

Green Practices of Airline Passenger Handling in Selected Low Cost Carriers in the Philippines

Arthur B. Digman II

Lyceum of the Philippines University, Cavite, Philippines

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apjarba@lpubatangas.edu.ph

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Abstract - *The main purpose of this study is to look into the green practices related to the areas of energy conservation, waste recycling, and waste segregation which are implemented by the selected low-cost carriers and the challenges faced and opportunities in advancement in its adoption. It also looked into the relationship of demographic profile of the participants as opposed to the extent of implementation of green practices. Descriptive method was used in the study. The first phase of the study is to identify the variables included in the study then the second phase is the collection of data from the participants through survey questionnaire. A total of 338 participants were asked to answer the survey. The third phase is the analysis of data to determine the green practices implemented by the selected LCCs and their extent of implementation as well as the challenges they faced and the opportunities in stored for them in their pursuit towards going green. The results show that the LCCs green practices are moderately practice by most of the airline companies participated. There were no consistency in terms of its implementation. It also showed that there were no concrete evidence of promoting green practices on their day-to-day activities. The conclusion points to all of the participants who agreed in saying that the implementation of green practices entails challenges to the organization be it in cost, implementation, productivity and efficiency; likewise in terms of the opportunities in store for these airlines in pursuit of becoming a green airline. It recommended several strategies and development of ideas to the airline ground crew, managers, airline industry, and government and future researchers.*

Keywords: *Green Practices, Energy conservation, Waste recycling, Waste segregation, challenges, opportunities, Low Cost Carriers*

INTRODUCTION

Philippine Airlines has been considered as the first commercial airline in Asia, and still evolving to continue the legacy it has started in the improvement of the air transportation in the country. Together with the trends in the airline industry, emerged the low-cost carriers that also help sustain the needs of every Filipino to travel efficiently. Cebu Pacific was considered as the second largest air carrier now in the country extending and strongly competing to the latter pioneered airline, together with other airlines like Air Asia. In this research, we will be able to evaluate their contribution not only in the economy of the country but also their operations' impact on our environment.

During the course of the 20th century, air transportation has become one of the world's most influential industries. Aviation is a major direct and indirect employer – it facilitates the expansion of world trade and provides opportunities for travel and tourism.

In the past forty years the volume of air travel has expanded tenfold and air freight has grown by a factor of fourteen. The world's economies have grown three to four times over the same period. Air transport has been one of the one of the world's fastest growing economic sectors [1].

The global airline industry continues to grow rapidly, but consistent and robust profitability is elusive [1]. Much of the growth has been driven by low-cost carriers, which now control some twenty-five percent of the worldwide market and which have been expanding rapidly in emerging markets; growth also came from continued gains by carriers in developed markets.

According to Tourism Towards 2030 [2], that the number of international tourist arrivals worldwide is expected to increase by an average of 3.3 percent a year over a period of 2010 to 2030. Over time the rate of growth will gradually slow down from 3.8 percent in 2011 to 2.5 percent in 2030, but on top of growing base

numbers. In absolute numbers, international tourist arrivals will increase by some 43 million a year, compared to an average increase of 28 million a year during the period 1995 to 2010. At the projected pace of growth, international tourist arrivals worldwide will exceed 1 billion by the year 2030. International tourist arrivals in emerging economy destinations of Asia, Latin America, Central and Eastern Europe, Eastern Mediterranean Europe, the Middle East and the Africa will grow at double the pace (+4.4% a year) of advanced economy destinations (+2.2% a year). As a result, arrivals to emerging economies are expected to surpass those advanced economies by 2015. In 2030, 57% of international arrivals will be in emerging economy destinations (versus 30% in 1980) and 43% in advanced economy destinations (versus 70% in 1980). By regions, the biggest growth will be seen in Asia and the Pacific, where arrivals are forecast to increase by 331 million to reach 535 million in 2030 (+4.9% per year). The Middle East and Africa are also expected to more than double their arrivals in their period, from 61 million to 149 million and from 50 million to 134 million respectively. Europe (from 475 million to 744 million) and the America (from 150 million to 248 million) to grow comparatively less.

UNWTO, 2012, Air transport will continue to increase its market share, but at a much slower pace. Over the past three decades travel by air has outgrown travel over the surface (road, rail, water) by a considerable margin, respectively at a rate of 5.2% a year versus 3.4% a year. Over the past three decades travel by air has outgrown travel over the surface, compared to 38% in 1980. Air transport is expected to continue to grow at a slightly faster pace of 3.4% a year, versus 3.2% a year for transport over the surface. By 2030, 52% of international arrivals are expected to arrive by air versus 48% over the surface.

Global warming and climate change are the implications of the environmental deterioration made by humans. The impact of different industries play a major role on the ever changing condition of our environment. The transportation industry especially the emergence of engines that powered vehicles to move people, goods and services are the major contributors of air, noise pollution and waste materials. In today's world, air transportation is known as the most efficient and fastest way to bring the world together. As such, they contribute to the prosperity of the local communities they serve and create opportunities for employment, business, commerce, trade and tourism, as well as development of cross cultural understanding [3]. This increase in demand has necessitated a

significant expansion in aviation infrastructure, making both the direct and indirect environmental impacts.

While the concept of sustainability is increasingly discredited as a useful concept by itself, it appears to be serving some purpose when preceded by a delineating modifier like "ecological" or "agricultural" or "economic". Efforts have been made by members of various professions to give meaning to the term within the context of those respective professions. Callicott and Mumford, for example, develop the meaning of the term "ecological sustainability" as a useful concept for conservation biologists. Whether one considers sustainability to exist as a three-legged table consisting of the environment, the economy, and society, or as dualistic relationship between human beings and the ecosystem they inhabit, there should at least be agreement that ensuring the provision of clean air, clean water, and clean and productive land is foundational to a responsible socioeconomic system [4].

