

# Factors Affecting to ECMA Application in Vietnamese Brick Manufacturing Enterprises

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## Abstract

Production activities of Vietnamese brick enterprises create negative impacts on the environment. In addition, the government's environmental regulations and social needs for sustainable development led to significant increases in environmental costs such as costs of treating wastes, costs of polluted management and prevention. Therefore, brick manufacturing enterprises should collect, analyze and report environmental costs for managing and controlling them. Environmental Cost Management Accounting (ECMA) becomes a useful tool to meet the above requirements. The paper focuses on researching factors that influence the application of ECMA in brick enterprises in Vietnam. The author presents four basis theories to construct seven hypotheses about the factors impacting on the application of ECMA including contingency theory, institutional theory, legitimacy theory, and stakeholder theory. The study uses quantitative methods to explore influence factors. Results of quantitative research show that four factors including government coercion pressure, normative pressure, community pressure, and positive environment strategy have positive relationships with the level of ECMA application. Derived from factors, the study provides some recommendations on brick enterprises, the government and community to increase the application of ECMA.

**Keywords:** Environmental management accounting (EMA), Environmental cost management accounting (ECMA), Environmental cost, Brick manufacturing enterprise

## 1. Introduction

ECMA is still a new concept in both research and practice in Vietnam. Research on management accounting in Vietnam have not focused on the environmental costs connected with management functions. Studies on ECMA do not appear popular. ECMA is not enough to cause debate in the areas of management accounting and the environment. Therefore, the potential for saving costs and increasing economic benefits associated with environmental performance in organizations is being ignored.

On the other hand, there is no study on ECMA in Vietnamese brick manufacturing enterprises. This is the production field that causes many negative impacts on the environment and this leads environmental costs become significant. This is also considered a flaw in previous studies, so research context is one of the factors that make up the novelty of the paper. The main content of the paper is to focus on researching factors affecting to ECMA application through quantitative research method. From the results of the study, the author gives some implications for promoting ECMA application in Vietnamese brick manufacturing enterprises such as: on the side of enterprises, on the side of the government and on the side of community.

## 2. Theoretical framework

Research hypotheses about factors influencing the level of ECMA application are developed on the basis of four theories: Institutional Theory, Legitimacy Theory, Stakeholder Theory and Contingency Theory.

### 2.1 Institutional theory

According to this theory, institutional context in which awareness of the environment is increasing has affected the ECMA practice (Chang, 2007). If institutional pressure on ECMA adoption increases, the organization will act consciously to match the expectations of the society. Through institutional theory, Qian & Burritt (2009), Jalaludin et al. (2011), Jamil et al. (2015) have developed a relationship between the application of ECMA and three pillars including: *Coercive pressure of the government, Normative pressure, Mimetic pressure.*

#### (1) Coercive pressure of the government

The first and most obvious institutional process is the coercive pressure of the government. This pillar reflects the regulatory provisions that provide organizations powers as well as rules to explain information (DiMaggio & Powell, 1983). According to Namakonzi & Inanga (2014), the key role of the government is to establish laws, regulations, standards and policies towards sustainable development. Governments can help organizations to recognize ECMA role in internal governance decisions (Mia, 2005; Doorasamy, 2014). Governments such as Japan, Korea, the United States, the Czech Republic have issued the ECMA guidelines which encourage organizations to monitor, collect and report environmental costs. This shows that the legal obligation has a significant influence on the organization's decision including the decision for applying ECMA (Setthasakko, 2010).

Organizational changes to environmental performance can be viewed as a direct response to the government's mandatory environmental requirements (DiMaggio & Powell, 1983,150). Doorasamy (2014) argues that enterprises are not ready to apply ECMA unless they are required to do by law. A number of studies have suggested that government's coercive pressure which is a significant motivation for achieving sustainability goals strongly influence the application of ECMA (Mia, 2005; Qian & Burritt, 2008; Doorasamy, 2014). So, the first hypothesis was proposed:

***Hypothesis 1: Government's coercive pressure is positively correlated with the level of ECMA application in Vietnamese brick manufacturing enterprises.***

(2) Normative pressure

Normative pressure arises primarily from professionalism which can occur through education and professional development (DiMaggio & Powell, 1983). Education and professional development are the foundations of values and habits within a specific field. The result of education and professional development is that trained staff will have a say in influencing and legalizing the habits and activities of the organization where they work. Professional behavior can be transmitted through two channels. One channel is education and the other channel is the building and expansion of professional networks within organization (Qian & Burritt, 2008). Thus education and professional development are very important factors for the development of ECMA (Jalaludin et al., 2011).

