

FACTORS CONTRIBUTING TO THE PARTICIPATION OF ORGANIZATIONS
IN A VOLUNTARY ENVIRONMENTAL PROGRAM:
THE CASE OF GREEN STAR, ANCHORAGE, ALASKA

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By

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Abstract

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Green certification programs are intended to encourage sustainability by assisting organizations with environmental efforts and publicly recognizing those efforts. This study examined the characteristics and goals of organizations participating in Anchorage, Alaska's green certification program, Green Star. Green Star has approximately 250 members, including privately owned businesses, schools, non-profits, and government agencies. To earn the Green Star Award, organizations were required to meet twelve of eighteen environmental standards. Using a mail-out questionnaire, this research explored whether member characteristics, such as number of employees or ownership structure, were related to the number of environmental standards a participating organization completed. Using four indicators, a goal profile determined if organizations seek environmental improvements, economic improvements, or image improvements. Interviews provided insight into the motivations for participation. Overall, members appeared to participate in Green Star to improve their environmental performance more than economic performance. The Anchorage Green Star program functioned as a guide for organizations to initiate changes in environmental behavior that otherwise would not occur. Conclusions from results are presented in six recommendations to improve the efficacy of green certification programs.

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Chapter One

Introduction

The following research explores organizational characteristics that lead to successful participation in Green Star, a green certification program. Additionally, it considers the potential barriers to participation, the stated goals for participation and the resulting changes in environmental behaviors of participating organizations.

Assisting businesses with environmental efforts and publicly recognizing those efforts through a green certification program is one tool to encourage organizations to operate more sustainably. Sustainability is defined here using the well known definition in the Brundtland Report as the ability to “meet the needs of the present without compromising the ability of future generations to meet their own needs.” (Brundtland Commission 1987). Most case studies of the Green Business phenomenon report on the commitment of large, often international corporations while overlooking small businesses. Likewise, large industry leaders usually play a major role in the formation of best management practices (O’Rourke 2005), while small business owners struggle to adapt to constantly changing environmental standards with limited staff and resources allocated to tracking environmental impacts. Green certification programs with local offices and local resources are suggested as one way to transfer information to this largely diverse audience.

Exploring the organizational characteristics that lead to success in green certification programs, determining the goals of participating organizations, and investigating the resulting changes in environmental behavior can shed light on the effectiveness of green certification programs as a form of information exchange as well as driver of environmental behavior changes for organizations. One such local program is Green Star, a voluntary green certification program in Anchorage, Alaska. Green Star has approximately 250 participating organizations which Green Star refers to as its “membership.” About 50% are privately owned businesses or corporations while the remaining 50% includes schools, non profits, and government agencies. Seventy-five percent of participating organizations have fewer than 100 employees.

To earn the Green Star Award, organizations were required to meet twelve of eighteen environmental standards. Members that have met at least twelve of Green Star's standards and completed the Green Star Award application process are referred to as "awardees." Members that are enrolled in the Green Star program and pay annual membership dues but have not yet met at least twelve standards or completed the award application process are referred to as "enrollees." The individual within the organization that leads its Green Star Program efforts and maintains membership and communication with Green Star is referred to as the "Green Star Coordinator."

Through surveys and interviews, this research explored whether certain member characteristics such as number of employees, ownership structure or top management involvement were related to the number of environmental standards an organization is able to complete. Using four separate indicators, a goal profile was created to determine if organizations were seeking environmental improvements, economic improvements, or image improvements. After sending test surveys and discounting inactive members (those that have not paid dues for at least two years), a mail-out questionnaire was sent to 195 organizations and 68 were returned with mostly complete responses for a 35% response rate. Based on comparisons with Green Star's database, the survey accurately represented the population in terms of size (number of employees), distribution and economic sector.

Interviews were conducted with the CEO and Green Star Coordinator of four Green Star member organizations. Additional interviews were conducted with Green Star board members, Green Star's Executive Director, and Green Star staff. Data was collected between January and September of 2005.

Thesis Structure

Chapter two, *The Greening of Business: A Growing Trend*, defines the term "Green Business" and reviews current literature on this growing phenomenon as well as outlines the research questions and theoretical framework. Chapter three, *Methods*, describes data collection and analysis procedures. Non-respondent follow-up methods are also included in chapter two. Chapter four, *Green Certification Program Characteristics: A Green Star Case Study*, summarizes the history, environmental standards, award process, and membership of Green Star. Chapter five,

Membership Characteristics: About the Organizations that Participate, describes the Green Star membership base and critical factors of organization success in the Green Star program such as the involvement of top management and importance of a committed individual. Chapter six, Why Do Organizations Participate in the Green Star Program, is a detailed description and analysis of the goals participating organizations in the Green Star program. Using four indicators, a goal profile determines if organizations are seeking environmental improvements, economic improvements, or image improvements. Chapter seven, Changes in Environmental Behavior of Green Star Organizations, highlights a few examples of the changes in environmental impact due to the environmental management systems adopted in various Green Star organizations and interviews provide insights as to whether Green Star produces changes in environmental behavior that otherwise would not occur. Chapter eight, Conclusion and Discussion: Green Certification Characteristics, Membership Characteristics, and Changes in Environmental Behavior, concludes with a summary of results, discussion, and recommendations for future research.

Overall, the findings of this study suggest that members participate in Green Star more to improve their environmental performance than their economic performance. The Green Star program functions as a guide to initiate changes in environmental behavior that otherwise would not occur. The independent non-profit status of the Green Star program presents some advantages and barriers that other green certification programs may not experience, such as offering affordable technical assistance to small organizations but facing the constant challenge of obtaining funds.

Chapter Two

The Greening of Business

A Growing Trend

We are in a time of overwhelming awareness of the finiteness of our resources (Brundtland Commission 1987, Millennium Ecosystem Assessment 2005). Sustainability has become the goal of countries, cities, universities, businesses, and individuals, each with slightly different versions of what sustainability means. A struggling business may strive for economic sustainability, a polluted city for environmental sustainability, or a threatened tribe for cultural sustainability. Despite these differences, increasing numbers of leaders in society are emphasizing the interconnectedness of our systems, whether they be economic systems, social systems, or ecological systems (Berkes and Folke 2000). Researchers recognize the interrelationship between the three pillars of sustainability: economic prosperity, environmental quality, and ethical equity (Elkington 1998). Scientists speak of linking social and ecological systems (Berkes and Folke 2000), and environmentalists discuss natural capitalism (Hawkin 2000). As a part of this process, there is increasing awareness among those in all sectors of the need to couple social-ecological systems so that they are adaptable to emergent conditions. This coupling is necessary to sustain the most desirable features of our planet (Gunderson and Holling 2002). One could argue that all social-ecological systems have economic, social, and environmental components; however, the degree to which all of these components overlap is perhaps most highly debated in the area of green business. This overlap raises important questions regarding the factors contributing to the participation of businesses in green business practices. Are businesses becoming green solely for economic gains, or is it for authentic environmental concerns, or just to look good?

Green businesses are those organizations that work to decrease their environmental impact beyond regulatory compliance (Darnall et al. 2003, Weinberg 1998). The “greening” of commerce is considered by some to be a critical element in addressing the environmental issues that come with economic growth (Hawken et al. 2000). Indeed, most industry sectors are required by federal law to comply with environmental regulations. These regulations often include pollution and waste disposal guidelines. However, under federal law, business practices,

such as quantity of energy, water, and material used, are not regulated. Similarly, the impact of manufactured products on people and the environment is often not considered in federal law (Florino 2001). Examples include mercury in home thermostats and PVC in children's toys. While stricter regulations for businesses is one instrument to address the problems associated with pollution and excessive consumption, voluntary action by organizations is argued to be a viable alternative (Nattrass and Altomare 1998).

One way to encourage organizations to adopt more sustainable practices is through market campaigns (O'Rourke 2005). These market campaigns usually focus on businesses with substantial name brand recognition, making them particularly susceptible to good or bad reputations. Therefore, most target businesses are large corporations that may then create their own best management practices or voluntary environmental guidelines. Recently, global climate change is a buzzword among business leaders as well as scientists (Streever 2007). Large corporations such as Wall Mart and British Petroleum are announcing new policies that reflect a stronger concern for corporate waste and consumption. Unfortunately, without the assistance of an environmental organization to transfer knowledge about achieving greater sustainability, new innovations can take a long time to work their way into small business practices. For example, one of the main reasons businesses participate in the voluntary environmental programs of the U.S. Environmental Protection Agency is for information exchange (Videras and Alberini 2000). Even so, of the businesses that participate in the U.S. EPA's Environmental Performance Track, approximately 80% have more than 100 employees (Florino 2001).

The Voluntary Approach: Green Certification Programs

A green certification program is one in which organizations voluntarily meet the environmental expectations or standards of a certifying organization and then are publicly recognized for their efforts. Green certification programs can serve as a conduit for information exchange in an arena of ever changing best management practices and environmental expectations and thus, provide the tools for small businesses to adapt to those changes. Local, rather than national programs often appeal to smaller businesses. For example Montana's green certification program, EcoStars, is limited to small businesses and 75% of Alaska's Green Star members are organizations with fewer than 100 employees.

There are at least 200 voluntary environmental programs in the United States (Darnall et al. 2003), including the CERES principles, ISO 14001, Life Cycle Assessments, the Natural Step, Partners for a Clean Environment, the U.S. Environmental Protection Agency's Environmental Track, and Alaska's Green Star Program. Each of these programs varies slightly in its requirements and processes, but all are designed to assist and recognize businesses that are decreasing their environmental impact, and encourage participation by emphasizing the economic returns of green business. However, the debate rages on as to the true goals for organization participating in voluntary environmental programs. Is it really only for the money? Some suggest that the biggest motivator for participation in voluntary environmental programs is to reduce the costs of waste disposal and resource use, combined with the driver of environmental regulation (Porter and Linde 1995). Others claim environmental management participation is compliance based, market driven, or value driven-- or a combination of economic and social influences (Walley and Taylor 2002). Yet, others suggest that since the postwar era, there is a continuing shift in most industrialized nations from materialist values to post-materialist values. Society is emphasizing quality of life over economic and physical security, and therefore is willing to sacrifice some economic gain for higher environmental quality (Inglehart 1997).

Ideological Foundations for Participation

Questions regarding the rationale for business participation in a voluntary environmental program that provides an award for green practices raises the associated issue of ideology. Many argue that we live in a post-modern world (Inglehart 2000). Inglehart argues that in the past when food and economic security were more scarce, individuals were more materialistic, but since the post WWII boom, basic needs have been met and surpassed so individuals are willing to sacrifice some economic gain for improved environmental and social quality, which he refers to as post-materialism. Environmental quality and social identity are both more closely tied to post-materialist values than materialist values and may directly affect an individual (Inglehart 2000; Teel et al. 2003), but economic growth remains the driving force for business policies. Almost counter-intuitively, some businesses are making economic sacrifices for environmental gains, which begs the question, could businesses be shifting to post-materialist behaviors, or are businesses only responding to the post-materialist demands of individual consumers? After all,

approximately 86% of Americans believe there should be stricter laws and regulations to protect the environment (Pew 2003).

New Questions

This research focuses on the Green Star Program, one of the most long-standing green certification programs in the country and addresses questions regarding the factors that contribute to participation of organizations in voluntary environmental programs. What are the main motivators to participate in these programs? Is the driving force strictly monetary, or are other more ethical influences at play? Do certain organizational characteristics lend themselves to successful participation in an environmental certification program? Conversely, what are the barriers to success in an environmental certification program such as Green Star?

A common method to explore the green business phenomenon is case studies of participating businesses. Corporate giants such as Ben & Jerry's, Patagonia, The Body Shop, Staples, Nike, and Interface are some of the most commonly studied cases of businesses that strive towards higher environmental standards (Natrass and Altomare 1998; Hawken et al. 2000; Florino 2001; Isaak 2002; O'Rourke 2005; Streever 2007). Another common focus of research is on the environmental leader of the organization (Egri and Herman 2000). The organizational leader with concerns about the environment has been referred to as the "eco-entrepreneur." Eco-entrepreneurs are individuals whose businesses conserve wild spaces, increase environmental quality and are driven by environmental concerns as well as profit (Isaak 2002; Linnanen 2002; Walley and Taylor 2002). Few studies, however, consider quantifiable, generalizable trends in the world of green business or voluntary environmental programs. Darnall et al. (2003) studied the "Design & Rigor of U.S. Voluntary Environmental Programs" by distributing a survey to over 200 Voluntary Environmental Programs, but not to the organizations that participate in them. As mentioned earlier, (Videras and Alberini 2000) explored why businesses participate in the U.S. Environmental Protection Agency's voluntary environmental programs and concluded that organizations are looking for publicity and information exchange. They did not consider the variables that may affect success within a voluntary environmental program such as organization size, employee commitment, and the involvement of top management in the green certification program.

Analytical Framework

How the characteristics of a green certification program affect the types of organizations it attracts, how the characteristics of participating organizations can affect success in the green certification program, and the types of changes in environmental behavior that participation in a green certification programs can initiate will be addressed through a case study on Alaska's green certification program Green Star. Organizations is defined here as social units with defined membership and a stated mission. In this study, they include businesses such as law offices, schools, non-for-profits, restaurants, and dry cleaners. Green Star members can be government agencies, schools, or non-profits. Needless to say, the extent to which these various organization types, small businesses, or large corporations are represented in the Green Star membership-base varies. This research explores the how the characteristics of this green certification program, such as marketing efforts, types of services offered, and its own independent non-profit status may influence the type of members it attracts and even the success. This research also explores the challenges those members face in the green certification program. This study does not test the hypothesis that different types of green certification programs attract different types of membership, but rather observes that certain characteristics of this green certification program may explain the composition of its membership and play a role in the success, challenges, and changes in environmental behavior that participating organizations experience. This study does statistically test whether differences in the general characteristics of the participating members such as organization size, ownership structure, economic sector, or years in business affects success in the green certification program and hence changes in environmental behavior. Figure 2.1 is the analytical framework of this study, providing a visual representation of the key components included in the research and the relationship between the green certification program, its membership, and the resulting changes in environmental behavior. It is assumed that the characteristics and services offered by the green certification program determine the type of organizational members it attracts. Because the services offered by the green certification program can vary in quality, the services play a role in the successes and challenges faced by participating organizations. One green certification program, like EnviroStars in King County, Washington may focus on hazardous waste, while another, such as the U.S. Environmental Protection Agency's ENERGY STAR program, may focus on energy use. In this way, the green certification program also influences the types of changes in environmental policies the

participating organizations implement. Likewise, the services can influence the stated goals of organizational participation in the green certification program. For example, an organization that intends to save money through improved solid waste management would not enroll in the ENERGY STAR program. Holding the green certification program variable constant (i.e. looking at organizations within one green certification program) the characteristics of a participating organization such as number of employees, and mission could independently influence the success, challenges faced, and stated goals within the green certification program.

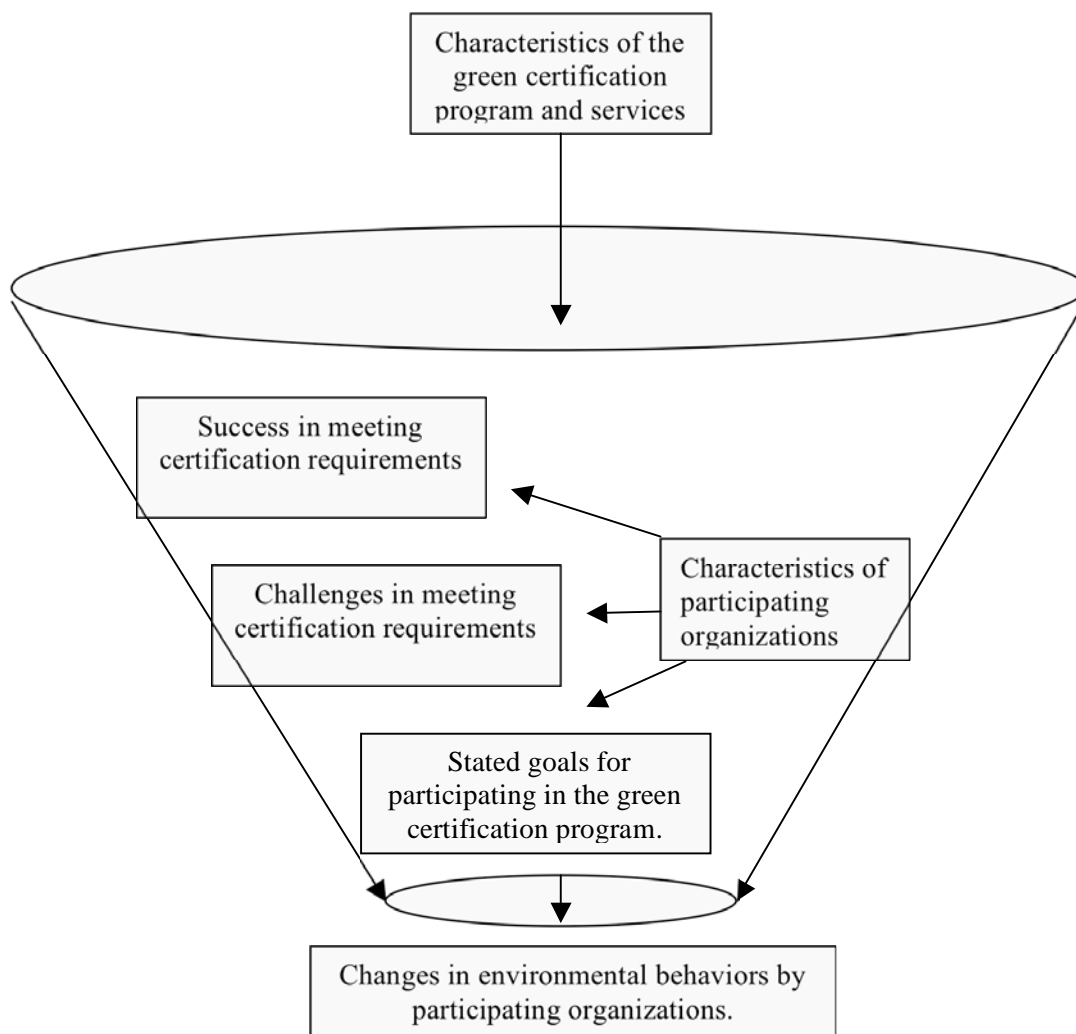


Figure 2.1: The analytical framework.

