

# **Impact of Institutional Pressure on Application of Environmental Management Accounting in Vietnam Textile and Garment Enterprise**

**Thi Thanh Tam Nguyen**

*Academy of politics region I, Vietnam*

**Thi Phuong Thuy Vu**

*East Asia University of Technology*

**Thi Diep Uyen Doan**

*University of Economics – Technology for Industries*

**Thi Huong Nguyen**

*Thai Nguyen University of Economics and Business Administration*

**Van Chien Co**

*Faculty of Accounting – Auditing, Foreign Trade University*

**Thi Phuong Dung Vu**

*Faculty of Business English - Foreign Trade University*

**Thi Thu Hien Phan**

*Faculty of Accounting – Auditing, Foreign Trade University*

## **Abstract**

The article aims to assess the impact of institutional pressure on the application of environmental management accounting in Vietnamese textile and garment enterprises. At the same time, the study also assesses moderating role of top management support in the relationship between institutional pressure and the application of environmental management accounting in Vietnamese textile and garment enterprises. The study was conducted on 842 Vietnamese textile and garment enterprises, the data was analyzed using Smart PLS software. The accreditation results show that institutional pressures have a positive impact on the implementation of environmental management accounting and top management support moderating role statistically significant in the relationship between institutional pressure and employment applying environmental management accounting in Vietnamese textile and garment enterprises.

**Keywords:** *Institutional pressure, environmental management accounting, textiles, Vietnam.*

## **1. INTRODUCTION**

Environmental management accounting is in the field of management accounting that represents the provision of environmental

information and environmental activities to stakeholders inside and outside the business (Ismail et al., 2014). Since the 1990s, a number of large organizations have begun to apply

environmental management accounting in identifying and allocating environmental costs, thereby facilitating the control of alternative uses of environmental waste and supporting the establishment and operation of units through management systems environment. Several studies on the benefits of applying environmental management accounting demonstrate that environmental management accounting is an effective tool that combines production capacity and information technology and accounting activities to support a manager's decision-making process. Environmental management accounting is a new management accounting tool consisting of two (physical) management departments with a management (monetary) accounting department (Rikhardsson & Dull, 2016). Specifically, monetary environment management accounting includes accounting for environmental costs, monetary environment budgeting, capital expenditures and environmentally induced revenues, and long-term financial planning for the environment, while physical environment management accounting includes accounting for material and energy flows, physical environmental budgeting, environmental capital impact accounting, and long-term environmental planning (Burritt & Schaltegger, 2010).

In addition to studies on the role of environmental management accounting in business operations, researchers are also paying increasing attention to the factors that can promote the application of environmental management accounting in enterprises. environmental values (Wang et al., 2018) as well as related accounting activities (Wang et al., 2019). Institutional theory is being used as the dominant theory in studies of factors affecting the application of environmental management accounting in enterprises. However, none of these studies provide

convincing evidence as to whether institutional pillars influence the good adoption of environmental governance accounting in specific areas or not. Instead, these studies produce conflicting results and have not been able to produce consistent evidence, particularly with regard to the developing economy. While some researchers found positive and significant effects of institutional power on the adoption of environmental governance accounting (Jalaludin et al., 2015), others indicated that the impact was negligible (Jamil et al., 2015) or even negative (Wang et al., 2018). Qian and Burritt (2009) offered an explanation of this contradiction. These two authors argue that while organizations may face the institutional pull caused by the environment to solve environmental problems, how they respond can be shaped by the specific situations they face, and depends on the characteristics of each business. Therefore, the investigation of the moderating impact of other stochastic factors (e.g., company size, company age, environmental management system adoption, and business type) is necessary to be able to help explain the contradiction between previous studies using institutional theory.

The textile and garment industry is an important industry for the socio-economy in Vietnam (VN), but it is also considered the most polluting sector. Stakeholders must always pay special attention to environmental issues of Vietnamese textile and garment enterprises. Besides, Vietnam's economy has undergone an important transition period, companies are moving from a centralized economy, where institutions have more influence, to a free market economy, where strategic priorities may be suitable for businesses to develop more. Such a context creates a suitable basis for studying the factors driving the application of environmental management accounting in textile enterprises.

Despite this, it is worth noting that most of the research on the application of environmental management accounting is mainly conducted in developed countries based on European and US data. Meanwhile, in Vietnam, focused studies on this issue are relatively rare and have not found much empirical evidence. Therefore, studying this relationship in a particular industry in Vietnam, as a developing country, can be useful in clarifying previous empirical evidence in a global context. The structure of the article includes an introduction, research overview, research methods, research results and conclusions.

## **2. Literature review**

### **2.1. Institutional theory**

Based on theories, socio-economic perspectives, institutional theory was put forward by DiMaggio & Powell (1983). Accordingly, institutional theory holds that the structure of enterprises and activities of the company is influenced by three factors: (1) diffusion (imitation pressure); (2) regulation (coercive pressure); (3) normative (normative pressure). It can be understood that current regulations will cause coercive pressure, this pressure makes organizations and businesses have to comply with regulations that have been issued under the intervention and influence from the government. After that, the spread in the DN creates a pressure to imitate. This can happen in cases when enterprises need to apply practical techniques, imitating other enterprises in the market when falling into uncertain situations in the process of production and business activities. Finally, standards are conceived as the pressure of voluntary implementation, the application of which can reduce the coercive pressures of existing regulations. Accordingly, institutional theory has two schools that have been used by

researchers: old institutional theory and new institutional theory. In particular, according to the old institutional theory, the regulations of enterprises or the perceptions of individuals will lead to changes in the behavior and norms of those individuals. According to the new institutional theory, in addition to norms, enterprises also have imitation and coercion from the external environment that also leads to organizational change.

