma\lambda^2 / [\Sigma\lambda^2 + \Sigma\text{var}(\delta)]$ .

## Results and analyses

Table 3 shows the means, standard deviations, and correlations among the independent, dependent and control variables. Only one correlation parameter among independent variables exceeds 0.70 (0.73 between the mimetic and the normative variable). To examine the possible presence of multicollinearity, variance inflation factor (VIF) was examined. The maximum VIF is 2.82, much smaller than the suggested threshold of 10 (Myers, 1990). There is no presence of multicollinearity.

Table 3a. Means, standard deviations, and correlations among variables

Variables	Mean	S.D.	X1	X2	X3	X4	Y1	Z1	Z2
X1 Attachment	26.36	5.68							
X2 Coercive	21.70	5.13	0.36**						
X3 Mimetic	16.02	4.01	0.41**	0.53**					
X4 Normative	16.51	3.61	0.49**	0.63**	0.73**				
Y1 Performance	38.67	7.43	0.54**	0.66**	0.68**	0.77**			
Z1 Education	2.59	0.86	-0.11*	-0.11*	-0.18*	-0.21**	-0.18*		
Z2 Experiences	2.29	0.99	0.11*	0.11*	0.09*	0.15**	0.13**	0.15**	
Z3 Employees	1.69	0.81	-0.11	-0.12**	-0.07	-0.08	-0.23**	0.23**	0.23**
Z4 Ownership	2.12	1.48	0.02	-0.02	0.01	-0.01	-0.01	0.16**	0.08
Z5 Annual income	2.22	1.32	-0.03	0.08	0.05	0.04	-0.02	0.28**	0.30**
Z6 Stage	2.02	0.73	0.07	0.09*	0.15**	0.09*	0.05	0.09*	0.31**

Notes: \*\* significant at the 0.01 level (2-tailed). \* significant at the 0.05 level (2-tailed).

*Table 3b. Means, standard deviations, and correlations among variables (continued)*

Z3	Z4	Z5
0.30**		
0.49**	0.32**	
0.35**	0.23**	0.36**

Hierarchical multiple regression was conducted to test the hypotheses, see table 4. Three of the control variables (education, experiences and employees) have significant effect on the dependent variable whilst having a low  $R^2$  value (0.123) (model 1). All three independent variables have significant positive relationship with the dependent variable ( $R^2=0.691$ ) (model 2). Therefore, Hypothesis 1a, 1b, and 1c are supported. The significant relationship between institutional factors and dependent variable remains essentially unchanged when place attachment is introduced (model 3). Place attachment has significant positive effect on the dependent variable environmental performance. Therefore, Hypothesis 2 is supported.

Introduction of the interaction variable Identity×Coercive does not change the main effect of all the independent variables (model 4). However, the interaction variable has non-significant negative effects on environmental performance. Hypothesis 3a, therefore, is not supported. Thus the place attachment of owner managers of SMEs does not moderate the influence of coercive pressure on the environmental performance. The significant interaction effect appears (-0.44,  $p<0.001$ ) when the interaction variable Identity×Mimetic was introduced (model 5). Therefore, Hypothesis 3b is supported. Similarly, the interaction variable Identity× Normative also has significant negative effect on the dependent variable (-0.35,  $p< 0.05$  level) (model 6). Therefore, Hypothesis 3c is also supported.

*Table 4. The effect of institutional pressures and place attachment*

Variables	Model						
	1	2	3	4	5	6	7
Education	-.17***	.00	.00	.00	.00	.01	.00

Experiences	.17***	.03*	.04	.04	.03	.04	.04
Employees	-.32***	-.18***	-.17***	-.16***	-.16***	-.16***	-.16***
Ownership	.08	.08**	.07**	.07**	.07**	.07**	.07**
Annual-income	.09	-.02	-.01	-.01	-.02	-.02	-.02
Stage of development	.08	-.00	-.01	-.01	-.01	-.01	-.01
Coercive		.24***	.23***	.39***	.22***	.23***	.19
Mimetic		.21***	.19***	.18***	.50***	.19***	.59**
Normative		.45***	.39***	.39***	.36***	.59***	.29
Attachment			.17***	.31***	.41***	.37***	.39***
Attachment×Coercive				-.24			.03
Attachment×Mimetic					-.44***		-.56*
Attachment×Normative						-.35*	.11
Overall model F	12.87***	126.98***	126.18***	115.51***	117.84***	116.57***	99.38***
DW	1.743	1.639	1.664	1.661	1.677	1.669	1.679
Adjusted R <sup>2</sup>	.123	.691	.711	.713	.717	.714	.716
Change in R <sup>2</sup>		.568***	0.02***	.002***	.004***	-.003***	.006***
Standard error	6.967	3.997	3.997	3.988	3.959	3.975	3.967

Notes: \*\*\* is significant at the 0.001 level. \*\* is significant at the 0.01 level. \* is significant at the 0.05 level.

## Discussion and conclusion

This study provides an understanding of the effect of institutional pressures, place attachment, and their interaction effect on SMEs' environmental performance in the context of an emerging economy. The positive effects of three forms of institutional pressures and SMEs' environmental performance are confirmed in this study. This result confirms the argument of Campbell that institutions are critical, especially when we are concerned with ensuring that corporations actually behave in socially responsible ways rather than just pay rhetorical lip service to it (Campbell, 2007).

Additionally, the normative pressure ( $\beta=0.45$ ) seems to account for more than the coercive ( $\beta=0.24$ ) and mimetic pressure ( $\beta=0.21$ ) for SMEs' environmental performance. This result is, to some extent, consistent with Long, Li and Xin's (2017) argument that industry associations' support plays an essential role for promoting environmental protection among Chinese SMEs. The significant positive effect of place identify of top management/owner managers on environmental performance of SMEs is found in the current study. This is consistent with the social identity theory (Ashforth and Mael, 1989) and the place attachment theory (Proshansky, et al., 1983), as the strong social cohesion and the strong sense of identity will facilitate pro-environmental behaviour.

An interesting finding of this study pertains to the interaction effect of place attachment of top-management/owner-managers of SMEs and institutional pressures on SMEs' environmental performance. The place attachment negatively interacts with institutional pressures (mimetic and normative). These interaction effects demonstrate a need of a comprehensive understanding the role of place attachment of owner managers and institutional pressures. The presence of place identify of owner managers will reduce the need of such mimetic processes when considering



environmental practices. Similarly, the normative pressures such as those from trade associations become less important when owner managers have stronger place attachment. They would place better importance on local social welfare and environment when they found strong attachment to where they work.

### **Limitations and future research**

Despite the contributions of this study, two limitations can be addressed in future research. First, this study employed the respondents' subjective perceptions of environmental performance instead of using the objective data to measure SMEs' environmental performance. Future research could combine the objective measures with subjective measures to generate more comprehensive measures.

Second, this study did not attempt to differentiate place attachment with place identity, which are potentially different layers of the owner managers' attitude towards where the SMEs locate. Future research could extend the construct to obtain more in-depth understanding of the micro level attitude of top management of SMEs.

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