



THE EFFECTS OF ENVIRONMENTALLY SENSITIVE BUSINESS PRACTICES ON COMPETITIVE ADVANTAGE: A STUDY ON ANTALYA ORGANISED INDUSTRIAL ZONE COMPANIES*

(Research article)

Aydolu Algin^{a,1}, Fulya Sarvan^b

^{a,b} Akdeniz University Hospital, Antalya, Turkey

Received: 28.04.2024

Revised version received: 27.05.2024

Accepted:25.06.2024

Abstract

The main purpose of this study is revealing the environmentally-conscious business practices of corporations located in Antalya Organized Industrial Site and effects of these practices on business performance based on the opinion of corporation managers. The research involves 200 corporations which carry on the business in Antalya Organized Industrial Site. In the research process only 100 corporations answered positively for participating to research. The data collected through survey, the questionnaire has been constituted by the researcher based on the literature. The questionnaire consists of 56 questions which were ordered according to 5-Likert scale and question the demographic variables related to corporations, environmentally-conscious business practices and their effects on business performance. According to the survey data, corporations located in Antalya Organized Industrial Site try to apply environmentally-conscious business practices at least in extent o fulfil the legal obligations. In general most of the corporations have environmental management system and policies and environmentally-conscious design, supply, production, personnel management and waste management. However each practices have major deficiencies. Just one quarter of the corporations have ISO 14001 certificate. It has been revealed that corporations located in Antalya Organized Industrial Site haven't got a common conviction about the environmentally-conscious business practices on the positive effects of the competitive advantage. They evaluate these kind of practices as the practices which reduce the pollution and waste accumulation and gain the reputation. However they abstain in scope of their effects on financial performance and competitive advantage.

Keywords: Sustainability, competitive advantage, environmentally-conscious business practices.

© 2023 IJSTS & the Authors. Published by *International Journal of Sports, Technology and Science (IJSTS)*. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (CC BY-NC-ND) (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

¹Corresponding author (name). E-mail: fulyas@akdeniz.edu.tr

*It is the summary of the master's thesis prepared under the supervision of Prof. Dr. Fulya Deniz SAVRAN, written by Aydolu ALGIN and completed at Akdeniz University Social Sciences Institute.

1. Introduction

Environmentally sensitive business management is an approach that has been developing rapidly in recent years and is based on the fact that businesses should be sensitive to environmental problems in the world. Environmental pollution caused by businesses is increasing in the production and consumption of both products and services. Excessive consumption in developed countries, increasing elderly population, rapid growth in developing economies, economic inequality between countries, and shortening life cycles of products are among the main causes of this problem (Florida and Davison, 2001). Environmentally sensitive business considers environmental variables at the stages of production, distribution and consumption while carrying out its activities to create sustainable solutions that will satisfy human desires and needs (Eken, 2013). The concept of environmentally sensitive business requires an integrated effort involving business functions such as production, distribution, consumption, promotion and marketing.

The factors motivating environmentally sensitive business are not limited to environmental benefits. Firms can save costs, gain competitive advantage, enrich the image of the firm, improve the quality of products and respond to legal expectations through environmentally sensitive strategies (Yiğit, 2014). For this reason, today, large enterprises see environmentally friendly business approach as a way of creating public opinion and image, improving the organisation and promoting competition. Toyota is one of the companies that gained competitive advantage by creating an environmentally friendly brand Prius. According to Interbrand's research, with Prius, Toyota's brand value has increased by 47 per cent to 28 billion dollars and has surpassed its competitors in the brand (Stevens, 2009).

Wall-Mart company worked with environmental experts and consultants to eliminate its negative image on the environment and at the end of the study, it became an environmentally friendly retailer that uses renewable energy resources at a rate of one hundred percent, reuses waste and produces sustainable products. As an example from Turkey, Tetra Pak started to produce recyclable beverage packaging and made a significant investment in environmental awareness.

The concepts of sustainability and sustainable development, which stand out in the literature as a solution to increasing environmental problems, bring to the forefront the practices aimed at minimising the damage to the environment by acting in accordance with the principles of sustainability in economic activities. In the understanding of sustainability, the basis of marketing is based on environment and quality (Sarkis, 2003). Competition conditions for businesses are becoming more difficult with the new perspectives and profiles of consumers. Consumers are now more conscious than before and have higher expectations (Özer, 2009). It is possible to meet these expectations, to be one step ahead of competitors in this sense, and therefore to provide competitive advantage and advantage is possible with the measures and marketing activities to be taken by each system for the sector in which the business is located. In his research on the Investigation of Consumers' Attitudes towards Green Products, he concluded that consumers are environmentally conscious and sensitive to using environmentally friendly products. Important management scientists Porter and Van der Linde (1995) pointed out the necessity of a paradigm shift in the transition to the 21st century and argued that international competition has changed dramatically in the last twenty-three years, that an era has entered in which improving the environment is considered a business success and that only companies that act on the basis of economic logic linking environment-resource production, innovation and competitiveness will be successful from now on. In addition, in the BSCD (Business Council for Sustainable Development) report presented at the Earth Summit (United