In applying environmental management accounting to corporate operations, institutional theory is relevant and relevant to support the effective analysis of this issue (Rikhardsson et al., 2005). It is argued that changes in the institutional environment of organizations can lead to homogeneity, which in turn stimulates or hinders the adoption of new organizational practices, including accounting.

It can be argued that institutional theory states that, in order to change the structure, the activities of enterprises need to be under pressure. Applied to the use of environmental management accounting in enterprises, it can be seen that the implementation of environmental management accounting must have regulations, or in other words, under mandatory pressure. Next, it is necessary to have guiding standards, to be able to perform environmental management accounting. Finally, there needs to be a pattern that can be done correctly, which is the pressure to imitate. Combining all 3 factors, it will form pressure as well as motivation for businesses and organizations to perform environmental management accounting in their organizations. This pressure will help businesses implement environmental management accounting when the benefits from it are not really clear to the organization, managers cannot have a clear

awareness of the implementation of environmental management accounting.

In the context of research, enterprises in Vietnam in general and textile enterprises in particular pay a lot of attention to economic efficiency, and profit is always a top goal of enterprises. trends in the implementation of environmental management accounting to be able to effectively implement environmental management accounting in their organizations and enterprises. In summary, institutional theory is applied to identify pressures and standards that affect environmental management accounting at textile and garment enterprises in Vietnam.

## 2.2. Institutional pressure

According to Ning et al. (2022), businesses are always bound in an institutional environment. The institutional environment forces enterprises to comply with external rules, norms and values. Indeed, it has been explained by institutional theory for corporate behavior (Aksom et al., 2020). Institutional theory holds that firms are committed to the pursuit of legitimacy, namely the acceptance and acceptance of their institutional environment, which has an institutional impact on their organizational behavior (Mignerat & Rivard, 2012). Three main institutional pressures have been identified: moderating pressure, normative pressure, and imitation pressure (Wu et al., 2021). Although these three institutional forces are often observed to operate simultaneously, they have different roles. It has been found that regulation and norms and imitation pressures are key institutional drivers for businesses, especially in environmentally sensitive industries (Sun et al., 2019).

Indeed, institutional theory can be seen as a theory that is widely applied to explain organizational behaviors, especially

environmentally friendly behaviors, such as the company's ecological response behavior and its environmental management activities (Wang et al., 2018). From the perspective of institutional theory, the activities of enterprises are greatly influenced by the external environment and institutional environment, such as laws, values, culture, common perceptions, norms and social expectations (Heugens & Lander, 2009). Companies have the ability to change behavior, structure and apply regulations to suit the external environment and institutional environment in order to achieve and maintain legitimacy. If companies resist external and institutional environments, they are isolated (Teo et al., 2003). Thus, a business is more likely to perform environmental governance accounting due to widespread concern and consensus on the environmental issues of society as a whole (Brammer et al., 2012).

Institutional pressure motivates organizations to adopt common notions and habits, first, moderating pressures are pressures derived from powerful stakeholders, such as governments (Teo et al., 2003). In the context of the environment, this pressure is mainly caused by government actions. These powerful stakeholders offer rules, rewards, and penalties as clear guidelines for companies. Next, normative pressures are primarily derived from collective expectations, norms, and standards in a particular organizational context (Teo et al., 2003). Collective expectations, norms, and standards create normative pressure and motivate companies to adopt common behaviors and practices (Teo et al., 2003). Finally, imitation pressure involves voluntary imitation when companies are faced with uncertain environments (Liang et al., 2007). If companies don't have a clear explanation of what will happen around them, then they will want to follow more successful companies (Teo et al., 2003). In the context that the environment

is such an important and concerned issue today, businesses are more likely to perform environmental management accounting when their colleagues receive benefits from the implementation of environmental management accounting, even if they do not have a clear understanding of the role of implementing environmental management accounting.

In summary, institutional theory, institutional power as a promotion of enterprises in the application of environmental management accounting.

### 2.3. Environmental management accounting

Environmental management accounting is seen as an extension of traditional management accounting. Management accounting is defined as measuring and reporting financial and non-financial information that helps managers make decisions to accomplish the goals of an organization (Horngren et al., 2003). Birkin (1996) points out that environmental management accounting is a simple development of management accounting. Bennett & James (1997) explains that environmental management accounting can be considered environmentally relevant management accounting but not financial information. According to UNDSO (2003), environmental management accounting is a better and more comprehensive approach to management accounting. Environmental management accounting is the way that enterprises can account for the use of materials and environmental costs in their activities. Material accounting is a means of tracking the flow of materials through a facility to characterize inputs and outputs for the purpose of evaluating both resource efficiency and opportunities for environmental improvement.

According to Burritt et al. (2002), environmental management accounting can be

defined as the creation, analysis, and use of financial and non-financial information to optimize a company's economic and environmental performance and to achieve sustainable business operations. Thus, environmental management accounting is defined as a general term that includes both monetary environment management accounting and physical environment management accounting, which is inherently internal to an organization and also involves the integration of ecological and monetary issues. Environmental governance accounting can be suitable for both the private sector and public sector organizations.

