

Influence of Environmental Knowledge on Manager's Decision Regarding Sustainable Business Practices in Companies

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Abstract

This paper considers the nature of environmental knowledge and its importance in general as well as from a sustainable business perspective. Key literature on current environmental knowledge affairs form the bulk of the discussion to illuminate issues of interest. As it considers sustainable business practices, their history, nature and effectiveness, while seeking to investigate them from the perspective of a dependent variable that results from causative environmental knowledge. A purposive sample of 40 managers in different industries on the subject was carried out to investigate the correlation and possible influence of environmental knowledge on sustainable business management in today's world. The study unearths that presence of environmental knowledge is a sure predictor of the likelihood to adapt sustainable business practices. Based on the findings, the study has concluded that environmental knowledge has a positive and significant influence on sustainable business management such that the more of the former a manager possesses the more of the latter likely to try to incorporate in the firm's operations.

Keywords: *Environment Knowledge, Decision management, Sustainable business practise.*

Introduction

For corporate executives to pursue sustainable business alternatives, they must have a level of scientific and practical environmental knowledge that would enable them have considerations such as; first, an understanding of the current environmental condition at the local and global level as well as the interrelationships at play; second, the value of natural resources to their company and the impact that these would have in the firm's operations if they were degraded; third; risks of a degraded environment; fourth, the options available to the firm in terms of sustainable business practices that can help it achieve its objectives; fifth, the correlation between business decisions and the various sustainable and non-sustainable options and sixth, situations in which sustainability and improved performance of the company are compatible. Hence, the motivation to make managerial decisions aimed at sustainability is assumed to be derived from some environmental knowledge.

Environmental knowledge is a general awareness of facts and correlations within the environment and its key ecosystems (igi-

global.com, n.d.). This implies an understanding of the environment, its main relationships to human activities and impacts as well as the responsibilities apportioned to different players for the achievement of sustainable development. Ashford (1993) asserts that the main most effective method for pollution prevention is increased environmental knowledge among corporate executives and the development of positive attitudes towards environmental concern. Considering their impact on the environment whether good or bad and growing public interest on the issue, the level of environmental knowledge among corporate executive stills remains negligible across the world and few are confident they fully understand the impact of their operation on the environment or the environmental issues that their companies face on a regular basis.

In essence, businesses can ill afford to continue regarding the environment from which they derive their resources as an externality with no cost. Indeed, numerous businesses are already seeking sustainability options and practices that can ensure environmental stability or improvement while delivering better performance (Rusinko, 2010). However, this is

not yet a widespread phenomenon because a necessary condition for better environmental stewardship is the pervasiveness of environmental knowledge as a consequence of environmental education delivered as training initiatives for employees at all levels in a company (Mobley, Vagias & DeWard, 2010). These trainings should aim at providing staffers with the tools and the requisite understanding that enables them to work in an environmentally aware and responsible manner.

This paper considers the nature of environmental knowledge and its importance in general as well as from a sustainable business perspective. Key literature on current environmental knowledge affairs will form the bulk of the discussion to illuminate issues of interest. The paper also considers sustainable business practices, their history, nature and effectiveness, while seeking to investigate them from the perspective of a dependent variable that results from causative environmental knowledge. A quantitative survey of business managers on the subject will investigate the correlation and possible influence of environmental knowledge on sustainable business management in today's world.

Materials and methods

The research used a purposive sample of 40 managers in different industries, seeking to see the extent of their environmental knowledge compared to the presence of sustainable business practices (Etikan, Musa & Alkassim, 2016). Half of the group had sustainable business processes built into their business operations while the other half had no such processes in their operations. All the businesses had latitude to embed sustainable business practices in their operations and all were operating optimally. These arrangements enabled a realistic comparison of various aspects that spoke on environmental knowledge and sustainable business practices.

A self-administered questionnaire with closed and open-ended queries was the data collection tool given to the business executives who provided the requested information in a process that took less than 30 minutes. The researcher uploaded the questionnaire onto an online research module, enabling the executives to provide the data at their convenience. The data collection happened over 2 days when all the

respondents invited took part and shared the critical information under focus.

