Ecological Alertness of Cypriot Businesses

S. Louca, K. Matsikaris and I. Stavrides

School of Business, University of Nicosia, 1700 Nicosia, Cyprus; e-mail: louca.s@unic.ac.cy, k.matsikaris@gmail.com, jake.st4@gmail.com

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Abstract

Participation in environmentally friendly or green initiatives for ensuring that all processes, products, and manufacturing activities adequately address current environmental apprehensions has become mandatory in today's global operating environment by any organization. The ability of a business to meet the needs of the present world without compromising the sustainability and the well being of the future generations to meet their own needs is a social and ethical challenge. A lot of debate is being done over the last decades about the impact of consuming and wasting products on the environment. With the constant increase of consumers' awareness on the matter, businesses and governments are asked to provide solutions to these questions. This growing trend concerning "green businesses" forces companies to develop and implement strategies to minimize environmental impact that their products and services have. The focus of this paper is to investigate the responsiveness of Cypriot businesses in the global call for ecologically friendly initiatives along with their impact on their performance, on their business strategy and on their consumers. The findings show that companies in Cyprus are pursuing various environmental initiatives involving mainly their recycling habits and issues, certification and energy preservation.

Keywords: business sustainability, ecological alertness, green initiatives, Cyprus.

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1 Introduction

> We shall require a substantially new manner of thinking if mankind is to survive.
> Albert Einstein.

It is a fact that the environment is in severe danger, mostly from human intervention and misuse of its natural resources. There is a fixed amount of resources, many of which have already been extinct. The planet's bio-capacity of regenerating its natural ecosystems is falling, thus limiting its ability to sustain life itself. On top of that, the rapid growth of the world's population, scarce the already limited resources. According to recent demography, world population grows at a geometric rate the past two thousand years. In 2000 it reached 6 billion and it is estimated that it will reach 10 billion by the year 2080. Ecosystems like forests, oceans rangelands are threatened, while others are nearly collapsed. According to World Centric, a company with sole mission to educate the public and prevent the environmental misuse, forestlands are cut down at a rate of 375 km^2 each day and 80% of the planets initial forestlands have been destroyed, while 75% of our planets fish stock is either exploited or recovering [16].

Still all is not lost. As human beings, our goal is to preserve and maintain our legacy for our children to enjoy. If we are to pass on to our future generations the same standards and quality of life that we have enjoyed, we must change the way we conceive our environment and the usage of its natural resources. One of the many growing trends in public concern, as well as businesses practices about the environment is "going green", making a healthy impact on all living things around us; adopting in other words, a more environmentally friendlier approach. Going green can have various applications to individuals and businesses; from reducing energy use by supporting and using alternative energy sources (solar and wind energy), reducing greenhouse effect by reducing the emission of gas in to the atmosphere, to recycling paper and tin cans in your house. Due to the fact that this trend is gaining more and more public awareness, thus increasing the demand for environmentally friendly products, for individuals and businesses alike, governments are realizing that the need to design and implement strategies to reduce the disastrous impact that business activities have on the environment is dire.

To this end, initiatives have started to be taken; although the technological improvement over the last decades has improved our quality of life, it had negative effect on the environment, like global warming and greenhouse effect. In order to cope with that, jobs intended to aid the environment have

been created, the so called green collar jobs, including hazardous material clean-up, development of non-toxic cleaning products and others [17]. Also businesses began adopting environmentally friendly initiatives; by converting all of their records in electronic form and promoting paperless communication through the usage of Internet and Intranets, reducing the waste office and paper supplies intensely. Also by selling their old electronic equipment instead of disposing it, saves the companies a great deal of money and contributes to the preservation of the environment.

The simplest and easiest way to contribute to this cause is by recycling. According to the "Go Green Initiative", a company that provides to individuals and businesses the training and means to develop an environmentally friendly attitude, the greatest threat that the natural ecosystem faces, derives from the things we throw away in our everyday consumption. For example batteries and electronic devices contain toxic fluids that when spilled and absorbed by the soil, it can pollute everything from the soil we grow our food, to the underground water streams which provide our household water supply [18].

