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ANALYSIS OF THE EFFECTS OF AN ENVIRONMENTAL ACCOUNTING SYSTEM ON ACCOUNTANTS BASED ON THE ORGANIZATIONAL REFORM THEORY

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Abstract

In recent years, environmental issues have attracted the attention of enterprises. Enterprises often monitor and control their influence and the effect of their decisions on the environment through cost benefit analysis via an environmental accounting system (EAS). The introduction of EAS is considered a reform for many enterprises, but it is also a challenge for them, particularly with the accompanying scenarios and restrictions on organizational reform. The current research aims to analyze the effects of EAS on corporate accountants based on the organizational reform theory. After identifying corporate accountants in the manufacturing industry as research subjects, a questionnaire survey is conducted for data collection. The gathered data are divided into high/low cognitive samples. Results indicate that organizational culture in the cognitive dimension is an important factor in the attitude of organization members toward reform. Individual demands and value are also key factors in the attitude of accountants in the absence of an EAS and information system. Enterprises can use EAS to meet their expectations once the organizational culture is shaped, and individual demands and value can then be communicated to win the support of accountants for the reform.

Keywords: Environmental Accounting System, Reform Cognition, Reform Attitude.
1 INTRODUCTION

With the rise of green consumerism awareness in recent years, enterprises are increasingly motivated to promote green management, reduce consumption of natural resources through science, and improve production performance while developing a new public image using more environment-friendly products (Shrivastava, 1995). Following the incremental importance of environmental considerations, accounting information systems (AIS) should provide firms with information to manage environmental risks and organizational activities. Governments and enterprises worldwide strive to integrate and manage “environmental” AIS into corporate social responsibility (CSR). Therefore, an appropriate conceptual framework should be developed to spur enterprises to deliver information regarding the influences of organizational behavior on the environment. Doing so will enable enterprises to analyze financial information and develop a new accounting framework for promoting CSR (Cecil et al., 2009). Masanet-Llodra (2006) considers that the integration of information systems can help in the analysis of the interaction between enterprises and the environment. Enterprises are more capable of controlling environmental cost and making correct decisions through the establishment of an environmental accounting system (EAS) (Calafell et al., 2006). Thus, EAS plays a crucial role in global efforts to minimize the effect of human activities on the environment because it serves as a platform for information dissemination and a tool for monitoring environmental protection and recording environmental events. Moreover, the availability of monitoring data enables the creation of insights into environmental change and facilitates the assessment of environmental protection efforts (Huang, 2009).

Environmental accounting (EA) is the process of identifying, measuring, accumulating, analyzing, preparing, interpreting, and communicating financial and non-financial environmental information to help managers fulfill corporate environmental objectives. Such sustainability initiative encompasses social and environmental responsibilities for effective environmental management that assists companies in managing, measuring, and improving the environmental aspects of their operations (Tibor, 1996). The introduction of EAS as an organizational reform for enterprises would result in changes in organizational structure, technologies, and working staff (Robbins and DeCenzo, 2000). Accountants assist in reviewing environmental costs from business operations in companies, which can help identify the financial risks and business performance (Ettlie and Reza, 1992). The attitude of accountants will be a key factor in the reform success when EAS is introduced. Hence, the senior management is expected to formulate solutions that can reduce resistance to such reforms; otherwise, these reforms can become ineffective (Nadler, 1981). However, past studies seldom discuss the influences of EAS on accountants who directly face the effects of reform. The current paper aims to analyze the effects of EAS on corporate accountants based on the organizational reform theory. A probe into the effects of reform on attitude also presents the differences in high/low cognition of accountants. Understanding the different cognitions involves discovering whether diminishing the resistance on EAS from the accountants is possible. This understanding has a special meaning when
implementing EAS in organizations. An EAS should enable top managers to win the support of accountants in formulating relevant business objectives. Moreover, investors can have a better understanding of the efforts of enterprises in environmental protection through EAS. Enterprises should assist accountants in improving their performance and the reliability of EA information after realizing the influences of EAS on the cognition and attitude of accountants. Consequently, enterprises can establish competitive advantages and promote their reputation through integration and management of EAS. The current paper is organized as follows. Section 2 covers the literature review on the benefits of EA, organizational reform model, and cognition and attitudes of employees toward reforms. Section 3 presents the research objectives, empirical hypotheses, and research framework. The empirical results are discussed in Section 4. Section 5 presents the conclusion.