The first section of the questionnaire focusing on demographics investigated the level of education of the respondents and if they had any environmental knowledge and education. The purpose was to identify who among them had environmental training and if this had an influence on their business decisions. The second section was focused on sustainable practices and their knowledge and understanding of it, especially if they actually had specific ideas about how to implement them, the impact on business performance and profitability and the challenges involved. The third section contained open ended questions to enable collection of qualitative data relating to themes that the managers may have had in common with respect to the environment and sustainability. The information in this third section was critical in balancing, moderating and possibly reaffirming the views flowing from the second section. The questionnaire had 20 questions of which 5 were part of the first section and multi choice, 12 were part of the second section and closed ended and 3 were part of the third section and open ended. This coincided with the type of questions (demographic, quantitative and qualitative) as described above. The closed ended questions in the second section were graded into a Likert scale with options from Strongly Agree to Strongly Disagree.

The researcher analysed the findings from the first and second sections using statistical software SPSS, checking for descriptive, correlation and regression elements that would help understand the relationship between environmental knowledge and sustainable business practices. The researcher then conducted coding and thematic analysis of the third section, pursuing dominant themes and identifying any correlations there may be between environmental knowledge and sustainable business practices. The online based questionnaire had the advantage of automatically producing a database that contained all the responses coded into an excel table, easily replicable into SPSS. Only the third section was in its unprocessed form after completion of survey.

Results

Demographic results indicated that 57.5% (23) of the managers were in the 36 – 45 age groups, 25% (10) were in the 46 – 55 age group while another 22.5% (7) were above 56 years in age. On gender, 37.5% (15) were female while 62.5% (25) were male. A total of 25% (10) had been managers for less than five years, 50% (20) had been managers for 5 to 10 years while 25% (10) had been in senior positions for more than 10 years. Out of the 40 respondents who participated 67.5% (27) had some form of environmental knowledge from formal training whether as post high school diplomas or from conferences, seminars and other platforms that disseminated such knowledge. The remaining 32.5% (13) had no formal environmental knowledge but expressed a level of understanding due to exposure from diverse sources such as from media sources (TV, radio and publications). In addition, 77.5% (31) said that it is not necessary for managers to have environmental training to be able to implement sustainable business practices. 22.5% (9) were of the view that some level of environmental training is necessary for the implementation of sustainable business practices.

In the second section, which consisted of four major themes the managers broadly responded as follows. First, on the expense of sustainability in business practices, on average a minority of 12.5% (5) respondents disagreed, 22.5% (9) neither agreed nor disagreed, 37.5% (15) agreed and 27.5% (11) strongly agreed. The mean came to 4.28 and standard deviation 0.874 which suggest a majority of the managers agreed with the statement. Second, on whether sustainable business practices are profitable, on average a minority of 10% (4) respondents disagreed, 17.5% (7) neither agreed nor disagreed, 47.5% (19) agreed and 25% (10) strongly agreed. The mean came to 4.56 and standard deviation 0.922 which suggest a majority of the managers strongly agreed with the statement. Third, on whether sustainable business practices improve performance, on average 15% (6) of the respondents disagreed, 12.5% (5) neither agreed nor disagreed, 57.5% (23) agreed and 15% (6) strongly agreed. The mean came to 4.22 and standard deviation 1.05 which suggest a majority of the managers agreed with the statement. Fourth, on whether sustainable

business practices are not only effective with environmental knowledge, on average 32.5% (13) of the respondents disagreed, 27.5% (11) agreed nor disagreed, 22.5% (9) agreed and 17.5% (7) strongly agreed. The mean came to 2.93 and standard deviation 1.137 which suggests a majority of the managers disagreed with the statement.

Discussion

This study demonstrates that managers' environmental knowledge has significant influence on whether they adapt sustainable business practices or not. This influence is positive and critical in the sense that the presence of environmental knowledge is a sure predictor of the likelihood to adapt sustainable business practices. This answers the research question which sought to know if there was an influence between environmental knowledge and sustainable business management. The finding is in conformity to the literature which indicated that sustainable business practices proceed from a point of knowledge predicated on the beneficial aspects that the knowledge discovers and understands. This finding is also not surprising considering the ubiquitous nature of modern environmental knowledge stemming from concerns about the deteriorating quality of the environment across the whole world. Johnson study concurs with these findings as he indicates that environmental knowledge is a significant determinant of attitudes which can be converted into actions and investments in green resources that enhance sustainability processes. Environmental knowledge in this context is the basic information relating to the ecosystem and how human activities have an impact on its state. Indeed, most managers had a general understanding that the most significant impact that their businesses have on the environment stems from emissions, whether gaseous, liquid or in the form of solid waste.