Environmental sustainability deals with factors and practices that affect the environment. The ability of the ecosystem to maintain ecological processes, biodiversity and productivity into the future depends on attitudes and actions of the very people who benefit from it. This demands responsibility (from airports and airlines) in the proper use of natural resources through investing in alternatives, the application of latest technologies in order to keep harmful emissions at a minimum, and the proper disposal of waste products in order to keep them from devastating nature [5].

The concept of sustainable development is complex and multi-faceted: it may be interpreted in many ways – and this can lead to problems when trying to assess whether or not specific human activities contribute to the promotion of sustainable development.

Yet, for all the slipperiness of the concept, sustainable development involves certain core principles: balancing the economic, social and environmental benefits and costs of activities; protecting the natural resource base upon which human (and other species') survival depends; ensuring intergenerational and intergenerational equity, including a strong commitment to poverty reduction; and seeking more participatory and just forms of government and governance. One way of assessing the relationship between air transport and sustainable development is to ask to what extent the operation of the air transport industry is aligned with those core principles [6].

Various companies in the service sector have adopted targeted environmental programs to do

something physically to protect the planet. The hospitality industry is also taking various initiatives whether for the sake of the environment, for economic reasons, or to build a positive image. Some have gone one step further and adopted voluntary self-regulatory initiatives such as the International Environmental Management System standards or the International Organization for Standardization (ISO) 14001 in order to develop systematic approaches to improve environmental performance [7].

Green Management Practices (GMP) also referred to as Environmental Management System (EMS), corporate environmentalism, and/or environmental practices/initiatives, focuses on identifying best practices that simultaneously reduce the negative impacts of the firm's activities on the natural environment and contribute to better firm performance. It consists of operational processes and collection of internal efforts at business planning and implementation [8]. Darnall and Edwards [9] cited five step approach to illustrate GMP adoption. The steps are: 1) securing pledge for responsible environmental management, 2) evaluation of the business operations and goal setting, 3) creation of a management structure and linkage with business partners to realize its environmental goals, 4) monitoring and taking corrective actions, 5) management review to provide critical assessments, new environmental concerns, and recommendations.

GMP has been studied and associated with firm performance specifically on the context of economic performance and environmental performance. In the study of Lun [8], she concluded that GMP adoption seems to have a win-win relationship in terms of economic and environmental performances.

Organizations are also pressured to do things other than being profitable. Organizations are also expected to conduct environmental efforts or initiatives as part of their Corporate Social Responsibility (CSR). Abut [7] cited in his study that according to Carroll [10], Corporate Social Responsibility is the economic, legal, ethical, and philanthropic responsibility of companies. CSR means going beyond obeying the law. Thus, a company that avoids discriminating against women and minorities is not engaging in a socially responsible act; it is merely abiding by the law [11].

METHODS

This chapter describes how the present study was conducted. This includes the research design used, the participants of the study who are the main source of data, the locale of the study where the survey was

conducted, data gathering procedure and the statistical treatment of the data.

Research Design

The descriptive research design was utilized to assess the Green management practices implementation to low-cost carriers in the Philippines and the challenges imposed and the opportunities brought in its adoption.

The descriptive research design according to Thirumal Azagan [12], it is also known as statistical research where it describes characteristics about the population or phenomenon being studied. It is a fact finding method with adequate interpretations. It is conducted to assess performance, outcome or impact of a set of variables on another set of variables. This design usually considers an adequate time span to pinpoint the effects accurately. The descriptive survey method focuses on the present and existing conditions. It deals with the opinions, perceptions, and attitudes of a chosen population. According to Calderon and Gonzales [13] a descriptive research works as a fact finding study with adequate and accurate interpretation of the findings. This is the most appropriate method for investigation for it describes the emphasis on what actually exist such as current condition, practices, situations, and phenomena.

Sources of Data or Participants of the Study

The data of this study were obtained from the primary and secondary data. Primary data included the information gathered through the respondents through the use of questionnaire. The proponent's subjects were the 338 employees (ground crews, managers and landside operations) of selected Low-cost carriers in the Philippines. The secondary data was obtained from books, websites, and manuals.

The survey method of descriptive research design was used through a set of survey participants. This set of respondents comprises the employees who were working in the ground operations (check-in counters, boarding gates, landside operations) manpower covering the research time timetable which is from August to October 2016.

Sampling Technique

The researcher used total enumeration with 96.57% or 338 respondents out of 350 of data retrieval, hence, no sampling technique was employed. Airline A got 94.34% of a data retrieval, while the other airlines B and C got 100% of data retrieval.

Total enumeration of the sources/participants is usually the sample technique used if the entire population is the required participants of the study. If only a portion or a representative parcel of the population is needed, the researchers may choose either probability or non-probability sampling methods.

Data Gathering Procedure

A survey questionnaire was developed to ensure the relevance of the tool to the study. Validity and reliability was ensured through pre-testing of the instrument. The research questionnaire was presented to the experts, panelists, adviser, and statistician for validation and reliability. External validity and reliability tests were also conducted as recommended by the statistician. The results of the tests were analyzed to ascertain the validity and reliability of the instrument. Based on the results, the instrument obtained a very high level of internal consistency with Cronbach Alpha value of 0.972 and 0.960, respectively. A letter of intent to conduct a survey addressed to the Airline managers was sent to the selected participating LCCs (PAL Express, Cebu Pacific, and Air Asia). Upon approval, the researcher went to the airline offices/airport to facilitate data gathering. After retrieving all the accomplished questionnaires were employed.

