

AWARENESS AND ATTITUDES FACTORS INFLUENCING THE ADOPTION OF ENVIRONMENTAL MANAGEMENT PRACTICES FOR LOGISTICS COMPANIES.

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Introduction

This research focusing on determining the factors influencing the environment management practices adoption in Malaysia logistics industry. Several researchers have suggest various explanations on the factors influencing the implementation of environment management practices (e.g., Alvarez-Gil et al., 2007; Aragon-Correa et al., 2004; Gadenne et al., 2009; Henriques and Sadorsky, 1999; Lopez-Gamero et al., 2008, Williamson et al., 2006). Variables including technological factors, organizational factors, and environmental factors are frequently appeared in the environment management practices study (Gonzalez-Benito and Gonzalez-Benito, 2006a). Although these three factors have been taken into account in several studies on environment management practices issues, the factor of environment awareness and attitudes have not yet been considered in the studies of environmental management in the logistics industry (Lin, 2011).

Technological factors

Technological factors are the factors that commonly found in the literature of technology innovation. Environment management practices are one of the practices that considered as a technology innovation (Lin, 2011). However, the influences of technological factors towards environment management practices adoption are hardly analyzed (Lin, 2011). Three variables of technological factors are consistently been found to be influencing on technology innovation (Frambach and Schillewaert, 2002; Jeyaraj et al., 2006; Rogers, 2003). The three variables are: relative advantage, compatibility, and complexity (Rogers,2003; Sia et al., 2004).

Organizational factors

Organizational factors are commonly analyzed in research on technology innovation and environmental management. Variables such as quality of human resources, top management's leadership skills, organizational support, organizational culture, and organizational size have been discussed on their influences on technology innovation (Kimberly and Evanisko, 1981; Tornatzky and Fleischer, 1990) and environmental strategy (Gonzalez-Benito and Gonzalez-Benito, 2006a). This research focuses mainly on the organizational support, quality of human resources, and company size because they are organizational resource-related variables widely analyzed in research on technology innovation and environmental management.

Environmental factors

The environmental factors in this study refer to the external environment in which a company conducts its business. Several environmental variables such as stakeholder pressure, environmental uncertainty, environmental munificence, governmental support, competition, and network relations have been discussed in the literature of technical innovation (Frambach and Schillewaert, 2002; Jeyaraj et al., 2006) and environmental management (Etzion, 2007; Gonzalez-Benito and Gonzalez Benito, 2006a). Stakeholder pressure, external resource availability, and environmental uncertainty are consistently regarded as primary environmental factors influencing technical innovation (Jeyaraj et al., 2006; Tornatzky and Fleischer, 1990) and environmental strategy (Aragon-Correa and Sharma, 2003; Etzion, 2007; Rothenberg and Zyglidopoulos, 2007). The government plays an important role in supporting resources for innovation adoption (Lee, 2008; Scupola, 2003). Therefore, this study focuses mainly on the influences of stakeholder pressure, governmental support, and environmental uncertainty.

Environmental awareness and attitudes

A company may choose to adopt environmental-friendly processes and procedures regardless of whether they are required to do so by law, or whether they believe that profits will increase (Gadenne, Kennedy & McKeiver 2009). Individual behavior is believed to be affected by the beliefs and attitudes of the individual (Ajzen and Fishbein, 1980), and for some, treatment of the environment is an ethical issue. It is expected that those who are aware of environment issues and are concerned about the impact of their business on the environment will be more likely to act to reduce the impact of their business activities. Those who regard environmental management as an ethical issue (or want to be perceived as such) might also support environmental activist groups (Gadenne, Kennedy & McKeiver 2009). A potential and large number of businesses could be engaging in a combination of environmental activities, such as recycling, waste management or energy conservation without engaging in formal certification processes (Hillary, 1999) either because of moral concerns or because they see the economic benefits of such actions.

Numerous studies have reported that company's owner is concerned about their environmental impact (e.g. Groundwork, 1995; Roberts et al., 2006; Tilley, 1999). However, empirical studies which relate attitudes to environmental performance have produced mixed findings. Schaper (2002) found no relationship between positive personal environmental attitudes and positive environmental performance. Tilley (1999) also reported a gap between the attitudes of small business owners and their environmental behavior. In contrast, Naffziger et al. (2003) reported that managers with a high level of concern for the environment expend more time and resources on environmental initiatives than those with a low level of concern.