### 2.4. Research hypotheses and models

The impact of institutional pressure on the application of environmental management accounting

According to institutional theory, institutional pressure can be considered in three main respects: moderating pressure (coercive pressure); normative pressure (normative pressure); imitation pressure. First, coercive pressure, exerted by powerful governments and partners, provide forces for organizations to follow using various environmental standards and regulations (Roxas & Coetzer, 2012). Coercive pressures influence organizational behavior through tools of control and encouragement (Latan et al., 2018). Command and control tools represent mandatory regulations and policies issued by the government. Every company is subject to regulations and policies unconditionally by the fact that they will be fined for violating regulations and rules (Berrone et al., 2013). The government can encourage companies to implement environmental governance accounting by setting goals that benefit businesses when applying environmental

management accounting. In general, when businesses face coercive pressure, the implementation of environmental management accounting can help them receive government support, social legitimacy and economic benefits, so that companies are willing to perform environmental management accounting. This is followed by normative pressure coming from industry associations, trade associations, the media, and other social actors such as suppliers and customers (Scott, 2005). Industry and trade associations play an important role in creating basic standards for implementing environmental governance accounting. Members in associations will be influenced by behavioral norms. Companies can gain better resources, knowledge, and management expertise through communication with managers and government officials of other organizations (Liang et al., 2007). Therefore, companies will choose to adhere to those rules to avoid being excluded from partnerships. In addition, under pressure from the media and other social actors, companies are better off performing environmental governance accounting in response to public concerns. In this situation, companies are willing to perform environmental management accounting to achieve reputation and profitability in the long term. Finally, the pressure to imitate occurs when a company is aware of the success of its competitors' actions and wants to achieve the same benefits. In the context of current research, given that implementing environmental management accounting is expensive and financial returns uncertain, it is important to learn from successful competitors. If competitors benefit from implementing environmental management accounting, companies will imitate successful competitors under pressure to imitate. From there, the team hypothesized:

Hypothesis H1: Institutional pressures have a positive impact on the application of environmental management accounting

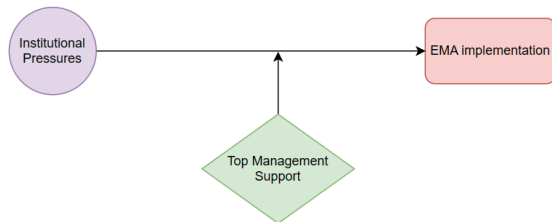
The role of support comes from senior leadership

The support of top management is important for many organizational behaviors and practices, such as environmental protection management practices (Lee & Klassen, 2016), environmental protection behaviors (Colwell & Joshi, 2013) and the implementation of environmental management accounting (Phan et al., 2015). It can be said that the support from senior management in enterprises affects the response of enterprises to institutional forces through two different ways. First, businesses need the support of senior management to be able to perform environmental management accounting (Phan et al., 2017). This is because implementing environmental management accounting often requires a lot of resources including investment, staff, and engineering. These can only be provided at a high level of investment with the support of senior management. On the other hand, when companies have the support of senior management, it is easier to implement environmental management accounting. The support of senior management is likened to the internal force to perform a particular behavior (Blass et al., 2014). Meanwhile, based on previous research, environmental management accounting is more easily applied from the top down than from the bottom up (Jasch, 2003). To some extent, the support of top management leads companies to perform better environmental management accounting. Therefore, under the influence of institutional forces, companies with the strong support of senior management will be more likely to perform environmental management accounting. From there, the team hypothesized:

Hypothesis H2: TMS regulates the impact of institutional pressure on the application of environmental management accounting

Research model

**Fig. 1. Research Model**



EMA variables (Phan et al., 2017; Ferreira et al., 2010) measures the extent to which the accounting system of enterprises has accomplished each of the following over the past three years, on a five-point Likert scale from 1 – Not done to 5 – Very well done

#### Physical EMA

PEMA 1. Record all input material flows (energy, water, materials)

PEMA 2. Record all output material flows (waste, exhaust gases)

PEMA 3. Track material flow through all different material management steps, from acquisition to processing

PEMA 4. Implementation of environmental performance targets for input material flows (energy, water, materials)

PEMA 5. Implementation of environmental performance goals for the flow of output material (waste, exhaust gases)

#### Monetary EMA

MEMA 1. Identify environmentally related costs

MEMA 2. Estimation of potential environmental liabilities

MEMA 3. Classification of environmentally related costs

MEMA 4. Allocate environmentally related costs to production processes

MEMA 5. Allocate environmentally related costs to the product

MEMA 6. Improve the efficiency of management of environmentally related costs

MEMA 7. Creation and use of environmental expense accounts

MEMA 8. Development and use of major monetary indicators related to the environment (e.g. reduction of energy costs )

MEMA 9. Product lifecycle cost assessment

Variable Top management support (Wang et al., 2018; Colwell & Joshi, 2013) measures the level of support coming from senior corporate leadership for the application of environmental management accounting, on a five-point Likert scale from 1 – Very disagreeable to 5 – Very agree

TMS 1. Senior management in our business is committed to environmental management accounting.

TMS 2. The implementation of environmental management accounting can receive full support from our senior management team.

TMS 3. Senior management can provide adequate resources to support the implementation of environmental governance accounting.

TMS 4. Senior management always assesses the impact of enterprises on the environment by implementing environmental management accounting.

Institutional pressures (Wang et al., 2018; Colwell & Joshi, 2013) measures the institutional power coming from stakeholders in the application of environmental governance accounting, on a five-point Likert scale from 1 – Strongly disagree to 5 – Strongly agree

#### Coercive pressure

CP1. Our businesses strive to mitigate the threat from environmental regulations by implementing environmental governance accounting.

CP2. Environmental regulations are very important for our businesses to perform environmental management accounting.

CP3. Local authorities have set strict environmental standards that our businesses need to comply with.

CP4. A number of penalties have been imposed on enterprises that violate environmental standards and regulations.

#### Normative pressure

NP1. The growing environmental awareness of consumers has prompted our business to implement environmental management accounting.

NP2. Being environmentally responsible and publicizing environmental information is a basic requirement for our businesses to participate in this industry.

NP3. NGOs around our business expect all businesses in the industry to perform environmental management accounting.

NP4. Stakeholders may not support our business if our business does not perform environmental management accounting.

#### Mimetic pressure

MP1. Our industry-leading companies have set an example in the field of environmental management accounting.