Research Instrument

Data gathering in the form of questionnaire was conducted in order to attain the objectives of the study. This questionnaire included the basic information about the profile of the employees, their name, age, gender, position, and the length of service to the company. The questionnaire also included their perception about Green Management practices of the LCCs, challenges and opportunities.

The questionnaire was used and given to the employees who were employed in the LCC until September 2016. It served as the main instrument in gathering the data needed.

The objective of the study was used in formulating the instrument. With this outline, the items in the questions were constructed and validated. To determine the validity of the instrument, the researcher identified problems necessary to conceptualize the objective.

Specifically, the questionnaire consists of three parts. Part I includes the respondent's personal data-name (optional), age, gender, position, function, and tenure.

Part II includes the different green management practices of the Low-cost Carriers and an assessment on the extent of its implementation. Part III is the assessment on the challenges faced by the airlines in the implementation of Green management practices as well as the opportunities in stored for them in the adoption of green practices. The evaluation was answerable by checking the items that corresponds to their answers. The researcher provided a list of possible answers where participants can choose from.

The research questionnaire was tested and validated by the panelists and an industry expert.

Data Analysis

To analyze the data pertaining to the profile of the participants, the percentage frequency distribution method was used. In identifying the green management practices being observed in the stores and the extent of its implementation, the weighted mean was used. The following 5 point scale method was used to measure the extent of green practices of the participating low-cost carriers.

Value	Range	Interpretation
5	4.20-5.00	Always Practiced
4	3.40-4.19	Modreately Practiced
3	2.60-3.39	Slightly Practiced
2	1.80-2.59	Never Practiced
1	1.00-1.79	Not Applicable

On the other hand, responses of the participants on the challenges and opportunities was also analyzed by using the following 5 point scale method.

Value	Range	Interpretation
5	4.20-5.00	Strongly Agree
4	3.40-4.19	Agree
3	2.60-3.39	Neutral
2	1.80-2.59	Disagree
1	1.00-1.79	Strongly Disagree

Statistical Treatment

To determine the different green practices of selected Low-cost Carriers in the Philippines and the extent of its implementation, the weighted mean was used. This was regarded as the best measure of central tendency. It shows the point on the scale where the scores tend to pool themselves. It is the value which best represents the whole distribution.

In order to know the challenges that the LCCs faced in the implementation of green practices in terms of cost, implementation, efficiency and productivity as well as the opportunities in stored for them in green practices adoption, the percentage frequency

distribution method was used. Frequency distribution was obtained from the participant's response to the questionnaire and was analyzed by getting the percentage. A percentage frequency distribution is a display of data that specifies the percentage of observations that exist for each data point or grouping of data points. It is a particularly useful method of expressing the relative frequency of survey responses and other data mentioned in the study of Vergara [14].

To test the relationship between the profile of the participants and the extent of the green practices implementation the researcher used the chi-square method.

RESULTS AND DISCUSSIONS

The respondents of the study were employees of Airline Passenger Handling of selected Low Cost Carriers in the Philippines. The profile of the respondents that was analyzed in the study includes age, gender, position, and length of service.

Table 1. below shows that the majority of the participants (63.3%) belongs to 21 to 25 years old age bracket. Sixty two out of three hundred thirty eight belongs to 20 and below of age bracket (18.3%). Forty five out of three hundred thirty eight belongs to 26 to 30 years old age bracket (13.3%) and only seventeen of them belongs to 31 to 35 age bracket or is equivalent to 5.0% of the total sample.

Table 1. Demographic Profile of the Employees Based on Age

Age	Frequency	Percentage
20 and below	62	18.3
21 to 25 years old	214	63.3
26 to 30 years old	45	13.3
Above 31 years old	17	5.0
Total	338	100.0

From the survey made by the Philippine Statistics Authority last July 2016, the total unemployed group was from the age bracket of 15 to 24 years of age that comprised

48.2 percent, while the age group 25 to 34, 28.2 percent. It means the fact that labor force of the Philippines is being dominated by workers who are of ages of 25 to 34. The employment rate in July 2016 was estimated at 94.6 percent. Four regions, namely, CALABARZON (92.4%), National Capital Region (NCR) (93.5%), Central Luzon (93.8%), and Northern Mindanao (93.9%) had the lowest employment rates. The Labor force participation rate (LPFR) in July 2016 was estimated at 63.3 percent. The Labor force

population consists of the employed and the unemployed 15 years old and over.

According to IATA [1], Aviation's ground-based infrastructure employs 33,000 people and supports through its supply chain a further 19,000 jobs. These indirectly supported jobs include, for instance, construction workers building or maintaining facilities at airports. A further 21,000 jobs are supported by the spending of those employed by the aviation industry's ground-based infrastructure and supply chain.

The ground-based infrastructure directly contributes PHP 9.6 billion to the Philippine economy (GDP). It contributes indirectly another PHP 4.5 billion through the output it supports down its supply chain. A further PHP 4.8 billion comes through the spending of those who work in ground-based facilities and its supply chain.

Table 2. Demographic Profile Based on Sex

Sex	Frequency	Percentage
Male	122	36.1
Female	216	63.9
Total	338	100.0

Table 2. indicates that one hundred twenty two out of the three hundred thirty eight participants are male (36.1%). Two hundred sixteen are females or 63.9%.

According to the study made by Steer Davies Gleave [15], on employment trend in the air transportation made in Europe that for both genders, proportions remains approximately level prior to 2010, with men representing 58% of total persons employed and women 42%. However in 2010 the percentage of total male persons employed decreased to 55%, which may reflect the fact that the staff reductions associated with economic downturn adversely affected male staff. The share has rebounded, and in 2013 the percentage of total male persons employed in passenger air transport is slightly higher than the overall economy, and lower (by 15-20 percentage points) than that for the transportation and storage sector.