2 LITERATURE REVIEW

2.1 Benefits of Enterprises from EA

Since the 1970s, green consumerism has led to scientific green management and the manufacture of environment-friendly products, which help enterprises develop a new public image (Shrivastava, 1995). EA has been used to analyze, utilize, and correlate financial and non-financial information to realize sustainable development cognizant of environmental management policies (United Nations, 2001). Environmental management accounting enables the development and implementation of an environment-related accounting system that helps enterprises manage their environmental and economic performance in the conduct of reporting and audit of corporate information (International Federation of Accounts, 2009). Calafell et al. (2006) suggested that accounting profits and losses also encompass social and environmental responsibilities. Therefore, an appropriate conceptual framework should be developed to encourage enterprises deliver information on the influences of organizational behavior on the environment, enabling enterprises to analyze financial information and develop a new accounting framework for promoting CSR. Controlled EA can then provide real-time and forward-looking information, and serve as a supportive tool for decision making by the senior management. Controlled EA guarantees more benefits for corporations with respect to economic information management and environmental protection policies.

EA permits the recording and disclosure of inputs, outputs, and benefits of enterprises from their environmental protection activities. Moreover, it can bring about the efficiency of enterprises and provide a way for them to disclose their environmental protection achievements publicly. Many studies point out that the better environmental performance of enterprises can improve their profitability and reduce environmental risks (Moskowitz, 1972; Parket and Eilbirt, 1975; Spicer, 1978; Vance, 1975). Moreover, EA contributes to positive results, such as improvement of R&D capability, achievement of more competitive advantages, better coherence among employees, and enhanced innovation capability (Porter and van der Linde, 1995).
Bielak et al. (2007) found that society now has a higher expectation of the public responsibility of enterprises than ever before. Organizational behavior gradually integrates more important systems associated with the society and the environment in an attempt to create a positive attitude and behavior among employees to promote the image and reputation of a company by combining non-economic factors and differentiation from competitors (Gelb and Strawser, 2001; Lindgreen et al., 2008; Maignan et al., 1999; McWilliams and Siegel, 2001; Porter and Kramer, 2006). In the integration process, enterprises create their own competitiveness based on the common concept that CSR is beneficial to business operations (Kotler and Lee, 2005). Enterprises and social communities are well positioned in a win-win situation with the development and implementation of CSR (Cramer et al., 2006; Joseph, 2009). The continuing commitment of enterprises is driven by CSR as they pursue economic development and comply with business ethics at the same time (Roberts, 2003; Rondinelli and Berry, 2000; Szmigin et al., 2007). However, the implementation of CSR aims for reform from the perspective of sense making (Envirowise, 2003; Maon et al., 2009). Thus, enterprises have to consider organizational culture, business principles, and strategic objectives while facing different scenarios and restrictions (Lindgreen et al., 2008).

2.2 Organizational Reform Model

The concept of organizational reform originates from organizational behavior and refers to organizational renovation, innovation, or change. Organizational reform is construed as strategic planning, defined as the action of organizations intended to bring about different behaviors from their members (Recardo, 1991). Ettlie and Reza (1992) argued that reform intrinsically represents an organizational life with the purpose of responding to an increasingly fierce competitive environment and offering better services to customers. Thorne (2000) suggested that organizational reform is an adjustment process for organizations to improve the organizational culture and the capability of members to maintain a balance between survival and development in response to environmental change. Robbins and DeCenzo (2000) stressed that reform is generally a well-planned renovation and target-oriented activity. However, organizational culture, business principles, and strategic objectives should be considered because organizational reform must face different scenarios and restrictions (Lindgreen et al., 2008).