A comprehensive ECMA system will emphasize the involvement of professionals in the relevant departments and the link between their expertise. ECMA practice requires a team with skills in accounting and environmental management. As the more robust, the more closely the connectivity from individuals directly holding the management accounting and environmental management functions becomes, the greater the applicability of ECMA in Vietnamese brick manufacturing enterprises is. The second hypothesis is developed:

***Hypothesis 2: The normative pressure is positively correlated with the level of ECMA application in Vietnamese brick manufacturing enterprises.***

(3) Mimetic pressure

Qian & Burritt (2008) argues that when certain behaviors or social relationships are accepted and absorbed in one area, members tend to behave in ways that are acceptable or attentive from other members. This mechanism is called mimetic pressure which emphasizes the effects of social networks. This network creates an internal field where organizations engage and interact frequently together (DiMaggio & Powell, 1983). When there are enough actors in the field that the organization works in the same way, the concrete action is institutionalized and other agents must choose to imitate it as a safe and effective strategy or to gain competitive advantage ((DiMaggio & Powell, 1983; Fernando & Lawrence, 2014).

Jennings & Zandbergen (1995) argue that if the practice appears to have values or recognized standards (such as green market development, waste recycling), the organization will have an action to imitate other organizations instead of doubt about the value and standard of the practice. Similarly, if ECMA concepts and methods are widely considered in a particular field, organizations operating in the field are more likely to mimic other organizations to apply those ECMA concept and methods. Therefore, the development of ECMA may be encouraged by mimetic pressure (Qian & Burritt, 2008). Thus, the next hypothesis is:

***Hypothesis 3: Mimetic pressure is positively correlated with the level of ECMA application in Vietnamese brick manufacturing enterprises.***

## 2.2 Legitimacy theory

Legitimacy theory is one of the most discussed theories, which explains why organizations voluntarily publish information about the environment and design the environmental management system to achieve or maintain legitimacy (Mousa & Hassan, 2015). From a viewpoint of this theory, Hoffman (2001) argues that community can see changes in the organization's environmental performance, including accounting. In other words, community pressure can be an important motivator for organizational change. And therefore, legitimacy as a means of explaining whether ECMA is applicable.

Community's concerns about environment will provide incentives for ECMA practice in organizations (USEPA, 2000). Clarke & O'Neill (2006) advocates that community awareness of environmental issues put pressure on collecting and measuring environmental costs in organizations. In Vietnamese brick manufacturing enterprises, community are always expecting them to take responsible environmental actions. Brick manufacturing enterprises will meet the expectations of the community and try to legalize their internal operations. The accounting information system plays an important role in providing explanations and it will also change to attain legitimacy. And so, it is necessary to select "community pressure" factor to determine whether this factor influences the application of ECMA in Vietnamese brick manufacturing enterprises and how the impact of this factor is.

***Hypothesis 4: Community pressure is positively correlated with the level of ECMA application in Vietnamese brick manufacturing enterprises.***

### *2.3 Stakeholder Theory*

Two aspects of stakeholder theory expressed by Deegan (2002) are managerial aspect and normative (ethical) aspects. In particular, the managerial aspect emphasizes the manager's efforts to meet the expectations of stakeholder with strong power. The ethical aspect is primarily concerned with balancing the interests of the stakeholder because all the stakeholders are treated equal even if they have a power imbalance (Fernando & Lawrence, 2014). These two aspects emphasize the need to report information to stakeholders from the organization. It implies that reporting information can affect the success or survival of an organization (management aspect) or reporting information is considered to be ethical (normative aspect). If the stakeholder concern about the environmental impacts of the organization then the organization may be aware of the need to improve the information system including accounting to lessen the interest of the parties (Deegan & Blomquit, 2006).

ECMA is primarily used to provide information for internal management but it is still within the boundaries of environmental accounting and management accounting. Not only internal managers but also outsiders have impacted on ECMA practices. Schaltegger & Burritt (2000) pointed out that when the management accounting system affects the interests of stakeholders (such as omit for tracking environmental costs in organization), stakeholders will have significant impacts on the organization's practices so that environmental issues should be considered in the management accounting system.