Environmental awareness was divided into two categories – general environmental awareness and cost-benefit environmental awareness. The former was measured relating to their firm's environmental impact, environmental initiatives, environmental policy, "best practice" in environmental performance, and how legislation affects the business (Gadenne, Kennedy & McKeiver 2009). The latter was measured relating to the effect of improved environmental performance on significant cost benefits and improved production efficiency (Gadenne, Kennedy & McKeiver 2009). Environmental attitudes were determined through responses that relate to personal environmental attitudes adapted from Schaper (2002). Therefore, we expect that environmental awareness and attitudes will positively affect the adoption of environment management practices for Malaysia logistics companies.

Environmental awareness and attitudes factors as a moderating variable

Researchers have identified several factors that may limit the environmental behaviors of logistic companies owners. The level of environmental-friendly practices may be affected by a number of factors that could be classified as 'moderating variables'. The literature shows that other factors in determining the extent of environmental awareness include access to information (Lepoutre and Heene, 2006; Roberts et al., 2006; Zutshi and Sohal, 2002), time and cost factors (Biondi et al., 2000; Hillary, 1999; Lepoutre and Heene, 2006; Roberts et al., 2006; Tilley, 1999), and owner/manager personal characteristics such as age and education (e.g. Petts et al., 1998; Schaper, 2002). It appears that logistics companies owners do not have good information on environmental issues (Tilley, 1999; Williamson and Lynch-Wood, 2001), are not even sure if they understand the relevant legislation (Williamson and Lynch-Wood, 2001), and are unaware of many of the initiatives providing support and information for small businesses (Tilley, 1999). Moreover, business owners work long hours and have little time to learn about environmental issues (Dilts and Prough, 1989; Friedman et al., 2000; Hillary, 1999; Rutherford et al., 2000; Schaper, 2002). Lack of adequate financial resources is also a deterrent to managers (Biondi et al., 2000; Gerrans and Hutchinson, 2000; Hillary, 1999; Netherwood, 1998; Tilley, 1999). Higher education has been shown to be associated with higher level of environmental concern, but not necessarily with environmental behaviour (Olli et al., 2001). The effect of age appears to be more difficult to discern. Petts et al. (1998) note that although national surveys indicate that younger people

appear to be less concerned about the environment than older people; in focus groups, younger managers seemed more interested in the environment. Schaper (2001) found that newer owner/managers were more likely to display a positive environmental attitude. Olli et al. (2001) suggest that although newer companies are more interested in the environment, there is an older cohort who had experienced more difficult economic conditions and now act in a less wasteful manner.

Conceptual Framework

As adopting environment practices involves implementing new technology innovation, techniques, and systems to reduce pollution emissions and energy consumptions, the adoption behavior can be regarded as a technological process. In this research, the environment management practices will be analyzed in the dimension of technological factors, organizational factors, environmental factors and environmental awareness and attitudes factors simultaneously.

Figure 1 illustrates the research framework of the research. The technological factors include the relative advantage, compatibility, and complexity of environment management practices; the organizational factors include organizational support, quality of human resources, and company size; environmental factors include customer pressure, regulatory pressure, governmental support, and environmental support and lastly the environmental awareness and attitudes includes general awareness, cost benefit awareness and environmental attitudes.

Target Group

Sample randomly drawn from the list of Federation of Malaysian Freight Forwarders consists of 1,135 members.

Filling the Gap

In order to fill the research gap, this research aims to study the influences of technological, organizational, environmental and environmental awareness and attitudes factors on the adoption of environment management practices for the logistics companies in Malaysia.

