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GLOBALISATION, BUSINESS, AND ENVIRONMENTAL MANAGEMENT: TO CORRECT THE BROKEN COMPASS?

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Abstrak

Pengurusan Alam Sekitar (PAS) merupakan cadangan yang sering diutarakan bagi menjawab persoalan mengenai penghakisan sumber-sumber alam yang semakin hari semakin serius. Perbincangan mengenai tajuk ini memfokuskan kepada maksud PAS dalam konteks perniagaan yang menjana pelbagai pandangan yang amat berbeza oleh pengkaji-pengkaji. Sesetengah pengkaji seperti Porter dan Van Der Linde (1995) serta Frosch dan Gallapoulos (1992) berpendapat bahawa PAS dapat meningkatkan lagi keupayaan firma untuk bersaing. Pendapat ini pula disangkal oleh pengkaji seperti Walley dan Whitehead (1994). Isu mengenai perbezaan pandangan ini perlulah diselesaikan bagi membolehkan PAS diberi lebih perhatian oleh pengurus-pengurus firma. Model penentuan kos operasi dari konteks perniagaan perlu diperbaiki. Sumber-sumber alam sekitar tidak boleh diketepikan dalam penentuan kos operasi firma-firma. Kegagalan pengurusan mengambil kira kos ini telah mengakibatkan pembaziran sumber-sumber ini. Keputusan pengurusan mengenai penjimatan juga perlu mengambil kira kesan penjimatan jangka panjang yang lebih mesra alam. Oleh itu telah sampai masanya bagi kita mengubah model penentuan keuntungan firma yang telah diguna pakai sejak sekian lama.

INTRODUCTION

At the end of the twentieth century, a new phenomenon, aptly coined as globalisation emerged in the business world. The catalyst of this phenomenon is partly due to the advances made in information technology and the improvement in mass transportation. With globalisation, firms are able to source for resources and market their products globally thereby making them more competitive. On the other hand, consumers gain through better value and quality products. Countries welcome investment from these global companies with open arms as they bring about modernization to those countries.

What then is globalization? Interpreting globalization in terms of the emergence of homogeneous markets or globally standardized products is too naive. The real

change behind many of the changes ascribed to globalization is not that associated with marketing or markets but rather with management's new information capability which enables managers to 'see', direct and move operations and/or resources at great distances without sacrificing operations cost (Leontiades, 2001).

Nevertheless, globalisation has its downside. The migration of firms form one geographical location to another in their quest for lower priced resources, occur on depletion of the resources therein or at the onset of stringent environmental regulations in the host country. It is inevitably accompanied by environmental degradation due to replication of production technology and methodologies which creates an "epidemic" from the transference of the harmful activities in the regions exploited by them (Lovins, Lovins and Hawken, 1999). For example, the duplication of their plants by semiconductor makers nicknamed as 'infectious repetitis' brings about air pollution in each and every area they were present (Lovins, Lovins and Hawken, 1999). Therefore, it is imperative that this issue be addressed. Besides the way of doing business has changed. If 'yesterday's businesses' were often oblivious to their negative impact on the environment, and 'today's responsible businesses' strive for zero impact, then 'tomorrow's businesses' should learn to make a positive impact (Hart, 2000, p.108). In other words, companies of the future will be increasingly selling solutions to the world's environmental problems. This article tries to emphasize the importance of properly managing our environment and puts forward a new idea to the management of business enterprises. It requires a change of business mindset and the new definition of scarcity.

Intellectual Roots

Environmental management was incorporated into the management practices especially in the mid-1980s, in response to the stricter regulations, concerns over liability, increased cost of regulatory compliance, improved competitiveness of firms and public concern about environmental degradation (Gottlieb, 1995; Porter & van der Linde, 1995). This naturally attracted a lot of interest from various researchers and resulted in several studies on the adoption of environmental management (Griffin, 1995; Heffelman, 1995; Florida, 1996; Garrod & Chadwick, 1996). However, none of the studies focused on an industry in its entirety. Therefore, those researches were unable to draw any statistical conclusion about the environmental management of particular industries.