Organizational reform is a complex and dynamic process of organizations requiring systematic theoretical guidance. For this reason, many theoretical models on organizational reform have been developed, including Lewin’s reform model, system reform model, and Kotter’s reform model. Lewin’s reform model was initiated by Lewin (1951) to explain and instruct enterprises on how to launch, manage, and stabilize the reform process. If a successful transformation is desired, the current state must be unfrozen, converted into a new situation, and then refrozen (Figure 1).
Figure 1.  **Lewin’s organizational reform process**

The system reform model explains the correlation and interaction of variables during the process of organizational reform. The following elaborates on input, reform elements, and output: (1) Input - internal strength and weakness, external opportunities and threats; (2) Reform elements - objectives, personnel, social elements, methods, and organizational mechanism. These elements limit and influence one another, and thus the organizations are required to combine the reform elements to realize their objectives according to strategic planning; and (3) Output - result of the reform. According to strategic planning, the overall performance of organizations can be strengthened from the levels of organizations, departments, and individuals. In view of Kotter’s reform model (Kotter, 1995), the failure of organizational reform is often attributable to the following mistakes caused by the senior management: failure to establish a sense of urgency for reform; failure to set up a steering group in charge of the reform process; failure to create a blueprint for the reform and conduct of efficient communication; failure to prepare a system plan and focusing instead on winning short-term profits; and failure to identify and position the reform of the organizational culture.

The lack of relevant information and the insufficient understanding of EAS are the main obstacles to the implementation of EA (United Nations, 2000). Thus, enterprises should endeavor to make members recognize and understand the necessity of reform as a crucial means and step to maintaining their competitive power. In other words, the cognition of organization members of reform is a necessary starting point. Thus, if reform cognition is not created completely, the reform process may be postponed or even become beset with obstacles.

### 2.3 Reform Cognition and Attitude of Employees

Attitude is decisive to an individual’s viewpoint on and interpretation of the outside world. It represents a preparatory behavioral state with immediate purpose or tendency, yielding the greatest effect on human behavior. Penrod (1983) suggested that “attitude” is composed of cognitive, affective, and behavioral aspects, of which the cognitive aspect is composed of the knowledge and belief of individuals of a specific attitude/target. The affective aspect comprises an individual’s feeling toward and evaluation of a specific attitude/target, whereas the behavioral aspect comprises an individual’s readiness of response to or tendency of action for a specific attitude/target. The process of converting cognition into behavior is still affected by many other factors, of which the attitude of employees is considered crucial in influencing their work behavior and interaction with organizations (Silverman,
Thus, the positive attitude of employees for reforms can drive organizational reform, whereas the evaluation of reform cognition may also affect behavioral reaction.

Rosenberg (1993) pointed out that attitude has three parts according to its intrinsic characteristics: (1) cognitive - information obtained from a certain matter; (2) affective - positive or negative feeling of a cognitive matter; and (3) behavioral - an intended responsive behavior based on affective orientation. Cognition is formed in the first phase of attitude, followed by affection and behavior. Once attitude is formed, cognition, affection, and behavior represent consistency and continuity (Figure 2).

As shown in Figure 2, cognition is formed in the first phase of attitude, followed by affection and behavior, to form the attitude (including the reform attitude of employees). Attitude has the attribute of instructing and deciding a behavioral reaction, thus showing the psychological tendency of action. Based on the viewpoint of Rosenberg (1993) on attitude, the current study discusses the cognition of employees to analyze and understand their attitude to determine if they support or oppose the reform, depending on their reform cognition, degree of recognition, and perception of the reform.

**Figure 2. Model of attitude formation**

### 3 RESEARCH METHOD

#### 3.1 Research Objects and Framework
The present research aims to analyze the effects of EAS on reform cognition and attitude of accountants in the manufacturing industry in Taiwan. A total of 93 questionnaires were returned. Seven were considered invalid samples and were deleted, leaving 86 valid samples with a valid return rate of 33.07%. All returned samples were divided into high or low cognitive degree and used to discuss the differences in the reforming effects on the reform cognition and attitude of accountants. Based on the literature review, reform cognition covers organizational culture, performance assessment, know-how, and individual demands/value, whereas reform attitude covers cognition degree of jobs, full participation, and acceptance of reform. The research framework is shown in Figure 3.