These findings have a number of practical implications that have relevance in both environmental education and business practices. First, it implies that for sustainable business practices to become more common across the business world which is the biggest polluter nationally and globally, sensitization trainings providing environmental knowledge and teaching actual processes to managers should become more widespread. The positive

association between the two variables means the more we have of the independent variable – environmental knowledge, the more we will have of the dependent variable – sustainable business management. Second, the emergence of transition expenses being a considerable barrier to the adoption of sustainable practices implies that if financiers can be convinced or compelled to provide resources to businesses making the switch, then more companies will embrace the switch. A majority of the managers surveyed indicated that financiers are the major obstacle to their transitioning into sustainable business management. This also implies that financiers are a major obstacle to the growth of sustainable business practices in companies. Third, the widespread knowledge among the managers indicating that sustainability improves performance implies that only the expense and lack of knowledge stand as significant barriers to the adoption of widespread sustainability processes throughout most businesses.

These results expand existing literature on the subject by introducing an aspect of practical application compared to previous studies that mostly focused on anthropological

Correlations

Table 1. Correlation analysis results

		Sustainable business practices
Environmental education	Pearson Correlation	.811**
	Sig. (2-tailed)	.000
	N	40

** . Correlation is significant at the 0.01 level (2-tailed).

A model summary indicating r values showed that environmental knowledge is a strong predictor of sustainable business practices at

Model summary

Table 2. Model summary results

Model	R	R Square	Adjusted R Square
1	.811	.658	.643

a. Predictors: (Constant), Planning.

A regression coefficient analysis yielded significant p values of less than 0.05 significance

considerations i.e. the influence of environmental knowledge and/or education on attitudes and other intangible factors. This opens the possibility for application in numerous directions particularly policy formulation for stakeholders in the environmental movement. This study therefore provides a tangible and useful target that diverse stakeholders can pursue with visible results to follow in its wake. The findings should be taken into consideration when it comes to policy formulation, be it at the local government level or even at the national level because businesses, being the backbone of the economy, are also worst polluters in the ecosystem and working with them is highly desirable in an effort to address these challenges.

Figures and tables

A correlation analysis between environmental knowledge and sustainable business management produced a Person's correlation coefficient of 0.811 and a significance of 0.000 at 0.01 confidence level, indicating that there was a positive and significant correlation between the two variables that deserved further investigation.

65.8%, meaning that if a manager has environmental knowledge, they are 65.8% likely to implement sustainable business practices.

level, enabling the formulation of a regression equation indicated below the table;

Coefficients

Table 3. Co-efficient analysis table

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.832	.319		2.243	.023
	Planning	.763	.071	.811	9.102	.000

a. Dependent Variable: Implementation.

Conclusion

Drawing from the findings, it is possible to conclude a number of issues. First, environmental knowledge has a positive and significant influence on sustainable business management such that the more of the former a manager possesses the more of the latter he is likely to try to incorporate in the firm's operations. Indeed, environmental knowledge seems to be an important but not exclusive prerequisite for managers to embrace sustainable business practices. Second, from the admission of the manager's sustainable business practices are likely to improve the performance of their companies, such that the more sustainability they have in their operations, the more efficiency they observe. Eco strategies such as greening the supply chain or recycling waste are known to enhance the operations of the businesses that implement them. Third, also from the admission of the managers, incorporating sustainable processes into their business is an expensive undertaking that requires significant capital investments that may call for credit from financiers. Some of the adjustments that such businesses must make require significant investments in green technology e.g. less pollutive processors, solar panels, energy saving lighting, etc., that require a long-term approach and significant finances. Fourth, financiers do not consider supporting businesses making investments in sustainable processes as worthwhile or profitable. This is because of the slow rate of return on investment that such companies observe and the inability of financiers to quantify the benefits that such sustainable investments bring to the business.