Some service industries are traditionally dominated by either male or female frontline service staff. For example, flight attendants today are still predominantly female, a legacy from the 1930s when nurses replaced young boys in the job. Women were considered to be able to best care for customers and promote a female presence to increase the perceived safety of flying [16].

On the exploratory study made by Di Mascio [17], showed that the interpretation of good customer service is influenced by the gender of the frontline service employees. The service models of women and men

show obvious differences. For female service staff, the quality of interaction and service processes are the core of good customer service, while their male counterparts are more outcome focused and consider customer service mainly as efficient problem solving.

Table 3. Demographic Profile Based on Number of participants per airline

Airline	Frequency	Percentage
A	200	59.2
B	78	23.1
C	60	17.8
Total	338	100.0

More than half of the participants worked in Airline A (59%). In Airline B, 78 out of 338 served as respondents while 60 from Airline C. This also shows that airline A has the highest number of employees compared to the two other airlines.

Table 4. Demographic Profile Based on Position

Sex	Frequency	Percentage
Ground Crews/Admin staffs	314	92.9
Airline Ground Managers	24	7.1
Total	338	100.0

Table 4. below shows that majority of the participants were crew while only 24 out of 338 were managers. Using the data presented, it can be concluded that the ratio of manager to crew is 1:13.

According to Law [18], an airport is a designated location where aircraft take off and land. Airports are one of the most important parts of the air transport system today. The study focuses only with the green practices of the landside area of the airport. The landside area as defined by Doerflein [18], starts at the entrance to the airport and ends at security and immigration (international airports). It is connected to ground transport access and egress. The landside area consists of check-in counters or kiosks, baggage drop-offs, restaurants, and shops. The arrival hall located at the landside area consists of baggage claim, greeting areas, tourist information counters, and car rental companies.

The employees of the landside or ground operations need not to be graduate of a four year course, since the airline will be providing various trainings such as visa reading, profiling of passengers, validating documents and departure control system that is being used in the check-in counters. Employees who will be doing the boarding procedure will also be receiving trainings on how to use boarding card readers and paging systems. The number of managers per airline operations ranges

from four to sixteen for the entire shift per airline depending on the volume of flights an airline serves. Their task is more on the administration and management. They are the one who ensures that flights will be handled according to the set standards of the airline. One of their main functions is to oversee the on time performance of each and every flights they are handling with at par consideration of safety and security of the passengers and the airline alike, based on the international and national set standards as per CAAP, IATA [1] and ICAO [19] regulations.

Table 5. According to Length of Service

Length of Service	Frequency	Percentage
6 months – 1 year	128	37.9
More than 1 year – 2 years	120	35.5
More than 2 year – 3 years	27	8.0
More than 3 years – 4 years	29	8.6
More than 4 years – 5 years	10	3.0
Above 5 years	24	7.1
Total	338	100.0

The distribution of respondents according to their length of services was summarized on Table 5. It can be concluded that most of the employees have less than 2 years of experience. The results coincides to the ages of the respondents since majority of them belongs to ages between 21 to 25 years old.

According to the airline managers, the ground handling operations staffs is being subjected on a contractual basis (one month to five months). This is with the accordance of the Presidential Decree No. 442 or the Labor Code of the Philippines states that the probationary employment shall not exceed (6) months from the date the employee started working, unless it is covered by an apprenticeship agreement stipulating a longer period. The services of an employee who has been engaged on a probationary basis may be terminated for a just cause or when he fails to qualify as a regular employee in accordance with reasonable standards made known by the employer to the employee at the time of his engagement. An employee who is allowed to work after a probationary period shall be considered a regular employee.

One hundred twenty participants or 35.5% has been employed more than a year to two years. Participants who have been to the airline operations for more than two years to three years comprise of twenty-seven participants or 8.0. While twenty-nine or 8.6% has been in the company for more than three to four years. Ten or 3.0 of the respondents has been in the service for more than four years to five years. Twenty-four out of three hundred thirty eight worked above 5 years in the

company. Stated in the study of Vergara [14], contracting and sub-contracting arrangements are commonplace in most business transactions. Instead of hiring their own messengers, janitors and security guards, among others, entrepreneurs have learned the value of outsourcing these services to contractors. Truth be told, contracting out these jobs is actually more cost-efficient in terms of time and money for the usual businessman. However, contracting arrangements are regulated by Philippine labor laws to ensure that these arrangements do not result in the exploitation of contractual employees.

Table 6. shows that majority of the participants are moderately implementing green practices in terms of energy conservation. Switching off computers when not in use topped the green practice with a mean of 3.12 while the lowest is 2.25 which is the installation of solar panels as an alternative source of energy.

Energy costs are one of the most easily managed in the workplace and often have the greatest potential load for reduction.

Table 6. Green Practices in the Passenger Handling Department in Terms of Energy Conservation - Reduce

Energy Conservation – Reduce	Mean	SD	Remark
1. Replacement of LED light from the traditional lighting system	2.60	.952	Moderately Practiced
2. Use natural light whenever possible.	2.95	.917	Moderately Practiced
3. Installation of solar panels as an alternative source of energy.	2.25	1.078	Moderately Practiced
4. Computers are switched off when not in use	3.12	.868	Moderately Practiced
5. Natural ventilation are being used whenever possible.	2.74	1.088	Moderately Practiced
6. Offices lights are switched off during the lunchbreak (1200-1300).	2.34	1.073	Moderately Practiced
Overall Mean	2.6677	.72370	Moderately Practiced

Last 2014, Civil Aviation Authority of the Philippines has revealed plans to start implementing

plans in Mindanao that will push for the agency's green airport projects. As per CAAP they have already piloted the project in Butuan City and one in Siargao. [20]. That is why it clearly shows why installation of solar panels as an alternative source of energy got the lowest mean.