The benefits from recycling are tremendous; the numbers speak for themselves. According to Green Waste, a recycling company, each ton of paper recycled can save among others 7,000 gallons of water, 380 gallons of oil and eliminate 60 pounds of air pollutants [19]. Materials like glass and plastic can be completely recycled again and again, yet tons of them end up in landfills, where the average time to decompose and absorbed by the environment is nearly 700 years. The most alarming fact though is that if someone was to check a typical dustbin, he would discover that 60 to 70% of the waste can be recycled, yet they end up in landfills! Aluminum is one other material that recycling it saves energy (since it takes 100 times more energy to create it from raw metals than to recycle it) and time. Characteristically, the energy saved from recycling aluminum, can light a small city for nearly five years.

In Cyprus businesses have started to take steps in adopting their own environmentally friendly attitude. This survey tends to identify the areas and the magnitude of these initiatives and at the same time point out areas that can be further analyzed and improved. The first part of the paper is based on existing literature on the topic of green and sustainable operations of various companies in the world. The second part relates to the roadmap and ecological alertness of Cypriot businesses based on an analysis of primary data collected from 141 companies in Cyprus.

2 Ecological Alertness

Over the last decade the misuse of the environment has reached dangerous levels, intensifying public concern over the matter and making the need for a "greener" way of doing business imperative. Companies, especially midsized ones turn to green IT and sustainable growth strategies, not only for the sake of the planet but also as a mean to gain competitive advantage. The new "green" advances in technology provide the companies a smarter and more efficient way to compete, resulting also in reduction of energy costs and organizational complexity. Customers and other stakeholders exert pressures on organizations to improve their ecological attitude. Companies recognize that if they fail to deliver on this, it will transform into a negative impact on profit. Furthermore, they are discovering that green initiatives offer costs savings benefits while restructuring the organization, meeting stakeholder demands and complying with laws and regulations. Many governments are introducing antagonistic ecofriendly policies, encompassing everything from greenhouse gas reduction and natural resource protection to clean power initiatives and incentives for energy efficiency [22].

Although much effort has been proved successful in terms of conceptualizing and understanding the environmentally friendlier way of conducting businesses, it continues to be a complex matter. Many environmental factors such as quality requirements, cost feasibility and customer satisfaction needs to be addressed. The progress made on the subject can be identified by the creation and evolution of environmental management; from pollution control and risk management in the 1970s, to pollution prevention in the 1980s to the launch of the ISO 14000 series and the emergence of industrial ecology approaches [4]. This constant evolution has led to the belief that environmental management is a key area for companies that want to be competitive in the modern global economy [5]. Nevertheless, many organizations all over the world companies are still facing the challenge of strict sustainability demands pursuing environmental leadership. Most environmental initiatives are uncertain, and there are also many other non-environmental factors issues that need to be addressed such as required investment, customer satisfaction and quality requirements [10].

Organizations are investing in green IT initiatives, not only to improve on their efficiency, but also to become more responsible organizations towards the environment and the society. Many software organizations have created a green information technology framework to reduce their contribution to the greenhouse effect, their 'carbon footprint' in other words. Carbon footprint is

the "measure of the amount of greenhouse gases, measured in units of carbon dioxide, produced by human activities" [7]. This turn towards the reduction of the carbon footprint is due to the regulations formulated mostly by the European Union in an effort to help companies become more environmentally friendly. Regulations like Restriction of Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment (WEEE) "address the increasing electronic and electrical waste by restricting the use of toxic substances and flame-retardants by the manufacturers of electrical and electronic equipment to a particular level. This regulation also addresses the recycling programs for the manufacturer's products" [1, 2, 19].

Large organizations are taking it upon themselves to go green in this day and age. They realize that the impact that such decisions will enhance office morale by modernizing company practices, bringing the organizations into the 21st century like just about nothing else can. For example, IBM is creating strategies to provide technologies for smarter planet. In order to achieve this, it designs their IT framework based on green initiatives, hence the representative "Green IT". Green IT initiatives include [22]:

- *Virtualization & Consolidation*: Initiatives in this area include server virtualization and consolidation, storage consolidation and desktop virtualization for improving cost and energy efficiency through optimized use of existing and new computing and storage capacity, electricity, cooling, ventilation and real estate.
- *Energy Efficiency*: Initiatives in this area include improvements in the server room, IT energy measurement, printer consolidation, and PC power management. Such actions aim at energy efficiency and thus cost savings.
- *Travel Reduction*: Initiatives in this area include remote conferencing & collaboration and telecommuting for reducing travel costs.
- *Asset Disposal:* Recycling of e-waste. These wastes are most hazardous to people and the environment, since left exposed to sun and water, they release toxic gas.