References

- [1]. Ashford, N. A. (1993). Understanding technological responses of industrial firms to environmental problems: Implications for government policy (chapter).
- [2]. Asmatulu, R., & Asmatulu, E. (2011). Importance of recycling education: a curriculum development at WSU. *Journal of Material Cycles and Waste Management*, 13(2), 131.
- [3]. Balzani, V., & Armaroli, N. (2010). Energy for a sustainable world: from the oil age to a sun-powered future. John Wiley & Sons.
- [4]. Bicker, A., Ellen, R., & Parkes, P. (2003). Indigenous environmental knowledge and its transformations: Critical anthropological perspectives. Routledge.
- [5]. Brimblecombe, P. (2011). The big smoke: a history of air pollution in London since medieval times. Routledge.
- [6]. Brundtland, G. H., Khalid, M., Agnelli, S., Al-Athel, S., & Chidzero, B. (1987). Our common future. New York, 8.
- [7]. Danico, D. S., Granoff, E. C., Molenda, E. C., & Ryel, M. L. (2010). Biofuels.
- [8]. Design, K. V. (n.d.). Benefits of Becoming a Sustainable Business. Retrieved March 19, 2020, from http://www.eco-efficiency.com/benefits_becoming_sustainable_business.html
- [9]. Elkington, J. (1999). Triple bottom-line reporting: Looking for balance. *AUSTRALIAN CPA*, 69, 18-21.
- [10]. Emas, R. (2015). The concept of sustainable development: definition and defining principles. *Brief for GSDR, 2015*.
- [11]. Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive.

- [12]. sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.
- [13]. Fellman, M. (2013, May 14). Making Gold Green: New Non-Toxic Method for Mining Gold. Retrieved March 19, 2020, from <https://news.northwestern.edu/stories/2013/05/making-gold-green-new-non-toxic-method-for-mining-gold/>.
- [14]. Glick, T. F., Livesey, S., & Wallis, F. (Eds.). (2014). *Medieval science, technology, and medicine: an encyclopedia* (Vol. 11). Routledge.
- [15]. Hansmann, R., Mieg, H. A., & Frischknecht, P. (2012). Principal sustainability components: empirical analysis of synergies between the three pillars of sustainability. *International Journal of Sustainable Development & World Ecology*, 19(5), 451-459.
- [16]. Hopkins, C. (2009). Road to Ahmedabad: Embedding environmental wisdom in our cultural DNA. *Journal of Education for Sustainable Development*, 3(1), 41-44.
- [17]. Huang, C. L., & Kung, F. H. (2011). Environmental consciousness and intellectual capital management. *Management decision*.
- [18]. igi-global.com. (n.d.). What is Environmental Knowledge. Retrieved March 19, 2020, from <https://www.igi-global.com/dictionary/comparison-of-two-classrooms/40808>.
- [19]. Ji, L., Huang, J., Liu, Z., Zhu, H., & Cai, Z. (2012). The effects of employee training on the relationship between environmental attitude and firms' performance in sustainable development. *The International Journal of Human Resource Management*, 23(14), 2995-3008.
- [20]. Kapoor, D., & Shizha, E. (Eds.). (2010). *Indigenous knowledge and learning in Asia/Pacific and Africa: Perspectives on development, education, and culture*. Springer.
- [21]. Lampikoski, T., Westerlund, M., Rajala, R., & Möller, K. (2014). Green innovation games: Value-creation strategies for corporate sustainability. *California Management Review*, 57(1), 88-116.
- [22]. Mobley, C., Vagias, W. M., & DeWard, S. L. (2010). Exploring additional determinants of environmentally responsible behavior: The influence of environmental literature and environmental attitudes. *Environment and Behavior*, 42(4), 420-447.
- [23]. *Sciences*, 5(1), 55.
- [24]. Ranjan, M. (2014). Environmental Protection in Jainism and Buddhism. *Voice of Intellectual Man-An International Journal*, 4(1), 121-130.
- [25]. Rusinko, C. A. (2010). Integrating sustainability in management and business education: A matrix approach. *Academy of Management Learning & Education*, 9(3), 507-519.
- [26]. shrm.org. (2017, May 19). SHRM Report: HR Central to Organizations' Sustainability Efforts. Retrieved Marc.