The characteristics of the green certification program, such as services offered and budget may affect the type of members it has and the challenges faced, successes achieved, and stated goals of participating organizations. The membership characteristics may also independently affect the success, challenges, and goals in the green certification program. All factors influence the final changes in environmental impact.

Chapter Three

Methods

The goal of this research was to study the factors contributing to the participation of organizations in a green certification program. The Green Star program of Anchorage, Alaska served as the case study. Multiple methods were used to address the project's research questions.

Questionnaires were designed and distributed to all members to identify trends in the population. Semi-structured interviews with organizational leaders and those serving as the organization's "Green Star Coordinator" were conducted to provide greater depth in interpreting results and in supporting or refuting the analysis of quantitative data collected through the questionnaire.

Additional data were gathered through access to files at Green Star for developing profiles of participating organizations. This access was facilitated by my close partnership with Green Star in the early phases of the project, and through my role as the hired membership coordinator of Green Star, which began in July 2005. In the sections below I elaborate on each of the research methods used in the study.

Questionnaires

The choice of using a mail-out questionnaire was made to give the respondents privacy and provide ample time to answer questions that may require getting information from other employees within the organization. The mail out survey was designed and test surveys were sent to twelve awardee organizations and twelve enrollee organizations. Some minor changes were made to increase readability. After the changes were completed, surveys were sent to the remaining 220 member organizations. Questionnaires were addressed, by name, to the Green Star Coordinator for each organization as referenced in the Green Star database. The Green Star Coordinator is the individual within the organization who receives the Green Star welcome packet and award guidelines upon enrolling in the Green Star Program. The Green Star Coordinator in most cases also completes the Green Star Award application and the biennial recertification forms. Throughout these phases of the green certification process, the Green Star Coordinator may also receive Green Star's monthly newsletter, invitations to environmental assistance seminars, and the annual membership dues invoice. It was assumed, and later confirmed by interviews, that the Green Star Coordinator receives the previously mentioned items

and is the most knowledgeable person in the organization in regards to the Green Star Program, and therefore the most qualified to complete the survey. Additionally, the introductory letter describing the research encouraged the Green Star Coordinator to discuss any questions with other employees within the organization. The introductory letter also clearly stated that participating in the survey is voluntary and that all returned surveys will remain confidential. To ensure confidentiality, mailed surveys had a self addressed, stamped envelope included so that no organization return address was necessary. A number at the bottom of each survey allowed me to trace from which organization the response came. This data was used only in limiting the follow emails and postcards to organizations that had not yet returned the survey. The information identifying each organization was kept separate from survey responses and remains confidential. The research methods were subject to review by the Institutional Review Board at the University of Alaska, Fairbanks, and approved #05-11 on February 24, 2005.

To optimize response rate, the survey was designed in booklet format, with answer choices listed vertically as recommended in the Handbook of Research Design and Social Measurement (Miller and Salkind 1991). The survey contained four main sections. The first section includes background information about member organizations, such as economic sector, number of employees, and years in business. See Appendix A. The second section focuses on the organization's involvement with the Green Star Program, such as year enrolled, who within the organization initiated participation, and ranking questions regarding the involvement of top management and the commitment of employees to the Green Star Program. The third section inquires about current environmental initiatives. The respondent was asked to describe to what extent each of the 18 Green Star Standards has been met by putting an X next to "Currently in place," "Not in place, but working on it," "Not working on it," or "Don't know" and to give two examples of changes in their workplace since enrolling in the Green Star Program. The final section of the survey focuses on the organization's goals for participating in the Green Star Program, asking whether or not the Green Star Program has assisted the organization in reaching its environmental goals and which services of the Green Star Program are most valuable. Three different versions of the survey were mailed. The main sections were always published in the same order, but question order and multiple choice option orders were changed to decrease the likelihood that either of those survey characteristics may bias responses.

Interviews with Key Informants

Preliminary analysis of survey data showed that of the listed organization characteristics, organization type, number of employees, years in business, ownership, employee commitment, top management involvement or goal for participating, only two showed a significant association with the number of Green Star standards met: the involvement of top management and commitment of employees. Based on this finding, four organizations were chosen to conduct interviews with the president of the organization, the Green Star Coordinator, and in one case, employees within the organization. See Table 3.1. These organizations were selected based on their status as Green Star Award winners or enrollees the involvement of top management, and the number of employees within the organization. The term awardee refers to an organization that has completed the Green Star Award process and is a Green Star Award winner. An enrollee is an organization that enrolled in the program (completed an online form and paid membership dues) but has not met the Green Star standards or completed the Green Star Award application.

Table 3.1: Key informant interview rationale

	Award Status	Enrollment Year	Management Involvement	Number of Employees
Awardee A	Awardee	1993	Highly Involved	9
Awardee B	Awardee	2003	Not Involved	50
Enrollee A	Enrollee	2005	Highly Involved	5
Enrollee B	Enrollee	1999	Not Involved	27

In all cases, the Green Star Coordinator was interviewed. In all but one case, awardee B, the President of the organization was also interviewed. In case enrollee A, the President and the Green Star Coordinator was the same individual – (Note: This organization only had five staff members).

In addition to interviews with Green Star organizations, two Green Star board members, all Green Star staff members, and one representative from a business that dropped out of the Green Star Program were interviewed to provide a more holistic source of information. Interviews ranged from 10 minutes with a general employee (not President or the Green Star Coordinator for the organization) to 1 hour and 15 minutes with a board member. The average interview time was 30

minutes. All interviews were recorded with a digital voice recorder and transcribed. Questions to the President and Green Star Coordinator of organizations revolved around the main themes of why the organization participated, what the biggest challenges were, if they were satisfied with Green Star's services, and what they would like to see Green Star do differently. Green Star staff and board members who basically asked the same questions as well as how Green Star has changed overtime and how he or she might like to see Green Star develop in the future. For a listing of the semi-structured interview questions, please see Appendix C.

Finally, after six months of working with Green Star as a "research intern" to collect this information, I was hired part time as Green Star's "Member Relations Coordinator," which has given me an even more in-depth understanding of the Green Star Program as I write this thesis.

Response Rate

To improve response rate, each non-responding organization was sent a reminder postcard, two weeks after the first mailing. About three weeks later, approximately half of the non-responding organizations were sent a second survey. Mailings of the second survey were limited by the number of printed questionnaires remaining. Organizations for the second mailing were chosen using systematic random sampling from an alphabetized list of all the Green Star member organizations that had not yet responded to the survey.

Follow-up phone calls to thirty non-respondent organizations were attempted. These thirty organizations were chosen using systematic random sampling from an alphabetized list of the Green Star member organizations that had not yet responded tot the survey. Eighteen of these organizations were contacted. Three questions were asked to determine if the non-respondents varied greatly from respondents:

1. Did you receive the survey? If so, may I ask why it was not returned?
2. Why did your organization enroll in the Green Star program?
3. Are you satisfied with Green Star's services?

Table 3.2 summarizes non-response conclusions. It was determined that there were no significant differences between non-respondents answers and survey data.

Table 3.2: Non-respondent follow up

Question	Number of Organizations	Response
Why survey was not returned	8	Person survey was addressed to was no longer at the organization
	8	Weren't sure they received the survey, or were too busy to do it.
	2	Did not know organization was in Green Star, so felt unqualified to complete survey.
Why organization enrolled in Green Star	9	Various forms of "It's the right thing to do"
	1	To save money
Are you satisfied with Green Star's services?	7	Yes
	1	Need more assistance with recycling efforts
	2	Not sure, because didn't know they were enrolled.

Sixty eight surveys were returned for a 31% response rate. Prior to mailing the questionnaire, two days were spent calling as many organizations as possible to confirm contact information of the organization and the Green Star Coordinator. Of all of organizations contacted, approximately 30% of the organizations had outdated contact information. This suggests a communication problem between Green Star and its member organizations. This is further supported by non-response feedback, nearly half of the organizations contacted by phone during non-response follow up claimed that the survey was not completed because the Green Star contact on record was no longer with the organization and a new Green Star Coordinator had not be designated. Additionally, after mailing the questionnaire, it came to my attention that a number of the organizations had not paid Green Star membership dues for over two years, implying that those organizations are not active members of Green Star. When compared to survey responses of the 24 organizations that had not paid membership dues in over two years, only one responded. If the response rate is adjusted by omitting non-active members from the calculation, the response rate was 35%.

If the industries represented in the survey responses do not accurately represent the industries of the population, it could skew the responses and prevent the results of the survey from being

representative of the population. However, when the economic sectors in the survey sample were compared to the population in Green Star's database, they were nearly identical. Likewise, the number of employees in the sample of organizations that responded to the survey is nearly identical to the number of employees in the records of all Green Star members in Green Star's database¹. See Figures 3.1 and 3.2. Finally, according to Green Star's database, approximately 48% of Green Star members are Award winners and 52% are enrollees. The survey responses consisted of 47% Award winners and 53% enrollees.

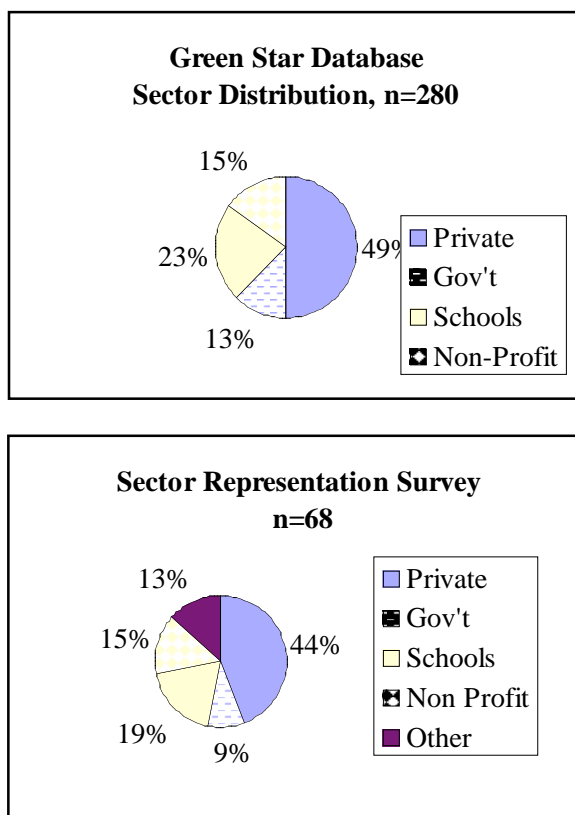


Figure 3.1 Comparison of economic sector distribution between the organization population and survey responses.

¹ Not all organizations in Green Star's database had employee number records. This comparison is based on all the information Green Star had available.

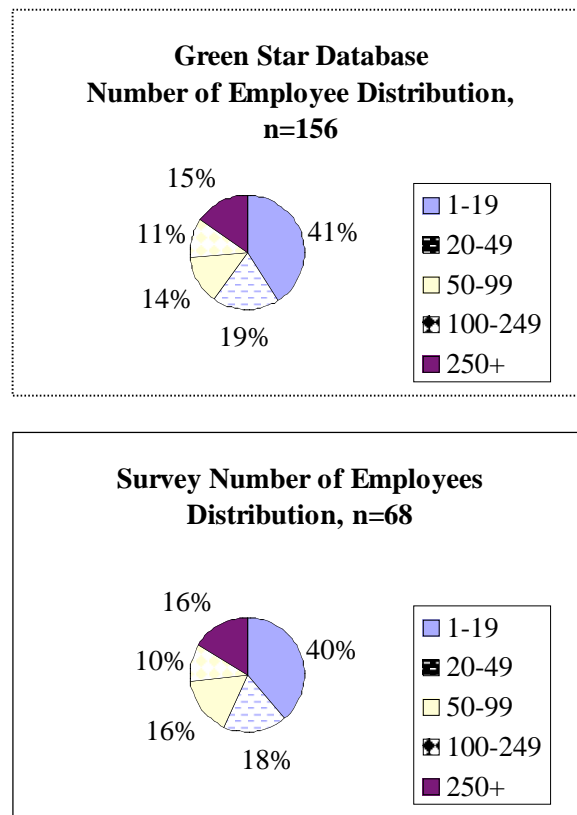


Figure 3.2 Comparison of organization size distribution between organization population and survey responses

Method of Analysis

To determine if there are significant differences in the reported mean of dependent factors such as number of Green Star standards met between different groups, ANOVA in the program, Statistics for Social Science (SPSS), was used. The number of Green Star Standards was the dependent variable. Factors such as number of employees, economic sector, and goal profile, were treated as independent variables. To test for equality of variance, the Levine's test was used. If the variances were equal, the F statistic was the significance test, with Tukey HSD as the post hoc test. If the variances were not equal, the Brown-Forsythe test was used, with Dunnett C as the post hoc test. Significance was tested at $p < .05$.

Summary

Questionnaires and interviews were used to collect data about Alaska's green certification program, Green Star. When inactive organization membership was accounted for, the survey had a 35% response rate. Based on phone calls to non-respondents, there were no significant differences between respondents and non-respondents. The survey responses accurately represented the population in terms of economic sector, organization size, and the proportion of enrollees versus awardees. ANOVA, Levine's test for variance, Tukey's HSD, the Dunnett C test, and t-tests were used for statistical analysis.

Interviews were conducted at two Green Star award winning organizations and two enrollee organizations. In both awardee organizations, and one enrollee organization the president of the organizations was interviewed, as well as the Green Star Coordinator. In one awardee organization, 2 employees were interviewed in addition to the President and Green Star Coordinator. All interviews were recorded with a digital voice recorder and transcribed.

The next chapter, Green Certification Characteristics, will provide background information on the Green Star program and build a strong foundation to discuss the characteristics of Green Star organizations, why organizations participate and the resulting changes in environmental behavior.

Chapter Four

Green Certification Program Characteristics: A Green Star Case Study

Green Certification Programs

Green certification programs recognize a business for committing to environmental improvement, usually beyond regulatory requirements (Darnall et al. 2003). These certification programs can be implemented on a local, state, or national level. They may be independent non-profit organizations or run by the county, state, or federal government. To provide a national context for the Anchorage based Green Star certification program, various green certification programs are briefly described in Table 4.1.

Only 4 voluntary environmental programs are described in the table, but in a study of 61 voluntary environmental programs in the United States, a handful of policy recommendations were presented to improve the efficacy of the programs (Darnall et al. 2003). These recommendations include:

1. Balance diversity and intensity of stakeholder involvement in VEP design.
2. NGO involvement tends to result in well-articulated VEP design.
3. Sign written agreement.
4. Report environmental performance to either program managers or independent auditors.
5. Require to publicly disclose environmental performance.
6. Require they are monitored by program sponsors or external parties.
7. Sanctions for nonconformance must be robust and enforced. – maybe move to beginning of what makes green certification programs work.

Table 4.1 Description of four U.S. green certification programs

Organization	Program description from website
<p>Green Star Founded: 1990 250 Members Scope: Statewide Management: private non-profit Website: www.greenstarinc.org</p>	<p>“The core Green Star Award program focuses on aspects of business operations, which includes examining all waste streams (solid waste, utility usage etc.) and eliminating waste through smarter purchasing, restructuring employee procedures, maintaining or updating equipment and recycling. By meeting the Green Star Standards, these organizations can demonstrate to the public that they have gone well beyond compliance with environmental regulations, and have voluntarily implemented a thorough waste prevention and pollution prevention plan.”</p>
<p>Partners for a Clean Environment (PACE) Founded: 1995 226 Members Scope: Boulder County, Colorado Management: PACE is a cooperative effort of the City of Boulder Environmental Affairs Office, Boulder County Public Health – Environmental Health, City of Longmont, Town of Superior, and Boulder Chamber of Commerce and agencies involved in the Watershed Approach to Storm Health Program. www.bouldercolorado.gov/www/pace/index.html</p>	<p>“The PACE program is a voluntary, non-regulatory program which offers free pollution prevention education and technical assistance to Boulder County businesses. PACE is a partnership of local governments and businesses to encourage and recognize environmental achievement.”</p>
<p>Montana EcoStars Program www.montana.edu/www/wated/ecostar.shtml Founded: 1997 (inactive 2002-2005) 36 awards presented in 2006 Scope: Statewide Management: EcoStars is a program of the Montana State University Cooperative Extension Service.</p>	<p>The program “is dedicated to helping the state’s small businesses and local governments use progressive, integrated pollution prevention (P2) strategies to increase productivity, while safeguarding our air, water, land and other natural resources. Our professional staff provides no-cost, non-regulatory technical assistance services to help businesses and government find cost effective ways to reduce, reuse, and recycle resources in all areas of their operations. We focus on finding ways to conserve energy and water, and reduce the use of toxic chemicals.”</p>
<p>U.S. Environmental Protection Agency’s Environmental Performance Track Founded: 2001 417 Members Scope: National Managed By: EPA’s National Center for Environmental Innovation www.epa.gov/performance-track/</p>	<p>“Performance Track is a partnership that recognizes top environmental performance among participating U.S. facilities of all types, sizes, and complexity, public and private. Program partners are providing leadership in many areas, including some that are not currently regulated, such as energy use, greenhouse gas emissions, and water consumption.”</p>

Interestingly, Green Star, one of the longest standing non-government green certification programs in the country, did not meet most of these recommendations. Green Star's Board included representatives from industry, government, universities, and non-profits to meet the first recommendation and environmental performance was reported by completing the Green Star Award application to meet the fourth recommendation. Green Star partially met recommendation 5 to publicly disclose information. Case studies were made available to the public through the internet, but organizations were not required to publicly disclose information. Green Star meeting of recommendation six was weak because monitoring of the program was minimal. Organizations were required to participate in at least one site assessment and requested to complete a biennial recertification form. Green Star did not require a written agreement to participate in the Green Star Awards program and so does not meet recommendation three. Members were not dropped from the program for not completing a recertification form and were rarely dropped for not paying membership dues and so sanctions are not strictly enforced as suggested in recommendation seven.