3.2 Research Hypothesis

Organizational culture exists in the behavior of organization members, including the influences of formal and informal regulations on performance assessment, reform cognition, attitude, and behavior. This kind of culture is formed in a gradual manner, cannot be changed easily, and exerts influence on the attitude and behavior of organization members. Organizational culture can affect the mode of decision making of its members, their way of explaining or managing the environment, the method they use to deal with information, and the manner by which they behave (Smircich, 1983). According to O’Reilly and Chatman (1986), if there is a member who shares organizational objectives and value, then individuals in the organization can contribute to the organization. A new culture can then be reshaped to meet actual demands in the event of policy change. Moreover, the reform leader must understand the organizational culture and the background of reform to ensure employee expectations are met, and the extent of the reform is implemented (Prescott, Rothwell and Taylor, 1998). The present paper points out that the organizational culture of an enterprise has a significant influence on the reform attitude of accountants (e.g., cognition degree of jobs, full participation, acceptance of reform, etc.) with the introduction of the EAS. The following are the three hypotheses:

**H1:** The organizational culture of an enterprise has a significant influence on the degree of cognition of jobs of accountants with the introduction of the EAS.

**H2:** The organizational culture of an enterprise has a significant influence on the full participation of accountants with the introduction of the EAS.

**H3:** The organizational culture of an enterprise has a significant influence on the acceptance of reform of accountants with the introduction of the EAS.

Organizational reform may affect the behavior of employees provided that it has an influence on the original performance assessment system. Employees tend to support a reform if the reform performance assessment system enables them to obtain satisfactory performance assessment results. Steers and Black (1994) suggested that reformed working procedures could improve productivity, but employees could resist the reform because they could be afraid of a possible standstill in salary or due...
compensation. According to the research hypothesis, performance assessment has a significant influence on the reform by accountants, among others, with the introduction of the EAS.

**H4:** Performance assessment has a significant influence on the degree of cognition of jobs of accountants with the introduction of the EAS.

**H5:** Performance assessment has a significant influence on the full participation of accountants with the introduction of the EAS.

**H6:** Performance assessment has a significant influence on the acceptance of reform by accountants with the introduction of the EAS.

Know-how refers to the capability of organization members, including special skills, professional knowledge, and interpersonal skills, all of which may affect the degree of acceptance of the reform (Burnett, Wright, and Sinkin, 2009). In the event of organizational reform, the attitude of employees toward the reform can be affected by the conflict between reformed and original know-how. As argued by Greenberg (2004), any threat to the professionalism and power of the senior management, lack of detailed reform plan, improper opportunities of reform, and shadow of failure of previous reforms may become obstacles to the reform process. According to the research hypothesis, the know-how of accountants has a significant influence on their reform attitude (e.g., cognition degree of jobs, full participation, acceptance of reform, etc.) with the introduction of the EAS.

**H7:** Know-how of accountants has a significant influence on the cognition degree of jobs of accountants with the introduction of the EAS.

**H8:** Know-how of accountants has a significant influence on the full participation of accountants with the introduction of the EAS.

**H9:** Know-how of accountants has a significant influence on the acceptance of reform by accountants with the introduction of the EAS.

Individual demands and value refer to the individual demands of organization members and their outlook toward value, including individual habit, sense of security, and economic factors. When faced with reform, organization members can become anxious and find themselves in a dilemma caused by expectations and fears. After the completion of organizational reform, organization members will most likely resist the reform once they feel that it poses a threat to their individual demands and value. Ashford, Lee, and Bobko (1989) argued that any sense of insecurity could make employees detest their jobs and cut down their identification with the organization and their jobs. Moreover, any perceived insecurity arising from organizational reform may affect their coherence and commitment to the organization. The research hypothesis assumes that the individual demands and value have a significant influence on the reform attitude of accountants (e.g., cognition degree of jobs, full participation, acceptance of reform, etc.) with the introduction of the EAS.
**H10:** Individual demands and value have a significant influence on the degree of cognition of jobs of accountants with the introduction of the EAS.