Stakeholder theory can be applied to explain ECMA adoption. Enterprises will apply ECMA as it is seen as a way to legalize internal operations or to demonstrate that ECMA is appeared to manage and control environmental performance in response to pressure from stakeholder. Therefore, fifth hypothesis is established:

***Hypothesis 5: Stakeholder pressures are positively correlated with the level of ECMA application in Vietnamese brick manufacturing enterprises.***

### *2.4. Contingency theory*

Contingency theory and institutional theory are used the most commonly to explain the reasons for EMA practice in general and ECMA in particular (Schaltegger et al., 2011; Qian et al., 2011). Bouma & Van der Veen (2002) argue that contingency theory has the potential to explain environmental accounting, especially EMA. From the viewpoint of contingency theory, two factors proposed for the application of ECMA were developed by many scientists including positive environmental strategy and managers' perception of environmental uncertainty (Parker, 1997; Chang, 2007; Qian & Burritt, 2009).

#### *(1) Positive environmental strategy*

Parker (1997) was the first person to apply the contingency theory to consider environmental strategies affecting accounting systems in organizations. Parker (1997) suggests that the accounting system is expected to improve and change in order to support the environmental strategy. If the organization has a proactive and preventive environmental strategy in the future, a broad and innovative accounting system will be used to support and facilitate the implementation of the environmental strategy (Parker, 1997; Qian & Burritt, 2009). Guo (2008) argues that organizations with different environmental strategies may require different management information systems to improve organizational performance. Information systems can influence the success of an organization by shaping its strategy. As part of the information system, the accounting system also affects the application and implementation of environmental strategies. Therefore, in order to facilitate the linkage of environmental strategies into the management information system, the accounting system needs to be changed.

When an organization chooses to adopt a positive and active environmental strategy, it is certain that the organization will change the management accounting system and practice the management accounting more efficiently (Chang, 2007). In contrast, with organizations pursuing negative and passive environmental strategies, the management accounting system is less likely to be improved. Therefore, the positive environmental strategy helps the ECMA system to innovate and become more sophisticated (Parker, 2000). It is proposed:

***Hypothesis 6: Positive environmental strategy is positively correlated with the level of ECMA application in Vietnamese brick manufacturing enterprises.***

#### *(2) Managers' perception about the uncertainty of the environment*

Lewis & Harvey (2001) proposes a scope for measuring environmental uncertainties including: changes in government environmental policies; changes in environmental resources used by organizations; green competition; changes of environmental technology in the industry; changes in behavior of the stakeholders in the organization and the major environmental issues affecting the organization (Quoted in Chang, 2007, pp.72). It seems that environmental uncertainty is a potential contingency variable affecting the decision to adopt or not to adopt ECMA.

In contingency theory, environmental uncertainty is considered as an important variable used in general

management accounting practice. When environmental factors are perceived by managers as more difficult to measure, managers will tend to process information more appropriately to address uncertainties (Gordon & Narayanan, 1984). ECMA play a very important role in providing environmental cost information and deal with uncertainties (Qian & Burritt, 2009). Chang (2007) agrees that it is necessary to classify and re-establish the traditional management system to meet the increasing need for environmental information. Therefore, if managers are aware that the organization is suffering from high levels of environmental uncertainty, they will innovate their accounting systems to provide information that minimizes environmental impact and manage environmental cost better.

Environmental management is becoming significant interest of brick manufacturing enterprise because it affects the image and reputation of the enterprise, then influence the efficiency of business operations of enterprises. If managers increase awareness of the environment, they will make efforts to find an effective environmental management tool. Therefore, the seventh hypothesis is:

***Hypothesis 7: The managers' perception of environmental uncertainty is positively correlated with the level of ECMA application in Vietnamese brick manufacturing enterprises.***

### **3. Research methodology**

#### *3.1 Data collection*

Submission of a questionnaire survey is the method used to collect quantitative data to explore the factors that affect the application of ECMA. The collection process of quantitative data involves the following steps:

- Questionnaire design: Authors sent questionnaires to managers in Vietnamese brick manufacturing enterprises. The four respondents participate in the survey including the director, deputy director, chief accountant and environmental manager. Questionnaires are designed basing on Likert's scale. The mean level is from 1 to 5 which 1 is strongly disagree and 5 is strongly agree.