Nations Conference on Environment and Development-UNCTED) held in Rio de Janeiro in 1992, the concept of eco-effectiveness was emphasised and a life cycle and system approach was deemed necessary to harmonise human economic activity with the estimated carrying capacity of the earth (Polonsky, 1994; Najam, 2000).

BSCD report:

- Minimising the material intensity of goods and services
- Minimising the energy intensity of goods and services
- Elimination of toxic spread
- Advancing the reprocessability of materials
- Maximising the use of renewable resources
- Extending product durability
- Seven methods have been proposed to increase the service intensity of goods and services.

In the research prepared on the basis of the determinations made above, the concepts of sustainable development and environmentally sensitive management and the concepts related to them are explained. In addition, the factors that are effective in ensuring the sustainability of the competitive advantage of the enterprise, the effects of sustainable competitive advantage and environmentally sensitive business practices on competitive advantage are discussed. This research aims to reveal the effects of sustainable development and environmentally sensitive management approach on performance and competitive advantage within the scope of Antalya Organised Industrial Zone. In detail, it is to determine the environmentally sensitive business practices of the enterprises operating in Antalya Organised Industrial Zone and the perceptions of business managers about the effects of these practices on the performance of the enterprise.

2. Method

2.1. Population and Sample of the Study

The population of the research covers 200 enterprises operating in the Akdeniz Organised Industrial Zone. During the research process, all companies of the region were tried to be reached, but a positive response was received from 100 of the enterprises that were tried to be reached through the Regional Management. This sample reflects an access rate of 50 per cent. The questionnaires were sent to all enterprises via e-mail in July 2014, but no response was received. E-mails were sent to all enterprises again at 15-day intervals and telephone contact was made to ensure that the questionnaires were answered. In August 2014, approximately 25% of the questionnaires were reached via e-mail and the remaining 75% of the questionnaires were completed by leaving the printed questionnaires to the enterprises.

2.2. Data Collection Tools of the Research

In the field study of this descriptive research, questionnaire technique was used to collect data. The relevant literature and similar researches were utilised in the preparation of the questionnaire form used in the research. The relevant literature was used to determine the themes to be included in the questionnaire. The most inspired study in the development of the questionnaire is Yüksel's study titled "Evaluation of Environmentally Friendly Production Activities of Enterprises with an Empirical Study". In the question form, there were 12 questions to determine the demographic characteristics of the enterprises participating in the research, 28 questions to determine the practices related to environmental awareness, 16 questions to determine the effect of environmental awareness on competition and 56 questions in total.

The survey questions were prepared according to a 5-point Likert scale. In Likert scale, the most positive option (strongly agree) is ranked as 5 and the most negative option (strongly disagree) is ranked as 1. The managers who answered the questionnaire were asked to tick the option that best reflects their views about their own companies.

2.3. Analysing the Data

The data that constitute the basis for the findings of this research are based on the opinions of the top managers of the enterprises participating in the survey about the environmentally sensitive business practices and the effects of environmentally sensitive business on competitive advantage. The data obtained as a result of the questionnaire application carried out within the scope of the research were transferred to the SPSS programme and descriptive statistics were extracted in line with the purpose of the research and were also subjected to statistical analyses such as t-test analysis and Anova analysis.