Green Star Beginnings and History

Green Star began as a committee of the Anchorage Chamber of Commerce in 1990. One Green Star board member suggested that Green Star was created as a response to the negative environmental reputation the Exxon-Valdez Oil Spill gave businesses in 1989. Green Star offers a 'Green Star Award' for organizations that meet a defined set of environmental standards associated with consumption and waste patterns. The official mission of the Green Star Program is to "Inspire Alaska businesses to become champions of environmental stewardship" with a vision for a "prosperous future in which businesses, organizations, and individuals work together to make Alaska a model state for achieving compatible business and conservation objectives." The formation of the Green Star committee at the Anchorage Chamber of Commerce was undertaken as collaboration between the Anchorage Chamber of Commerce, the Alaska Department of Environmental Conservation, and the Alaska Center for the Environment. By 1993, 160 organizations had enrolled in the Green Star Program, and by 1996, Green Star incorporated into an independent private non-profit organization. While this study is focused on the Anchorage Green Star Chapter, it is worth noting that the Green Star Program was awarded the EPA Administrator Award for Excellence in Pollution Prevention in 1992 and since then

independent chapters have surfaced in Hawaii, Colorado, Idaho, Wisconsin, Montana, and Michigan. As of 2006, Green Star Anchorage chapter has been in existence for 16 years and currently has over 250 members. As of January 2005, the membership included 106 awardees and 140 enrollees. Awardees are organizations that have met the necessary Green Star Standards to earn the Green Star Award. Enrollees are organizations that have paid membership dues and are working to meet the Green Star Standards, but have not done so yet. The process for earning the Green Star Award is described below.

The Green Star Award Process

The Green Star Award process is to enroll online. Unlike many environmental certification programs, enrollment in Green Star Program requires an annual membership fee. The fee structure is based on the number of employees within the organization. See Table 4.2 for the fee structure.

There are 18 Green Star standards ranging from employee training and waste assessment requirements to toxic waste handling and energy efficiency. See Table 4.3 for the list of 18 Green Star standards. Because all organizations of every size and type are eligible for the award, the

Table 4.2. Annual fee structure for Green Star program

Number of full time Employees	Membership Dues
1-9	\$100
10-24	\$200
25-99	\$250
100-499	\$350
500 or more	\$500
Non-Profits and Gov't Agencies	\$75
Schools	\$0 (free)

standards are designed to be flexible. Therefore organizations only need to meet 12 of the 18 standards to earn the award, but can meet all 18. Once the Green Star standards are met, the organization submits the Green Star Award application. The Green Star Standards Committee, comprised of Green Star staff members, Green Star Board Members, and representatives of Green Star Award winning organizations, reviews the member organization's application. In almost all cases, the Standards Committee requests clarification or additional information from the applicant. Once the potential award winner responds to the Standards Committee comments and the committee determines that the standards are met, the Award is presented at the weekly "Make It Monday Forum," hosted at the Anchorage Chamber of Commerce.

Table 4.3: The Eighteen Green Star Standards

1.	Designate a Green Star Coordinator and/or team.
2.	Adopt, post, and circulate to all employees the Green Star policy statement, or your version of it.
3.	Provide three incentives or training opportunities that encourage management and employee participation in the Green Star Program.
4.	Notify your customers of your efforts to meet the Green Star Standards.
5.	Assist at least one other organization in becoming a Green Star participant.
6.	Conduct an annual waste assessment specific to the award.
7.	Practice conservation of office paper in at least three different ways.
8.	Incorporate at least three energy-conserving changes in your organization.
9.	Monitor, record, and post utility usage and waste disposal.
10.	Purchase products and services that are environmentally preferable.
11.	Purchase at least three different types or sources of recycled-content products and materials.
12.	Enhance your maintenance program to improve efficiency and reduce waste in at least three ways.
13.	Separate waste materials for recycling.
14.	Practice proper handling and disposal of hazardous materials.
15.	Reduce your use of toxic materials in at least three ways.
16.	Establish a litter-free zone in the immediate vicinity of your facility.
17.	Provide waste reduction, recycling, and energy efficiency information to employees.
18.	Develop your own waste reduction method different from those listed above.

Green Star Services

Green Star members are offered unlimited technical assistance via email and telephone communication. Requests for assistance usually involves recycling questions, hazardous waste inquiries and assistance in the actual award process. Green Star also offers a free site assessment of up to two hours for enrolled members. Green Star offers free site assessments as a Green Star membership benefit. During a site assessment, Green Star staff members conduct an on-site evaluation of the organization's facility and notes positive environmental initiatives already in place that can go towards earning the Green Star Award and areas for potential improvement. This gives the member organization a clear idea of its current status with respect to the Green Star standards, and what it needs to do to meet the Green Star standards. Green Star also maintains an extensive website that is available to members and the public. It includes tip sheets on energy efficiency, waste reduction, recycling, and other pollution prevention topics. Green Star publishes a monthly electronic newsletter that highlights local opportunities for environmental trainings and other up-to-date environmental management options and emails it to interested individuals.

Green Star as a Case Study

This research uses the single case study approach (Yin 1989). The study does not compare and contrast various green certification programs, but considers why Green Star organizations participate. While generalizing to other green certification programs is limited, this study seeks to provide a general understanding of how Green Star fits into this larger pool of programs and how its experience might inform other newly created green certification programs. Green certification programs can range in scale from countywide to national to international. Management structure can range from non-profit, to government run, to university run to an international NGO. Based on literature reviews and informal interviews it appears that Green Star is one of the longest standing non-government green certification programs in the United States. As noted above, Green Star, unlike other green certification programs, requires an annual membership fee and has standards that all organizations, regardless of economic sector, are required to meet. Certification programs such as the PACE program, Montana's EcoStar's, and the EPA's Environmental Performance Track do not appear to have a "standard" set of practices organizations are required to complete, but more flexible, case by case, or industry by industry requirements. Overall, about

66% of voluntary environmental programs are focused on specific industries (Darnall et al. 2003). The Green Star program integrated flexibility into its standards by only requiring organizations to meet 12 of the 18 standards.

Any green certification program has the potential to influence its membership-base and the effectiveness of its assistance through its own program structures and priorities. Green Star, the green certification program studied in this research, is a IRS recognized 501(c)3 non-profit organization, funded mostly by federal and state grants.

A previous study by Darnall et al. (2003) makes a number of recommendations for the implementation of voluntary environmental programs. For the most part, Green Star meets these recommendations. It is surprising that Darnall et al. make no reference to the degree to which organizations are publicly recognized for participating in the voluntary environmental program. In the case of a green certification program, such as Green Star, it has been suggested organizations participate to improve their environmental image in order to appeal to the growing market of “green consumers” (Videras and Alberini 2000). Perhaps a green certification program’s name recognition within a community would be one measure of its efficacy.

Non-profit efficacy can be measured through the non-profit’s mission, whether the non-profit’s services create an impact, customer with the services, and its planning structure and how each dollar translates into a service (Coffman 2006). In the following chapters, Green Star’s services, impacts, and customer satisfaction will be analyzed, which will be used as an indication of its effectiveness at improving the environmental behaviors’ of its members.

Chapter Five
Membership Characteristics:
About the Organizations That Participate

As a first step in the analysis of organizational participation in Green Star, it is necessary to discuss the characteristics of organizations that participate in the Green Star Program. This description lays the foundation for the more in depth analysis that will follow. Variables such as company size, profitability, and ability to innovate may influence participation in a voluntary environmental program (Videras and Alberini 2000). This chapter will first outline general characteristics of participating organizations, such as the number of employees, years in business, and whether or not the organizations participate in other environmental management programs.

These factors will then serve as independent variables to test against the number of Green Star standards organizations report as completed. The number of Green Star standards reported as completed is a measure of the success within the Green Star program. Correlations will provide insights as to whether there are organization characteristics that lead to the success of an organization's participation in the Green Star Program. The section that follows the organization descriptions summarizes organizations' satisfaction with Green Star's assistance meeting environmental management goals. Finally, what organizations perceived to be their biggest challenges in completing the Green Star certification process is discussed.

Membership Characteristics

There were approximately 250 organizations enrolled in the Green Star program. According to Green Star's database, 110 were Green Star Award winning organizations, the remaining 140 were enrollees. According to Green Star's database, almost 50% of the participating organizations were privately owned, 13% are government agencies, 23% are schools, and 15% are non-profit organizations. According to Green Star's database, 75% of Green Star members had less than 100 employees. As stated in the methods section and shown in Figures 3.1 and 3.2, the survey responses accurately represented the population of member organizations in terms of economic sector, number of employees, and percentage of award winners versus enrollees.

The largest economic category represented was the service industry. This includes organizations such as environmental consulting firms, engineering firms, and law offices. The least represented economic sector included agriculture (none), retail, and finance, real estate, or insurance

Table 5.1. Participating Economic Sectors

Economic Sector	# of Orgs.
Finance, Insurance, Real Est.	1
Retail Trade	1
Wholesale Trade	2
Manufacturing	2
Oil, Mining, Gas	4
Transportation, Communication, Utilities	6
Federal Government	6
Non-Profits	10
School	13
Service	14
Other	9

companies. See table 5.1 for the

distribution of economic sector of Green Star member organizations according to the survey.

Almost 80% of the organizations had been active for 40 years or less. See Figure 5.1. Sixty-five percent of Green Star organizations did not

participate in any other type of formal voluntary environmental program such as ISO 14001, the

EPA's environmental performance track, or the

Natural Step Program. Sixty-three percent of the

organizations had been in the Green Star program

for 6 years or less. On average, awardees had

been in the Green Star program for an average of 9.1 years and enrollees had been in the program for an average of 4.5 years. This was a significant difference ($p=.003$).

The fact that the majority of participating organizations had less than 100 employees and did not participate in national voluntary environmental programs emphasized the value of a green certification program with a local presence.

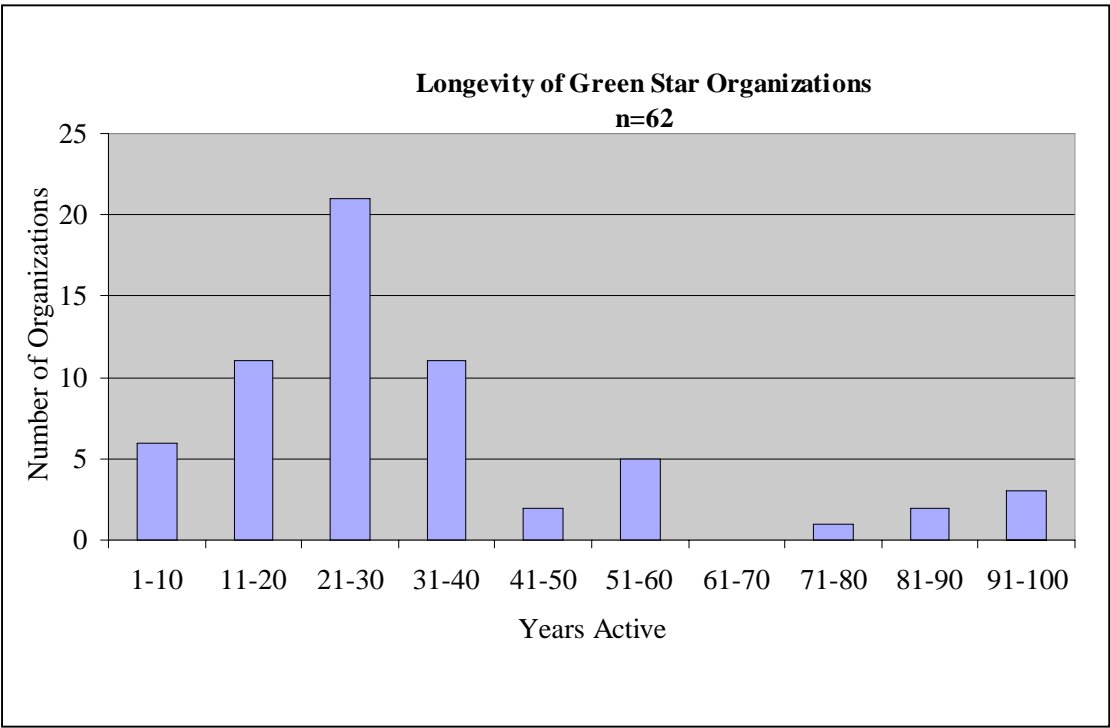


Figure 5.1 The distribution of longevity of Green Star organizations

Characteristics and Success

Success in the Green Star Program was measured by how many of the 18 Green Star standards the organization reported as met by the Green Star Coordinator. The organization received one point for a standard being “Currently in place,” half a point for “Not in place, but working on it,” and zero points for either “Not working on it” or “Don’t know.” As to be expected, there is a significant difference in the number of standards met by enrollees and awardees (p=.018). On average, awardees met 11.17 standards and enrollees met, on average, 8.61 standards. See Appendix F, Test 1.7. It is worth noting that awardees were required to meet 12 Green Star standards, and the average number of standard met by awardees was below 12. There are two possible explanations for this discrepancy. One explanation is that the number of standards met is self reported by the organization’s Green Star Coordinator. Since Green Star Award winners have been involved in the program for an average of nine years, the individual that completed the survey may not have been the same individual that submitted the Green Star Award application years ago, and so she or he not be fully aware of all of the environmental initiatives within the

organization. It is more likely that as the Green Star Program ages within the organizations and some efforts lose their momentum and may eventually no longer be practiced. The president of one Award winning organization mentioned this in her interview,

“We would do things like try to use two sides of a piece of paper. And make note pads out of used paper... We dropped some of those as being impractical.”-President, organization, awardee A

The Green Star Coordinator of a different Green Star Award winning organization described how it had discontinued the incentive program for employee involvement,

“To make sure you were making an effort, if you blatantly said I really don’t care, your name didn’t get to in the hat [for a prize drawing]. That was part of the criteria for the monthly [prize]...it [the drawing] has shifted and gone somewhat by the wayside and other things have taken precedence and stepped up over the top of that.”- Green Star Coordinator, organization awardee B

Organization Sector

In the questionnaire created for this research, the organizations were originally separated into twelve sectors: Agriculture, Services, Wholesale Trade, Construction, Manufacturing, Retail Trade, Oil and Gas, Schools, Non-Profits, Finance, Insurance or Real Estate, and Transportation, Communication, or Public Utilities. When tested as individual categories, there was no significant difference statically between economic sector and the number of standards met.

Following Budros (2000), Green Star members were designated into two larger sector categories; efficiency oriented organizations and institutionally oriented organizations. Efficiency oriented organizations are those that manufacture a product, work with a profit margin, and are influenced by economic and technological drivers. Institutionally oriented organizations are those that provide services or knowledge, work within a budget, and are more likely to respond to socio-cultural drivers (Budros 2000). Based on those simple criteria, organizations were placed in the most appropriate categories, for example, non-profits and schools are institutional organizations,

while oil and gas producers are efficiency oriented organizations. Increased awareness of the importance of environmental stewardship is an example of a socio-cultural driver.

Do efficiency and institutional oriented organizations differ in this case? Based on survey data of this study, efficiency oriented industries do not rank economic goals higher in importance than social or environmental goals.

Likewise, there is no significant difference in the average number of standards met between efficiency and institutionally oriented organizations (8.06 and 10.0 respectively).

See table 5.2 for the frequencies of efficiency and institutionally oriented in Green Star membership.

Number of Employees

While conducting this research, a number of interview respondents mentioned the challenges small businesses face in implementing environmental initiatives. For example, the president of a Green Star enrollee organization with less than 10 employees stated,

“I’m not BP where I have a full time person running my recycling efforts and making sure we have all the standards and stuff...making it more simplified for a small business environment would be the goal... I do it [recycle] because it’s something I want to do. I don’t know how many small business people actually have time to try and do recycling or energy saving techniques.” – President and Green Star Coordinator, organization enrollee A

Table 5.2: Efficiency and Institutional Orientation of Green Star Organizations

Economic Sector	Frequency
Efficiency Oriented	9
Retail Trade	1
Wholesale Trade	2
Manufacturing	2
Oil and Gas	4
Institutionally Oriented	50
Agriculture	0
Finance, Insurance, or Real Estate	1
Transportation, Communication, Public Utilities	6
Federal Government	6
Non-Profits	10
School	13
Service	14
Other	9

A Green Star staff member offered this comment on the mentality of small business members and their environmental efforts.