- Survey sample selection: The questionnaire was designed for 4 respondents (Directors, Deputy directors, Environmental Managers and Chief Accountant) in Vietnamese Brick manufacturing enterprises. The study selects sampling methods and completely ensure representativeness, typical for the whole. Brick production enterprises selected for this study differ in scale to reflect diversity and have more complete evaluation.

- How to send and collect questionnaires: Questionnaires are sent to managers in 150 Vietnamese brick manufacturing enterprises during the period from year 2016 - 2017. How to send and collect questionnaires:

Option 1: The author sent survey forms directly to the managers in brick production enterprises and collects them directly after completion.

Option 2: Online survey forms designed by the Google Docs tool are sent to managers by email. Online questionnaires are automatically updated to the summary sheet.

#### *3.2 Data process*

The number of enterprises participating in the survey are 72 brick enterprises, representing 48% of the sample size and 33.8% of the total. There are 238 respondents answered the questionnaire. Questionnaires collected were retested to eliminate invalid questionnaires. There are 6 invalid votes eliminated. 232 valid votes are numbered and entered SPSS 22.0 software. Questionnaires were processed by SPSS software through tool such as: reliability testing, exploratory factor analysis, correlation analysis, regression analysis.

### **4. Research results and discussion**

#### *4.1 Verify the reliability of the factors affecting the level of ECMA application*

When verifying the reliability of the observed variables reflecting the factors which impact on the level of ECMA application, the results show that the Cronbach's Alpha coefficient is equal to  $0.914 > 0.6$ . In addition, Corrected Item-Total Correlation is greater than 0.3 and Cronbach's Alpha if Item Deleted is greater than 0.6. It is proved that the above variables are reliable.

Besides, the study verify observed variables on the ECMA application level that also give the same result (see table 4.1). The Cronbach's Alpha coefficient is equal to  $0.911 > 0.6$ . In addition, Corrected Item-Total Correlation is greater than 0.3 and Cronbach's Alpha if Item Deleted is greater than 0.6

**Table 4.1. Verify the reliability of the observed variables**

Observed variables	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
GCP1	.710	.878
GCP2	.765	.864
GCP3	.740	.871
GCP4	.755	.867
GCP5	.741	.871
NOP1	.684	.658
NOP2	.592	.759
NOP3	.619	.726
MIP1	.720	.789
MIP2	.700	.803
MIP3	.736	.770
COP1	.606	.820
COP2	.755	.779
COP3	.776	.770
COP4	.543	.833
COP5	.566	.828
STP1	.773	.930
STP2	.786	.927
STP3	.852	.919
STP4	.848	.920
STP5	.798	.928
STP6	.842	.923
PES1	.824	.866
PES2	.778	.882
PES3	.804	.873
PES4	.750	.892
MPEU1	.839	.889
MPEU2	.654	.924
MPEU3	.839	.889
MPEU4	.830	.891
MPEU5	.791	.899
ECMA1	.751	.896
ECMA2	.655	.904
ECMA3	.646	.904
ECMA4	.795	.892
ECMA5	.620	.907
ECMA6	.761	.895
ECMA7	.809	.890
ECMA8	.653	.904

*Source: Results from SPSS software*

#### 4.2 Exploratory factor analysis

\* Exploratory factor analysis for independent variables (factor impacting on ECMA application)

Results from SPSS software point that KMO coefficient is by 0.909 (> 0.5), Bartlett's test has Sig value of 0.000 (<0.05), a explanation variance of 75.790% (>50%), load factors are greater than 0.5 and the variables observations form the seven factors. Thus, factorial analysis for independent variables is appropriate (see table 4.2).

\* Exploratory factor analysis for dependent variables (ECMA application level)

Factor analysis for the dependent variable gives the result: KMO coefficient is equal to 0.926 (>0.5), Bartlett's test with Sig = 0.000 (<0.05), a explanation variance of 62.227% (>50%), load factors are greater than 0.5, the observation variables form a factor (see table 4.3).