The variety of studies conducted presents conflicting arguments about the advantages of adopting environmental management into the management practices of firms. Porter and van der Linde (1995) claimed that firms are able to improve their profitability when they implement environmental management due to its focus on resource productivity. According to their study "resource inefficiencies are most obvious within a company in the form of incomplete material utilization and poor process controls, which results in unnecessary waste, defects, and stored materials" (Porter & van der Linde, 1995:122).

The findings of Frosch and Gallopoulos (1992), Cramer and Schot (1993), and Frosch (1994) indicated that firms are forging better relationship with their supplier and customer to find the most innovative solutions to their environmental problems by examining the entire life cycle of their products. In other words firms with environmental management in place are forming partnerships with their suppliers and customers to overcome the environmental problems.

There is also a myth that equates improvement in environmental management to higher cost of production. In a study of 29 chemical plants, it was found that 181 pollution prevention activities there resulted in a net cost decrease in all except of one activity (Dorfman et al, 1992). However, according to observations made by Gottlieb et al (1995) many firms add environmental management tools without truly transforming their operations. Firms merely use this strategy to deflect criticism on their activities. This resulted in a lot of exaggeration and contradictory information being churned out on the effectiveness of the system. The Walley and Whitehead (1994) study shows that not all firms have been able to improve their environmental management as expected. This according to them is due to the mismatch between business objectives and environmental objectives.

Ultimately, the implementation of environmental management by global firms depends very much on the inherent assumptions of the management. Understanding these underlying assumptions will help us to assist the management in their quest to promote sustainable development. According to Reinhardt (1999) the following assumptions are often not alien to most managers:

a) Environmental problems are matters of social responsibility. Creative problem solving maybe overlooked when they are framed as solely social responsibility matters.

b) Environmental questions are cause for pessimism i.e. they are associated with extra costs and a loss of control over the operations.

c) Environmental management is a zero-sum game or a win-lose game. If the environment wins, then company loses and vice versa.

d) Government and environmental groups are often taken as adversaries by companies, thus the government and non-profit organisations will always play the 'wicked role'.

While managers must remain as guardians of business prosperity, they shouldn't, nevertheless be too preoccupied with the cost of solving an environmental problem, the scientific evidence that identifies the problem, the preservation of the status quo as business option and the avoidance of dissenting opinion. If they could bring into environmental decision-making the same kind of entrepreneurship, optimism and openness that they apply on other business problems, both the organization and the environment will benefit (Reinhardt, 1999).

Environmental Management System

The three popular environmental management standards in use today are: the British Standards Institution (BSI), Environmental Management System BS 7750 (BSI, 1994); the EU Eco-Management and Auditing Scheme or EMAS (DoE, 1995); and the International Organisation for Standardisation (ISO) Environmental Management System ISO 14001 (ISO, 1995). These three standards are visible attempts to integrate environmental and business goals and are recognized by governments as well as the business community throughout the world. These standards espouse the same components in the management cycle i.e. the environmental policy, policy objectives, auditing and corrective actions. The illustration and summary of the core components of the three standards are shown in Figure 1 and Table 1 below.

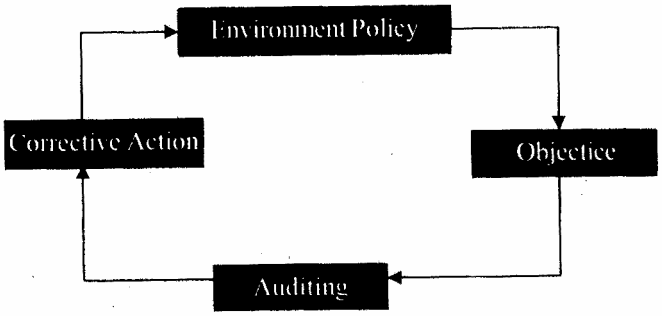

Figure 1: The Environmental Management Standards

Core Component	Description
Environmental policy	Drawn up by senior management to determine the direction and approach to environmental improvement. Continuous improvement is emphasised here.
Objectives	Quantifiable targets and clearly defined operational controls are established.
Auditing	Monitoring made by senior management to ensure compliance. The effectiveness of the programme itself is not a key element of the audit process.
Corrective action	Preventive measures and improvements on the system to reduce deviation.