3. Results

Table 1. Number of Employees and Environmentally Friendly Business Practices

Dimension	Number of Employees	N	Mean (X)	Std. Dev.	F	p
Environmental Management Systems and Policies	0-50 employees	45	4.093	0.682	0.201	0.819
	51-100 employees	14	4.129	0.500		
	101 and above	29	4.014	0.625		
	Total	88	4.073	0.633		
Environmentally Conscious Design	0-50 employees	46	3.983	0.545	2.699	0.073
	51-100 employees	15	3.587	0.630		
	101 and above	25	3.816	0.635		
	Total	86	3.865	0.598		
Environmentally Conscious Procurement	0-50 employees	39	3.933	0.631	1.164	0.318
	51-100 employees	13	3.785	0.532		
	101 and above	21	3.667	0.762		
	Total	73	3.830	0.658		
Environmentally Conscious Production	0-50 employees	42	4.090	0.552	1.717	0.186
	51-100 employees	13	3.923	0.656		
	101 and above	25	3.808	0.687		
	Total	80	3.975	0.619		
Environmentally Conscious Waste Management	0-50 employees	36	3.667	0.634	1.241	0.294
	51-100 employees	13	3.400	0.589		
	101 and above	22	3.536	0.669		
	Total	71	3.577	0.637		
Environmentally Conscious HRM	0-50 employees	51	3.627	0.923	0.075	0.928
	51-100 employees	17	3.255	0.771		
	101 and above	29	3.396	1.027		
	Total	97	3.493	0.934		
Environmentally Conscious Marketing	0-50 employees	49	4.020	0.924	0.778	0.462
	51-100 employees	17	3.412	1.176		
	101 and above	28	3.857	1.044		
	Total	94	3.862	1.022		
Impact of Environmentally Conscious Activities on	0-50 employees	51	3.789	0.742	0.468	0.628
	51-100 employees	17	3.749	0.658		

Pollution and Waste Reduction	101 and above	29	3.723	0.818		
	Total	97	3.762	0.745		
Impact of Environmentally Conscious Activities on Employees' Environmental Sensitivity	0-50 employees	51	3.997	0.672		
	51-100 employees	17	3.794	0.697	0.598	0.552
	101 and above	29	3.802	0.978		
	Total	97	3.903	0.778		
Impact of Environmentally Conscious Activities on Financial Performance	0-50 employees	41	2.829	1.283		
	51-100 employees	14	2.643	1.277	1.096	0.355
	101 and above	23	3.043	1.186		
	Total	78	2.859	1.246		
Impact of Environmentally Conscious Activities on Competitive Advantage	0-50 employees	51	3.578	1.018		
	51-100 employees	17	3.309	0.710	0.399	0.754
	101 and above	29	3.414	1.001		
	Total	97	3.482	0.963		

In Table 1, analysis of variance was applied to test whether the level of environmentally sensitive business practices in the enterprises participating in the survey study differed according to the number of personnel of the enterprise. The results are given in Table 1. The findings reveal that none of the sub-dimensions of environmentally sensitive business practices do not differ according to the number of personnel of the enterprise. From this finding, it is understood that the size of the enterprise is not a determinant in terms of environmentally sensitive management.

Table 2. Number of Employees Related to Environment and Environmentally Responsible Business

Dimension	Number of Employees	N	Mean (X)	Std. Dev.	F	p	n
Environmental Management Systems and Policies	No staff	45	4.1911	0.642	0.096	2.207	0.093
	One staff	21	3.7810	0.583	0.127		
	Two staff	8	4.1750	0.590	0.209		
	At least three staff	16	4.0750	0.584	0.146		
	Total	90	4.0733	0.627	0.066		
Environmentally Conscious Design	No staff	43	3.8837	0.671	0.102	0.564	0.640
	One staff	21	3.7714	0.483	0.105		
	Two staff	8	4.0750	0.489	0.173		
	At least three staff	15	3.8000	0.586	0.151		
	Total	87	3.8598	0.597	0.064		
Environmentally Conscious Procurement	No staff	39	3.8769	0.688	0.110	1.306	0.497
	One staff	16	3.8125	0.558	0.140		
	Two staff	6	4.1667	0.294	0.120		
	At least three staff	13	3.5692	0.734	0.204		
	Total	74	3.8324	0.654	0.076		
	No staff	42	3.9857	0.636	0.098	0.801	0.172
	One staff	16	3.9000	0.575	0.144		