The frequency of practice in terms of waste management-recycling is summarized on Table 7. below. Results showed that all the stated conditions were moderately practiced by the participants (2.83). Highest mean (3.08) was given for the waste paper, newspaper, glass/plastic bottles and cans. Lowest mean rating is for recycling printer toner cartridges (2.71). This is due to the fact that only some of the participants were inclined into printing works in the airlines

Table 7. Green Practices in the Passenger Handling Department in Terms of Waste Management - Segregation

Waste Management – Segregation	Mean	SD	Remark
1. Wastes that can be recycled are segregated.	3.23	.771	Moderately Practiced
2. Segregation of solid waste into the following categories: “compostable”, “residual”, “recyclable” or “special waste (such as health care waste, toxic & hazardous waste, bulky waste or white goods)”, including or as seen fit by the establishment is implemented.	3.20	.800	Moderately Practiced
Overall Mean	3.2160	.70969	Moderately Practiced

The frequency of practice in terms of waste management-recycling is summarized on Table 8. Below. Results showed that all the stated conditions were moderately practiced by the participants. This shows that the passenger handling department of selected low-cost carriers in the Philippines are not consistent in implementing environmental procedures in their operations. Highest mean (3.08) was given for

the waste paper, newspaper, glass/plastic bottles and cans are collected, separated, recycled, and sold. Lowest mean rating is for recycling printer toner cartridges (2.71). This is due to the fact that only some of the participants were inclined into printing works in the airlines.

Table 8. Green Practices in the Passenger Handling Department in Terms of Waste Management - Recycling

Waste Management – Recycling	Mean	SD	Remark
1. Waste paper, newspaper, glass/plastic bottles, and cans are collected, separated, recycled, and sold.	3.08	.817	Moderately Practiced
2. Used printer toner cartridges are recycled.	2.71	.870	Moderately Practiced
3. Electric signages are being utilized.	2.76	.828	Moderately Practiced
4. Suppliers are encouraged to use non-toxic materials.	2.79	.715	Moderately Practiced
Overall Mean	2.84	.62533	Moderately Practiced

For the millions of passengers who travel by air, airports are simply places where they get a boarding pass, go through security, grab a drink or a meal, queue and board the plane, and then take off down the runway. Even those who work at an airport may not see the full scope of activity buzzing around the complex facility. Each airport activity has its own set of actors, resource requirements and waste stream. Any plan to implement a recycling program at an airport must consider all of the activities and waste streams at the facility, even if the program is phased in gradually one or two activities at a time. The major activities should be analyzed in the context of their location, the context of what tasks are being performed, and what wastes are being generated [21].

The terminal is the heart of an airport complex and normally has the biggest concentration of people, which can translate into the biggest concentration of waste. The terminal houses not only the ticket counters and gates, but also restaurants, shops and restrooms that are frequented by passengers and employees of airlines and the airport. In addition, many terminals are large enough to have office space and break rooms for airline and airport personnel. As of the varied operations, the types of waste produced at a terminal are also varied,

and include food, paper, plastic (in many forms), aluminum cans, restaurant grease and oil, universal wastes (electronics, light bulbs, batteries) green waste (from lawn care), general trash and deplaned waste from aircraft [21].

All airports have office space for airline and airport employees, as well as government representatives, and large airports may have multi-story office buildings. These offices yield waste streams typical of all office operations: paper, toner cartridges, universal wastes (batteries, light bulbs, and electronics), plastic, aluminum cans, food and general trash [21].

Although airports throughout the United States have made efforts in recent years to increase recycling and minimize MSW, much work remains to be done. Undoubtedly, there are formidable challenges involved in setting up effective waste minimization and recycling programs at airports, but significant improvements can be made through a comprehensive analysis of the current systems in place, a frank assessment of constraints, and development of a clear plan of action. Until recently, most airport recycling programs have focused primarily on maximizing the amount of recyclable materials removed from the waste stream. While this is important from both environmental and economic perspectives, a broader view is also necessary. Rather than focusing exclusively on extracting recyclables out of the waste stream, large organizations are now finding ways to minimize the overall waste stream up and down the value chain, thus influencing material management for better environmental and economic results. Similarly, a successfully executed airport recycling/waste minimization program has the potential to positively impact airport tenants, customers and the community at large [21].

Table 9. Green Practices in the Passenger Handling Department in Terms of Office Activities

Office Activities	Mean	SD	Remark
1. Scratch papers are used.	3.36	.738	Slightly Practiced
2. Paperless reports for all employees is implemented.	2.73	.813	Moderately Practiced
Overall Mean	3.0444	.67123	Moderately Practiced

As shown on Table 9., using scratch papers are always practiced by the participants while implementing paperless reports are moderately practiced. The mean and sd for the two activities were 3.36 , 2.73 and 0.738, 0.813, respectively.

According to WWF [22], paper production has a large Ecological Footprint. It affects the future of the world's forests, endangered species, water resources, climate and people. In 2010, the Green Offices used 172,313,003 sheets of office paper, 8.3% less than in 2009 (information received from 108 offices). In addition to environmental benefits, reduced paper consumption brought about cost savings worth 110,000 euros. Also the consumption of printing paper decreased by 2.2% from 2009 to 2010. Altogether, the carbon dioxide emissions caused by office and printing paper usage decreased by 193 tCO₂ -eq in 2010, compared to those in 2009.