“I think the larger, more progressive organizations know that pollution prevention means improved efficiencies, which means they aren’t wasting their resources, but small and medium companies have not gotten that message. In fact, I think they’re very much in need of education when it comes to this whole topic.” - Green Star staff member

Are small organizations indeed less able to meet the Green Star standards? Figure 5.2 illustrates the number of standards organization met, based on its number of employees. Note that the number of standards met is relatively consistent across the board. On average, organizations with 1-4 employees met 10 standards and organizations with over 250 employees met 10 standards. The biggest variation is in the category of 10-19 employees where the average number of standards met dropped to about 7.5.

Figure 5.2 also demonstrates the size of organizations within the Green Star program. The employee category that represents the largest number of organizations in the Green Star program is 10-19. This same size category is also the one that completed the fewest standards. Statistically, there is no significant difference in the number of standards met dependent on the number of employees in the organization. However, on average, Green Star Award winning organizations have more employees than enrollee organizations ($p=.06$). The average size for awardee organizations was 20-49 employees, and the average size for enrollee was 10-19 employees. Even though it is not statistically significant, with the concerns of those interviewed and the trend apparent in figure 5.2, organizations with 10-19 employees may benefit from special assistance with environmental management.

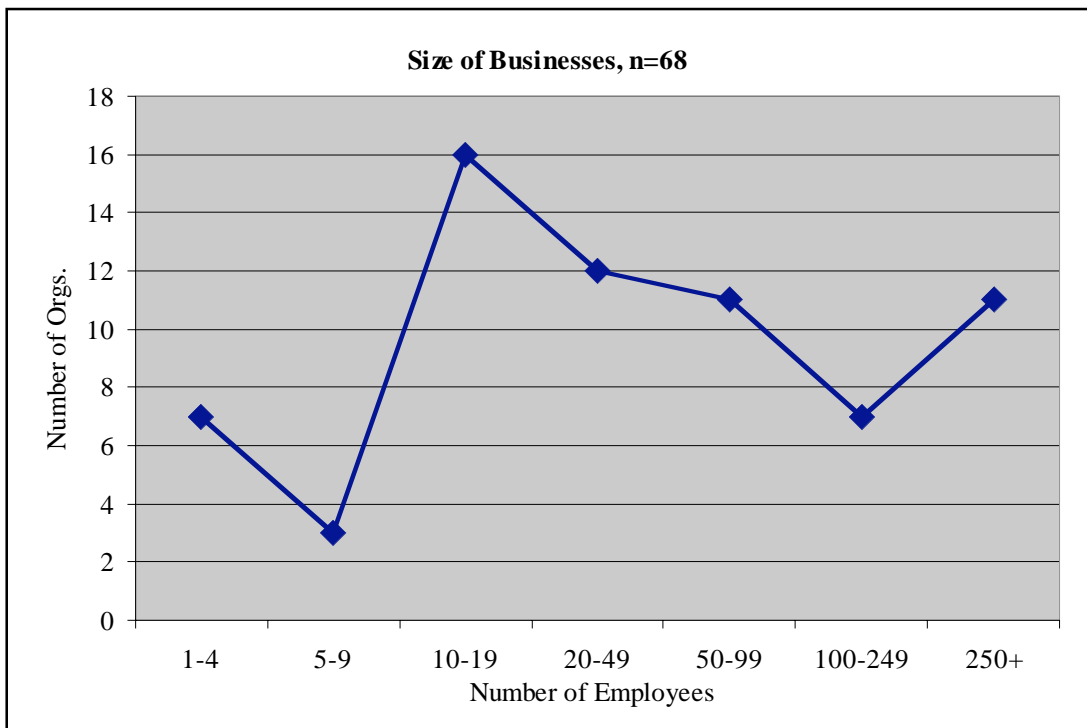
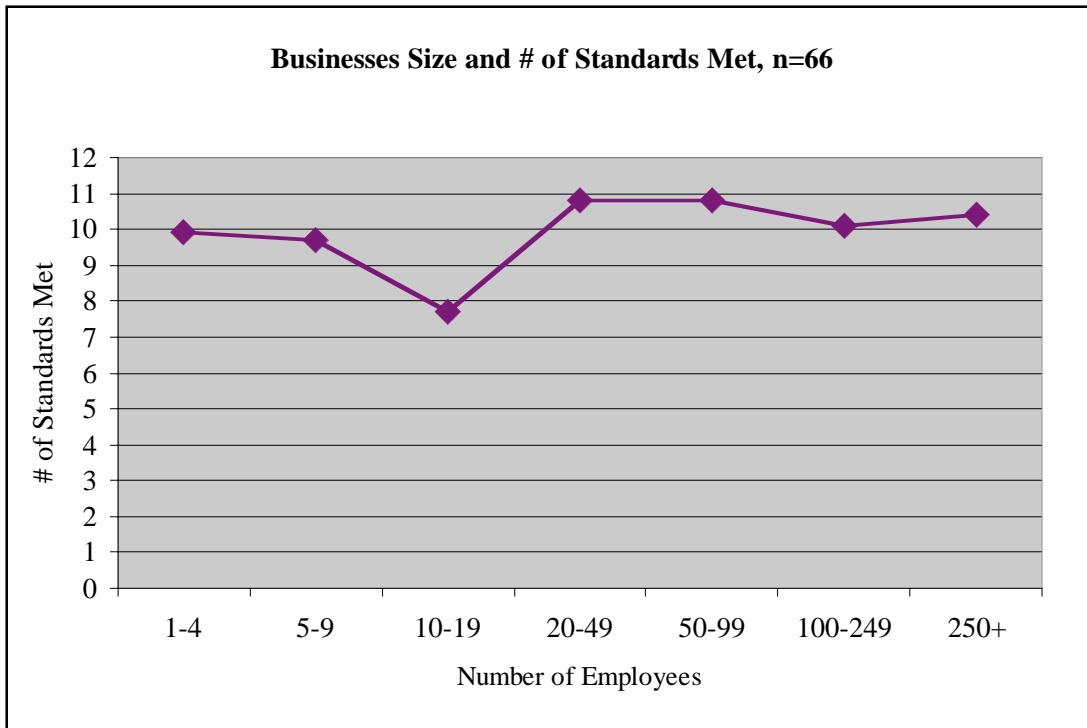


Figure 5.2 The size of organizations and relationship between size and standards met.

Other Factors Related to Success

A number of organizational characteristics were tested, including longevity of the organization, ownership structure, participation in other environmental management programs, person initiating participation in the Green Star program, the involvement of top management in the Green Star program, and employee commitment to the Green Star program. Of all the listed factors, only different levels of involvement of top management and employee commitment resulted in a significantly different number of standards met ($p=000$, $p=.002$ respectively). See Appendix F, Test 1.5 and 1.6. The more involvement of top management is in maintaining the Green Star standards, the more standards are reported as being met. A similar relationship existed for the commitment of employees to the Green Star Program. There are no data points for “not involved” employees. That is most likely because at least one employee had to be involved enough to complete the survey. See figure 5.3. 10.6% of respondents reported top management as “Very involved.” 40.9% of respondents reported top management as only being “A little involved.” This finding supports the hypothesis that most organizations participate due to the passions of one individual.

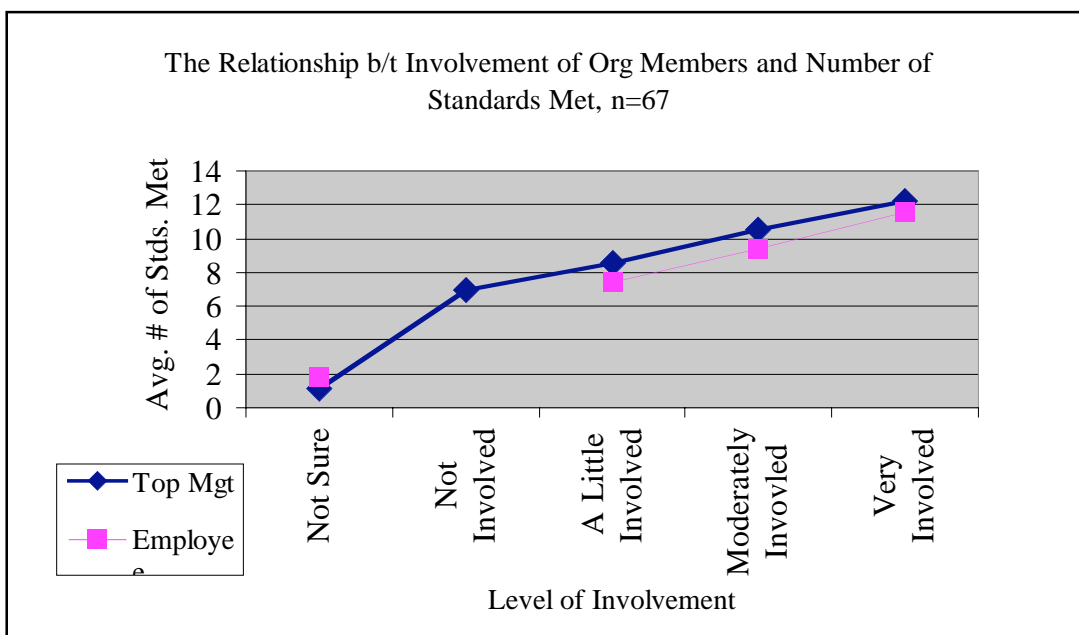


Figure 5.3 The relationship between top management, employee commitment, and standards.

When asked whether a director/CEO, manager/administrator, supervisor, or employee initiated participation in the Green Star program, respondents most often reported that an employee initiated involvement. See Figure 5.4. There was no significant difference in the number of standard points met or the award status of organizations, depending on who initiated participation in the Green Star Program.

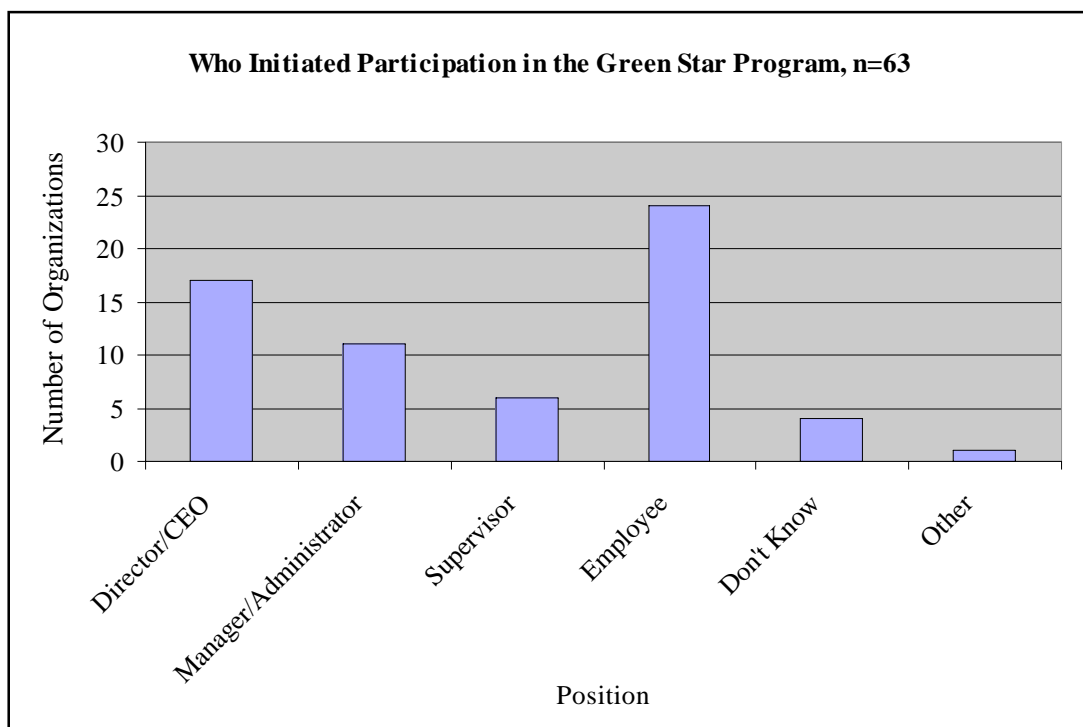


Figure 5.4 Who within the organization initiated participation in the Green Star program

Interview Insights

The involvement of top management in maintaining the Green Star standards shows a positive linear relationship to the number of Green Star standards met. Commitment from top management may translate into the Green Star program being included in job descriptions, which allows employees to take the award process more seriously. If top management finds little value in the program, in addition to the employee keeping the program as a side project, the management may not be impressed with the final results. The president of one member organization explained why his organization had not earned the Green Star Award,

“You need top management buy-in on any sort of system to make it happen and, I guess to be perfectly blunt, I don’t think we have top management buy-in in Green Star.”

– President, organization enrollee B

Challenges

There are two dimensions to the challenges of participating in a green certification program for an organization. One is the challenges the participating organization itself faces. The other is how well the green certification program assists an organization in meeting its goals. In the survey, enrollees were asked to put an X next to the three biggest challenges to earning the Green Star Award. The options were:

1. Don’t own the building we work in
2. Not enough interest within the organization to make changes
3. Not enough money to make changes
4. Don’t know how to make changes
5. There are too many standards

The three most commonly chosen challenges were Don’t own the building, Not enough money to make the changes, and Not enough interest in the office. See Figure 5.5.

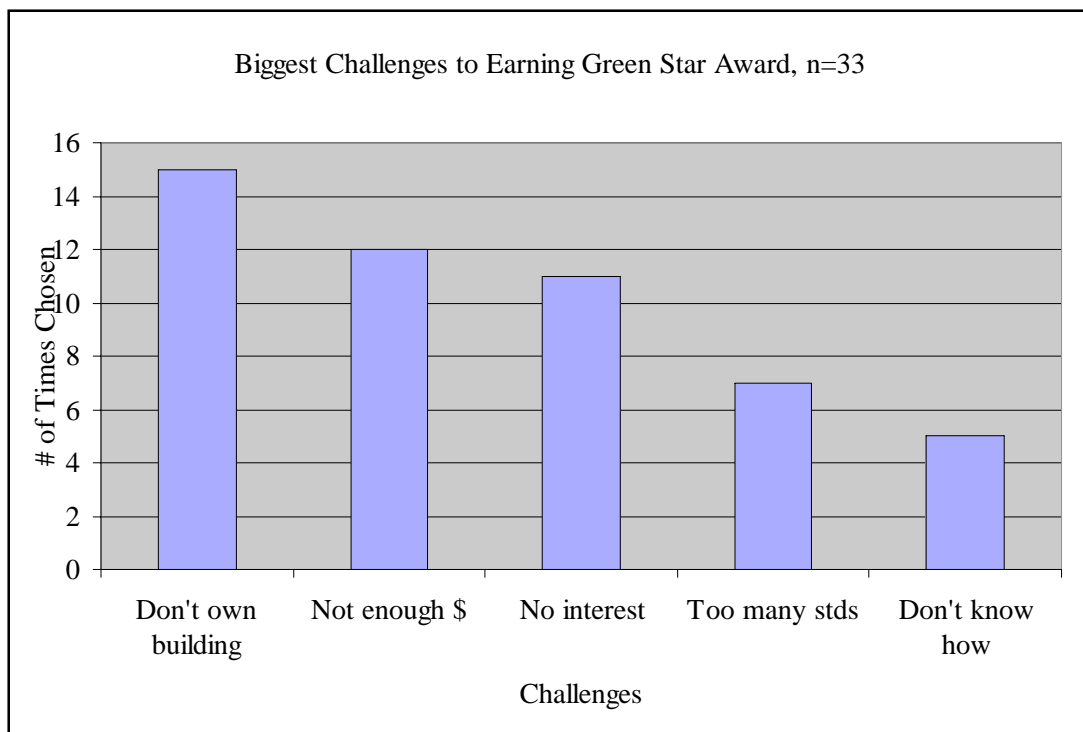


Figure 5.5 The reported biggest challenges in earning the Green Star Award.

Interview Insights

The most commonly noted challenge was not owning the building they work in. Two interviewees from different organizations addressed the difficulty of making structural changes to improve the energy efficiency of their organization because they did not own the building they worked in. One Green Star Coordinator from Award winning organization discussed lighting,

“...[T]rying to switch fixtures to T8’s and that kind of thing it’s not anything we have any control over because it’s not our building.” – Green Star Coordinator, organization awardee B

The other addressed his building's heating system,

"...[W]e need some sort of heat pump to pump the heat from that end to this end. If it were my own building, I would be willing to put that in, but I really don't want to pay to put that in another guy's building." – President, organization enrollee B

It is surprising that "too many standards" was not ranked higher, because two organizations complained during interviews about the quantity of paperwork and checklists associated with the program,

"I thought it was too much paperwork for a small business person [with] less than ten employees or something like that. You know, you don't have time to put through all the paperwork [and] sign off all sorts of things." – President and Green Star Coordinator, organization enrollee A

"It seemed like for the most part, it was the time and the follow through. I was looking at some of the standards as we're talking here, it was bringing other organizations in and notifying customers, clients, whatever... we just chose to, you know, walk the talk instead of actually advertising the fact of whatever we were doing." – Green Star Coordinator, enrollee organization B

Satisfaction Ratings

Six goals were identified as driving forces for participating in the Green Star program. They are as follows:

- Reducing costs associated with resource use
- Reducing costs associated with waste disposal
- Improving environmental image with business partners
- Improving environmental image with the public/consumers
- Reducing the environmental impact of your organization
- Increasing employee and public environmental awareness

Respondents were asked to rank Green Star's assistance in meeting these goals as "Very helpful", "Moderately helpful," "A little helpful," "Not helpful," or "Not sure." In almost all the cases, the most common response was "Very helpful." See Appendix E for the rankings of each goal.