Furthermore, companies are investing into the usage of alternative or renewable energy to address and reduce its operating energy consumption. Solar, wind, tidal, geothermal and biofuel energy are some examples. Solar energy deriving from sunlight is most commonly used, since it is the easiest of them all to harness, with solar energy gaining much popularity. They are operating Green Data Centers where, energy consumption is reduced through various initiatives, like virtualization, cloud and grid computing.

Virtualization is the process of abstracting various computing resources and consolidating them to a single physical network [14]. That is, it is the process of managing all the services and information in one virtual network, resulting in minimizing the natural resources used as well as the greenhouse gas emissions. Grid computing combines "computer resources from multiple administrative domains to reach common goal" [15].

Other software companies like Microsoft and Cisco, as well as the CERN research center are promoting this system, since the reduction of energy consumption during data processing is substantial. Another aspect where businesses try to implement green initiatives and improve their environmental performance is within the entire supply chain management, the so called green supply chain (GSC) initiatives. Supply chain management is the process of introducing raw materials into a business, converted in to final products and delivered to the end-consumer [4], with the involvement of the extraction and exploitation of the natural resources [8]. The addition of the green concept in the supply chain was introduced in the 1990s when manufacturers where pressured to address the Environmental Management in their operations. According to Porter and van der Linde [11] the basic reasons for implementing GSC can be resource saving, waste elimination and productivity improvement. Furthermore, three approaches in GSC where suggested; reactive, proactive and value seeking [12, 13]. In the reactive approach, organizations devote only minimum resources to environmental management and try to lower their environmental impact by implementing "end of pipeline" initiatives. In the proactive approach, organizations start to enact environmental laws and also commit resources in recycling and green design. In the value-seeking approach organizations incorporate activities like ISO implementation and green purchasing in their business strategy as initiatives.

Every year, Newsweek ranks the 500 largest US companies and the 500 largest global companies in terms of their green scores. Company size is evaluated according to revenue, market capitalization, and number of employees. The green score is derived from three component scores: Environmental Impact Score (EIS), Green Policies Score (GPS), and the Reputation Survey Score (RSS), weighted at 45, 45, and 10%, respectively. The companies' green scores are ranked on a scale from 100 (highest performing) to 1 (lowest performing) [3,23]. The rankings for the top 15 for 2011 are shown in Table 1.

Table 1 Top 15 green companies globally for 2011 [23].

Rank	Company	Country	Industry Sector	Green Score	Environmental Impact
1	Munich Re	Germany	Financials	83.6	87
2	IBM	United States	Information Technology & Services	82.5	78.8
3	National Australia Bank	Australia	Financials	82.2	80.6
4	Bradesco	Brazil	Financials	82.2	88.1
5	ANZ Banking Group	Australia	Financials	80.9	84.9
6	BT Group	United Kingdom	Telecommunications	80.4	76.2
7	Tata Consultancy Services	India	Information Technology & Services	79.1	73.3
8	Infosys	India	Information Technology & Services	77.3	75.3
9	Philips	The Netherlands	Capital Goods	77.2	59.7
10	Swisscom	Switzerland	Telecommunications	77	77
11	Societe Generale	France	Financials	76.6	74.4
12	Bell Canada Enterprises	Canada	Telecommunications	76.5	73.5
13	Fujitsu	Japan	Technology Equipment	76.1	67.5
14	Wal-Mart de Mexico	Mexico	Retailers	75.9	63.6
15	Hewlett-Packard	United States	Technology Equipment	75.8	66.7

3 Waste Management in Cyprus

Cyprus is the third largest island in the Mediterranean after Sicily and Sardinia with an area of 9,251 km^2, situated at the north-eastern end of the East Mediterranean basin. Its estimated population (estimated September 2009) is 796.8 thousands. The area of the Republic of Cyprus under government control has a market economy dominated by the service sector, which accounts for 78% of GDP. The Republic of Cyprus has *de juris sovereignity* over the whole island but de facto has no control over the northern part, as it is occupied by Turkey. As a result, the challenges faced by governmental and private organizations involved in ecological initiatives are even greater.