**H11:** Individual demands and value have a significant influence on the full participation of accountants with the introduction of the EAS.

**H12:** Individual demands and value have a significant influence on the acceptance of reform by accountants with the introduction of the EAS.

### 3.3 Definition of Variables and Measurement Method

The research items are categorized into two parts: reform cognition of accountants with the introduction of the EAS and reform attitude of accountants with the introduction of the EAS. Relevant variable reference was taken from the papers of Burke and Litwin (1992), Parket and Eilbirt (1975), and Stephen (1993).

### 4 RESEARCH RESULTS AND DISCUSSIONS

Partial Least Squares (PLS) is used to measure the relationship of variables. There are 86 valid samples, which exceed the “10 samples for every dimension” recommended by PLS, thus making them suitable for testing the models. The bootstrap method is adopted to estimate the path coefficients through re-sampling.

#### 4.1 Measurement Model Test by PLS

<table>
<thead>
<tr>
<th>Variables</th>
<th>Code of variables</th>
<th>Composite reliability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reform cognition</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational culture</td>
<td>COC</td>
<td>0.867</td>
<td>0.766</td>
</tr>
<tr>
<td>Performance assessment</td>
<td>CPM</td>
<td>0.892</td>
<td>0.805</td>
</tr>
<tr>
<td>Know-how</td>
<td>CPS</td>
<td>0.902</td>
<td>0.821</td>
</tr>
<tr>
<td>Individual demands and value</td>
<td>CPNV</td>
<td>0.913</td>
<td>0.779</td>
</tr>
<tr>
<td>Reform attitude</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Degree of cognition of jobs</td>
<td>AWI</td>
<td>0.872</td>
<td>0.694</td>
</tr>
<tr>
<td>Full participation</td>
<td>AAP</td>
<td>0.922</td>
<td>0.798</td>
</tr>
<tr>
<td>Acceptance of reform</td>
<td>ACA</td>
<td>0.919</td>
<td>0.697</td>
</tr>
</tbody>
</table>

**Table 1. Test results of the internal consistency and convergence validity**

The test of the measurement model using the PLS covers the test of internal consistency, convergence validity, and discriminant validity. The analytical results are listed in Tables 1 and 2. As shown in Table 1, the composite reliability is higher than the threshold 0.7, and the AVE is greater than or close to 0.5. Thus, the measurement model in this research is designed to meet the requirements of internal consistency and convergence validity. The square root of AVE is indicated on the diagonal line in Table 2, whereas the relevant coefficients of variables are located on the non-diagonal line. The AVE
is higher than the relevant coefficients of variables after comparison, and its coefficient is less than 0.85, indicating the difference in variables in the measurement model. Therefore, the questionnaire used in the research has sufficient discriminant validity.

<table>
<thead>
<tr>
<th></th>
<th>COC</th>
<th>CPM</th>
<th>CPS</th>
<th>CPNV</th>
<th>AWI</th>
<th>AAP</th>
<th>ACA</th>
</tr>
</thead>
<tbody>
<tr>
<td>COC</td>
<td>0.875</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPM</td>
<td>0.307</td>
<td>0.897</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPS</td>
<td>0.174</td>
<td>0.551</td>
<td>0.906</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPNV</td>
<td>0.051</td>
<td>0.353</td>
<td>0.289</td>
<td>0.883</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AWI</td>
<td>0.581</td>
<td>0.107</td>
<td>0.123</td>
<td>0.201</td>
<td>0.833</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AAP</td>
<td>0.034</td>
<td>0.217</td>
<td>0.306</td>
<td>0.231</td>
<td>0.283</td>
<td>0.893</td>
<td></td>
</tr>
<tr>
<td>ACA</td>
<td>0.131</td>
<td>0.039</td>
<td>-0.108</td>
<td>0.073</td>
<td>0.694</td>
<td>0.134</td>
<td>0.835</td>
</tr>
</tbody>
</table>