For all but the cost reduction goals, Green Star was most often rated as "Very helpful." In reducing resource cost, the most common response was "Not sure." This may reflect those organizations that do not own the building they work in and whose utilities are included in rental fees. The most common response for reducing cost associated with waste disposal was "Moderately helpful." Because, Green Star was so often rated as very or moderately helpful, perhaps the best way to critically use this data is to evaluate where Green Star was most often rated as "A little helpful" or "Not helpful." 46% of the "a little or not helpful" ratings were in decreasing costs and 29% were in improving image, with 25% of the "A little or Not helpful" ratings being in the environmental goal categories. See Figure 5.6.

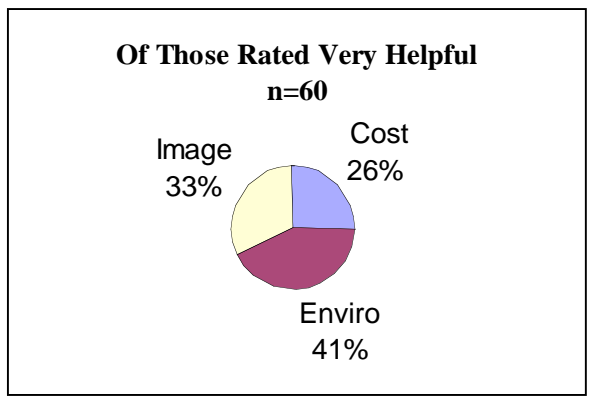
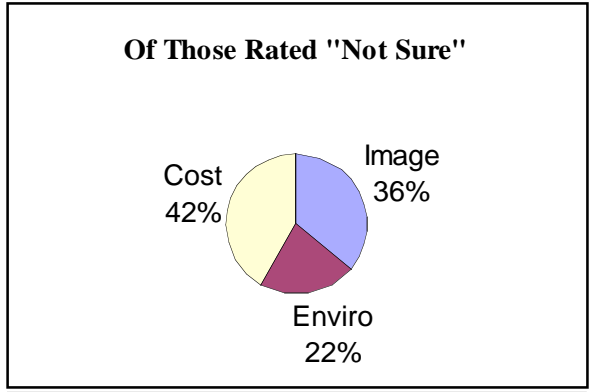


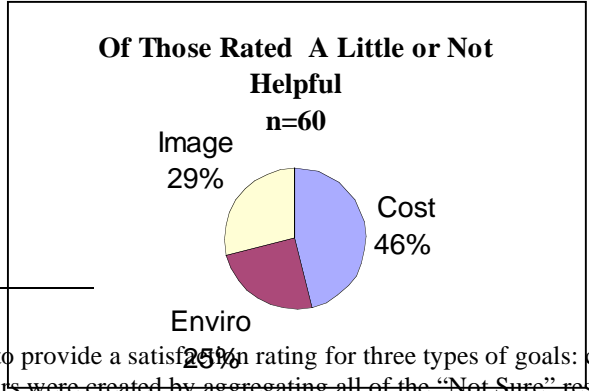
Figure 5.6
satisfaction ratings
assistance in

According to Green
it does not have a
marketing. Limited
included in the
development, and
category but that is



Organization
with Green Star's
meeting goals².

Star's annual report,
budget dedicated to
marketing may be
"membership,
fundraising"
only 1.4% of the



² Respondents were asked to provide a satisfaction rating for three types of goals: cost, image, or environmental. The pie charts were created by aggregating all of the "Not Sure" responses into one pool, all of the "Very Helpful" responses into one pool, and all of the "A little or Not helpful" response into one pool.

overall expense budget for fiscal year 2005-2006, with the other 98.6% of expenses fitting into the “Program services and general administrative” budget (Green Star 2007). Without a strong emphasis on marketing and logo recognition, it is unlikely Green Star would attract members that are most interested in expanding their customer base through positive environmental recognition. However, receiving an award does inherently offer some positive recognition. This may explain why “Image” is usually rated between the environmental and economic goals.

Discussion

Identifying key characteristics of participating organizations and what internal or external factors affect an organization’s success in the green certification program can help pinpoint challenges that are a result of the green certification program itself.

The majority of organizations that participate are small organizations with less than 100 employees. That finding combined with the fact that over half of the organizations do not participate in any other type of environmental management system implies that Green Star is filling a need in the community. The final chapter will discuss the unique challenges small organizations face in changing environmental behavior. However, for the most part, organizations of all sizes seemed capable of meeting the Green Star standards, partly due to the flexibility of the standards.

The majority of participating organizations are service related, with very few in retail trade, restaurants, or supermarkets. The types of organizations tend not to be in the sectors that individuals can support as consumers. This could lead to a lack of justification to fund a strong marketing department and could explain why 25-30% of respondents reported that they were “not sure” if Green Star was helpful in improving their environmental image with the public or other organizations.

The majority of the a little or not helpful ratings are for cost reduction, one should not be surprised that the majority of the organizations that chose to remain Green Star members are not looking for cost savings. Those organizations that were looking for cost savings may drop out of the program due to dissatisfaction. As mentioned, “Not sure” was the most common response in

rating the helpfulness of Green Star assistance with reducing costs associated with resource use. Finding ways to assist organizations in measuring the outcomes of environmental behavior changes may improve satisfaction with this green certification program and broaden the membership-base.

Of the various factors tested with survey data, the involvement of top management and employee commitment were the only two to have a statistically significant difference in mean standards met, based on the levels of commitment. 41% of responses indicated that top management was “a little involved” or not involved”, which is a relatively high percentage since the results indicate that top management involvement is integral to success. One confounding factor may be the influence of one or more key individuals within the organization, particularly the Green Star Coordinator, can have on the Green Star program. The role the Green Star Coordinator may play in the success of the Green Star program is explored more thoroughly in the next chapter.

Not owning the building the organization is housed in was reported as being one of the top challenges in earning the Green Star Award. This situation is a double-edged sword. Usually tenants can not make changes such as improving lighting or heating systems because of the high capital cost and required approval from the building manager or owner. Additionally, utility meters are rarely zoned in a way that corresponds with tenant occupancy; therefore there are no incentives to contribute to conservation. For example, if one organization occupant in a large building decreases its energy use, it does not realize the monetary benefits of the change because it shares its bill with other tenants, or the cost of utilities is included as a flat rate in the lease. Setting monetary benefits aside, the tenant will have difficulty finding that “feel good feeling” when the organization can not monitor utility bills to gauge the success of its environmental efforts. While this barrier may frustrate Green Star members wishing to initiate substantial cost or resource savings, it does not prevent organizations from meeting the Green Star standards because organizations receive credit for behavioral changes such as posting signs to turn lights off or setting computer monitors to automatically hibernate after a period of inactivity.

Not having enough money to make changes was noted as the second biggest challenge in earning the Green Star Award. This may indicate that respondents do not feel that implementing the

Green Star Program will save their organization money, but rather that the environmental changes require an economic sacrifice, or at least a high capital cost.

Overall, general characteristics of an organization such as economic sector, size, ownership structure, and years in business do not seem to have a significant affect on an organization's ability to meet the Green Star standards.

Chapter Six: Why Do Organizations Participate in the Green Star Program?

Understanding why organizations participate in voluntary environmental programs, such as Green Star, provides insight into the recent societal phenomenon of “green business.” Determining whether businesses are responding to consumer pressures, acting on the ethics of key employees, or looking for economic gains through efficient resource use may have applications to those directly involved in establishing these programs. Studying the reasons for organizations to participate in the Green Star Program not only provides an insight into organizational behavior related to sustainability, but can help to identify potential strengths and weaknesses of the green certification program. For example, if the results demonstrate that organizations are not participating to improve their environmental image, image may still be a motivating factor for organization participation. A green certification program may want to capture this incentive if it is relevant.

Four survey questions served to measure why organizations participate in the Green Star program. The first question asked the respondent to rank six goals in order of importance to his or her organization. The survey choices were related to environmental impacts, cost reduction, and image (see questionnaire in appendix A). The second question addressed the goals of the Green Star Coordinator, who serves as the liaison between organization and Green Star. The Green Star Coordinator typically spearheads the green certification efforts and completes the application for the Green Star Award. This person functions as a critical link between the certification program and the internal implementation of the program, and because of the key role this individual plays, his or her actions and values (.i.e. personal goals) may influence the outcomes of the green certification program. The third question addresses which Green Star services the organization values. The services that the member organization utilizes may result in more economic, environmental, or image outcomes such as saving money on new purchases or disposal costs with the Alaska Materials Exchange, or making the extra effort to recycle by utilizing the Green Events program. Finally, the Green Star standards actually completed by the organizations served as a measure of environmental or economic outcomes.

In the first section of this chapter, each of those survey questions was studied individually. At the end of the chapter each question was weighted and aggregated to determine a multi-dimensional overall goal profile for each organization.

Goal Ranking

Questionnaire Results

The respondent was asked to rank six goals in order of importance to his/her organization with 1 being most important and six being least important.. Each goal falls into one of three main goal categories: i) environmental, ii) economic, or iii) image. These goals were referenced in the last chapter. As a reminder the six goals are listed below.

- Reducing costs associated with resource use
- Reducing costs associated with waste disposal
- Improving environmental image with business partners
- Improving environmental image with the public/consumers
- Reducing the environmental impact of your organization
- Increasing employee and public environmental awareness

The average rankings for each goal are in Table 6.1, listed from highest rankings to lowest rankings.

Table 6.1 Goal rankings

Goal	Goal Type	Mean Ranking* n=53	Standard Deviation
Reduce environmental impact	Environmental	1.83	1.20
Increase employee and public awareness	Environmental	2.66	1.37
Reduce resource costs	Economic	3.66	1.46
Improve image with the public	Image	3.98	1.38
Reduce waste disposal costs	Economic	4.01	1.63
Improve image with business partners	Image	4.85	1.35

*1= most important, 6 = least important

When the six goals were recoded into the three main goal categories, 81% of the number one ranked goals were environmental, 15% were economic goals and 4% were image oriented goals. When the goal categories of the first and second stated goals were combined, the importance of economic gains from environmental efforts was greater, increasing from 15% to 25%. Since

Green Star is a certification program, it is surprising that improving image was consistently ranked low in importance. See Figures 6.1 and 6.2.

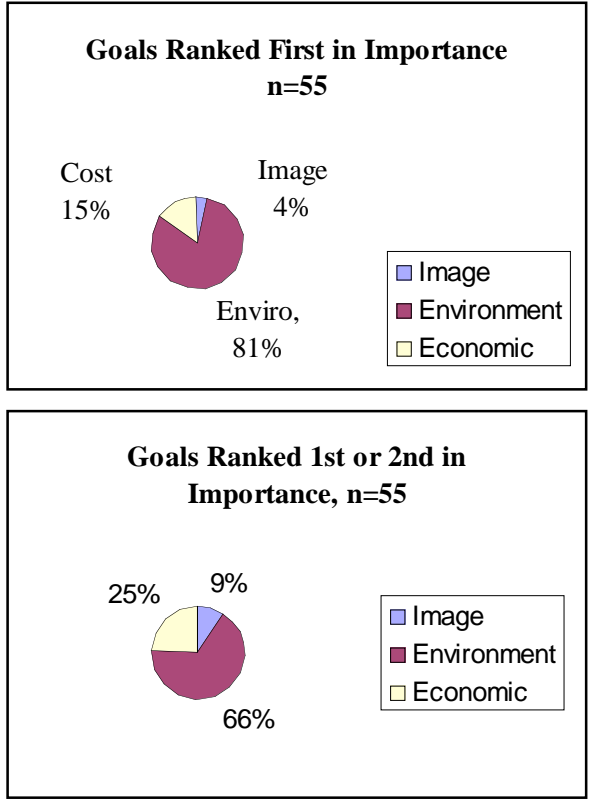


Figure 6.1 Organization first and second rankings of goals.

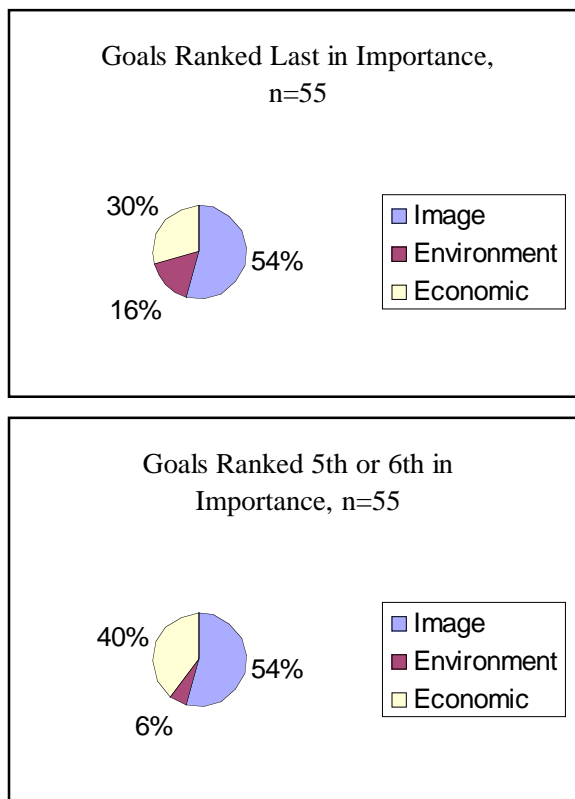


Figure 6.2 Organization fifth and sixth rankings of goals.

Goal ranking is assumed to be the most direct way of assessing the motivation for participating in the Green Star program. It might be argued that self reported goals can not be taken strictly at face value because unreported factors may affect results. The problem was addressed by assuring respondents that their responses would remain confidential and thus decreasing other spurious motivations from being reported and the likelihood of false reporting. The respondent is likely to have a thorough understanding of which goals are important to the organization because the respondent either had to convince top management to participate in Green Star or top management explained to the respondent why he or she was to take on the added workload of earning a Green Star Award. One may wonder whether or not the organization reported having economic or environmental goals influenced how many economic oriented or environmentally oriented standards the organization met. There was no statistical difference in the number of standards met in each category, depending on whether the organization was economically or

environmentally oriented. This could be explained, in part, by the fact that so many organizations reported having environmentally oriented goals (81%) compared to only 15% that reported economically oriented goals.

Interview Insights

The possibility that environmental, rather than economic or image organizational goals drives Green Star membership were also explored in the previous chapter when discussing organization satisfaction with Green Star's assistance in attaining their goals. As noted, Green Star was most commonly rated as "Very helpful" in meeting environmental goals and most often rated as "A little or Not helpful" in meeting cost cutting goals (refer to figure 5.5). It is not surprising that the goals that were most important to Green Star organizations and the goals that Green Star is best apt in assisting organizations with are the same. It is possible that organizations with more economically oriented goals had simply dropped out of the Green Star program because the services were not aligned with their organizational goals. One president of a Green Star enrollee organization that later dropped out of the program stated:

"If they do want to be effective...they need to raise their image and their message as to why it is a good idea and why it will help me and my business .I really, am into minimizing bureaucracy, in addition to waste, because that to me, is a waste of human resources, and so, I would rather dispense with all of that and just do the right thing and go about our business...if there's something they [Green Star] can do to make me more efficient, I'm all in favor of that but if they're just putting hurdles in my way, I don't need that." -- President, organization enrollee B.

The president of a Green Star awardee organization had a different perspective on the monetary and efficiency issues.

“I don’t think has anything to do with monetary anything... I think it [recycling] costs money. What I was looking for is a method to do it and one that wouldn’t cost too much money or time... I was looking to support the [Green Star] program because I felt that other businesses should try to do it too and I thought that more people that jump on the bandwagon the better. Lead by example.” - President, organization awardee A

While the goal rankings of the survey clearly indicate that improving environmental image did not rank high in importance for participating organizations, interviews indicated that image may be more important than the survey indicated. One organization that later dropped out of the Green Star program implied that because image was not important to his organization, there was no need to remain in the Green Star Program,

“We just chose to, walk the talk instead of actually advertising the fact of whatever we were doing. - Green Star Coordinator, organization enrollee B.

The Green Star Coordinator of an Award winning organization noted the opposite,

“It [the Green Star Award] is quite honestly... a nice little logo to have. It shows that we’ve gone the extra step that we didn’t need to take to actually bring us to a little bit of a better place.” – Green Star Coordinator, organization awardee B.

Green Star's Executive Director agreed that image is important to Green Star organizations, but also noted that Green Star needed to improve publicity efforts:

“A lot of them [member organizations] really do like to show that they've got the Green Star award and that really is the motivator... [I would like to see] the strengthening of the awards program and having better community recognition of what it means and who has it and maybe even more specifically what each individual award winner has done. That's always been something that I'd like to see more of, better, wider spread.” - Green Star Executive Director

Most Valuable Services

Green Star, the non-profit, offered Green Star members and the Anchorage community a number of services in addition to presenting the Green Star Award. These services included: Green Events, Site Assessments, Workshops/Tours, Electronics Recycling, the Electronic Monthly Newsletter, the Green Star Award Program, Air Quality Programs, and the Alaska Materials Exchange. Each of these services offered a varying level of assistance for economic, environmental, or image improvements. See Appendix D for a brief description of each service.

Questionnaire Results

In the survey, respondents were requested to place an X next to the three most valuable services

Table 6.2: How organizations valued various Green Star services

Service	Number of times chosen as one of top three programs
Electronics Recycling	45
Green Events	24
Site Assessments	22
Newsletter	20
Alaska Materials Exchange	19
Green Star Award	14
Air Quality Programs	12
Workshops	9

provided by Green Star.

The three services most often chosen as one of the top three services offered by Green Star are 1) electronics recycling, 2) Green Events, and 3) site assessments. This list demonstrates that organizations value programs that decrease environmental impact and resource/waste costs more than they

value programs that improve environmental image, such as the Green Star Award and Air Quality Award programs. Table 6.2 lists how many times each service was chosen as one of the top three programs (n=63).