As a result of globalization and the accession of Cyprus to the European Union, on May 1, 2004, new conditions were created which dictate appropriate orientation of development of the Cyprus businesses. The Cyprus legislation on waste management and special management of packaging waste was prepared based on relevant European legislation and directives and

implemented in 2002. It is obligatory, by law, that every company which puts on the market packaged goods to collect back the packaging and recycle it. It was not, however, put in force till late 2009 with the formation of Green Dot. According to the EU Directives enforceable laws, regulations and directives to motivate organizations follow them have been placed. Thus, Green Dot was formed. Green Dot is a non-profit organization which undertakes to collect the packages from manufacturers. This is allowed by law and is called "collective system". The charge is based on packaging material and the quantity put on the market [2].

The majority of the industry in Cyprus follows the Green Dot collective system as it is the only Collective legal entity in Cyprus. It offers Companies, based on a fee, to settle their recovery and recycling obligations. The Green Dot Cyprus is a member of the big global family of collective management of packaging, the Packaging Recovery Organization, Europe (PRO-EUROPE) [21], which now houses under the umbrella of the 26 relevant organizations from Europe and America. Companies that are not a member of Green Dot may follow an independent system, still being subject to the same regulations.

Cyprus Strategic Plan for the management of waste led to the establishment of four regional centers for integrated management of solid waste as well as the restoration of existing uncontrolled landfills. The first regional centers, in Larnaca and Famagusta Districts became operational in 2010. Based on the report prepared by the Ministry of Agriculture, Natural Resources and Environment [1] for 2008 and delivered in August of 2010, the categories concerned are paper, plastic, metals, glass, wood, mixed and other with the total number of tones being collected reaching approximately 87,466. The "other" category reaches 4606 tones and we assumed that part of it is the e-waste collected for 2008.

4 Methodology

For data gathering, a quantitative methodology was employed based on a survey with 141 participating organizations within Cyprus. The target organizations came from the public, semi-public and private sectors on the island. The initial survey was carried out in December 2011.

The quantitative methodology is defined as the systematic investigation of social phenomena via statistical, mathematical and computational techniques in order to develop and employ mathematical models and hypotheses related to the phenomena at hand. The results of such a process, the data are in numerical form. In other words, during the quantitative research, questions

asked are narrow and specific and answers are retrieved in mathematical form and with the help of statistics the researcher hopes to derive results that can be applied to a larger population. Qualitative research on the other hand collects word answers through broad questions, in order to identify patterns for the specific participants.

The quantitative method was preferred, since the intention of this research was to establish a statistical relationship among the Cyprus businesses concerning ecological friendly initiatives. The project framework was based on data collected from 141 small and middle sized businesses from various sectors in Cyprus through an online questionnaire used in the form of a survey. The content of the questionnaire was created in such a way in order to identify the measure of awareness that businesses in Cyprus have of the impact that their activities have on the environment and how this concern is converted into action. It constituted of questions concerning company demographics, recycling habits and issues, certification, energy preservation, and environmental impact and policies.

The data were then analyzed with the help of SPSS in order to identify relationship between the data in the form of tables and graphs.

5 Results

In this section, the results of the research are presented giving emphasis on the opportunities for green initiatives and the responsiveness of the Cyprus businesses.

5.1 The Sample Structure

The number of organizations participating in the survey amounted in 141. As shown in Table 2, 12.8% are operating in the public sector, 27% in the semi-public sector and 60.2% in the private sector. Table 2 shows the specific business sectors in which the 141 companies are operating.

As shown in Figure 1, the companies surveyed are located in the major cities of Cyprus. 42.6% are located in the capital of the island, Nicosia, 19.1% in Larnaca, 17.7% in Limassol, 16.3% in Paphos and 4.3% in the Famagusta area.

Table 2 Sample structure.

		Sector		
	Percentage	Public	Semi-public	Private
Agriculture, forestry and fishing	5.7	1.4	1.4	1.8
Arts, sports and recreation	5.0	0.7	1.4	2.8
Catering and accommodation	7.1		0.7	6.4
Construction	7.1	0.7	3.5	2.8
Education	6.4	2.1	0.7	3.5
Health and social care services	4.3	0.7	2.1	1.4
IT and telecommunications services	12.1	2.1	2.1	7.8
Manufacturing	9.9	0.0	3.5	6.4
Media and creative services	9.9	0.7	2.8	6.4
Mining, energy and utilities	6.4	1.4	2.1	2.8
Personal services	10.6	0.0	0.0	10.6
Professional and business services	7.8	2.1	3.5	2.1
Retail, hire and repair	7.8	0.7	2.8	4.3
Total	100.0	12.8	27.0	60.2