Environmentally Conscious Production	Two staff	8	4.2500	0.424	0.150		
	At least three staff	15	3.8533	0.691	0.178		
	Total	81	3.9704	0.617	0.069		
Environmentally Conscious Waste Management	No staff	42	3.5571	0.672	0.104	1.717	0.156
	One staff	15	3.3200	0.291	0.075		
	Two staff	7	3.8286	0.658	0.249		
	At least three staff	8	3.8500	0.812	0.287		
	Total	72	3.5667	0.639	0.075		
Environmentally Conscious HRM	No staff	52	3.5413	0.978	0.136	1.096	0.355
	One staff	23	3.1596	0.804	0.168		
	Two staff	8	3.9775	0.653	0.231		
	At least three staff	17	3.4659	0.987	0.239		
	Total	100	3.4756	0.933	0.093		
Impact of Environmentally Conscious Activities on Pollution and Waste Reduction	No staff	52	3.7517	0.773	0.107	1.500	0.213
	One staff	23	3.7335	0.739	0.154		
	Two staff	8	4.0175	0.430	0.152		
	At least three staff	17	3.6782	0.762	0.185		
	Total	100	3.7563	0.737	0.074		
Impact of Environmentally Conscious Activities on Employees' Environmental Sensitivity	No staff	52	3.8798	0.806	0.112	0.399	0.754
	One staff	23	3.7826	0.654	0.136		
	Two staff	8	4.2188	0.490	0.173		
	At least three staff	17	3.8529	0.973	0.236		
	Total	100	3.8800	0.782	0.078		
Impact of Environmentally Conscious Activities on Financial Performance	No staff	45	2.8889	1.402	0.209	0.619	0.604
	One staff	18	2.3889	0.778	0.183		
	Two staff	7	3.2857	0.951	0.360		
	At least three staff	11	3.2727	1.348	0.407		
	Total	81	2.8642	1.262	0.140		
Impact of Environmentally Conscious Activities on Competitive Advantage	No staff	52	3.5288	0.984	0.136	1.530	0.211
	One staff	23	3.0870	0.943	0.197		
	Two staff	8	3.9063	0.654	0.231		
	At least three staff	17	3.5735	0.939	0.228		
	Total	100	3.4650	0.960	0.096		

In Table 2, analysis of variance was applied to test whether the number of environmentally related personnel in the enterprises participating in the survey study varies according to the scale of environmentally sensitive management. The results are given in Table 2. The findings reveal that none of the sub-dimensions of environmentally sensitive management do not differ according to the number of environmentally related personnel of the enterprise. Based on these findings, it is understood that the number of employees related to the environment is not a determinant in environmentally sensitive business practices.

Table 3. Age of Enterprise and Environmentally Responsible Business

Dimensions and Business age	N	Mean (X)	Std. Dev.	F	p	
Environmental Management Systems and Policies	1-5 year	15	4.06	0.62	0.64	0.53
	6-10 years	20	4.22	0.55		
	11 years and	65	4.03	0.65		

	over					
	Total	100	4.07	0.63		
	1-5 year	15	3.83	0.49		
	6-10 years	20	3.73	0.70		
Environmentally Friendly Design	11 years and over	65	3.91	0.58	0.69	0.51
	Total	100	3.86	0.60		
	1-5 year	15	3.82	0.67		
	6-10 years	20	3.88	0.81		
Environmentally Responsible Procurement	11 years and over	65	3.82	0.61	0.04	0.96
	Total	100	3.83	0.65		
	1-5 year	15	4.00	0.66		
	6-10 years	20	3.86	0.68		
Environmentally Friendly Production	11 years and over	65	4.00	0.60	0.30	0.74
	Total	100	3.97	0.62		
	1-5 year	15	3.51	0.69		
	6-10 years	20	3.38	0.77		
Environmentally Friendly Waste Management	11 years and over	65	3.63	0.59	0.80	0.45
	Total	100	3.57	0.64		
	1-5 year	15	3.48	0.85		
	6-10 years	20	3.53	0.71		
Environmentally Responsible HRM	11 years and over	65	3.46	1.02	0.04	0.96
	Total	100	3.48	0.93		
	1-5 year	15	4.00	0.76		
	6-10 years	20	3.68	1.16		
Environmentally Responsible Marketing	11 years and over	65	3.84	1.06	0.39	0.68
	Total	100	3.83	1.03		
	1-5 year	15	3.69	0.43		
	6-10 years	20	3.79	0.74		
The impact of environmentally sensitive activities on reducing pollution and waste	11 years and over	65	3.76	0.80	0.09	0.91
	Total	100	3.76	0.74		
	1-5 year	15	3.68	0.68		
	6-10 years	20	4.01	0.70		
The impact of environmentally sensitive activities on employees' environmental awareness	11 years and over	65	3.88	0.83	0.76	0.47
	Total	100	3.88	0.78		
	1-5 year	15	2.71	1.49		
	6-10 years	20	2.69	1.38		
Impact of environmentally sensitive activities on financial performance	11 years and over	65	2.94	1.19	0.32	0.73
	Total	100	2.86	1.26		
	1-5 year	15	3.40	0.95		

The impact of environmentally sensitive activities on competitive advantage	6-10 years	20	3.49	0.79	0.04	0.96
	11 years and over	65	3.47	1.02		
	Total	100	3.47	0.96		

In Table 3, analysis of variance was applied to test whether the age of the enterprises participating in the survey study, calculated according to their establishment dates, is effective on the performance effect of environmentally sensitive business and environmentally sensitive business. The results are given in Table 3. The findings reflect that the age of the enterprise is not effective in any of the sub-dimensions of environmentally sensitive business. It is understood that the age of the enterprise is not effective in environmentally sensitive business practices.