Table 2. Analytical results of discriminant validity

4.2 Hypothesis Test

High or low cognitive samples were divided depending on the understanding of the EAS to test the models. Structural models were used to estimate the path coefficient and explanatory power ($R^2$). Path coefficient represents the strength and direction of the relationship among variables. Explanatory power ($R^2$) refers to the percentage of exogenous variables to the explainable variables from endogenous variables, representing the predictive ability of the research model. Both path coefficient and $R^2$ can show the fitness of the structural model and actual data. High cognitive samples represent the samples of already introduced and planned EAS, whereas low cognitive samples represent the samples without introduction and planning. Analytical results of the models are shown in Figures 4 and 5. Path coefficients and hypothesis test results are listed in Table 3.

Among the analytical results of high cognitive samples, only two out of three sub-hypotheses in the organizational culture are valid, whereas those in the remaining three dimensions are invalid (Figure 4). The path coefficient is 0.670 ($t=4.635$) in terms of the influences of organizational culture on the cognition degree of jobs and is 0.639 ($t=4.066$) with reference to the influences of organizational culture on the acceptance of reform, indicating a very high level of significance. Based on the analytical results of the PLS model in Table 3, only H1 and H3 for the high cognitive samples are valid.

The analytical results on the three hypotheses on organizational culture are the same for both high and low cognitive samples (Figure 5). The path coefficient of organizational culture for the degree of cognition of jobs and acceptance of reform is 0.529 ($t=3.928$) and 0.523 ($t=3.850$), respectively, reaching a level of significance. The path analytical results of the samples do not reach a level of significance among the three sub-hypotheses in the performance assessment. Only the analytical result of the hypothesis in the know-how is significant. The path coefficient is 0.308 ($t=2.638$) for the
influences of know-how on full participation, reaching a level of significance. The path coefficient is 0.353 (t=2.834) with reference to the influences of individual demands and value on the cognition degree of jobs. The path coefficient is 0.365 (t=2.989) for the influences of individual demands and value on full participation. The path coefficient is 0.310 (t=2.678) for the influences on the acceptance of reform, reaching a level of significance. To sum up, the analytical results for the PLS model for low cognitive samples in Table 3 indicate that H1, H3, H5, H10, H11, and H12 are valid, whereas the remaining hypotheses are invalid.

![Diagram](organizational_culture_diagram.png)

**Figure 4. Analytical results of the model (high cognitive samples)**

![Diagram](organizational_culture_diagram_low_cognitive.png)

**Figure 5. Analytical results of the model (low cognitive samples)**

The hypothesis test results of the high cognitive samples indicate that with the introduction of EAS, only organizational culture has an influence on the reform attitude of accountants, especially for the cognition degree of jobs and acceptance of reform. The hypothesis test results of the low cognitive samples show that with reference to organization members who have not had any exposure to the EAS, organizational culture, individual know-how, and individual demands and value have actual
influence on the reform attitude. Moreover, the individual demands and value have decisive influences on the degree of cognition of jobs and full participation.

The research findings indicate that when it comes to accountants of enterprises with or without exposure to the EAS or who are still planning for the EAS, organizational culture has a significant influence on their reform attitude. For accountants of enterprises without exposure to the EAS, the individual demands, value, and know-how may affect their reform attitude. The reason could be that the accountants are not very sure of the reform after the introduction of the EAS. In other words, if the organizational reform has a negative influence on the organization members, the latter would likely oppose the organizational reform. Therefore, the individual demands, value, and know-how of employees are important factors to organizations without reform.