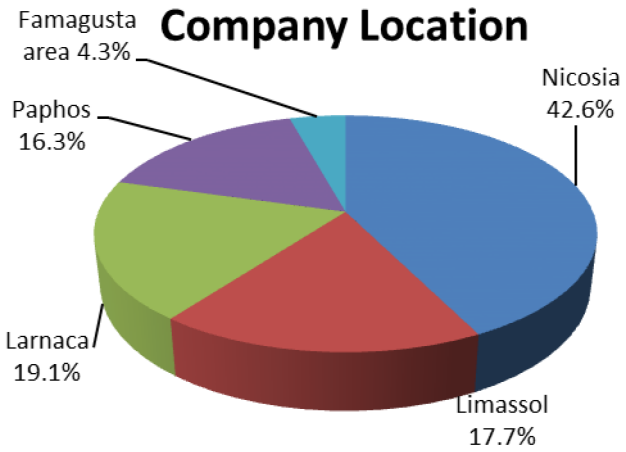


Figure 1 Company location.

5.2 Recycling Habits

Traditionally waste management focused on hauling wastes out of the city boundaries and dumping them in some remote area. This is in conformity with the "out of sight out of mind" philosophy, dated back to the 13th century [25]. However, with the ever increasing capacity of waste due to the expansion of urban centers, which implies not only increased collection, transportation and disposal costs, but also a negative impact on the en-

Table 3 Amount of recycling containers used and type of containers used.

Liter	Amount (in %)	Type of container (in %)
1100	1.4	7.8
660	2.8	19.1
360	11.3	24.8
240	42.6	24.1
Sacks	41.8	24.1
Total	100.0	100.0

Table 4 Frequency of collection of recycled waste and other waste.

Period	Recycled Waste (in %)	Other Waste (in %)
Weekly	52.2	98.6
Bi-weekly	34.1	1.4
Monthly	13.7	13.5

vironment. Recycling has become a sustainable approach to solid waste management and to an environmentally friendly attitude.

Our research regarding the recycling habits of the Cyprus businesses has shown that they have already started to adapt their behaviors and habits in order to be more environmentally and ecologically conscious with their actions. The majority of these businesses stated that their recycling waste does not exceed the 240 liters per collecting period. The 240-liter containers are considered to be the minimum in size of recycling waste. According to our survey, the other waste produced is mainly collected in 360–660 liters containers (see Table 3). The main reason for this big difference between recycle waste and other waste can be attributed to the frequency of collection of the waste by the proper authorities. Epigrammatically, we can mention that 52.2% of the companies that participated answered that recycled waste is collected weekly and 34.1% every two weeks, while on the other hand, 98.6% of the companies answered that other waste is collected weekly (see Table 4).

According to Figure 2, the majority of the recycling waste corresponds to office paper with 63%, tetra packs with 66%, plastic with 87.2% and tin cans with 39%. E-waste which is also considered to be harmful for the environment is only at 27.7%. From the data of this table we see that companies focus mostly on recycling paper and plastic. Although the volume of the paper and plastic recycled is high enough, it would be wise if companies could include in their recycling programs other materials widely used in offices,

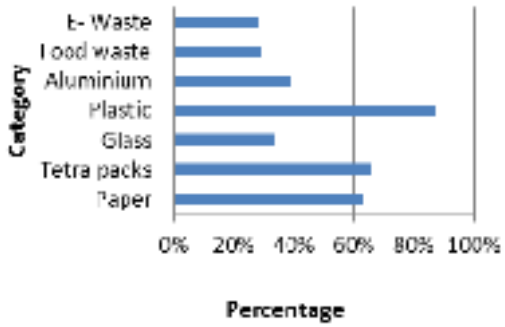


Figure 2 Recycled products.

Table 5 Green certification.

Certificate	Percentage
Elemental Chlorine Free Certification	3.5
Green Standard Certification Program	2.8
Lead Free Certification Scheme	0.7
GSCP recognizes Green Living Ideas	5.0
United Academy of Businesses, UK	3.5
Quality Leader Forum	2.8
ISO14000 Series Environmental Management Systems	71.6

like electronic waste, which could also save companies additional expenses on purchasing new electronics.

As shown in Figure 3, the majority of the businesses that participated in our survey have also stated that the main reason for not recycling more is the inefficiency of the collection services to respond to the companies' recycling volume. Also many companies stated that they do not have the efficient time or budget to recycle more.