3. Discussion

Environmentally sensitive management is an understanding that considers the environment in all activities of enterprises, minimises the damage to the environment, changes production processes, educates employees about environmental sensitivity, and prioritises new projects for the protection of the ecological environment. Factors such as the rapid production and consumption frenzy that emerged with industrialisation, population growth, global warming, increasing environmental pollution, diseases that threaten the future of mankind and the depletion of natural resources have drawn the world's attention to this point. In order to prevent environmentally damaging practices of enterprises, they need to evaluate environmental issues in all stages of production, distribution and services they provide, starting from the design stage of the products. Especially in connection with the sensitivity of the world on this issue, the enterprises of the future will be environmentally sensitive enterprises. Based on this understanding, it is aimed to determine the level of environmentally sensitive business activities of the enterprises operating in Antalya Organised Industrial Zone, the companies;

- i. environmental management system and policies
- ii. environmentally sensitive design activities
- iii. environmentally sensitive procurement activities
- iv. environmentally sensitive production activities
- v. environmentally sound waste management activities and
- vi. to determine the extent to which they have environmentally sensitive human resources management activities;

In addition, to determine the effects of environmentally sensitive business activities on the firm's performance dimensions of the firm's managers,

- i. the impact of environmentally sensitive activities on reducing pollution and waste,
- ii. the impact of environmentally sensitive activities on employees' environmental awareness
- iii. the impact of environmentally sensitive activities on financial performance and
- iv. this study was conducted to determine the impact of environmentally sensitive activities on the firm's competitive advantage based on their perceptions.

The population of the research covers 200 enterprises operating in the Mediterranean Organised Industrial Zone. During the research process, it was tried to reach all the companies of the region, but a positive response was received from 100 of the enterprises that were tried to be reached through the Regional Management.

The demographic findings obtained from the survey data show that the majority of the enterprises operating in AOSB and participating in the research are active in different sectors, mostly in the food and textile sectors. Half of the enterprises are in the small enterprise category, while a large part of the other half is medium-sized and a small part is large-scale. More than half of the enterprises have a history of 11 years or more, while almost half of the enterprises have a history between one and ten years. Half of the enterprises did not employ any personnel related to the environment, approximately one fourth of them employed one person and the remaining one fourth employed two or more personnel. Only one fourth of the enterprises have the ISO 14001 certificate, which can be seen as

the indispensable first step of environmentally sensitive business. The ages of the managers who answered the questionnaire ranged between 26 and 45.

The findings on the existence of environmental management systems and policies, which question the extent to which the enterprises in the region have adopted environmentally sensitive practices, show that environmental management and policies have spread to a significant extent. One of the important steps of environmentally sensitive business practices is the consideration of environmental sensitivity in the design phase of products. When the literature is analysed, there are many supporting studies (Deanna, 1994; Meyer, 2001; Nakıboğlu, 2003; Muldoon, 2006; Kuşat, 2012).

The findings of the questions questioning environmentally sensitive design activities show that most of the enterprises use recyclable materials at the product design stage and plan the disposal of waste at the product design stage. One of the indispensable elements of environmentally sensitive business is the environmentally sensitive supply phase. The findings of the questions questioning the environmentally sensitive procurement activities of the enterprises in the region show that the concept of carbon footprint has not yet become widespread in the region. However, it is understood that most of the enterprises in the region prefer the companies that supply their inputs to have an environmental management system certificate. The findings of the questions questioning environmentally sensitive production activities show that the majority of the enterprises in AOSB carry out environmentally sensitive activities at all stages of production, starting from the workplace layout. However, it is seen that the environmental sensitivity of the enterprises in promotion activities is not very high. It is understood that environmental awareness is not yet widely seen as a marketable phenomenon. Along with the products produced in enterprises, various wastes and emissions are generated at the end of the production processes. Enterprises have important responsibilities in reducing waste and emissions and preventing pollution. From the questions questioning environmentally sensitive waste management activities, it was determined that how to collect waste at the source in accordance with the type of waste is planned and sustainable environmental policies are given importance in waste management. However, it is also understood that a significant portion of the enterprises do not have recycling programmes that they share with their external stakeholders. It is noteworthy that an enterprise with an understanding that attaches importance to environmentally sensitive waste management does not have recycling programmes shared with its external stakeholders.