Table 10. Challenges Faced by LCCS in the Adoption of Green Practices in Terms of Cost

Cost	Mean	SD	Remark
The airline company will incur additional expenses for:			
1. Ground crew/manager training	3.28	.844	Strongly Agree
2. Raw materials (e.g. baggage tags, boarding passes)	3.32	.832	Strongly Agree
3. Investing in energy efficient equipment	3.07	.816	Agree
4. LED lighting installation	2.96	.796	Agree
5. Utilization of alternative source of power (e.g. solar panel)	2.84	.799	Agree
Overall Mean	3.0941	.64951	Agree

Cost is also another variable included in the study. Participants "strongly agree" that the company will incur additional expenses for ground crew/manager training (3.28) and for raw materials (3.32). Meanwhile, they only "agree" that additional cost will be given in investing in energy efficient equipment (3.07), LED lighting installation (2.96) and utilization of alternative source of power (2.84).

Fundamentally, businesses are designed to make money, and introducing sustainability initiatives usually comes at a cost [23].

Asinjo [24] stated on her study that there are some challenges as airports take initiative towards sustainability. This is important to understand some of the sustainability implementation and practices challenges prior to analyzing the benefits and efficiencies. Other beneficial elements are the significant factors stimulating and supporting airport sustainability practices. These hindrances and catalysts

help airports organize and focus their current practices towards realistic and attainable goals.

The "Airport Sustainability Practices" report, published in the ACRP Synthesis 10, identifies some of the catalysts, barriers of sustainability, and future sustainability practices in environmental, economic and social airport practices. The ACRP Airport Sustainability Practice report outlined sustainability hindrances from the most challenging to the least. In that order, these hindrances comprise of funding, staffing, management, culture and training [24].

Table 11. Challenges Faced by LCCS in the Adoption of Green Practices in Terms of Implementation

Implementation	Mean	SD	Remark
1. Participation in the training for green practices (for crew and manager)	3.24	.738	Agree
2. Commitment of crew in consistently following the set of standards	3.35	.636	Strongly Agree
3. Commitment of managers to constantly check and monitor conformance of crew to standards that were set.	3.28	.824	Strongly Agree
4. Assigning of crew to do a specific task to ensure proper execution of green practices. (e.g. equipment monitoring)	3.21	.763	Agree
5. Organizing a team or squad to take the lead in the implementation of green practices	3.04	.805	Agree
Overall Mean	3.22	.65507	Agree

As reflected on Table 11, majority of the participants "agree" in the implementation of green practices as a challenge for low-cost carriers in the Philippines. Both commitment of crew and manager are concerns in the implementation with a mean of 3.35 and 3.28 respectively. Moreover, in terms of participation in the training (3.24), assigning of crew to do specific task (3.21) and organizing a team to take the lead (3.04) obtained ratings equivalent to "agree".

As mentioned in the study of Vergara [14], the most important task for an eco-organization is the process of introducing and developing an environmental culture, and practical action which form the basis for developing environmental policy and overall strategy in waste management, energy, and water conservation, product purchase, indoor air quality, external air

emissions, hazardous materials, asbestos, etc. The process advocated is exemplary involving top-down commitment, wide communication and consultation, the appointment of a coordinator and working group and outlining an in-house program to build environmentalism into staff culture, raise awareness, build commitment, provide support, reward and recognize efforts, celebrate success and to take practical steps etc.

Table 12. Challenges Faced by LCCS in the Adoption of Green Practices in Terms of Efficiency and Productivity

Productivity and Efficiency	Mean	SD	Remark
1. Functional equipment to support green practices are functional	2.98	8.44	Agree
2. Well trained and knowledgeable crew members to execute the green practices	3.11	.797	Agree
3. Assessment on the execution of the initiated green practices	2.97	.834	Agree
4. Documentation of the self-initiated audits on the conformance to the standards set	2.96	.833	Agree
Overall Mean	3.00	.78290	Agree

All statements under productivity and efficiency obtained ratings of “agree” with mean values ranges from 2.50 to 3.24. Specifically, highest mean obtained is for well-trained and knowledgeable crew members (3.11), functional equipment to support green practices (2.98), assessment on the execution of the initiated green practices (2.97) and documentation of the self-initiated audits on the conformance to the standards set (2.96).

The table shows that the participants rated this parameter with an overall rating of 3.00 which clearly states that the participants were able to agree to the items (green practices) listed on the table.

According to the journal of Business News from the segment of Mielach [25] that companies now have another reason to go green. New research has found that companies that adopt eco-friendly green practices have employees that are more productive than those that do not. On average, employees at companies that observe eco-friendly practices were 16 percent more productive than average employees. Adopting green practices isn't just good for the environment," said Magali Delmas, co-author of the study. "It's good for

your employees and it's good for your bottom line. Employees in such green firms are more motivated, receive more training and benefit from better interpersonal relationships.

The employees at green companies are therefore more productive than employees in more conventional firms." To prove this, Delmas, an environmental economist at UCLA's Institute of the Environment and Sustainability and the UCLA Anderson School of Management, and Sanja Pekovic from France's University Paris–Dauphine examined data from 5,220 French companies. The researchers selected two employees from each company and determined the average value of production per employee. Delmas and Pekovic determined that production value by taking the revenue minus the cost of a company and dividing that number by the number of employees at a company. The researchers suggest that the boost in productivity can be related to employees seeing green companies as a sign of a positive work environment that encourages cooperation between workers. The research also found that green employers are viewed more favorably by investors because of links to effective management practices and cost-efficient practices. Companies that had voluntarily adopted international standards and labels such as "organic" and "fair-trade" and companies with International Organization for Standardization's ISO 14001 certification, a voluntary industry standard program, were also considered green for the purposes of the study [25].