All services were tested against the number of standards organizations met to determine of certain services offered better assistance in meeting Green Star's standards. Green Star's electronic monthly newsletter which is ranked dead center in value to organizations, has a statistically significant relationship with the number of Green Star standards an organization reports meeting. Organizations that ranked the electronic newsletter as one of the top three services consistently earned more Green Star standards (mean = 12.42) than organizations that did not value the electronic newsletter as one of the top three services.(mean = 8.69,p=.001). See Appendix F, Test 1.1

Interview Insights

The most valued Green Star services were reported as electronics recycling, Green Events, and site assessments with the Green Star Awards program again being towards the bottom of the list. Organizations were more interested in services that had results than services that provided recognition. The Green Star Coordinator at an Award winning organization had this to say about the value of site assessment:

“Coming in and doing an [site] assessment ...was very beneficial because there’s a lot of stuff. You’re working all day and not paying any attention to the stuff around you, you’re just doing what you do. Without taking the blinders off and really looking at different things...that was probably the most helpful piece of it - to have them to be able to come and notice the little stuff...because you get so caught up in the day to day grind of doing things, that you just don’t notice things like that. Everything from more environmentally friendly highlighters or markers to the things that have petroleum, versus soy type based products and cleaning using a simple green versus methyl ethyl bad stuff.” Green Star Coordinator, organization awardee B

This quote from an organization of 50 employees demonstrates that the smaller organizations that participated in the Green Star Program did so, in large part, for information exchange. This is similar to the larger businesses that participated in the EPA's Environmental Performance Track (Videras and Alberini 2000; Florino 2001).

Materialist/Post Materialist Value Orientation

Organizations are comprised of the individuals within them. Determining the value orientation of the individual who heads the Green Star effort in the organization provides insight into the organizational culture. Inglehart (1997) suggests that since the postwar era there is a continuing shift in most industrialized nations from materialist values to post-materialist values, meaning that people emphasize quality of life over economic and physical security, and therefore are willing to sacrifice some economic gain for higher environmental quality. In this study I focus on the goal orientation of the Green Star coordinator as a means of accounting for another dimension to the overall goal of the member organization. I used this measure with the acknowledgement that the goal orientation of one individual did not necessarily reflect the organization as a whole. Given that the coordinator was generally selected by top management and functioned to advance the environmental standards of the organization, I suggest that this measure is important to understanding the factors that affect organizational participation in the Green Star program.

Questionnaire Results

Inglehart's method of determining the value orientation of an individual is used in this study. See *Wildlife Values in the West* (Teel, et al. 2003) for another study that used Inglehart's methods of measuring personal goals to determine the value orientation of an individual. Respondents were asked to put an X next to three of six sets of goals. Three of the sets of goals indicated a materialist orientation and three sets of the goals indicated a post-materialist value orientation. For each post-materialist set the respondent chose, he or she was assigned one point, creating a scale ranging from 0-3, with 0 being strong materialist and 3 being strong post-materialist. To decrease the influence of one specific goal (rather than the general materialist or post-materialist qualities of it) in each version of the survey different materialist goals were matched as a set and different post-

materials goals were matched as a set. Over 75% of Green Star Coordinators are considered “post-materialist” to some degree. See Figure 6.2.

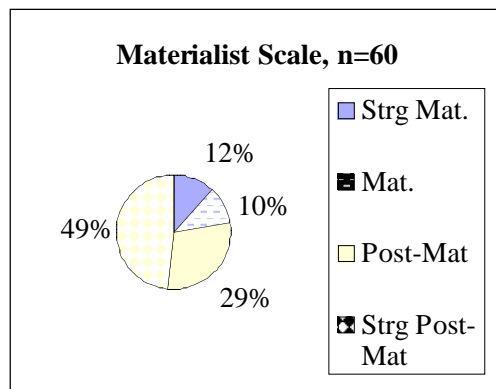


Figure 6.3 The value orientation of Green Star Coordinators

Interview Insights

Considering roughly 70% of those polled in the United States consider themselves "environmentalists" (Makower 2000 in O'Rourke 2005), the 75% post-materialist value orientation of Green Star Coordinators is not surprising. Appealing to the environmentalist as a consumer is not a new concept, but appealing to the environmentalist as an employee is rarely considered. If an employee strongly identifies with an organization's objectives and value systems, he or she is willing to expand effort on its behalf, thus improving productivity (McKenna 1994). Studies show that productivity is increased in green buildings. The key factors reported are air quality, thermal comfort, natural lighting, and acoustics (Penn 2003). Adopting the Green Star standards has potential to improve three of those four factors. Organizations are encouraged to purchase less hazardous cleaning materials and non-toxic markers, which can improve indoor air quality. Maintaining heating air conditioning and ventilation units also improves indoor air quality as well as thermal comfort. Natural lighting is recommended to decrease energy use. There are no standards that address acoustics. Participating in Green Star may not only improve employee productivity, but may also increase employee commitment to the organization, if environmental impact is important to the employee. Likewise, interview data

implies that having an employee that believes in the mission of the environmental management program will improve the quality of that environmental management program. A president of one Green Star Award winning organization describes the dedication of her Green Star Coordinator:

“She has a sort of a personal crusade. She actually recycles things we didn’t even really recycle before. She takes it upon herself to take stuff to the recycling center that the recycling people won’t pick up here.” – President, organization awardee A

A dedicated Green Star Coordinator may also “encourage” other employees to participate, as this Coordinator from a different Green Star Award Winning organization describes:

“To be very honest with you, it’s far more about me beating on somebody’s head to get them to do something than any kind of a group effort... it’s hard to keep on top of other people, because they’re not nearly as aware as they should be.” – Green Star Coordinator, organization awardee B.

These finding support that individuals within the organizations are keeping their Green Star Program strong due to a personal environmental ethic. The Executive Director of Green Star attributes quite a bit of Green Star participation to key individuals within the organizations:

“Why are they going after the Green Star? It seems to be the number one reason is because there is somebody in the organization that believes the same, that believes in the things that Green Star promotes, and wants to see it happen.” – Green Star Executive Director.

Green Star Standard Outcomes

Organizations were only required to meet 12 of the 18 Green Star standards to earn the Green Star Award. The first six Green Star standards were required, but the organization could choose to meet any six of the remaining 12 standards. As with the services that Green Star offers, different Green Star Standards resulted in more environmental or economic outcomes. For

example, if an organization chose to meet standard #11 - *Purchase at least three different types or sources of recycled-content products*, that organization would receive one point in the environmental category because recycled content products often cost more than virgin material products. The organization was obviously not saving money by meeting that standard. However, if the organization chooses to meet standard #8 and *incorporate at least three energy-conserving changes*, the direct outcome of that initiative saved money, and the organization received one point in the economic goal category. While it is possible that an organization chose to save energy to protect the environment, the ultimate benefit was cost savings, and that was not the case with purchasing recycled content products. No standards required that organizations display their Green Star Award, so gaining points in the Image category also was not possible for this question. Green Star standards that resulted in both positive environmental and economic outcomes were omitted in this analysis since they do not give an indication as to whether the organization was leaning one way or the other. Both the economic and environmental categories contain three standards each. For a list of the Green Star standards and their environmental or economic designation, please see Appendix D.

Questionnaire Results

Looking at the top graph in Figure 6.3, there is very little difference in the number of organizations that met zero, one, two, or three standards in either the environmental or economic standard categories, implying that Green Star member organizations do not prefer, or are not more able, to complete a certain type of standard. The bottom graph in figure 6.3 was created by dividing the number of environmental standards completed by the number of economic standards completed. For example, if the organization completed three environmental standards and three economic standards, then that organization fell in the equal category. If the organization completed one environmental standards and two economic standards, the organization was placed in the moderate economic category. This provided a ratio for the types of standards met by each organization. The majority of organizations met equal number of environmental and economic of standards.

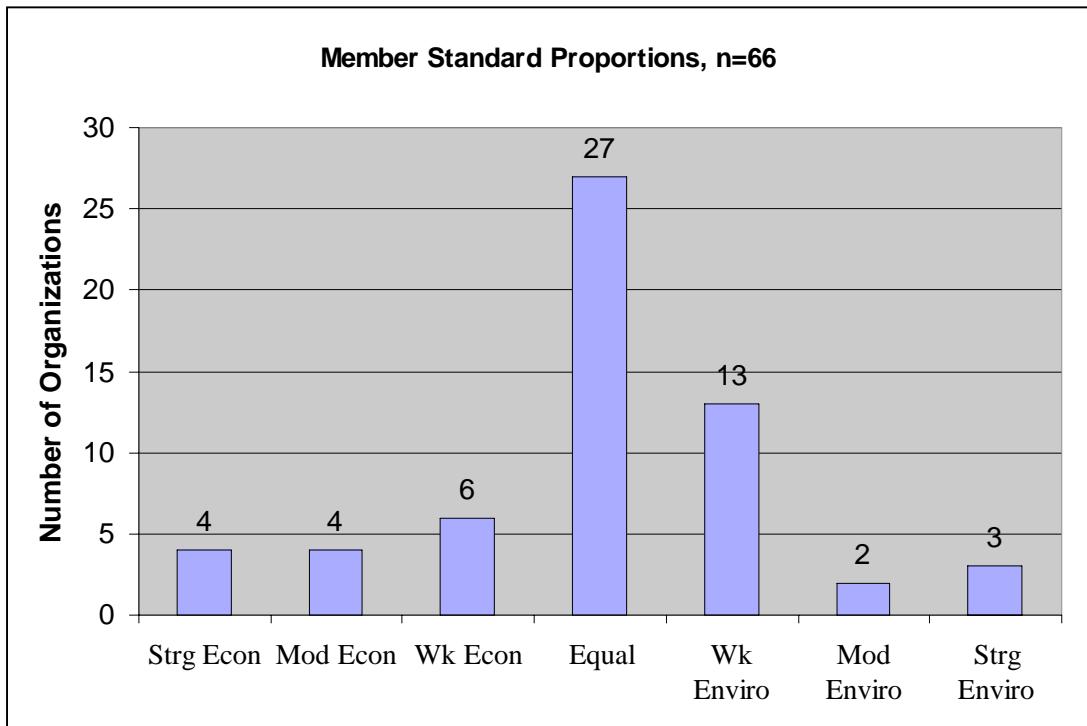
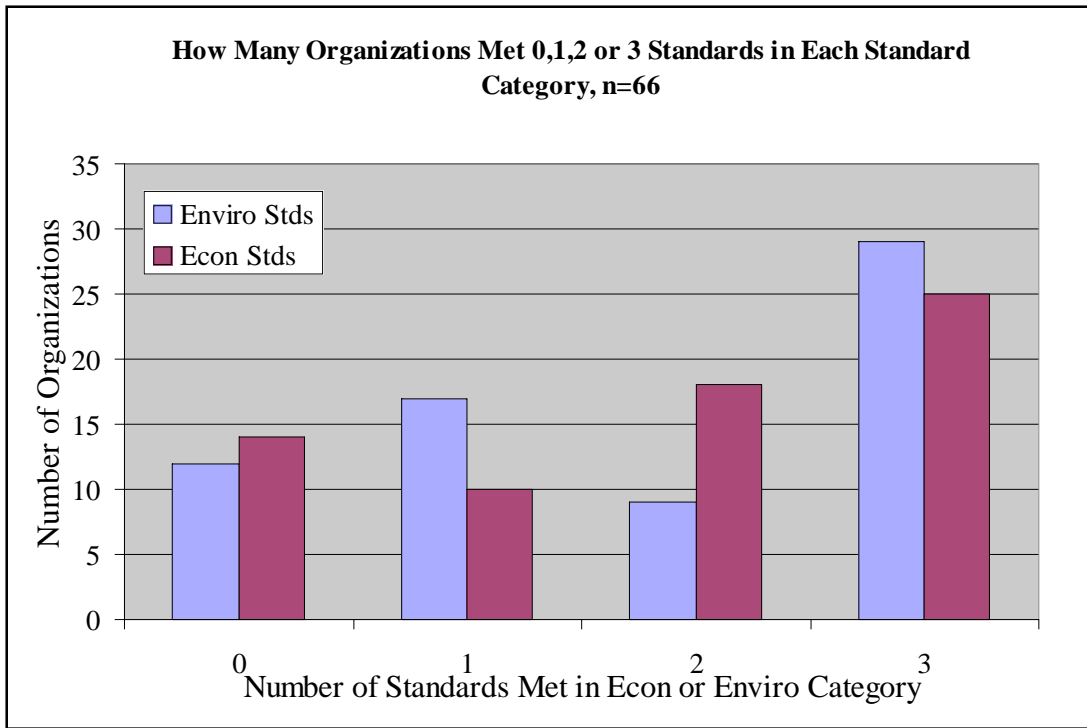


Figure 6.4 The types of standards met by Green Star organizations

The Goal Profile of Member Organizations

This section lays out the rationale, assumptions, and structure of a framework used to determine the overarching goals of organizations that participate in the Green Star Program.

To review, when asked, 81% of respondents ranked environmental goals first, economic goals second, and image oriented goals last. Organizations valued programs that decrease environmental impact and resource/waste costs more than they valued programs that improve environmental image, implying that seeing environmental results were more important to members than publicity. Over 75% of Green Star Coordinators are considered “strong post-materialist” but this does not seem to affect whether the organizations completes more environmentally or economically oriented goals as demonstrated by the very little difference in the number of organizations that completed standards with environmental outcomes versus standards with economic outcomes. How can the results of four motivation indicators be combined and analyzed to shed light on why organizations are participating in the Green Star program?

It can be difficult to identify the goal of an organization because concepts like goal are multi-dimensional. One of the United State’s most popular proverbs, “Actions speak louder than words,” reminds us that some indicators may more strongly represent desired outcomes than others. For example, the actual action of an organization such as the type of environmental initiatives adopted (i.e. type of standards met), may be weighted more heavily than how the respondent chose to rank organization goals in the survey. See Figure 6.5. Likewise, the indicators that represent organizational behavior, such as the Green Star services used and the Green Star standards met are weighted more heavily than indicators that represent the respondent’s perceptions, such as his or her own value orientation and the goal he or she stated as being most important to the organization.

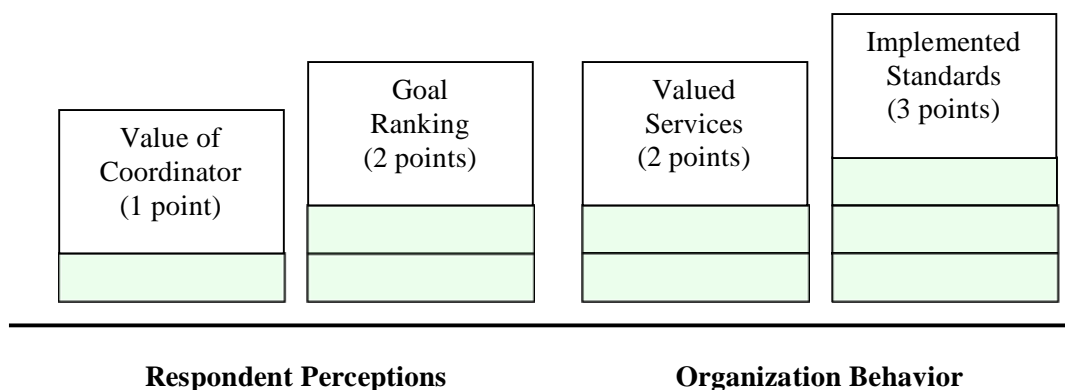


Figure 6.5 Visual representation of goal profile indicators

The indicators were combined into a single economic, environmental, or image goal profile, with each indicator having a relative weight. The organization would earn up to the maximum points listed in each category, which will be described in further detail below. For a final score in each goal profile, the organization's total number of points in each category was divided by the total number of possible points. A proportion was used to account for the fact that the image category has a lower number of possible points because the materialist and post-materialist and standard outcome indicators did not have an image dimension. Each organization was given a score that ranges from "not" image, environmentally, or economically oriented to having a strong image, environmental, or economic profile. To clarify, each organization got a score in each of the main goal categories of environmental, economic, or image. The first section below will describe how each indicator was scored. The last section will detail the goal profiles of Green Star members.

Scoring

Goal Ranking

Simply asking what is the main goal for joining the Green Star Program was one of the most direct ways of determining the organization's goal without measuring behaviors. Therefore, goal ranking is worth up to two points in the goal profile. One point was put into each category for the first two ranked goals. For example, if the respondent ranked "Increasing employee and public environmental awareness and Reducing the environmental impact of your organization" as the top two goals, then that organization received two points in the Environmental category. However, if the respondent ranked "Reducing the environmental impact of your organization"

and “Reducing cost associated with resource use” as the top two goals, then that organization received one point in the economic category and one point in the environmental category, and so on.

Materialist/Post-Materialist Value Orientation

For use in the goal profile, any organization whose Green Star coordinator was a Materialist or Strong-Materialist received one point in the economic category and any organization whose Green Star Coordinator was a Post-Materialist or Strong Post- Materialist received one point in the environmental category. There were no points to be placed in the image category for this goal indicator.

Most Valuable Services

Of the eight services listed, the three that were most exclusively environmental, economic, or image oriented were chosen to contribute to the goal profile. If the respondent chose any of the three below services as most valuable, their organization received one point in the appropriate category.