5.3 Certification

As shown in Table 5, the most common Green Initiative Certificate with 71% among the companies is the ISO 14000 Series Environmental Management Series. 90%, however, stated they do own some kind of green certificate, but only 27% use this information in their marketing campaign. Table 6 presents the barriers for green certification, the main reason being the acquisition costs.

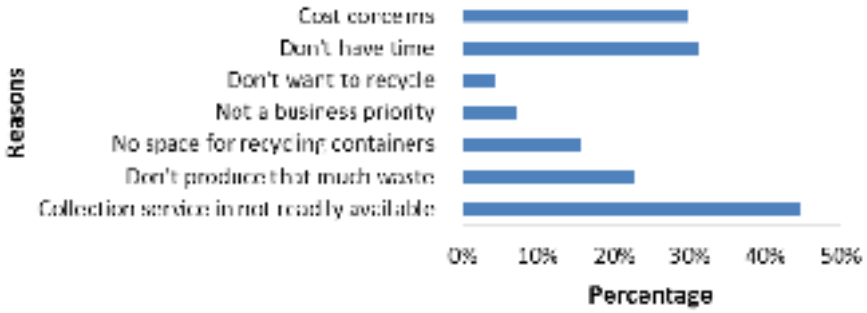


Figure 3 Reasons for not recycling.

Table 6 Reasons for not owning a green certificate.

Reason	Percentage
Cost of acquisition	10.6
No knowledge of such certifications	2.1
No real benefit	7.1
Not required by legislation	4.3
Other	4.3

5.4 Energy Preservation and Efficiency

As far as proper heating and cooling insulation installed in the business facilities, 35.5% of the companies reserve 5–10% of energy, while 18.4% have no energy saving insulation installed in their buildings (see Figure 4).

The most common product that derives from recycling waste and companies use are mostly office supplies, like toilet and office paper, refillable pens, one-use plastic cups and others. Also environmental friendly products, like non-toxic cleaning supplies are commonly used in companies, while the percentage of companies that do not use any kind of energy efficient products are close to 20%. The table that follows shows in detail the percentage of each energy efficient product is used.

The main barriers that prevent companies from using energy efficient products are the cost of acquiring them and the lack of quality. The reason for the high cost of those products is that since in Cyprus there are no recycling factories to process recycling materials and produce energy efficient products, the cost of importing these products is high and most of the companies cannot afford these expenses and resolve to non-recycled products (see Table 8).

Although that 95% of the companies are concerned with the impact of their business activities on the environment, 54.6% do not have an efficient

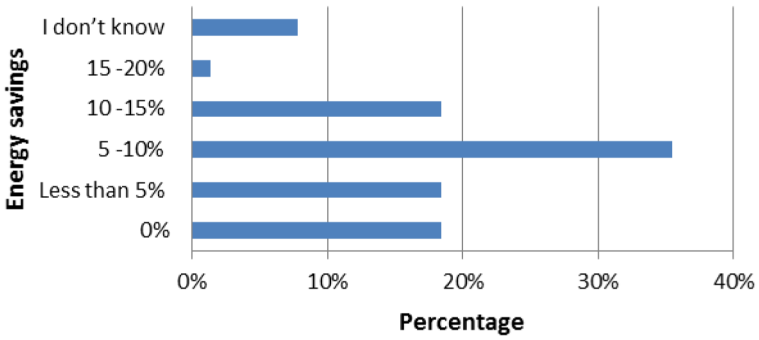


Figure 4 Energy savings due to building insulation.

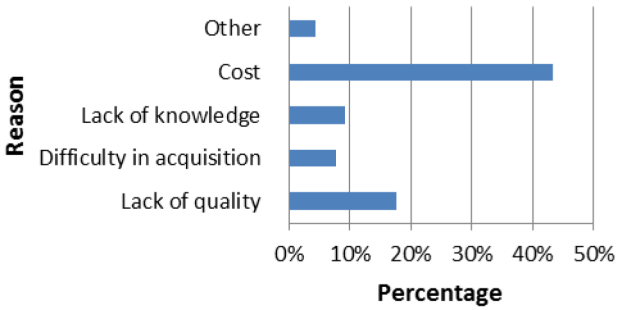


Figure 5 Reasons for not using efficient products.