Table 1: Summary of the core components of BS7750, EMAS and ISO 14001

The main advantage of this model is its simplicity. This is because the model follows the flow of the four main components in management namely planning, organizing, leading

and controlling – a task managers do everyday (Bateman & Snell, 2002). According to Bailey and Clarke (2000), managers do not typically react to new management ideas with enthusiasm unless they are able to understand the process and its' implications. Studies on the differences of environmental attitudes among managers (e.g. Regier & Bronson, 1992; Vastag et al., 1996; Henriques & Sadorsky, 1999) confirmed the above statement.

Having centralized control by senior management has its advantage. Since they determine the policy of the firm, environmental management once accepted, is likely to transcend the whole organization. This factor is highly desirable as environmental actions in order to enhance their effectiveness, would require executive control and co-ordination to allow the analysis of achievement of environmental objectives and goals. (del Brio, 2001). Centralized control will also help in the control of weak points of the system so that corrective action can be taken.

However, the main theme underlying these standards is the commitment to the mechanistic forms of management. The standards focus on a centralized, hierarchical and formal management system to monitor, control and response to the firms' stated environment standards and programmes. Thus, the managers' role is confined to the compliance of the standards. This role stymies managers' ability to continuously review and raise the firms' environmental standards.

The formal implementation of any system in an organization is likely to facilitate the emergence of a culture (Handy, 1993). The above culture only serves to encourage an adaptive mindset and is unlikely to encourage managers to challenge conventional business operative methodologies. However a challenging mindset is exactly what is needed to raise a firm's environmental standards over time (Smith, 1993).

It is essential to put in place operational control mechanism and auditing to ensure compliance of the standards. A highly mechanistic system with its main control tools in the form of documents and procedures are utilized. Audit is done merely to ensure the successful implementation of the environmental programme. Hence, the effectiveness of the programme is not a key element of the audit process. Here lies a major flaw in the standard.

In implementing environmental management system, EMS, the standards given is only a voluntary standard for providing guidance on its establishment and maintenance (ISO, 1995). Hence, the onus is on the organization to implement it. With the migration of firms from one geographical area to another due to globalisation and the practice of "infectious repetitis", we cannot solely depend on firms to voluntarily adopt EMS in their operations. The legislative and executive arms of the host country must play their role. The United States for example has enacted from 5 environmental acts in 1970 to over 40 by 1992 to protect its environment (Walley & Whitehead, 1994). Pressure from the government as well as consumer will invariably force firms to improve on their environmental management (Wever, 1996).

Nevertheless, the standards suggested may still serve as a model for environmental management with some modifications. Figure 2 gives and overview of these modifications.

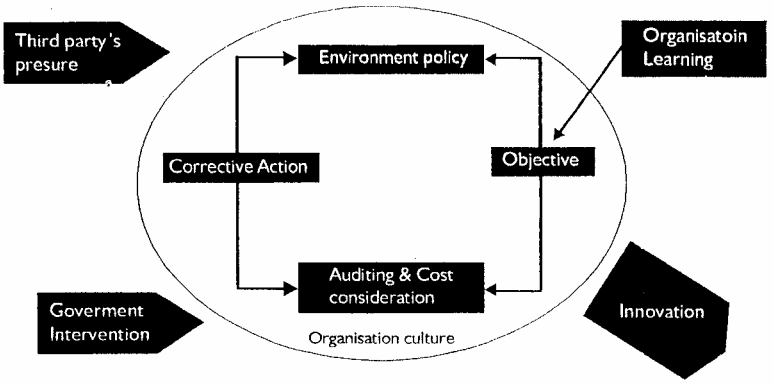

Figure 2: The Environmental Management Standards for Organisation.