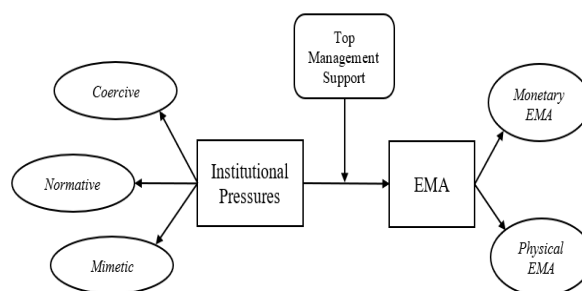
MP2. Our industry-leading businesses are renowned for implementing environmental management accounting.

MP3. Our industry-leading businesses are intent on reducing their impact on the environment by implementing environmental governance accounting.

MP4. Our industry-leading businesses have gained a competitive advantage by implementing environmental management accounting.

The research model contains the second-order factor.

**Fig. 2. Empirical research model on the influence of institutional forces on the application of environmental management accounting**



- Institutional Pressures are 2nd order factors built using a formative structural model. Environmental management accounting is composed of three smaller aspects: Coercive pressure, normative pressure, mimetic pressure.

- Dependent variables: Applying environmental management accounting (EMA) is a 2nd order factor built using a formative



structural model. EMA is made up of two smaller aspects: Physical EMA and Monetary EMA.

- Moderating variable: TMS (Top Management Support)

### 3. Research methods

This study conducted an analysis of the SEM model based on the PLS – SEM analysis (analysis of linear structure models by the method of partial least squares). The PLS-SEM analysis proposed by Hair et al. (2017) is suitable for studies using hierarchical component models. To empirically evaluate the research model, this study uses a two-stage method to approach PLS – SEM. In stage one, lower-order structures (in this study the first order factor) are considered in the linear structure model. These structures are directly linked to other structures without going through higher-order structures (in this study, the second order factor). Before proceeding to the next phase, this study scores structures based on the weighted averaging method proposed by Sarstedt et al. (2019). Through this step, top-order structures will be normalized into specific values, which serve the same role as small items measured through questionnaires. Thus, in the second phase, the linear structure model will be re-estimated, and the quadratic structures will now become first-order structures. The linear structure model (SEM) is the proposed method for studying the relationships between latent variables. This method is very useful in analyzing survey data (Hair et al., 2017). There are two common methods in SEM model analysis: CB-SEM and PLS-SEM. As suggested by Hair et al. (2017), this study opted for a PLS-SEM analysis. There are three reasons for this choice:

- (1) PLS-SEM is suitable for analyzing non-standard non-distributed survey data and is a

safe method when the sample size is not large enough.

- (2) In a model using a 2nd order factor according to the formative model, PLS – SEM should be selected because the statistical techniques of PLS-SEM are more suitable for analyzing the higher-order structure model. This study uses 2 variables: institutional power, application of environmental management accounting, which are quadratic structural variables based on smaller aspects, so it is more reasonable to use PLS-SEM.

- (3) PLS-SEM is the appropriate approach to exploratory studies – the study of latent relationships that do not yet have a unified theory. This study is a study exploring the impact of institutional pressure on the application of environmental management accounting by textile and garment enterprises. This is a topic that has not been popularized and there is no unified theory, so choosing PLS-SEM is more suitable.

Step 2: Evaluate the measurement model: in this step, the study evaluates the quality of the measurement model, thereby calibrating the research model accordingly. In addition, in this step, the quadratic structure variable (knowledge absorption capacity) will be modeled into a tier 1 structural transformation to ensure suitability for the evaluation of the structure model. Aspects of measuring model evaluation include:

- (1) Convergence value level: The convergence value level is evaluated at two levels, the scale level and the factor level. The scale level is the assessment of the convergence of an item to the factor that the item explains. The outer loading coefficient is used to evaluate the convergence of items with a minimum value of 0.7 as proposed by Henseler et al. (2009). If the item has an external load factor of less than 0.7, it

should be removed to ensure the convergence of the scale (Henseler et al., 2009). Factor level is an assessment of the degree of convergence of the items that make up that factor. According to Hair et al. (2017), the quoted mean variance criterion (AVE) greater than 0.5 can be applied to assess this.

(2) Composite Reliability: Previous studies have often used Cronbach's Alpha as a sub-block and composite reliability (Hair et al., 2019). However, as Hair et al. (2019) suggest, the rho\_A factor could be used to replace both of these criteria. rho\_A values between 0.7 and 0.95 would both represent the scale of reliability and show that no redundancy occurs when items correlate too closely in one factor (Hair et al., 2019).

(3) Differentiation value: According to Henseler et al. (2015), approaching differential values based on HTMT coefficient criteria is the simplest and most appropriate when assessing differential values. The variables need to be differentiated from each other to ensure that there is no overlap acting on each other that leads to a deviation of the estimated results, and when the HTMT coefficient  $< 0.85$ , this problem can be accepted (Henseler et al., 2015).

#### Step 3: Evaluate the structure model

To check the quality of the linear structural model, it is necessary to carry out a structural model evaluation. Three aspects can be used to assess SEM model quality including:

(1) R-square factor: represents the level of interpretation of the structural model for the dependent variable. This coefficient depends on the context in which the study presents different levels of interpretation (Hair et al., 2017). According to Hair et al. (2017), for exploratory studies, an R-square factor greater

than 0.33 would ensure a relatively good level of interpretation for the dependent variable.

(2) F-square coefficient: represents the degree of direct correlation between two factors in the structural model. This coefficient only shows the degree of strong/weak correlation, not the direction of the impact. When the f-square coefficient  $> 0.15$ , the two factors are considered to have a very strong direct correlation whereas if f-square  $< 0.02$  then the two factors are said to be uncorrelated (Hair et al., 2017).