In environmentally sensitive business practices, it is of great importance that employees are aware of this issue. The findings of the questions questioning environmentally sensitive HRM practices showed that a significant portion of the enterprises in the region periodically provide environmental training to their employees. However, contrary to expectations, it is understood that the practices of rewarding the environmentally sensitive initiatives of the employees are not very common. However, if the enterprises that provide periodical trainings for their employees to be environmentally conscious, use rewarding systems widely in order to encourage positive behaviours and create behavioural change, they will increase the effectiveness of the training they provide and will be more successful in environmentally sensitive HRM practices.

The findings of the questions questioning the effect of environmentally sensitive activities on the reduction of pollution and waste show that the managers of the enterprises in AOSB think positively about the effect of environmentally sensitive activities on the reduction of pollution and waste. From the findings of the questions measuring the impact of environmentally sensitive activities on employees' environmental awareness, it is concluded that the managers who participated in the research think that environmentally sensitive developments and changes are significantly accepted by the employees. From the answers given to the questions questioning the impact of environmentally sensitive activities on financial performance, it is understood that a significant portion of the

enterprises are undecided about the impact of environmentally sensitive activities on financial performance. It is thought that companies attach importance to environmentally sensitive activities in terms of fulfilling legal obligations to prevent pollution rather than strategies to reduce costs and increase sales.

From the findings of the questions questioning the impact of environmentally sensitive activities on competitive advantage, it is seen that a significant portion of the business managers in AOSB think that environmentally sensitive business practices increase corporate reputation. Corporate reputation is important in terms of providing sustainable market share and growth to enterprises. It is understood that the enterprises are undecided about the issues such as receiving awards and certificates in environmentally sensitive practices and the superiority of environmentally sensitive activities over competitors. It can be said that there is not a very widespread participation about the contribution of environmentally sensitive practices to competitiveness.

ISO 14001 Environmental Management System, which is a standard that provides guidance for determining the environmental factors in the process starting from the raw material to the presentation of the product to the customer and minimising the damage to the environment by taking these factors under control with the necessary measures, is important for organisations that want to gain a respectable place in the international and national market. However, it is understood that enterprises do not often resort to the way of documenting their environmentally sensitive practices: ISO 14001 Environmental Management System Certificate is available only in one fourth of the sample.

When the correlations of the sub-dimensions of the scale questioning the environmentally sensitive business practices of the AOSB enterprises and the sub-dimensions of the scale questioning the effect of environmentally sensitive practices on performance are examined, it is seen that the responses of the officials participating in the research do not reflect a significant relationship between the environmentally sensitive procurement and production practices among the environmentally sensitive business activities and their effect on the financial performance of the enterprise. As expected, there is a significant and positive relationship between all other dimensions. It is understood from the responses of business managers that especially environmental management systems and policies have a determining role on environmentally sensitive business activities and determine the effects on business performance to a great extent.

Analysis of variance and t-test were conducted to determine whether some demographic variables of the enterprises are effective on the level of environmentally sensitive business practices. When the relationship between the number of employees and environmentally sensitive business practices was analysed by analysis of variance, it was seen that none of the sub-dimensions of environmentally sensitive business practices did not differ according to the number of employees. Based on this finding, it is understood that the size of the enterprise is not a determinant in terms of environmentally sensitive business practices. There are many studies supporting these results (Barney, 1989; Çağlar, 1996; Cason and Gangadharan, 2002, Aytakin, 2007; Aracıoğlu, 2010).

When the relationship between the number of environmentally friendly business practices and the number of environmentally friendly employees is analysed, it is seen that none of the sub-dimensions of environmentally friendly business practices do not differ according to the number of environmentally friendly employees. These findings show that the number of employees related to the environment is not determinative in environmentally sensitive business practices. As a matter of fact, it has been determined that half of the enterprises do not employ any personnel related to the environment, approximately one fourth of them employ one person, and only the remaining one fourth employs two or more personnel. It is understood that the enterprises that do not employ any

personnel related to the environment have imposed environmental practices on other related personnel as additional duties.

When the relationship between the existence of an environmental management system and environmentally sensitive business is analysed, it is seen that the average value of the enterprises without an environmental management system certificate in the dimension of the effect of environmentally sensitive activities on the reduction of pollution is lower than that of the enterprises with a certificate. It is understood that the environmental management system certificate of the enterprises is effective on the reduction of pollution and waste.

When the relationship between the sectors in which the enterprises operate and environmentally sensitive business practices was analysed, it was found that none of the sub-dimensions of environmentally sensitive business practices did not differ according to the sector in which the enterprise serves. When the relationship between the years of service of the enterprise and environmentally sensitive business practices is questioned, it is seen that the age of the enterprise is not effective in any of the sub-dimensions of environmentally sensitive business practices.