Table 13. Opportunities that are Beneficial for Selected LCCs in Green Practices - Implementation

Opportunities	Mean	SD
1. Continuous improvement through pollution prevention initiatives	3.20	.767
2. Strengthen leadership position for implementing green practices	3.18	.756
3. Basis for inputs for amendments in the municipal/city/provincial ordinances	3.13	.777
4. Creation of healthier environment	3.30	.758
5. Creation of machines or equipment in support to the green practices in the offices	3.09	.832
6. Improved public image and community relations	3.23	.726
7. Reduced environmental risk	3.24	.742
8. Increased trust among stakeholders	3.22	.729
Overall Mean	3.20	.69473

Participants rated 7 out of 8 statements as “agree” in terms of opportunities. The creation of healthier

environment must be the main goal as perceived by the participants with mean value of 3.30 rated as “strongly agree”. In addition, they also agreed to reduced environmental risk (3.24), improved public image and community relations (3.23), increased trust among stakeholders (3.22), continuous improvement (3.20), strengthen leadership position for implementing green practices (3.18), basic inputs for amendments (3.13) and creation of machines (3.09).

Indicators of healthy working environments defined as working environments that not just have a lack of detrimental factors at work but also yield a positive return in the form of rich job content, job satisfaction, social participation, and personal development [26].

The knowledge in the field is still rather vague concerning what creates, promotes and sustains health and wellbeing at work among managers and employees and what factors might be the most important. In order to take action we need to further explore and understand these underlying factors, the “healthy work factors”. The aim of this study was therefore to explore how a sample of Swedish blue- and white collar workers describe healthy factors at work as well as understand the concept of wellbeing at work [27].

Based on Table 14, the age of the respondents is significantly related to the different activities (p-value < 0.01). Younger employees have higher level of implementing green practices while those under higher age bracket performs lower compared to others.

Table 14. Relationship between the Demographic Profile of Participants and the Extent of Implementation In Terms of Age

Activities	Chi-square value	Contingency coefficient	p-value	Remarks
Energy Conservation – Reduce	232.599	.638	.000	HS
Waste Management – Segregation	106.719	.490	.000	HS
Waste Management - Recycling	105.659	.488	.000	HS
Office Activities	215.382	.624	.000	HS

Legend: HS-highly significant

Manifested from the study made by Vergara [14], that a large body of evidence supports the notion that cognitive abilities decline from some stage in adulthood. Reasoning, speed, and episodic memory decline significantly by the age of 50. The decreased

cognitive abilities of older workers can lead to lower productivity unless their longer experience and high levels of job knowledge outweighs the declines in mental abilities. When older and younger adults were contrasted in regard to training mastery scores, the results favored younger adults.

In terms of sex, male has lower level of green practices as compared to female in energy conservation, waste management and office activities. Generally, gender is significantly related to the green practices. Highly significant results were obtained for the three activities (p-value <0.01) namely Energy Conservation-Reduce, Waste Management-Segregation, Waste Management –Recycling and Office Activities.

However, sex is not significantly related to the waste management-segregation with p- value computed greater than 0.05.

Gender mainstreaming is not just about adding women. It involves looking at the experience and interests of women and men in the development process, and re- imagining these realities in such a way that challenge existing social structures and place women and men on an even footing [28].

Table 15. Relationship between the Demographic Profile of Participants and the Extent of Implementation In Terms of Gender

Activities	Chi-square value	Contingency coefficient	p-value	Remarks
Energy Conservation – Reduce	13.337	.195	.004	HS
Waste Management – Segregation	4.805	.118	.187	NS
Waste Management - Recycling	40.617	.328	.000	HS
Office Activities	48.889	.355	.000	HS

Legend: HS-highly significant; NS-Not significant'

Merron [29], defined men are linear in thought process and more narrow in their focus, so they are able to break down problems into their component parts and solve it, while Annis [30] defined more women often see a problem holistically and are able to coming up with an understanding of that situation without needing to know what all the parts are. When it comes to problem solving particularly in business.

Moreover, according to the study made by De Gobbi [31], that women have greater commitment to

environmentalism relative to men. They have higher relative levels of environmentally-friendly behaviors in regular daily routines. For example, women recycle, buy organic produce, save energy, reuse objects more than men. Research suggests that these general gender-based environmental behaviors exist cross-culturally. Furthermore, women are more concerned about the environment than men at every age.

However, Waste Management Segregation showed as not significant with all the participants in selected low cost carriers in the Philippines as it was stated in the research study of Kojima and Michida [32], entitled “Review of Waste Management System in the Philippines”, that solid waste management is not isolated phenomena that can be compartmentalized and solved easier with innovative technology or engineering. There are also other issues that need to be considered such as political, economic, technical and social aspects of environmental governance.

Airline C obtained the highest level of implementation of green practices as compared to the other two airlines based on the crosstab presented on the Appendix. Generally, the company to where they worked is significantly related to the implementation of green practices. All p-values computed were less than 0.01.

Table 16. Relationship between the Demographic Profile of Participants and the Extent of Implementation In Terms of Company

Activities	Chi-square value	Contingency coefficient	p-value	Remarks
Energy Conservation – Reduce	26.350	.269	.000	HS
Waste Management – Segregation	34.172	.303	.000	HS
Waste Management - Recycling	59.872	.388	.000	HS
Office Activities	69.584	.413	.000	HS

Legend: HS-highly significant

As part of the being member and employee of the ever growing low-cost carrier (Airline C) not just in Asia but around the globe, it is written in their code of conduct to minimize environmental damage by developing, promoting and using environmentally-friendly technology and practices.

As summarized on Table 17., the position of the participants is significantly related to the implementation of green practices in terms of energy

conservation-reduce and waste management-segregation since the computed p-values were less than 0.01.

Table 17. Relationship between the Demographic Profile of Participants and the Extent of Implementation In Terms of Position

Activities	Chi-square value	Contingency coefficient	p-value	Remarks
Energy Conservation – Reduce	13.699	.197	.003	HS
Waste Management – Segregation	15.796	.211	.001	HS
Waste Management - Recycling	.607	.042	.738	NS
Office Activities	6.142	.134	.105	NS

Legend: HS-highly significant; NS-Not significant

This further implies that crew has higher level of implementation as compared to the managers. On the other hand, the position is not significantly related to the green practices in terms of waste management-recycling and office activities.