(3) Model conformity: is the assessment of the suitability of the structural model relative to the actual data. The criterion used for evaluation is SRMR coefficient  $< 0.08$  (Hu and Bentler, 1999)

#### Step 4: Verify the statistical hypothesis

Testing the statistical hypothesis in this study consists of 4 parts:

(1) Verification of direct impacts

(2) Inspection of indirect effects

(3) Moderating role accreditation

(4) Multi-team analysis to test impact differences

## 4. Results

As suggested by Henseler et al. (2009), items with an Outer loading value of less than 0.7 should be removed. According to the test results, items with an Outer loading value less than 0.7 are: MEMA7 (0.617), MEMA8 (0.620), MP2 (0.572), NP3 (0.652), PCI3 (0.575), PEMA3 (0.634), PRF5 (0.635). These items will be removed from the study to ensure convergence (Hair et al., 2019). After removing the above items, the Outer loading values were retested and none violated the criteria of Henseler et al. (2009).

Based on a standardized measurement model in phase two, this study conducts a structural model evaluation. First, model quality indicators need to be considered (Hair et al., 2019). Aspects evaluated in the structural model include: coefficient of determination (R-square), measurement of impact (f-square), and model fit.

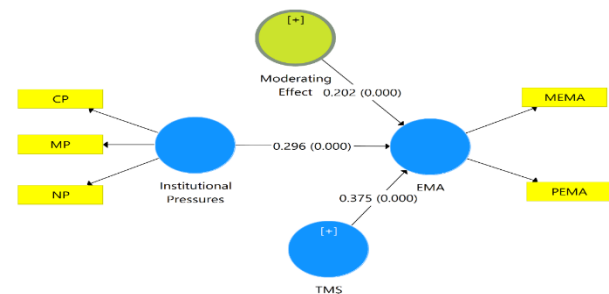
+ R-square: The R-square determinant coefficient represents the level of interpretation of the structural model for the change of factors in the model. The result of the R-square coefficient is obtained after estimating the structural model. The variability of environmental management accounting variability is also explained by 30.3% by the structural model. This result is also similar to the results of the study of Wang et al. (2019).

+ f-square: The f-square coefficient shows the impact of factors in the structural model after being normalized. An f-square coefficient greater than 0.15 would represent a very large impact while an f-square factor greater than 0.02 would represent a negligible impact (Hair et al., 2019). The results showed that TMS had a strong impact on environmental governance accounting with f-square = 0.201 > 0.15. Besides, there is no f-square coefficient less than 0.02, thus demonstrating that linear relationships in the structural model all have a significant degree of impact (Hair et al., 2019).

+ Model fit: The suitability of the model is assessed through the SRMR coefficient as proposed by Hu & Bentler (1999), where the SRMR value < 0.08 will indicate that the proposed structural model is suitable. The results showed that the SRMR coefficient in both the estimation model and the saturation model was less than 0.08, ensuring the suitability of the model (Hu & Bentler, 1999).

As such, analyses assessing the quality of the linear structure model show that the criteria considered are all satisfactory, so that the model can be used to conduct further evaluation (Hair et al., 2019). In the next section, hypotheses will be tested through model estimation and multigroup analysis methods. Through the bootstrap technique, structural models are estimated and tested through repeated sampling. The inspection results include the impact factor and p-value as follows:

**Fig. 3. Research results**



Source: research results extracted from Smart PLS

The results of the study showed that institutional pressure has a positive impact on environmental management accounting with an impact factor of 0.296 > 0 and p-value = 0.000 < 0.01. Therefore, the H1 hypothesis is supported at a significant level of 1%. Thus, institutional pressure is expressed through 3 aspects (Coercive pressure, normative pressure, mimetic pressure) that can improve the application of environmental management accounting at textile and garment enterprises in Vietnam. This result is consistent with the study of Gunarathne et al. (2021); Chaudhry & Amir (2020). This emphasizes that the application of environmental management accounting in Vietnamese textile and garment enterprises can be promoted by appropriate institutional pressure. Businesses in Vietnam, a developing country, face more pressure to act

responsibly. At that time, applying environmental governance accounting can serve as a means to seek the support of stakeholders. Institutional influences on corporate environmental management strategies can lead to a pervasive top-down process through which companies shape and change their environmental management practices (Gunaratne & Lee, 2019). Although organizations may face different institutional influences, their internal positive response can

also be formed by these circumstances and through which businesses may make greater efforts in applying environmental management accounting. Thus, although the positive impact of institutional power on the application of environmental management accounting is still controversial (Elhossade et al., 2021; Iredele et al., 2020) but evidence from textile and garment enterprises in Vietnam can confirm once again the role of institutional power for enterprises.

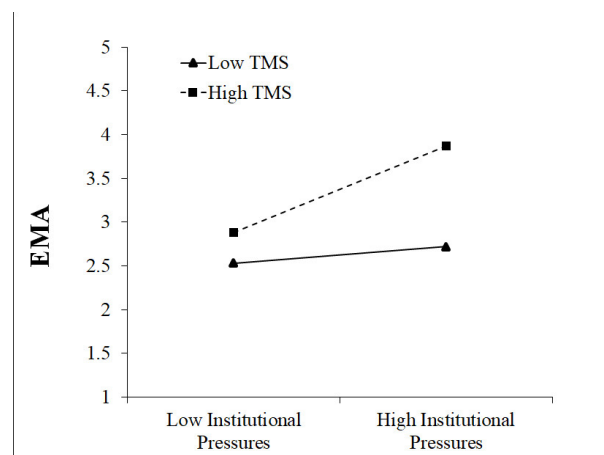
**Table 1 Results of estimation of impact model of institutional pressure on application of environmental management accounting**