<table>
<thead>
<tr>
<th>Path items</th>
<th>Cognitive Samples</th>
<th>High</th>
<th>Low</th>
<th>t value</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational culture → cognition degree of jobs</td>
<td>path coefficient 0.670, t value 4.635</td>
<td>0.529</td>
<td>3.928</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational culture → full participation</td>
<td>path coefficient 0.239, t value 1.384</td>
<td>0.165</td>
<td>1.451</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational culture → acceptance of reform</td>
<td>path coefficient 0.639, t value 4.066</td>
<td>0.523</td>
<td>3.850</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance assessment → degree of cognition of jobs</td>
<td>path coefficient 0.110, t value 0.688</td>
<td>0.075</td>
<td>0.780</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance assessment → full participation</td>
<td>path coefficient 0.263, t value 1.349</td>
<td>0.200</td>
<td>1.491</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance assessment → acceptance of reform</td>
<td>path coefficient 0.248, t value 1.237</td>
<td>0.030</td>
<td>0.226</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know-how → degree of cognition of jobs</td>
<td>path coefficient 0.216, t value 1.317</td>
<td>0.021</td>
<td>0.234</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know-how → full participation</td>
<td>path coefficient 0.383, t value 1.645</td>
<td>0.308</td>
<td>2.638</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Know-how → acceptance of reform</td>
<td>path coefficient -0.027, t value -0.154</td>
<td>0.070</td>
<td>0.657</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual demands and value → degree of cognition of jobs</td>
<td>path coefficient 0.209, t value 1.680</td>
<td>0.353</td>
<td>2.834</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual demands and value → full participation</td>
<td>path coefficient 0.199, t value 1.460</td>
<td>0.365</td>
<td>2.989</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual demands and value → acceptance of reform</td>
<td>path coefficient 0.210, t value 1.557</td>
<td>0.310</td>
<td>2.678</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Summary of the analytical results of the PLS model

5 CONCLUSIONS

EA is an innovative and holistic concept compared with traditional accounting, which only controls and analyzes the costs and expenses that have already occurred in business operations. With increasing and more frequent economic activities, along with the growing awareness on environmental protection, organizations strive to develop EA though the integration of an environmental system in their efforts towards environmental protection. Enterprises are motivated to provide environment-related information when analyzing their financial information and developing a new accounting framework for a more meaningful CSR. Accounting profits and losses, in addition to
reflecting the financial state, also encompass social and environmental responsibilities. Accountants are now mandated or encouraged to record and disclose inputs, outputs, and profits from the environmental protection activities of enterprises and to deliver relevant information (i.e., analysis, assessment, and report) to their stakeholders. Reports and information include planning and implementation of the system, performance monitoring, performance evaluation, and reporting for insiders and outsiders. Moreover, EAS can help accountants in planning for future operating expenses from a macro perspective, thereby contributing to the earning of more profits, improvement of corporate image, and better coherence among employees while also identifying decision-related environmental information and enhancing the reliability of measurement. The EAS may provide reference for the relevant decision making of the senior management, whereas the information system can be integrated to assist in the analysis of interactions of enterprises and the environment.

When an organization aspires for further reform by combining social and environmental systems, various scenarios and restrictions must be added to the organizational culture, business principles, and strategic objectives. The “greening” process of EA requires the absolute cooperation of accountants, particularly in environmental management and reporting. The current paper hopes to bring about a deeper understanding of the influences on the reform cognition and attitude of accountants. The samples used in this paper are categorized into high and low cognitive samples. Organizational culture is revealed as the most influential factor in the reform cognition and reform attitude, especially in the case of accountants of enterprises that have not introduced EAS yet. Individual demands, value, and know-how also affect employee attitude toward reform. If the organizational reform has a negative influence on the organization members, the latter would likely oppose the organizational reform. Therefore, individual demands, value, and know-how of employees are important influential factors to organizations without reform.

With the growing importance of environmental protection, more enterprises are expected to adopt the EAS. Given the lack of research on the influential factors to accountants, enterprises find training their accountants and making them play a crucial role after the introduction of EAS difficult. In this paper, organizational reform theory is used to provide further insight into the influences on accountants with the introduction of the EAS. Current practices show that enterprises can conduct planning and training of accountants to assist them in information collection, recording, and compilation. Finally, this research can assist government bodies in developing policies for the promotion of EAS and provide useful reference on EA.
References


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