When the environmentally sensitive business activities of the enterprises in Antalya Organised Industrial Zone are evaluated in general, it can be said that they try to carry out environmentally sensitive business practices at least to the extent that they meet the legal obligations. Although the majority of the enterprises are not certified, it has been observed that they have environmental management systems and policies in general, they have environmentally sensitive design, procurement, production, HRM and waste management practices, but they have significant deficiencies in each application. The fact that only one fourth of the enterprises in AOSB have ISO 14001 Environmental Management System Certificate, which ensures that production is carried out by taking into account the environmental impacts at every step from the first stage of the product to the consumer and which is known to have great effects on environmentally sensitive business practices, can be considered as an important deficiency. It is also noteworthy that half of the enterprises do not employ any personnel related to the environment.

The damages caused to the world by carbon dioxide emission, which is shown as the main cause of global warming, causes the formation of gases that cause the greenhouse effect and is emitted into the atmosphere by the use of fossil fuels, are known by everyone. Therefore, while businesses are expected to be more and more conscious about this issue, the fact that the concept of carbon footprint has not gained widespread use in AOSB is considered as another important deficiency.

Within the framework of rapidly developing technology and changing world, businesses have important duties in protecting the environment and creating environmentally friendly green products. In the future, only businesses that fulfil these duties will be able to survive. It has been observed that the enterprises in AOSB, where the field study of this research was conducted, do not yet have a widespread belief about the positive effects of environmentally sensitive activities on competitive advantage. Such activities are mostly seen as reducing pollution and waste accumulation and gaining reputation, but they are abstained in terms of their effects on financial performance and competitive advantage. The reason for this may be that the examples of enterprises that can use environmentally sensitive activities at this level are not very common in the region and in the country.

There is a need for more comprehensive research in order to obtain more detailed information about the effect of environmentally sensitive practices of enterprises on competitive advantage. A

comprehensive research to be conducted will be useful in terms of determining the effect of environmentally sensitive practices of enterprises on increasing competitive power.

4. Conclusions

The study on the environmentally sensitive management practices of enterprises operating in the Antalya Organized Industrial Zone (AOSB) provides significant insights into the current state and potential future directions of environmental sustainability in the industrial sector. Key conclusions drawn from the research are as follows:

- **Adoption and Implementation of Environmental Management Systems:** A significant number of enterprises in the AOSB have adopted environmental management systems and policies. However, the widespread implementation of these systems, such as obtaining ISO 14001 certification, is still lacking, with only one-fourth of the enterprises having such certification. This highlights a crucial area for improvement, as certified systems are fundamental for systematically managing environmental impact.
- **Environmental Design and Procurement Practices:** The study reveals that many enterprises incorporate recyclable materials into their product design and plan for waste disposal at the design stage. Despite this, the concept of carbon footprint is not widely recognized or integrated into procurement practices. There is a preference for suppliers with environmental management certifications, but broader awareness and action regarding carbon footprints remain underdeveloped.
- **Production and Waste Management Activities:** Enterprises in AOSB demonstrate environmentally sensitive production practices, focusing on reducing waste and emissions from the workplace layout onward. However, environmental sensitivity in promotional activities is low, indicating a gap in leveraging environmental practices as a marketable attribute. Additionally, while internal waste management practices are robust, external stakeholder engagement in recycling programs is limited.
- **Human Resource Management (HRM) Practices:** Regular environmental training for employees is common among enterprises, yet reward systems for environmentally positive initiatives are not prevalent. To maximize the impact of training, enterprises should adopt comprehensive reward systems to reinforce and sustain environmentally sensitive behaviors among employees.
- **Impact on Pollution, Waste Reduction, and Employee Awareness:** Managers generally perceive environmentally sensitive activities positively in terms of reducing pollution and waste and raising employees' environmental awareness. These activities are well-accepted by employees, reflecting a positive organizational culture towards environmental sustainability.
- **Financial Performance and Competitive Advantage:** There is a notable ambivalence among enterprises regarding the financial benefits of environmentally sensitive activities. Many managers view these activities as means to comply with legal obligations rather than as strategies for cost reduction or increased sales. This perception may stem from a lack of regional and national examples demonstrating the competitive advantage of such practices. Nonetheless, environmental activities are seen as enhancing corporate reputation, which is critical for long-term market sustainability.
- **Influence of Demographic Variables:** The study finds that the size of the enterprise, number of employees, and years of service do not significantly influence the level of environmentally sensitive business practices. This suggests that environmental sensitivity can be achieved

across various enterprise sizes and sectors, emphasizing that commitment rather than scale or experience drives environmentally responsible practices.