	Impact factor	Standard deviation	Statistics T	P-value
<b>Institutional Pressures → EMA</b>	0.296	0.029	10.262	0.000
<b>TMS → EMA</b>	0.375	0.028	13.347	0.000
<b>Moderating Effect (Institutional Pressures * TMS) → EMA</b>	0.202	0.030	6.716	0.000

Source: research results compiled from Smart PLS

The results showed that TMS had a significant positive impact on the application of environmental management accounting with an impact factor of  $0.375 > 0$  and  $p\text{-value} = 0.000 < 0.01$ . Thereby, it can be affirmed that the TMS of enterprises is an important factor to help improve the success in applying environmental management accounting in Vietnamese textile and garment enterprises. In addition, the moderating role of TMS on the impact from institutional forces to the application of environmental management accounting is also confirmed because the  $p\text{-value}$  of the moderating impact is  $0.000 < 0.01$ . The results of the moderating role are further shown in Figure 4.

**Fig. 4. The moderating role of TMS**



Source: research results extracted from Smart PLS

The results of TMS's moderating role in this study also agree with the conclusions of Kong et al. (2022); Wang et al. (2019). The results show that for enterprises with more support from senior management, the more institutional resources increase, the more the application of

environmental management accounting is promoted and becomes more effective (High TMS road slopes up). This indicates that Vietnamese textile and garment enterprises will be able to implement management accounting mechanisms environmental treatment is more effective when they are subjected to institutional pressures including coercive pressure, normative pressure, imitation pressure but also receive support and support from senior management. On the other hand, without receiving a lot of TMS, increasing institutional constraints may not yield any significant results for the application of environmental governance accounting (the Low TMS line is almost horizontal). This result implies that the impact of institutional forces does not always comprehensively promote the application of environmental management accounting in Vietnamese textile and garment enterprises but needs to have specific appropriate conditions. In particular, a condition found in this study is the support coming from senior managers in enterprises. In the context of enterprises facing simultaneous pressures from government regulations, pressure from society and competitors, the active support of senior management is a necessary motivation for Vietnamese textile and garment enterprises to effectively implement environmental management accounting.

## 5. Conclusion

The hypothesis that institutional pressures have a positive impact on the application of environmental management accounting is supported. This result is supported by studies by Jamil et al. (2015), Zeng et al. (2012) with both manufacturing and service providers. Theoretically based on the foundations of institutional theory, many studies have shown the role of institutional forces in changing the

behavior of enterprises, especially positive behaviors towards the environment. According to Testa et al. (2018); Aksom et al. (2020) Physical theory affects the operation of enterprises because enterprises are forced to adhere to external value norms in a tie to the social environment in which it exists. In order for business operations not to be hindered by rules and requirements, DN is forced to meet it. When businesses accept the institutional environment around them, institutional pressures force them to change their behavior (Mignerat & Rivard, 2012). In the context of increasing awareness of environmental pollution of society, in order to protect resources as a foundation for long-term national development, many countries have also issued strict regulations around the production business activities of enterprises. environmental management (Wei et al., 2015; Zhang et al., 2018). Therefore, in the context of the deep concern and high consensus of society about the environment, in order to avoid isolation and elimination from the competition, enterprises choose to apply environmental management accounting as an optimal solution. The main institutional factors affecting the application of environmental management accounting include government regulation (mandatory pressure); collective expectations and standards (standard pressure) and finally the voluntary application when seeing rival enterprises perform environmental management accounting (imitation pressure). Changes in the institutional environment have a consistent impact on the adoption of new organizational practices, including accounting. Particularly for the research subjects are Vietnamese textile and garment enterprises due to a specific part of the consumer production industry is less investment in environmental costs and the scale of these enterprises in our country is mainly small and medium-sized, the

goals of scale development, increasing economic revenue is often put on top of it rather than integrated with sustainable environmental protection factors. In addition, due to the lack of awareness that the application of environmental management accounting has a positive impact on economic benefits or due to the lack of skills to integrate environmental issues into the accounting system, many businesses completely ignore environmental factors in corporate governance, but if there is awareness that environmental management accounting affects firm performance through many other factors, businesses still tend to underestimate the role of environmental management accounting. Therefore, the rate of voluntary application of enterprises is not high. Therefore, it is necessary to have a highly mandatory motivation to promote awareness of the application of environmental management accounting in enterprises. However, the institutional strength on the implementation of environmental management accounting in textile and garment enterprises is increasing partly due to its general impact on all manufacturing industries and partly due to the far-reaching impact of this industry with the environment but there are still no guidance documents, specific models on environmental management accounting, specific standards on environmental management accounting in enterprises.

The TMS hypothesis that regulates the impact of institutional pressures on the application of environmental governance accounting is supported. If institutional forces strongly influence the environmental responsibilities of enterprises through their willingness to apply environmental management accounting (Jamil et al., 2015), TMS is shown to play an important and necessary role in the practical behaviors of enterprises including environmental protection behaviors (Phan et

al., 2017), environmental protection management (Colwell & Joshi, 2013). Several other studies have shown that the support of top management plays an important role in the relationship between institutional power and environmental management practices in enterprises (Wang et al., 2018; Zhang et al., 2018). However, the impact of TMS on the application of environmental management accounting is vastly different from that of institutional forces. In addition to the pressures and principles that must be followed under the constraints of ethical values and legal factors, enterprises also need support to address the shortcomings in the ability to apply environmental management accounting, especially through TMS. Because if there is only pressure without support, enterprises will be put in a difficult position, unable to fully implement environmental requirements, but the burden of resource shortage cannot be solved, business activities will slow down. At that time, environmental requirements from society will conflict with the economic interests of enterprises. From the above arguments, it can be said that TMS has a role in regulating the impact from institutional forces to the application of environmental management accounting. This hypothesis is supported by previous studies such as Bansal & Roth (2000), Simpson & Sampson (2010).