Environmental

Green Events: Recycling bins are loaned to organizations for various events at no cost. The hauling of the recycling and time to organize bins usually costs organizations more money than they can expect to save by diverting recyclables from the regular waste stream. The events vary from internal company picnics to public events such as the Alaska State Fair, so it is unlikely that the main goal is image or economics. This service was the second most commonly reported valued service by Green Star members, indicating that there are few barriers to participating in this program.

Economic

The Alaska Materials Exchange (AME) - AME is a free online posting of wanted and available commercial products that reduces purchasing and disposal costs. The designation of this as an economically oriented service is further supported by the fact that organizations that chose this program as one of the top three programs were statistically more likely to rank economic goals

higher in importance than organizations that did not value this program ($p=.045$). See Appendix F, Test 1.2.

Image

The Green Star Award- Green Star presents the Green Star Award to organizations that meet 12 of its 18 environmental standards. Ceremonies were usually held at the Anchorage Chamber of Commerce Luncheons. The designation of this as an image oriented service is further supported by the fact that organizations that chose this program as one of the top three programs were statistically more likely to rank image goals higher in importance than organizations that did not value this program ($p=.012$). Likewise, organizations that chose this program as one of the top three programs were statistically more likely to rank economic goals lower in importance than organizations that did not value this program ($p=.019$). Not only does this show a correlation between the types of programs, but also consistency in survey responses. See Appendix F, Test 1.3.

Standard Outcomes

Because Green Star standards met represents an action by the organization, this is the most heavily weighted factor in the goal profile; with the organization receiving one point for each standard met in either the environmental or economic category for a maximum of 3 points in each category. See table 6.3 for a summary of the scoring for the goal profile. To create a score for each economic, environmental, or image profile, the number of points earned by the organization is divided by the total number of possible points. Using a proportion was necessary to account for the fewer possible points in the image profile.

Table 6.3 Goal profile evaluation framework

	Economic Possible Points	Environmental Possible Points	Image Possible Points
Standard Outcomes	3	3	0
Goal Ranking	2	2	2
Valued Program	2	2	2
Materialist/Post-M	1	1	0
Total Possible Points	8	8	4

Goal Profile Results

The largest number of organizations scored in the “not image oriented” category. An organization that was not image oriented means it did not rank image as either its first or second goal in participating in the Green Star program, and that it did not choose the Green Star Award program as one of the three most valuable services Green Star, the non-profit, offered. If the image results are removed from the graph, it is easier to see the bell-shaped curve formed by the number of organizations that fit into the environmental and economic goal profiles. See Figure 6.6. Omitting the image profile results, the most common goal profile is the moderate environmental organization, very closely followed by the moderate economic organization.

As mentioned, each organization received a scored economic, environmental, or image profile. The highest score the organization received of all three profiles determined the strongest goal of that organization. According to the goal profile in this research, the majority of organizations are seeking environmental benefits through Green Star’s services and green certification program. (Note – 9% of the organizations received equal scores in the environmental and economic goal profiles). Using the profile method, four indicators contributed to a multi-dimensional determination of the goals for organizational participation in the Green Star Program. When compared to the stated goal reported by the Green Star Coordinator (the goal ranked number one in the questionnaire), the number of organizations with environmental goals decreases by almost twenty percent. However, if the goals that the Green Star Coordinator reported as first and second in importance to the organization are aggregated, the results more closely resemble the goals determined using the profile method. See Figure 6.7

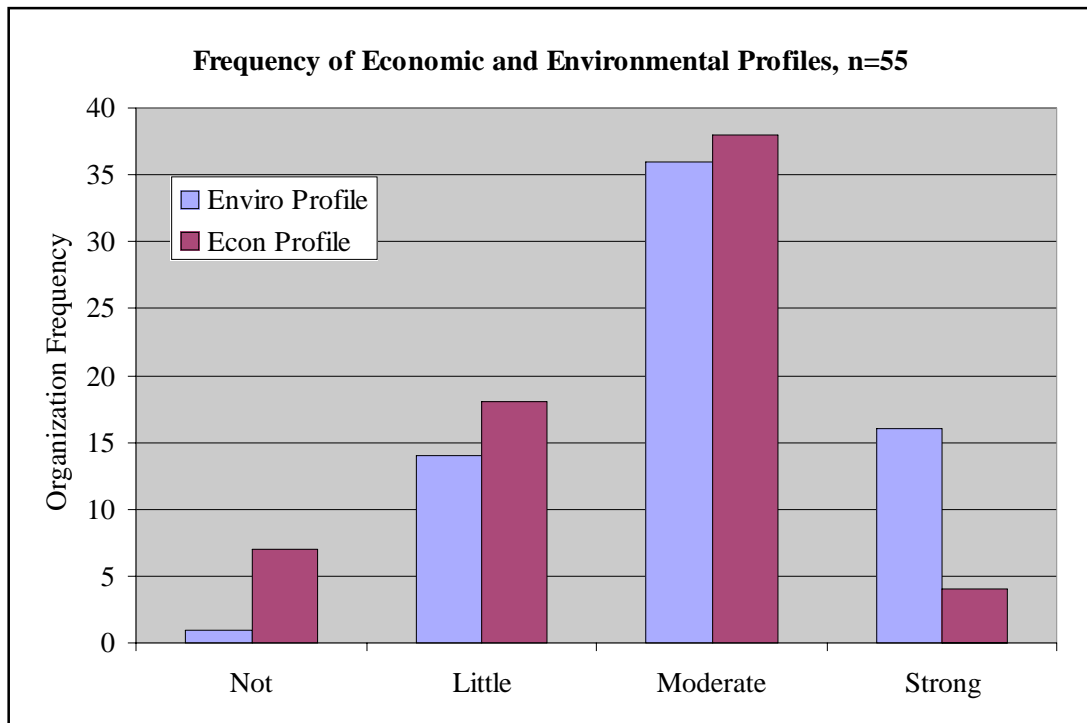
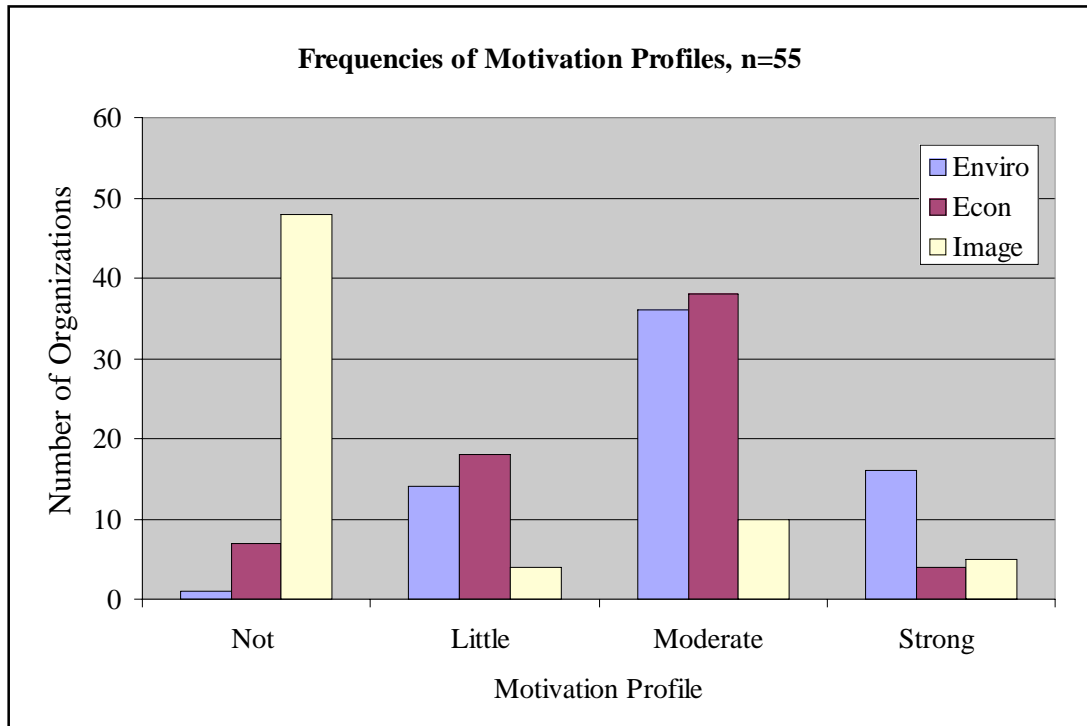


Figure 6.6 Frequency of goal profile comparisons with and without the image profile.

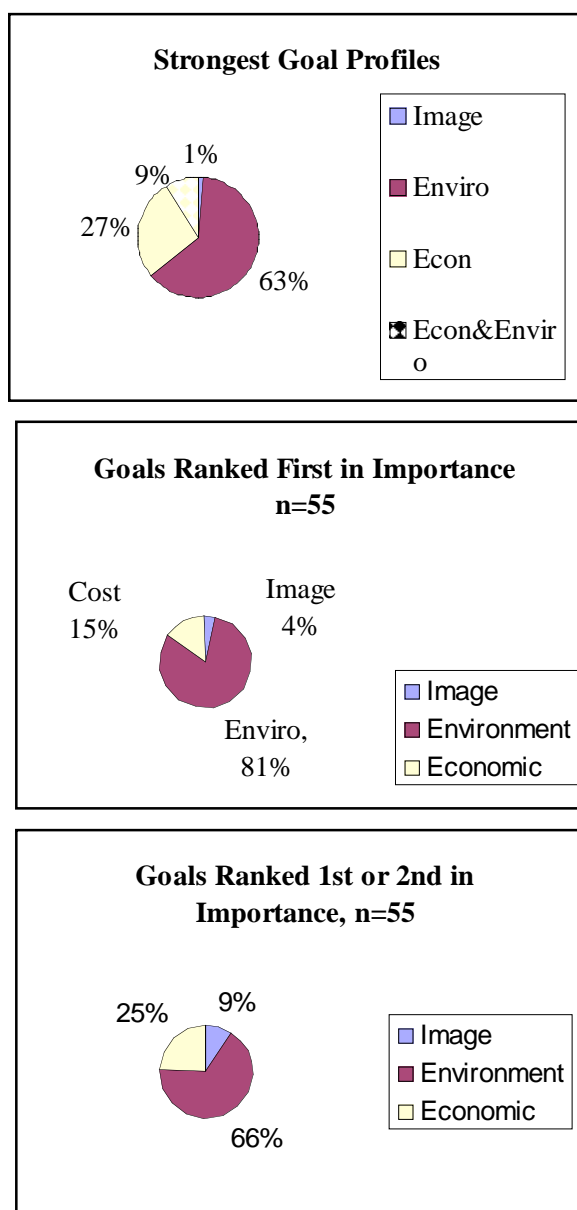


Figure 6.7 The strongest goal profiles compared to the ranking of stated goal in the survey.

The goal profile did not seem to influence organizational success in the Green Star program. There was no significant difference in the number of standards an organization was able to meet depending on its goal profile. The average number of standards an environmentally oriented organization met were 9.46 ± 1.42 and economically oriented organizations typically met 10.53 ± 2.35 .

Discussion

In this chapter four indicators of motivation to participate in the Green Star program were explored:

- The stated goal of the organization as reported by the Green Star Coordinator
- The value orientation of the Green Star Coordinator
- The Green Star services the organization values
- The Green Star Standards the Organization Completes

81% of Green Star Coordinators most ranked environmental goals as most important to organizations and only 4% ranked image goals as most important to the organization as a whole. 15% ranked economic goals as most important. If one considers that the majority of Green Star organizations are institutionally oriented, the results are not surprising. Budros (2000) found that institutional organizations were more likely to be driven by social-cultural influences, like environmentalism. Additionally, if an efficiency oriented organization such as a manufacturer has a high ethical environmental profile, it tends to resemble a more institutionally oriented non-profit in its governance and decision making (Linnanen 2002). Linnanen also claims that environmental enterprises tend to have a low mobility of shares, controlled ownership, with an interesting mix of emotional, self-interested, and altruistic behaviors which are common characteristics of family businesses (Mustakallio 2002 in Linnanen 2002). Linnanen's findings may explain why profit-driven organizations may participate in a green certification program like Green Star.

Interestingly, institutionally oriented organizations were found to score significantly higher in their environmental goal profile than efficiency oriented organizations (.57 and .38 respectively $p=.037$). See Appendix F, Test 1.4. That result fits into the theoretical framework of institutional and efficiency oriented businesses in the literature and suggests that using multiple factors to determine the goal profile of an organization may be more effective than the direct measure of requesting organizations to rank goals.

The majority of Green Star Coordinators were found to have a post-materialist value orientation, suggesting that as individuals, they would be willing to sacrifice some economic gain for improved social and environmental quality. While one may expect that an individual with this value orientation may be more successful than a materialist in working with Green Star, no significant difference was found in the number of standards met depending on the value orientation of the Green Star Coordinator.

The services most valued by Green Star member organizations included electronics recycling, Green Events, and site assessments. The Green Star Award program itself was not often chosen as one of the top three programs. In fact, it was ranked sixth out of eight services. These results suggest that organizations value programs that lead to direct environmental or economic outcomes, and are not necessarily motivated by the potential publicity associated with environmental efforts. When testing which services organizations found most valuable against the number of Green Star standards organizations completed, the only service that influenced number of standards met was valuing Green Star's electronic monthly newsletter. This emphasizes the importance of information exchange between Green Star and the participating organization.

In general, organizations did not seem inclined to complete more environmental standards or economic standards. This equal completion of standards held true even when controlling for the stated goal of the organization.

The Goal Profile

Each of the above factors was weighted and combined to create a goal profile for each organization. The most common goal profile determined that organizations are not image oriented. This correlates to the low value placed on the Green Star Award service and the low ranking of image as a stated goal.

The next two most common goal profiles were the moderate environmentalist and the moderate economic orientation. To determine the main goal of each organization, it was assigned the goal profile in which is scored highest. Using this method, the majority of the Green Star member organizations were motivated by environmental goals (63%). This is about 20% less than the

number of organizations that ranked environmental goals as the most important goal when directly asked in the questionnaire. If the first and second stated goals from the questionnaire are aggregated, this very closely matches the percentages found using the goal profile methods. These two methods validate the conclusion that the majority of Green Star members participate in the Green Star program for environmental reasons.

The role that improving environmental image plays in participating in the Green Star program remains a perplexing question as the following results demonstrate:

- Only 9% of respondents ranked image as a first or second goal
- 54% of respondent ranked image as the lowest goal
- 33% of the “Very helpful” ratings were in reference to improving image
- 29% of the “A little” or “Not helpful” ratings were in reference to improving image
- 36% of the “Not sure” ratings for satisfaction were in reference to improving image
- The Award program was only ranked as one of the top three services provided by Green Star 14 out of a possible 68 times.
- One organization dropped out of the Green Star program because, *“We just chose to walk the talk instead of actually advertising the fact of whatever we were doing”*. - Green Star Coordinator, organization enrollee B.
- *One organization participates in the Green Star Program because, “It [the Green Star Award] is quite honestly... a nice little logo to have. It shows that we’ve gone the extra step that we didn’t need to take to actually bring us to a little bit of a better place.”—Green Star Coordinator, organization awardee B.*

Very few of the respondents claimed that improving environmental image is important to his or her organization. Additionally, more than half of the lowest ranking goals were image. Of the image goals that were ranked last in importance, about one third was “improving image with the public” and two thirds were “improving image with business partners.” Respondents are almost split into even thirds as to whether Green Star is able to assist them in improving their image, is unable to assist them, or the respondent is “not sure.” To further demonstrate the differences; in one interview, a respondent is not interested in advertising his organization’s environmental

efforts. In another interview, “A nice little logo to have” is part of why that organization participates in the Green Star Program.

The role that image improvement plays in participation in the Green Star program needs to be further studied. Green Star did not have a budgeting line specifically for member publicity and did not have a policy to recognize members outside of the initial Award presentation at the Anchorage Chamber of Commerce Make It Monday Forum, a press release at the time of the Award presentation, and a listing on Green Star’s website. There was no active outreach to encourage the public to support Green Star businesses. Interestingly, members rated improving image with the public as more important to them than improving image with business partners, but the forum in which the award is presented is with a business audience. Employees seemed particularly excited at the prospect of earning an award for their environmental efforts. It may be worth studying two dimensions of the Green Star Award value. It’s worth in improving image with the public, and its value in improving employee morale.

Chapter Seven: Changes in Environmental Behavior of Green Star Organizations

This chapter is broken into two sections. In the first section I discuss evidence that suggests the Green Star program initiated change within organizations that otherwise would not happen. In the second section provide examples of measured changes in environmental behavior of Green Star organizations. One cannot discuss a green certification program without considering its effectiveness in changing environmental impact. One of the most common confounding factors when considering this behavioral change is whether the organization in question would have made those changes without the green certification program. I certainly can not answer that inquiry definitively, but through interviews responses have received some insight. I considered two factors from the interviews. One is to discuss the ways in which Green Star assisted the organization in its efforts. The other is to consider the environmental knowledge of the Green Star Coordinator and president of the member organization. Did individuals within the organization appear informed and dedicated enough to environmental improvement to initiate changes without the assistance of the Green Star Program?

How has Green Star Helped?

As mentioned in Chapter Five and Six, information exchange was a valuable piece of Green Star's assistance. However, for the information to be valuable there must be a receiver on the organization's end. When interviewing the two enrollee organizations and the two awardee organization, the importance of having an open communication became more obvious. The Green Star Award winners described a positive interaction with Green Star.

"It just seemed the Green Star Program was the best way to learn how to do recycling and make it viable," – President, organization awardee A.

"The most helpful of it, is to have them to be able to come and notice the little stuff...because you get so caught up in the day-to-day grind of doing things that you just don't notice things like that.. Everything from more environmentally friendly highlighters or markers...versus the things that have petroleum, versus soy type based products and cleaners using a Simple Green versus methyl ethyl bad stuff." - Green Star Coordinator, organization awardee B.