- **Areas for Improvement and Future Directions:** The study identifies several areas for improvement, including the need for more enterprises to obtain environmental management certifications, broader adoption of carbon footprint awareness, and enhanced engagement in external recycling programs. Future business survival and success will increasingly depend on the ability to meet environmental responsibilities and create environmentally friendly products.

Overall, while the enterprises in AOSB are making strides towards environmentally sensitive practices, there are significant opportunities for growth and enhancement. The ongoing development of technology and changing global standards will require enterprises to continually adapt and innovate to maintain environmental sustainability and competitive advantage.

Declaration of Conflicting Interests and Ethics

“In this article, journal writing rules, publishing principles, research and publication ethics rules and journal ethics rules were followed. Liability for any violations that may arise regarding the article belongs to the authors. "The authors declare no conflict of interest."

Acknowledgements

We would like to thank the study participants, our colleagues and all the scientists whose scientific resources we benefited from.

References

- Aracıoğlu, B. (2010). Tüketicilerin, satın alma davranışında çevre bilincinin etkileri, *Ege Akademik Bakış Dergisi*. 9, 435-461.
- Aytekin, P. (2007). Yeşil pazarlama stratejileri, *Celal Bayar Üniversitesi Sosyal Bilimler Dergisi*. Cilt: 5, Sayı: 2, s. 1-20.
- Cason, T. N. ve Gangadharan, L. (2002). Environmental labeling and incomplete consumer information in laboratory markets, *Journal of Environmental Economics and Management*. 43, 113-134.
- Çağlar, İ. (1996). İşletmelerde çevre yönetimi ve çevre yönetimini yaygınlaştıran dinamiklerin belirlenmesi, *Standart Dergisi*. Yıl: 35, Sayı: 412, Kasım.
- Deanna, R. J. (1994). Environmentally conscious manufacturing, *World Class Design to Manufacture*. Vol. 1, No: 3.
- Eken, E. (2013). Ulusal Geri Dönüşüm Stratejisi Ve Eylem Planı (2013-2016), Haziran, Sayı: 294. <http://anahar.sanayi.gov.tr/tr/news/ulusal-geri-donusum-stratejisi-ve-eylem-plan-2013-2016/493>, Erişim tarihi: 23.02.2015
- Florida, R. ve Davison, D. (2001). "Gaining from green management: environmental management systems inside and outside the factory", <http://www.creativeclass.com/rfcgdb/articles/Gaining%20from%20Green%20Management.pdf> Erişim Tarihi: 02.10.2014
- Kuşat, N. (2012). "Sürdürülebilir işletmeler için kurumsal sürdürülebilirlik ve içsel unsurları", *Afyon Kocatepe Üniversitesi İİBF Dergisi*. c. XIV, s. II.
- Meyer, A. (2001). "What's in it for customers? successfully marketing green clothes", *Business Strategy and the Environment*. Vol. 10, Sayı: 5, s. 317-330, Eylül/Ekim.
- Muldoon, A. (2006). "Where the green is: examining the paradox of environmentally conscious consumption", *Electronic Green Journal*. Sayı: 23.
- Nakıboğlu, M. A. B. (2003). "Çevreci Pazarlama Anlayışı ve Tüketicilerin Çevreci Tutumlarının Tüketici Davranışları Üzerindeki Etkisi ile İlgili Bir Uygulama", *Yayınlanmamış Yüksek Lisans Tezi*, Çukurova Üniversitesi Sosyal Bilimler Enstitüsü, Adana.
- Özer, İ. (2009). "An Analysis of Environmentally Conscious Practices in Turkish Companies", *Yayınlanmamış Yüksek Lisans Tezi*. Bahçeşehir Üniversitesi Fen Bilimleri Enstitüsü, İstanbul.
- Polonsky, J. M. (1994). An introduction to green marketing. *The Howart Press*.
- Porter, M., Linde, C.V.D., (1995). "Toward s new conception of the environment- competitiveness relationship", *Journal of Economic Perspectives*, Vol. 9, Number 4, s.97-118
- Sarkis, J. (2003). "A strategic decision framework for green supply chain management", *Journal of Cleaner Production*. 11, 397-409.
- Stevens, C. (2009). "Green jobs and women workers", draft report (September). *International Labour Foundation for Sustainable Development (Sustainlabour)*.
- Yiğit, S. (2014). "İnovasyonun çevreci yüzü ve türkiye", *Yönetim ve Ekonomi*. Cilt:21 Sayı:1 Celal Bayar Üniversitesi İ.İ.B.F, 251-265.

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the Journal. This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (CC BY-NC-ND) (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).