**Table 4.2. Factor analysis for independent variables**

Observed variables	Rotated Component Matrix <sup>a</sup>						
	1	2	3	4	5	6	7
PES1				.826			
PES2				.753			
PES3				.774			
PES4				.820			
MPEU1		.802					
MPEU2		.772					
MPEU3		.808					
MPEU4		.794					
MPEU5		.841					
STP1	.788						
STP2	.844						
STP3	.886						
STP4	.900						
STP5	.839						
STP6	.871						
COP1					.504		
COP2					.829		
COP3					.815		
COP4					.654		
COP5					.672		
GCP1			.709				
GCP2			.712				
GCP3			.717				
GCP4			.769				
GCP5			.748				
NOP1							.608
NOP2							.809
NOP3							.777
MIP1						.799	
MIP2						.647	
MIP3						.775	

Source: Results from SPSS software

**Table 4.3. Factor analysis for dependent variables**

Observed variables	Load factors
ECMA1	.819
ECMA2	.737
ECMA3	.727
ECMA4	.855
ECMA5	.706
ECMA6	.828
ECMA7	.866
ECMA8	.737
<b>KMO coefficient</b>	<b>0.926</b>
<b>Sig (Bartlett test)</b>	<b>0.000</b>
<b>Explanation variance</b>	<b>62.227%</b>

Source: Results from SPSS software



### 4.3 Regression analysis

To establish a linear multiple regression, it is necessary to evaluate the correlation between the dependent variable (ECMA application level) and independent variable (seven factors). The Table 4.4 show that the variables are related in the same direction (the correlation coefficient is positive). The result point that GCP factor correlate with ECMA application the most strongly (0.865), followed by PES (0.636). STP is the factor which is the weakest correlation with level of applying ECMA (0.350).

**Table 4.4. Correlation between ECMA application level and seven factors**

		Correlations							
		The level of ECMA applycation	GCP	NOP	MIP	COP	STP	PES	MPEU
The level of ECMA applycation (ECMA)	Pearson Correlation	1	.865**	.575**	.476**	.585**	.350**	.636**	.506**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000
	N	232	232	232	232	232	232	232	232
Government's coercive pressure (GCP)	Pearson Correlation	.865**	1	.493**	.465**	.543**	.274**	.591**	.548**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000
	N	232	232	232	232	232	232	232	232
Normative pressure (NOP)	Pearson Correlation	.575**	.493**	1	.401**	.472**	.499**	.279**	.366**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.000	.000
	N	232	232	232	232	232	232	232	232
Mimetic pressure (MIP)	Pearson Correlation	.476**	.465**	.401**	1	.524**	.210**	.449**	.431**
	Sig. (2-tailed)	.000	.000	.000		.000	.001	.000	.000
	N	232	232	232	232	232	232	232	232
Community pressure (COP)	Pearson Correlation	.585**	.543**	.472**	.524**	1	.283**	.456**	.452**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000
	N	232	232	232	232	232	232	232	232
Stakeholder pressure (STP)	Pearson Correlation	.350**	.274**	.499**	.210**	.283**	1	.155*	.129
	Sig. (2-tailed)	.000	.000	.000	.001	.000		.018	.050
	N	232	232	232	232	232	232	232	232
Positive environmental strategy (PES)	Pearson Correlation	.636**	.591**	.279**	.449**	.456**	.155*	1	.494**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.018		.000
	N	232	232	232	232	232	232	232	232
Managers' perception of environmental uncertainty (MPEU)	Pearson Correlation	.506**	.548**	.366**	.431**	.452**	.129	.494**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.050	.000	
	N	232	232	232	232	232	232	232	232

Source: Results from SPSS software

The ANOVA test has Sig of 0.000 (<0.05) so it can be concluded that the regression model is appropriate.

The author conducted regression analysis with all variables by the Stepwise method (giving each variable at the same time until the best model) (see table 4.5). Of which, model 4 is considered the best model. The factors including MIP, STP, MPEU with p-value > 0.05 were excluded from the model because these factors were not significant. The 4 factors (GCP, NOP, PES, COP) are retained because their p-value is equal to 0.000 (<0.05). At the same time, the VIF coefficient of 4 variables is less than 10 meaning that model 4 does not have multi-collinearity.