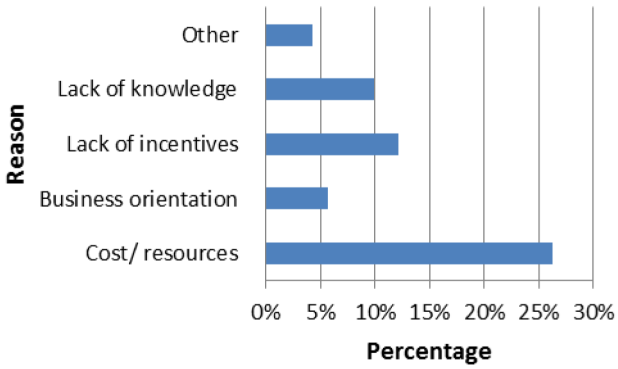


Figure 6 Barriers to adopting efficient environmental policies.

Table 7 Energy efficient products used by companies.

Type	Percentage
Office supplies	54.6
Alternative energy sources	37.6
Vehicle fuels	16.3
Environmental friendly products	39.7
None of the above	20.6
Other	2.1

Table 8 Reasons for not using re-cycled products.

Reason	Percentage
Lack of quality	17.7
Difficulty in acquisition	7.8
Lack of knowledge	9.2
Cost	43.3
Other	4.3

environmental policy. In other words, as humans everyone is aware of the grave impact that our activities have on the environment, but as businessmen we prioritize the profit of our company by any means necessary. That is why the main reason that companies do not adopt an efficient environmental policy is the cost and lack of resources and as result, 79% of the companies are not involved in any kind of community green initiative while the rest 21% did not answer this question.

6 Discussion

The above results show that businesses in Cyprus are concerned with the impact their business operations have on the environment and each of these companies in their own way tries to reduce their waste by recycling. Organizations are attempting to reform their behaviors and habits in order to become more environmentally conscious with their actions, mainly through recycling. Although they are trying to convert their environmental concern to action, they face a number of difficulties towards achieving their goal, mostly due to the inability of the waste recycling companies to meet their recycling volumes, and the investment required for green initiatives.

The first accredited step in the business environment is acquiring a Green Certificate that their products and services are environmentally friendly. Although the majority of the companies own some kind of Green Certificate, only few of them use it as a marketing tool. Since public concern about

the environment over the last few years has increased and people in Cyprus have started recycling in their homes, companies should consider using their certificates in their marketing campaigns in order to attract more environmental concerned customers. As far as energy efficiency in terms of cooling and heating business buildings, Cyprus companies do not have the efficient infrastructure to support such installations. To encourage improvements in this sector, it is recommended that that the public authorities should impose environmentally friendly regulations to any new buildings and facilities built.

These facts strengthen the need for more decisive actions. Companies that are in charge of collecting recycled waste should collect them more often, especially from big companies with high volume. In this way, by increasing the volume of recycled waste, it would be financially wise to develop factories that can collect recycled waste and provide companies with energy efficient products, thus reducing the costs of exporting and importing recycled products. In addition, external pressures, such as European regulations on e-waste and on the use of certain hazardous substances, have been driving firms and governments to initiate various ecological actions. It is important that such initiatives must compete against other prospective projects in an organization (marketing campaigns, production capacity expansion, quality improvement, etc.). On the other hand, public pressure, legislation, possible cost reduction and improved company image may be sufficient motivation to improve environmental performance [6]. In addition, economic support (i.e. in the form of tax waives) could further promote ecological friendly actions. Public awareness of environmental protection is improving continuously. The Government and Green Dot have released campaigns to promote this problem to people.

The findings suggest, despite the potential profitability and the existing legislative requirements, that there are no integrated decision frameworks to advise decision-makers about the economic viability of green initiatives.

7 Conclusion

Organizations worldwide apprehend that addressing environmental issues and concerns can influence their well-being and their profits. They are discovering that green initiatives offer costs savings benefits while restructuring the organization, meeting stakeholder demands and complying with laws and regulations. The adoption of green initiatives is an opportunity for an affirmative effect on the environment, but at the same time use resources more efficiently. Furthermore, many governments are introducing antagonistic eco-

friendly policies, encompassing everything from greenhouse gas reduction and natural resource protection to clean power initiatives and incentives for energy efficiency. This paper examines the responsiveness of Cypriot businesses in the global call for ecologically friendly initiatives along with their impact on their performance, and on their business strategy. The findings show that companies in Cyprus are pursuing various environmental initiatives involving mainly their recycling habits and issues, certification and energy preservation. However, systemic changes are required to have a larger ripple effect throughout all of society in order to place Cyprus to the global green initiative map. Future work will focus specifically on Green IT initiatives for transforming organizations while complying with laws and regulations.