Core Component	Description
Auditing	Monitoring by senior management to ensure compliance. The effectiveness of the programme itself has to be factored into the audit process.
Organisational culture	Challenging and experimenting various methods to improve and pioneer changes in environmental management and business definition via teamwork.
Organizational learning	Generative learning which needs to be ploughed back into the organization for further enhancement of the business model
Government's intervention	Enforcement to improve the environmental management of firms.
Third party's pressure	Third-party certification of EMS is to be the baseline for customer's environmental performance requirement.

Table 2: Summary of the core components of suggested EMS.

The model suggested did not differ very much from its original form.A government's intervention in the form of executive decision and control will encourage

firms to be more serious with their environmental management. Third parties refer to customers, non-governmental organizations and suppliers of the firm. Pressures from the third parties will enable firms to redefine their business model to include environmental management (Lovins, Lovins and Hawken, 1999). Knowledge gained from a particular environmental management setting has to be plowed back into the organization so that the business operations or model can be redefined to bring benefits to the organizations' shareholders as well as the stakeholders.

Empirical Studies on Environmental Management

A study on environmental management utilizing the ISO 14001 as its foundation was carried out on the Hong Kong's Housing Department (Pun et. al., 2001). The aim of the study was to investigate the environmental practices and the impacts of the pollutants produced during construction of public housing. Interviews were conducted with the staffs in the housing department. The findings indicate that the existing construction practices should be modified in order to meet the requirement of the standard. The modification, as suggested, starts with self-assessing the feasibility of an environmental-friendly construction and ends with taking corrective actions and continuously improving them. Since it uses the ISO 14001 as its foundation, the modifications suggested fits into the suggested model perfectly. Unfortunately, this study merely focuses on identifying the elements and the process required for EMS implementation in the Hong Kong's Housing Department. Hence, the input from contractors who were actually involved in the construction process was missing. As such the model was not fully tested. Nevertheless, this study confirmed the importance of governmental intervention in accelerating the environmental management adoption. The study also emphasized the necessity of having an environmental assessment scoring system in order to conduct a periodical assessment on contractors' performance, management leadership and its commitment towards integrating the environmental management principles and procedures into the daily operations in construction sites. In other words, organizations need to create the culture of paying more attention to their environmental management.

Karagozoglu and Lindell (2000) conducted a study to test the feasibility of the win-win model i.e. seeking organizations' competitive advantages through environmental management strategies. The researchers use questionnaire survey to include high-technology and traditional manufacturing sectors. Respondents involved were the chief executive officers of 83 companies. The response rate was relatively low at 23 percent This made the study susceptible to non-response bias. However, the researchers have taken this into consideration and the analysis done indicated that the non-responding organization did not have much impact on the study.

The results of the study taken at confidence level of 95 percent, indicated that stringent regulations on environment do promote innovative responses from firms. Studies by Walley and Whitehead (1994) and Palmer and Oates (1995) support the

above result and it was also found that stricter regulations not only promoted innovative responses to environmental challenges but also increased environmental spending substantially. Karagozoglu and Lindell (2000) also found that manufacturing sectors in which the regulatory standards are stricter than the electronic sector, tend to be more innovative than the latter. This supports the model suggested above regarding government's intervention in encouraging the environment management of firms.

It was also found that "the cumulative knowledge and the well established experience curve had led to greater certainty, which has allowed regulatory agencies to design more stringent standards thereby promote firms' innovativeness" (Karagozoglu & Lindell, 2000). It was believed that a greater experience curve enables firms to process greater amount of information on environmental issues hence enabling innovativeness. Again, this supports the model mentioned before with regards to organizational learning. It is important that the knowledge gained by the firms and regulatory bodies are plowed back into the industry to encourage innovativeness in producing greener products.