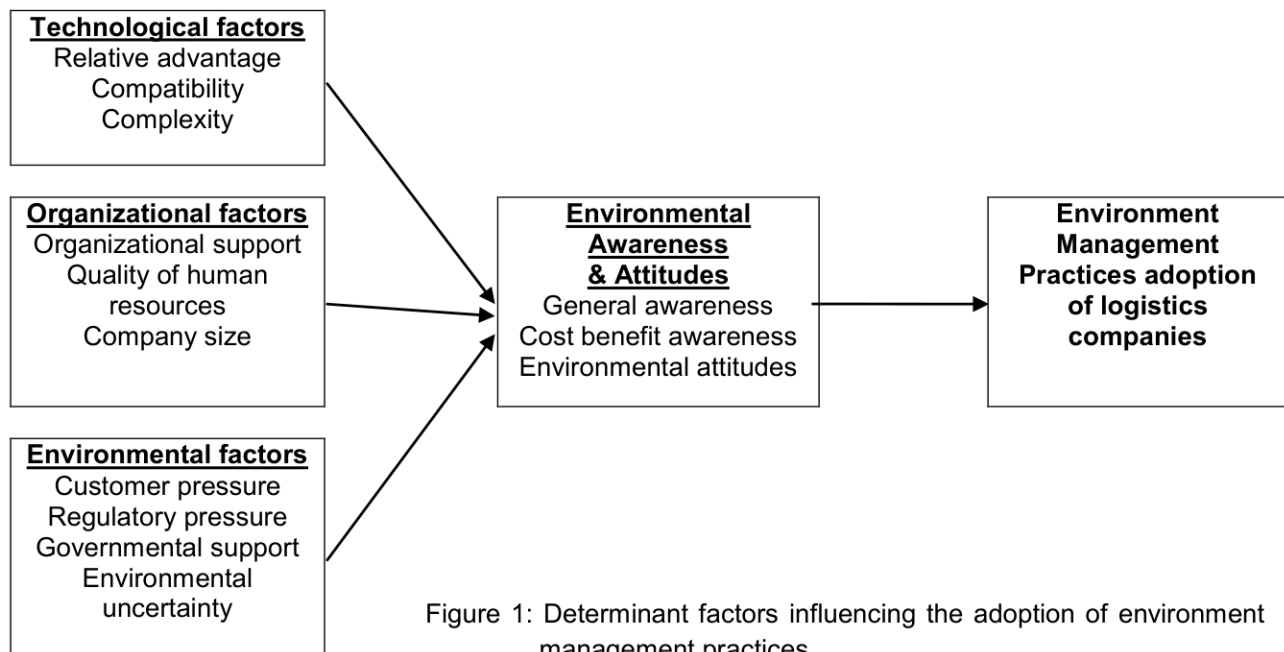


Figure 1: Determinant factors influencing the adoption of environment management practices

Discussion and conclusion

This research focuses on issues related to environmental issues in the logistics industry. Environmental management practices are the important issues that have been highlighted. The research reported above includes a variety of several important findings. Some of these findings merely argued the importance of environmental issues for the logistics industry (Rodrigue et al., 2001; Rondinelli & Berry, 2000); some explored the environmental practices adopted by the logistics industry (Murphy & Poist, 2000, 2003; Wu & Dunn, 1995); and some introduced some possible factors that may influence the adoption of environmental practices for the logistics companies (Lin & Ho, 2011; Murphy et al., 1994; 1995; 1996; Szymankiewicz, 1993; Wong & Fryxell, 2004).

This research highlights the need for future researchers to endeavor to raise the quality of research in environmental issues in the logistics industry. Future logistics research would benefit from other methodologies such as field experiments to show causality, and relying on actual behavior rather than intended behavior.

Environmental management provides an important framework for a researcher to understand environmental change and is an important means of solving a country's ecological problems. Environmental management is a complex, dynamic and interactive process with many paradoxes, and is a multidisciplinary phenomenon and should be viewed from a technical, managerial and social perspective. Lin & Ho (2011) analyzed the influences of technological, organizational and environmental factors on the adoption of environmental practices in Chinese logistics industry. However, there is an amount of explanations as to why manufacturing firms should engage in environmental activities, including stakeholder pressure, environmental regulation, industrial sector, company size, managers' characteristics, human resources, internationalization, organizational structure, corporate operation activity, environmental technology characteristics, position in the value chain, strategic attitude, and geographical location (Etzion, 2005; Gonzalez-Benito & Gonzalez-Benito, 2006; Pun, 2006). As all industrial sectors are not exposed to the same types of pressure or to the same extent, there is a clear research need to explore more potential factors that will influence the adoption of environmental management practices for the logistics industry.

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