If you want to apply environmental management accounting in your business, you inevitably need TMS because they are the ones who decide to provide and allocate the necessary resources such as financial, human and technical. In addition, the company's ability to innovate and drive change depends heavily on the operational strategy established by senior management (Greenwood & Hinings, 1996). TMS serves as an intrinsic driving force for easier and more efficient adoption of environmental management accounting. Based

on institutional theory, previous research by Jasch (2003) has shown that applying environmental management accounting from senior down is more efficient and easier from subordinate to level. When senior managers confirm the application of environmental management accounting and resource allocation for this activity, the vision and commitment to innovation of enterprises will be established and focused on implementation at a high level. The requirements for improvement and innovation of environmentally friendly business activities from external organizations, agencies and individuals will be paid more attention. In the opposite direction, if the senior management of the enterprise does not find the link between business interests and environmental requirements from external pressures, the application of environmental management accounting is difficult to achieve high efficiency. Both institutional and TMS forces influence the application of environmental management accounting to a certain extent, institutional forces act as external and mandatory drivers, while TMS is an internal driving force that both neutralizes and transforms institutional forces to apply management accounting. the environment is suitable for the nature of the business and more efficient.

Acknowledgment: The article is the product of the grassroots science and technology project of Foreign Trade University, code: NTCS2022 – 25

## Reference

Aksom H., Zhylynska O., Gaidai T. (2020). Can institutional theory be refuted, replaced or modified? *International Journal of Organizational Analysis*, 28(1), 135-152.

- Bansal, P., & Roth, K. (2000). Why companies go green: A model of ecological responsiveness. *Academy of management journal*, 43(4), 717-736.
- Bennett, M & James, P (1997). Environment-Related Management Accounting: Current Practice and Future Trends, *Greener Management International*, 17(1), 32-52.
- Berrone, P., Fosfuri, A., Gelabert, L., & Gomez - Mejia, L. R. (2013). Necessity as the mother of 'green' inventions: Institutional pressures and environmental innovations. *Strategic Management Journal*, 34(1), 891-909.
- Birkin, F (1996). Environmental Management Accounting, *Management Accounting*, 74(2),34-47.
- Blass, V., Corbett, C. J., Delmas, M. A., & Muthulingam, S. (2014). Top management and the adoption of energy efficiency practices: Evidence from small and medium-sized manufacturing firms in the US. *Energy*, 65(1), 560-571.
- Brammer, S., Hoejmose, S., & Marchant, K. (2012). Environmental management in SMEs in the UK: Practices, pressures and perceived benefits. *Business Strategy and the Environment*, 21(1), 423–434
- Burritt, R. L., & Schaltegger, S. (2010). Sustainability accounting and reporting: fad or trend?. *Accounting, Auditing & Accountability Journal*, 23(7), 829-846.
- Burritt, R. L., Hahn, T., & Schaltegger, S. (2002). Towards a comprehensive framework for environmental management accounting—Links between business actors and environmental management accounting tools. *Australian Accounting Review*, 12(27), 39-50.
- Chaudhry, N. I., & Amir, M. (2020). From institutional pressure to the sustainable development of firm: Role of

- environmental management accounting implementation and environmental proactivity. *Business Strategy and the Environment*, 29(8), 3542-3554
- Colwell, S. R., & Joshi, A. W. (2013). Corporate ecological responsiveness: Antecedent effects of institutional pressure and top management commitment and their impact on organizational performance. *Business Strategy and the Environment*, 21(2), 73-91.
- DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review*, 22(2), 147-160.
- Elhossade, S. S., Abdo, H., & Mas' ud, A. (2021). Impact of institutional and contingent factors on adopting environmental management accounting systems: the case of manufacturing companies in Libya. *Journal of Financial Reporting and Accounting*, 19(4), 497-539.
- Ferreira, A., Moulang, C., & Hendro, B. (2010). Environmental management accounting and innovation: an exploratory analysis. *Accounting, Auditing & Accountability Journal*. 23(7), 920-948.
- Greenwood R, Hinings CR. (1996). Understanding radical organizational change: bringing together the old and the new institutionalism. *Academy of Management Review*, 21(1), 1022-1054.
- Gunarathne, A. N., Lee, K. H., & Hitigala Kaluarachchilage, P. K. (2021). Institutional pressures, environmental management strategy, and organizational performance: The role of environmental management accounting. *Business Strategy and the Environment*, 30(2), 825-839.
- Gunarathne, N., & Lee, K. H. (2019). Institutional pressures and corporate environmental management maturity. *Management of Environmental Quality: An International Journal*, 30(1), 157-175.
- Hair Jr, J. F., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced issues in partial least squares structural equation modeling*. Sage publications
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the academy of marketing science*, 43(1), 115-135.
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*. Emerald Group Publishing Limited
- Heugens, P. P., & Lander, M. W. (2009). Structure! Agency! (and other quarrels): A meta - analysis of institutional theories of organization. *Academy of Management Journal*, 52(1), 61 - 85.
- Hornigren, CT, Datar, S.M. & Foster, G (2003). *Cost Accounting: A Managerial Emphasis*, 11th edn, Prentice Hall, New Jersey
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, 6(1), 1-55.
- Iredele, O. O., Tankiso, M., & Adelowotan, M. O. (2020). The influence of institutional isomorphism and organisational factors on environmental management accounting practices of listed Nigerian and South African firms. *South African Journal of Accounting Research*, 34(3), 183-204.