References

[1] Department of Environment, Ministry of Agriculture, Natural Resources and Environment. Appropriate Description of the data used according to the Article 1 of Commission Decision 2005/270/EC on packaging waste. Delivery date 9 August 2010.

[2] ECO-Logic. A Report on the Implementation of Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE). Institute for European Environmental Policy, April 2009.

[3] P. Bansal and K. Roth. Why companies go green: A model of ecological responsiveness. *The Academy of Management Journal*, 43(4):717–736, 2000.

[4] B. Beamon. Designing the green supply chain. *Logistics Information Management*, 12(4):332-342, 1999.

[5] C.J. Corbett and R.D. Klassen. Extending the horizons: Environmental excellence as key to improving operations. *Manufacturing and Service Operations Management*, 8(1):5–22, 2006.

[6] J. Hall. Environmental supply chain dynamics. *Journal of Cleaner Production*, 8(6):455-471, 2000.

[7] M.L. Walser. Reducing carbon footprint. *International Journal of Enterprise Computing and Business Systems*, 1(2), 2011.

[8] S. Srivastava. Green supply-chain management: A state-of-the-art literature review. *International Journal of Management Reviews*, 9(1):53-80, 2007.

[9] Jamal Fortes. Green supply chain management: A literature review. *Otago Management Graduate Review*, 7, 2009.

[10] B. Nunes and D. Bennett. Green operations initiatives in the automotive industry: An environmental reports analysis and benchmarking study. *Benchmarking: An International Journal*, 17(3):396–420, 2010.

[11] M.E. Porter and C. van der Linde. Green and competitive. *Harvard Business Review*, 73:120–134, 1995.

[12] R.J. Kopicki, L. Legg, L.M.J. Berg, V. Dasappa, and C. Maggioni (Eds.). *Reuse and Recycling: Reverse Logistics Opportunities*. Council of Logistics Management, Oak Brook, IL, 1993.

[13] R.I. van Hoek. From reversed logistics to green supply chain. *Supply Chain Management*, 129–135, 1999.
[14] http://searchnetworking.techtarget.com/generic/0,295582,sid7_gci1310084,00.html.
[15] V. Berstis. Fundamentals of grid computing. From http://www.redbooks.ibm.com/abstracts/sg246778.html?Open. Accessed February 2012.
[16] World Centric, http://www.worldcentric.org/conscious-living/environmental-destruction. Accessed January 2012.
[17] The Green Initiative, http://www.chinatownconnection.com/green-collar-jobs.htm. Accessed January 2012.
[18] Go Green Initiative, http://www.gogreeninitiative.org/. Accessed January 2012.
[19] Green Waste http://www.greenwaste.com/recycling-stats). Accessed January 2012.
[20] http://www.phrases.org.uk/meanings/274400.html. Accessed February 2012.
[21] www.pro-e.org. Accessed November 2010.
[22] http://www-03.ibm.com/press/attachments/GreenIT-final-Mar.4.pdf. Accessed February 2012.
[23] http://www.thedailybeast.com/newsweek/features/green-rankings/2011/international.html.

Biographies

Soulla Louca received her Ph.D. in Computer Science in 1994 from the Illinois Institute of Technology in Chicago. Prior to that, she received a B.A in Computer Science and Mathematics and a M.Sc. in Computer Science from Kalamazoo College and Western Michigan University respectively. She has participated and coordinated numerous projects including National Science Foundation (NSF-USA), Research Promotion Foundation (RPF-Cyprus) and European; has served as a reviewer for various international conferences/journals as well as an ICT expert for the European Commission. Her research interests include socio-economic aspects of Green ICT, e-learning, social integration and digital divide, and e-business Since June 2008, she has been the Chair of the Domain Committee for Information Communication Technologies for the European program COST (Co-operation for Science and Technology, www.cost.eu). Dr. Louca is an Associate Professor at the University of Nicosia in the Department of Management and Management Information Systems.

Kyriakos Matsikaris is a senior student at the University of Nicosia pursuing a Bachelor degree in Management Information Systems. Upon graduation, he plans to follow a career in Management and Human Resources.

Iacovos Stavrides is a senior student at the University of Nicosia pursuing a Bachelor degree in Management Information Systems. Upon graduation, he plans to continue his studies for a Master's degree.