Aside from looming environmental legislation, firms must also handle the special interest groups, stakeholders, customers and communities around the facility. Thus, relationship marketing with the purpose of improving perception of a firm becomes an increasing important issue. The 1998 United Nations Climate Conference has brought growing attention to the environmental impacts of business to many communities (Sroufe et al, 2000). This created pressure from the consumers for firms to produce products that are not only of acceptable quality but also environmentally friendly.

A Broken Compass?

If the approach of environmental management, coupled with the findings from the empirical studies, shows that it is possible for firms to be environmental friendly and yet be innovative and 'business-wise', then why are companies still reluctant to adopt environmental management? According to Lovins, Lovins and Hawken (1999) the instruments used by companies for their performance measurement and rewarding system is faulty. For example, in the purchasing decision making, companies are more inclined to buy small items that are typically based on their initial cost rather than their full life-cycle cost, which can add up to major wastage. Consider the transmission of electricity to building and factories. Most companies will opt for the thinnest wire possible as approved by the respective states which is meant only to prevent fires from overheated wiring. If "the standard new office-lighting circuits were to use a fatter wire that reduces electrical resistance, it could generate after-tax returns of 193 percent a year in the USA alone" (Harvard Business Review, 2000, p. 29). Ironically, an electrician who chooses fatter wire, thereby reducing long-term electricity bills, doesn't get the job. After paying for the extra copper, he's no longer the lowest bidder.

Resources saving also feature insignificantly to most managers. Energy cost ru to about 2 percent in most industries. But those resource savings represent a far greate percentage of profits in the long term. For example, by replacing energy saving lightin to its warehouses in USA, Malden Mills's energy used for lighting was reduced by 9 percent, improved visibility on those warehouses and the money saved is able to pa for the cost of installation in just 18 months (Lovins, Lovins and Hawken, 1999).

Government policy too undermines the practice of conserving our natura resources. "in nearly every country on the planet, tax laws penalize what we want more of – jobs and income – while subsidizing what we want less of – resource depletion and pollution" (Harvard Business Review, 2000, p. 31). Almost every state rewards organizations for selling more energy, water and other resources and penalizes for selling less. Consumers too were 'encourage' to wastes these resources because they are required to pay a minimum amount for these resources even if they did not use it. According to Lovins, Lovins and Hawken (1999), the cost of these wastages are staggering – US$300 billion in annual energy wasted in the USA alone.

Most economists subscribe to the idea of economizing on the scarcest resources since it limits progress. This idea is still relevant but the scarcest resource is no longer people but nature as opposed to the Industrial Revolution (Hart, 1997). Machines that were created in response to labour shortages in the factory and field during the Industrial Revolution have made man more productive. As such the requirement for labour power has declined. Unfortunately mechanizing industries one by one has shifted the definition of scarcest resource to nature. The most profound effect has been the industries that depend on this resource. Production in the fishing industries for example is increasingly constrained by fish rather than by boats and nets. The agriculture industries growth is stymied more by the lack of topsoil and fertile land than by plows (Palmer and Oates, 1995). Moreover, unlike the traditional model of industrial production which can substitute on labour with capital, the ecological health cannot be substituted.

The proverb "we merely inherit this world for our children" couldn't be truer. If the present business mindset, pollution and environmental degradation were to go on, we might find that there isn't much left for our children. Through proper environmental management system, we would then be in a better position to encourage environmental sustainability and to challenge the present business model, which seems to undervalue environmental costs. We have seen, for example, how the definition of cost has stifled the quality of products during the early industrial days until the quality gurus like Deming, Juran, Cosby, and Taguchi show us otherwise. Perhaps it is time for us to redefine the cost of business operations and its' profitability. Until we change our mindset, environmental degradation will continue at the expense of our children's future.

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