Since there is significant number of employees compared to the number of managers. The ratio of rank and file to manager is 1:13.

Table 18. Relationship between the Demographic Profile of Participants and the Extent of Implementation In Terms of Length of Service

Activities	Chi-square value	Contingency coefficient	p-value	Remarks
Energy Conservation – Reduce	139.581	.541	.000	HS
Waste Management – Segregation	55.785	.376	.000	HS
Waste Management - Recycling	125.387	.520	.000	HS
Office Activities	227.812	.635	.000	HS

Legend: HS-highly significant

Table 18. reflects the relationship between the length of service and the implementation on green practices. Results showed that their relationship is highly significant. In terms of energy conservation-reduce, waste management-segregation, waste

management-recycling and office activities, the p-values were all less than 0.01. Furthermore, those employees with lower years of experience have higher level of green practices implementation.

According to the study made by Vergara [14], employees who have been in the company for more than six months tend to have high extent of conformance to the green practices initiated by the store. Familiarization and mastery were already imbibed by these employees since these practices were already part of their day-to-day routine and training was already given to them. These employees were also expected to be the champions and advocates of the green practices since these employees were either scholars of the store, service provider (previously termed as coop members), and managers who were already regular employees. Employees who have just been part of the company for less than six months tend to have an inconsistent level of conformance in the green practices most especially in the activities that are geared towards energy conservation and packaging.

CONCLUSION

Based on the summary presented, the proponents have concluded that the selected LCC respondent adopts environmental practices in their operation, however, moderately. This denotes that the airline staff of the said LCC are not constantly implementing practices that will be beneficial to the environment.

The challenges that LCC's faced were cost, organization of team or squad to take lead, documentation of the self-initiated audits on the conformance to the standards, as the leading reasons why there were hindrances on adopting green practices.

The proponent or the participants selected installation of solar panels as an alternative source of energy with the lowest mean because there was really no practice of installation of renewable as source of energy in any of the terminals in Manila Airport where the data were gathered.

Another challenges was the lack of organization of team or squad to take lead in adopting the green challenges, as there were no concrete policies implemented about practicing green practices among the participating companies.

Since, there is no defined policy regarding implementation on selected low-cost carriers in the Philippines on documentation of self-initiated audits on the conformance to the standards, that is why it obviously got the lowest mean of 3.04

One of the benefits seen by the participants was creation of healthier environment that got the highest

mean of 3.30. Reduced environmental risk as one of the benefits the participants believe they will attain that got 3.24 as the second highest mean, and there will be an improved public image and community relations as one of the top three benefits they will get from its implementation which got 3.23 as its mean score.

Lastly, the proponent found out that the age of the respondents is significantly related to energy conservation, waste management segregation and recycling and office activities while male has lower level of green practices conformance compared to female. Generally, sex is significantly related to the green practices.

In terms of company, Airline C obtained the highest level of implementation of green practices as compared to the other two airlines, because it is embedded on the code of conduct of the employees.

The position of the participants is significantly related to the implementation of green practices in terms of energy conservation-reduce and waste management segregation. This further implies that the crew has a higher level of implementation as compared to the managers, as the ratio of the managers to crew is 1:13. On the other hand, the position is not significantly related to the green practices in terms of waste management-recycling and office activities since the mentioned practices were already been adopted to most of the offices around the globe.

The relationship between the length of service and the implementation on green practices showed that it is highly significant. Furthermore, those employees with lower years of experience have higher level of green practices implementation.

RECOMMENDATIONS

Government

- CAAP (Civil Aviation Authority of the Philippines) should strengthen their policies regarding Environmental Management System (EMS) as part of the airlines requirement in renewing their licenses to operate. They should be the agency to consistently monitor the conformance of the airlines to the set green practices.
- Establish agencies for environmental advocacies that is dedicated to harmful effects of the transportation specially pertaining to airline operations.
- Conduct regular meeting/orientation and training to the different LCC's on the set policies on Environmental Management System so as to enhance commitment of the LCC's to create their own clearer environmental policies.

- Provide more information through the use of advertisement or social media to add more environmental awareness to the public.
- Pushing through with installation of renewable source of energy like solar panels,

Airline Companies

- The study recommends the creation and development of green practices policy of Passenger Handling Department of Low-Cost carriers in the Philippines to the other LCCs and FSCs (Full-Service Carriers) not only in the Philippines but also to the airlines around the globe.
- Ensure that there will be budget allocation on training of manpower and procurement of new technologies pertaining to effective execution of green practices.
- The study proposes to continuously improve their green practices by maximizing the use of their research development department and globally adopt the green practices of International Airlines to what is deemed necessary in their operations.
- Regular orientation/ seminar and training should be conducted to ensure commitment of the airlines staff in adopting green practices in their day-to-day operation.

Airline Managers

- The study recommends to the managers to “*walk the talk*”, since there were inconsistencies with the result of implementation of the managers to the green practices in passenger handling department.
- Commitment of the managers to ensure that the crews will conform to the adherence on execution of green practices.

Airline Ground Crews

- The study recommends to the ground crews and passenger handling crews to be consistent with the conformance of implementation of green practices
- Commitment on the side of the ground crews to consistently conform to the execution of the green practices.
- To be fully aware of the existing green practices procedures.

Future Researcher

- Future studies focusing on analyzing the green practices of passenger handling in Full-Service Carriers and Green practices of low-cost carriers in the airside (on- board, fuel efficiency and aircraft

emission control).

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