**Table 4.5. Initial regression results**

Model		Unstandardized Beta coefficient	Unstandardized Beta coefficient	T Statistic	Sig.	VIF
1	(Constant)	.280		3.526	.001	
	GCP	.834	.865	26.135	.000	1.000
	Adjusted R <sup>2</sup>	0.747				
	P-value test F	0.000				
2	(Constant)	-.151		-1.390	.166	
	GCP	.741	.768	21.429	.000	1.321
	NOP	.179	.197	5.483	.000	1.321
	Adjusted R <sup>2</sup>	0.775				
	P-value test F	0.000				
3	(Constant)	-.508		-4.151	.000	
	GCP	.628	.651	16.151	.000	1.873
	NOP	.182	.200	5.892	.000	1.321
	PES	.173	.195	5.333	.000	1.538
	Adjusted R <sup>2</sup>	0.799				
	P-value test F	0.000				
4	(Constant)	-.763		-4.454	.000	
	GCP	.607	.629	15.207	.000	2.001
	NOP	.163	.178	5.075	.000	1.442
	PES	.158	.178	4.800	.000	1.611
	COP	.109	.078	2.109	.036	1.612
	Adjusted R <sup>2</sup>	0.802				
P-value test F	0.000					

Source: Results from SPSS software

Regression equation:

$$ECMA = -0,763 + 0,607 * GCP + 0,163 * NOP + 0,158 * PES + 0,109 * COP$$

Adjusted R<sup>2</sup> is equal to 0.802 which means that the above model explains 80.2% change in level of ECMA application.

Government pressure is a factor which have a effect on the application of ECMA the most strongly (standardized beta of 0.607), followed by 'normative pressure' factor (standardized beta equal to 0.163). Two remaining factors including 'positive environmental strategy' and 'community pressure' impact the most weakly on ECMA application

## 5. Conclusion and Suggestions

### 5.1 On the side of Vietnamese brick manufacturing enterprises

Through quantitative research, the author identifies four factors that influence the application of ECMA: government's coercive pressure, normative pressure, positive environmental strategy and community pressure. As a result, the author proposes some recommendations to promote Vietnamese brick enterprises to apply ECMA. Specifically:

\* Positive environmental strategy

Positive environmental strategy will motivate towards improvement measures to maintain and achieve effective environmental control. Therefore, commitment from senior managers on positive environmental strategy as well as increased awareness of environmental responsibility are great potential for promoting ECMA practice. Without the attention and support of internal managers to the environmental strategy, ECMA implementation will face many challenges and difficulties. An active environmental strategy requires senior management to set environmental goals, environmental programs that prioritize cleaner production development, and voluntary environmental information disclosure.

\* Education and professional development for management accounting and environmental management department

To help the ECMA system succeed, departments also have a common understanding of the importance and usefulness of ECMA. Therefore, at the first stage of the ECMA project, training program for all members in enterprises should be prioritized to help them better understand the link between business growth with environmental efficiency and establish a more detailed plan for ECMA practice.

\* Improve the connection between accounting and environmental management department

Findings show that the more closely accounting department and environmental management department are connected, the higher the level of ECMA application in Vietnamese brick manufacturing enterprises is.



Therefore, a team of professionals should be established that includes environmental managers and accountants, cost controllers to get a complete picture of the environmental performance and environmental costs. Because environmental staff are much knowledgeable about environmental issues such as the flow of materials, information related to treating, handling and controlling environment. However, they have little knowledgeable of how to reflect those issues into the accounting system. In contrast, management accounting department play an important role in accessing and analyzing data, but they often have little understanding of the environmental issues that the organization faces. As a result, management accounting do not often provide environmental information for decision-making fully. And it is clear that a closely linked relationship between management accounting and environmental management department is essential to track, calculate and report environmental costs accurately and completely.

### 5.2 On the side of the government

The quantitative study emphasizes that the greater coercive pressure of the government for environmental cost management and control is, the higher the level of ECMA application in Vietnamese brick manufacturing enterprises is. Therefore, government should issue common guidelines and standards on ECMA; establish obligated environmental accounting standards; develop environmental cost accounting principles; unify environmental formats, environmental reports and specific guidances for each industry; use environmental cost reports to manage and make sustainable decisions.

### 5.3 On the side of community

Community pressure is a factor influencing the application of ECMA because they are directly affected by the business activities of the enterprise. Therefore, community pressure is also important actor to create momentum for Vietnamese brick manufacturing enterprises applying ECMA. The community can have a strong say in enterprises that causes negative impacts on the environment and this will reduce the image and reputation of enterprises. Under the pressure of the community, enterprises have to make efforts to renovate management accounting system to control and manage the environment effectively.

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