- Ismail, M. S., Ramli, A., & Darus, F. (2014). Environmental management accounting practices and Islamic corporate social responsibility compliance: evidence from ISO14001 companies. *Procedia-Social and Behavioral Sciences*, 145(1), 343-351.
- Jalaludin, D., Sulaiman, M., Ahmad, N. N. N., & Nazli, N. (2010). Environmental management accounting: an empirical investigation of manufacturing companies in Malaysia. *Journal of Asia-Pacific Centre for Environmental Accountability*, 16(3), 31-45.
- Jamil, C. Z. M., Mohamed, R., Muhammad, F., & Ali, A. (2015). Environmental management accounting practices in small medium manufacturing firms. *Procedia-Social and Behavioral Sciences*, 172(1), 619-626.
- Jasch, C. (2003). The use of Environmental Management Accounting (EMA) for identifying environmental costs. *Journal of Cleaner production*, 11(6), 667-676.
- Kong, Y., Javed, F., Sultan, J., Hanif, M. S., & Khan, N. (2022). EMA Implementation and Corporate Environmental Firm Performance: A Comparison of Institutional Pressures and Environmental Uncertainty. *Sustainability*, 14(9), 5662
- Latan, H., Jabbour, C. J. C., de Sousa Jabbour, A. B. L., Wamba, S. F., & Shahbaz, M. (2018). Effects of environmental strategy, environmental uncertainty and top management's commitment on corporate environmental performance: The role of environmental management accounting. *Journal of Cleaner Production*, 180(1), 297-306
- Lee, S. Y., & Klassen, R. D. (2016). Firms' response to climate change: The interplay of business uncertainty and organizational capabilities. *Business Strategy and the Environment*, 25(1), 577-592.
- Liang, H., Saraf, N., Hu, Q., & Xue, Y. (2007). Assimilation of enterprise systems: The effect of institutional pressures and the mediating role of top management. *MIS Quarterly*, 31(1), 59-87.
- Mignerat M., Rivard S. (2012) The institutionalization of information system project management practices. *Information and Organization*, 22 (2), 125-153.
- Ning, S., Jie, X., Li, X. (2022). Institutional Pressures and Corporate Green Innovation; Empirical Evidence from Chinese Manufacturing Enterprises. *Polish Journal of Environmental Studies*, 31(1), 231-243.
- Phan, T. N., & Baird, K. (2015). The comprehensiveness of environmental management systems: The influence of institutional pressures and the impact on environmental performance. *Journal of environmental management*, 160(1), 45-56
- Phan, T. N., Baird, K., & Su, S. (2017). The use and effectiveness of environmental management accounting. *Australasian Journal of Environmental Management*, 24(4), 355-374.
- Qian, W., & Burritt, R. L. (2009). Contingency perspectives on environmental accounting: an exploratory study of local government. *Accounting, Accountability & Performance*, 15(2), 39-70.
- Rikhardsson, P., Bennett, M., Bouma, J.J. & Schaltegger, S. (2005). Environmental Management Accounting: Innovation or Managerial Fad?' in P Rikhardsson, M Bennett, JJ Bouma & S Schaltegger (eds), *Implementing Environmental Management Accounting: Status and Challenges*, Springer, Dordrecht.
- Rikhardsson, P., & Dull, R. (2016). An exploratory study of the adoption, application and impacts of continuous auditing technologies in small businesses.

- International Journal of Accounting Information Systems, 20(1), 26-37.
- Roxas, B., & Coetzer, A. (2012). Institutional environment, managerial attitudes and environmental sustainability orientation of small firms. *Journal of Business Ethics*, 111, 461–476
- Sarstedt, M., Hair Jr, J. F., Cheah, J. H., Becker, J. M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. *Australasian marketing journal*, 27(3), 197-211.
- Scott, W. R. (2005). Institutional theory: Contributing to a theoretical research program. *Great minds in management: The process of theory Development*, 37(2), 460–484
- Simpson, D., & Samson, D. (2010). Environmental strategy and low waste operations: exploring complementarities. *Business Strategy and the environment*, 19(2), 104-118.
- Sun H., Edziah B.K., Sun C., Kporsu A.K. (2019) Institutional quality, green innovation and energy efficiency. *Energy Policy*, 135, 111002-111 016.
- Teo, H. H., Wei, K. K., & Benbasat, I. (2003). Predicting intention to adopt interorganizational linkages: An institutional perspective. *MIS Quarterly*, 27, 19–49
- Testa F., Boiral O., Iraldo F. (2018). Internalization of Environmental Practices and Institutional Complexity: Can Stakeholders Pressures Encourage Greenwashing? *Journal of Business Ethics*, 147(2), 287, 2018.
- Wang, S., Li, J., & Zhao, D. (2018). Institutional pressures and environmental management practices: The moderating effects of environmental commitment and resource availability. *Business Strategy and the Environment*, 27, 52–69
- Wang, S., Wang, H., & Wang, J. (2019). Exploring the effects of institutional pressures on the implementation of environmental management accounting: Do top management support and perceived benefit work?. *Business Strategy and the Environment*, 28(1), 233-243.
- Wei, Q., Burritt, R., & Jin, C. (2015). The potential for environmental management accounting development in China. *Journal of Accounting and Organizational Change*, 11, 406–428.
- Wu H., Liu S., Hu S. (2021) Visible Hand: Do Government Subsidies Promote Green Innovation Performance Moderating Effect of Ownership Concentration. *Polish Journal of Environmental Studies*, 30(1), 881-898
- Zeng, S. X., Xu, X. D., Yin, H. T., & Tam, C. M. (2012), "Factors that drive Chinese listed companies in voluntary disclosure of environmental information", *Journal of Business Ethics*, 109(3), 309-321
- Zhang, Y., Wei, Y., & Zhou, G. (2018). Promoting firms' energy - saving behavior: The role of institutional pressures, top management support and financial slack. *Energy Policy*, 115, 230 – 238.