The Green Star Coordinator at organization awardee B was an environmental health and safety officer. A positive comment from an individual directly involved with environmental efforts and regulations is probably the strongest testament to the value of Green Star's assistance.

However, when interviewing enrollee organizations, it became clear that neither one had participated in an assessment and only one received the electronic monthly newsletter. When asked if Green Star was helpful in his efforts, one interviewee stated,

"I looked at it [the welcome packet and Green Star standards] the first time I got it and never looked at it again." – President and Green Star Coordinator, organization enrollee A.

This president and Green Star Coordinator explained that his organization enrolled in Green Star because of his personal commitment to recycling and continued, "I do it [recycling] diligently." Yet, his business recycling bins contained granola bar wrappers and sticker backs that are not recyclable. He also was not aware of business recycling pick up services, electronics recycling pick up services, and Green Star's reuse program, the Alaska Materials Exchange. If this organization had participated in a site assessment and received Green Star's electronic newsletter, it would have been aware of the additional disposal and recycling options for businesses in the Anchorage area.

The other enrollee organization described his early interactions with Green Star as follows,

"Yeah, we'd actually looked at getting Green Star certified several years ago and I delved into it and never really completed it. It didn't seem like anything we needed to spend a lot of time doing." – Green Star Coordinator organization enrollee B

This Green Star Coordinator does receive Green Star's electronic monthly newsletter but the organization did not have a site assessment. This organization had thorough recycling and paper reduction programs. However, when the President was asked about buying environmentally preferable products, such as those with post-consumer content materials, his response indicated a lack of knowledge of environmentally preferable purchasing practices:

“What would be the example of that?” – President, organization enrollee B

I responded,

“Examples could be paper, that’s the most common to buy, or trash bags, they’re starting to make trash bags out of recycled plastic.”- Interviewer

“I’m not sure if we buy recycled paper here or not. We use to. Although, I couldn’t tell you if we’re doing it anymore and I try not to use plastic trash bags, so I guess, I really haven’t put a whole lot of thought into that.” -President, organization enrollee B.

Based on these interviews, it seems that these enrollee organizations did not take full advantage of the information Green Star had to offer and hence the environmental programs did not cover the wide range of environmental issues included in the Green Star standards. In the past organizations have requested that Green Star provide recognition for isolated efforts- such as an award for recycling, or an award for energy efficiency. When asked how Green Star can be more helpful for small organizations, the president of one organization specifically requested “Different levels or tiers of recognition.” so that organizations can get recognition for a single effort, rather than the holistic approach Green Star requires. Currently, an organization can not earn the Green Star award without addressing solid waste, energy use, water use, environmentally preferable purchasing, hazardous waste, and employee training. In this way, Green Star requires that the environmental programs of its members be complete and thus most likely initiates environmental behavior changes within the organization that would otherwise not occur.

Organization Environmental Knowledge

Another way to answer the question as to whether environmental behavior changes would occur within the organization without Green Star assistance to gauge how informed members are of current environmental issues. The above quote regarding environmentally preferable purchasing is one example of a lack of knowledge. During interviews, respondents most often referred to their recycling efforts. In fact, recycling was referred to 3.6 more times than energy use during interviews. In the next analysis, respondents were specifically asked about an environmental issue

that is increasing in importance and press coverage: energy efficiency. Below are three quotes, from three different organizations.

“Lights...I don’t really know...I mean they get turned off at night, pretty much everyone always logs off their computer at night.”- Green Star Coordinator, organization awardee A

“I could not tell you about any kind of specific environmental considerations as far as the lighting.”- Green Star Coordinator, organization enrollee B

“I wouldn’t know the difference [between T12 and T8 lamps.]”- President and Green Star Coordinator, organization enrollee A.

These quotes indicate a lack of knowledge regarding energy efficient lighting. While member organizations were still referring to recycling more than energy, Green Star had shifted its focus to energy efficiency. Between 2003 and 2006, the term “energy” had increased in Green Star’s monthly electronic newsletter five-fold and reference to recycling decreased by one and a half times. In January of 2007, Green Star began offering free lighting audits to local businesses to facilitate improved information exchange. During an interview with a member that dropped out of the Green Star program due to dissatisfaction, I showed the respondent information on Green Star’s website about upgrading from T12 fluorescent lighting to T8 fluorescent lighting. After the interview, the respondent hired a consultant to perform a lighting assessment and found that if he switched from T12s to T8s, in addition to a few other minor lighting improvements, that his organization could save \$3000 per year. The organization was a small organization, with only 14 employees, so \$3,000 per year is substantial. This particular interviewee, who had dropped out of the Green Star program due to dissatisfaction over four years ago, was so excited that he emailed me to tell me he is completing the lighting retrofit and considering installing hot water on demand and upgrading other aspects of his heating, ventilation, and air condition (HVAC) system. Without being contacted for an interview and shown the information on Green Star’s website, that organization would have missed out on tremendous savings.

Another example of energy savings through Green Star information exchange involves a restaurant. The restaurant had recently renovated its dining area to very efficient T5 fluorescent lighting. Through an event focusing on environmental improvements for the food service industry, this restaurant owner signed up for a lighting audit. The audit revealed that the kitchen still had old equipment that was 61% *less* efficient than the new lighting in the dining area. Without Green Star's lighting audit, that restaurant would not have realized the additional energy and cost savings potential of upgrading the kitchen area as well as the dining area.

The Challenges of Measurement

A measurement section of the survey asked respondents to list two changes in resource use since adopting the Green Star standards. Some organizations gave general responses such as "We decreased water use," but no organizations provided a measurement. Originally, I was surprised that at least some respondents did not have this information at their fingertips- if only for media or reporting to management. However, this lack of measurement could further support that organizations are not looking for money savings as much as they are looking for that 'feel-good feeling' associated with environmental efforts. Since respondents did not answer survey question with measurement, it is impossible to create a generalizable assessment of changes in environmental impact across Green Star organizations. This is especially true since one organization might focus its efforts on hazardous waste management and another on office waste, and yet another on energy use. Fortunately, some measurements were found in Green Star's files and on its website. One of Green Star's web pages highlights Green Star Award winners and mentions some quantifiable improvements. This information is public and provides some data on changes in impact. The focus on recycling mentioned in the previous section is evident in the measurements as well. Even with deliberate efforts to capture measurement from Green Star members, of the 130 awardees, only 27 provided data. See table 7.1

Table 7.1: Measured changes in environmental behavior by Green Star organizations

Org. Type	# of Employees	Energy dollars/yr	Waste Management dollars/yr	Recycled Materials lbs/yr	Paper Conservation	\$ Grand Total
City Gov't*			\$5,000			
City Gov't	3000	\$84,000				
City Gov't*		\$40,000				
Enviro.Consulting	10			540		
Enviro.Consulting	29			2,530		
Enviro.Consulting	25			3,000		
Enviro.Consulting	62	\$2,000				
Fed. Gov't	3			1,800		
Fed. Gov't	180			7,622		
Food Industry	35	\$580		7,300		
Healthcare	1923		\$65,000			
Healthcare	130	\$7,200				
Hospitality	385		\$2,800			
Media*					\$15,600	
Non-Profit	3	\$46		1,080		
Oil & Gas	200		\$9,200			
Oil & Gas	280			890,929		
Oil & Gas	925			2,815,269		
Oil & Gas*	375		\$1,833			
Oil & Gas*	904	\$100,000				
Oil & Gas*		\$145,000				
Retail*	20	\$3,000	\$1,000			
Retail*	3902	\$117,000				
School	35			1,561		
School	24			4,615		
Transportation	300			53,000		
Transportation*	350				\$13,000	
Totals	13,100	\$498,826	\$84,833	3,789,246	\$28,600	
\$ Grand Total						\$612,259

* As reported in "A Summary of Green Star Programs in Anchorage, Fairbanks, and Central Kenai Peninsula" (Larson 1997).

The sample included in table 7.1 is not large enough to identify any trends. Even the amount of energy saved, reduced cost of waste disposal, or pounds recycled per employee is highly variable. Energy conservation is most often realized through upgraded lighting and lighting controls, such as timers and motion sensors, but sometimes the simplest effort can make a huge difference. The Green Star team for the municipality of Anchorage enlisted its IT department to set 3000 computer monitors throughout its city offices to automatically hibernate after 20 minutes. Prior to adopting the Green Star standards, the hibernation setting on monitors was left to the employees' discretion. Some set their monitors to hibernate; others left their monitors on overnight. By taking the simple step of automating the hibernation setting on monitors, the City expects to save \$84,000 annually.

Waste management savings were often realized through paper and cardboard recycling, as well as eliminating hazardous materials and therefore expensive hazardous waste. Alaska Providence Medical Center reported saving \$65,000 in year 2005 by recycling mixed paper, cardboard, and reevaluating the hauling schedule of its waste. Peak Oilfield Services decrease its annual waste disposal costs by approximately \$9,200 by decreasing its amount of hazardous waste and recycling.

Discussion

This chapter was broken into two sections. The first section addressed whether or not Green Star played a role in the environmental behavior changes of organizations. The second section discussed quantifiable changes and the difficulty of collecting measurements.

To Change or Not to Change

Whether or not Green Star affects change in the organizations was influenced by the willingness of the organization to receive information. Both awardee organizations reported positive interactions with the Green Star staff, while both enrollee organizations reported no interaction with Green Star staff. Content analysis of interviews indicates that in interviews, respondents referred to recycling and recycling efforts four times more often than energy efficiency. In contrast, Green Star increased its reference to energy efficiency 5 fold in its electronic monthly newsletter and is offering lighting audits as a new service to increase information exchange

between Green Star and its organizations on the benefits of energy efficiency. Anecdotal evidence provided examples of improvements in energy efficiency that would not have occurred without the information provided by Green Star.

Additionally, Green Star has fielded numerous requests to recognize isolated efforts, such as publicly recognizing specifically recycling efforts, energy efficiency efforts, or other creative waste prevention activities. These requests for activity-specific awards imply that some organizations would prefer to address only one or two waste streams, rather than the resources used and waste created through all processes. Completing at least 12 of the Green Star standards requires a holistic approach that addresses solid waste, energy use, water use, environmentally preferable purchasing, hazardous waste, and employee training. These requests for specific energy or recycling awards also imply that organizations appreciate the Green Star Award as an award, not only as a process through which to gain technical assistance. It remains unclear as to whether the true value of the award is in improving public image or improving employee morale of those involved in the environmental efforts.

Measurement Challenges

Advocates and adversaries of the green certification approach would like resource use or waste generation measurements to support their viewpoints of green certification programs, especially measurements of money gained or money lost on environmental efforts. Unfortunately, most Green Star member organizations were not monitoring the consequences of participation in the program for a variety of reasons. In some instances, Green Star members never saw their utilities bills because they rented their workspace. In other cases, it simply took too much time to collect the measurements. The majority of Green Star member organizations have a stronger environmental profile than economic profile in relation to their Green Star efforts. This could explain the lack of measurement. If organizations, or the individuals within them, are participating in the Green Star program for altruistic reasons then they may not be particularly interested in how much money or kilowatts of electricity is saved through their efforts. Of 27 sampled organizations, representing 13,000 employees, \$612,000 is saved annually.

Chapter Eight

Discussion and Recommendations

With the acknowledgement of limited resources, an increasing number of individuals and organizations are striving to operate more sustainably. In the United States, government regulations play a role in the management of hazardous waste and air and water pollution. However, regulations do not currently address the amount of energy, water or materials used by individuals or industry (Florino 2001). Market campaigns focusing on large corporations, such as the Paper Campaign in 2002 that pressured Staples to no longer buy paper made with pulp from old growth forests, has been one method used to drive organizations and businesses to operate more sustainably (O'Rourke 2005). Green certification programs for organizations are another method for encouraging organizations to consider the environmental impacts of their operations.

Evaluating a green certification program like Green Star offers insights for understanding the effectiveness of green certification programs as a driver of social-ecological change in the workplace. This question is especially important as society considers various options to change industry behaviors such as government legislation and regulation or participating in voluntary programs like Green Star. Green Star is one of the longest running green certification programs in the country and maintains a strong membership base. It is a valuable case study because understanding the strengths and weaknesses of the Green Star program may guide those seeking to implement green certification programs in different regions of the country.

This study explored the following questions:

- Are there certain organizational characteristics that lead to success in the green certification program, Green Star?
- What are the goals of participating organizations?
- Are organizations satisfied with the assistance offered in meeting their goals?
- Based on the previous question, what are the strengths and weaknesses of this green certification program?

What are some of the resulting changes in environmental behavior of participating organizations?

The answers to these specific research questions led to 5 general recommendations for green certification programs. First, recommendations made by Darnall et al. (2003) to improve the efficacy of voluntary environmental programs will be reviewed. Then, the recommendations based on the results of this study will be listed for green certification programs.

Recommendations for Green Certification Programs

Green Star is one type of voluntary environmental program (VEP). In a study of 61 voluntary environmental programs, Darnall et al. (2003) made seven policy recommendations for the highest level of efficacy.

1. Balance diversity and intensity of stakeholder involvement in VEP design.
2. NGO involvement tends to result in well-articulated VEP design.
3. Sign written agreement.
4. Report environmental performance to either program managers or independent auditors.
5. Require participants to publicly disclose environmental performance.
6. Require they are monitored by program sponsors or external parties.
7. Sanctions for nonconformance must be robust and enforced.

Interestingly, Green Star, one of the longest standing non-government green certification programs in the country, did not meet most of these recommendations. Green Star's Board included representatives from industry, government, universities, and non-profits to meet the first recommendation and environmental performance was reported by completing the Green Star Award application to meet the fourth recommendation. Green Star partially met recommendation 5 to publicly disclose information. Case studies were made available to the public through the internet, but organizations were not required to publicly disclose information. Green Star completion of recommendation six was weak because monitoring of the program was minimal. Organizations were required to participate in at least one site assessment and requested to complete a biennial recertification form. Green Star did not require a written agreement to participate in the Green Star Awards program and so does not meet recommendation three. Members were not dropped from the program for not completing a recertification form and were

rarely dropped for not paying membership dues and so sanctions were not strictly enforced as suggested in recommendation seven.

The results of this study led to six additional recommendations that may be useful for green certification programs. Green certification programs are one type of voluntary environmental program. The recommendations include:

- Consider all possible goals for participating in a green certification program when designing services: environmental goals, image oriented goals, and economic goals.
- Create strong support programs that encourage top management and employee involvement.
- Create easily accessible and frequent venues for information exchange between the green certification program and at least one key individual within the organization.
- Create a vibrant campaign to publicly recognize participating organizations.
- Provide resources for small businesses to overcome the initial cost barriers of environmental improvements and assist in tracking changes in resource use and waste generation.
- Create policies to form partnerships with the building owners and managers of member organizations' facilities.

Address All Goals

81% of survey respondents reported “environmental goals” as their number one reason for participating in the Green Star program, followed by 15% claiming economic goals, and only 4% citing improving image as their main goal for participating. When using the 4 indicators to create a goal profile, 63% of responding organizations were identified as having environmentally oriented goals, with 27% having economic-oriented goals, 9% having equally strong environmental and economic orientations, and finally 1% being identified as having image oriented goals. The goal profile combined four factors: The reported goal of the organization, the services the organization found valuable, the value orientation of the Green Star Coordinator, and the types of standards the organization met. Each of these factors, independently, provided unique insights into the organizations. Most organizations reported environmental goals as their number one reason for joining the Green Star program. Electronics Recycling were most often cited as one of the top three valuable programs, most Green Star coordinators had a post-materialist value orientation, and organizations seemed to meet Green Star standards that result in both

environmental and economic benefits. The motivation profile provided a way to take these pieces and create a larger picture in a manner that is more objective than trying to qualitatively create links between each of the factors. The results of the economic and environmental profile created a bell-shaped curve, with most organizations classified as little-to-moderate environmental and economic profiles. Institutionally oriented organizations were found to have a significantly higher environmental profile than efficiency oriented organizations. As well, the majority of Green Star membership consists of institutionally oriented organizations with strong environmental goal profiles.

These findings suggest that Green Star missed out on the organizations that may have participated for economic or image improvements because organizations that were interested in using environmental improvements to realize economic savings would easily do this using Green Star's resources, without having to be a Green Star member. While organizations were required to pay a membership fee for the site assessment service, all written assistance materials were free to the public on Green Star website. Services like the Alaska Materials Exchange, Green Events, and receiving Green Star's electronic monthly newsletter were also free to the community at large. In short, other than the site assessment, all of Green Star's services and knowledge were available to all Anchorage organizations, free of charge. Without a required membership to take advantage of Green Star's services, such as requiring a password for the most valuable website resources, it is unlikely Green Star would attract members that are more interested in economic payback than environmental stewardship. This is especially true considering Green Star's relatively weak infrastructure to publicize its Green Star Award winners. Green Star's 501(c)(3) status may limit the number of services Green Star can restrict to Green Star members, because part of Green Star's mission is to improve the community as a whole.

On the other hand, it is likely that organizations that participate in Green Star to decrease their environmental impact for the environment's sake would be willing to pay membership fees not only as a fee for service, but in general to support Green Star's overall mission, as was illustrated by the CEO who stated, "*No, I don't think [recycling] has anything to do with monetary anything... I think it costs money.*"(see page 47)

Increase Involvement

There were significant differences in the number of Green Star standards an organization reported as completed, depending on the level of involvement of top management. The level of employee commitment also showed a relationship to the number of Green Star standards met. The higher the levels of involvement or commitment, the more Green Star standards were completed. These results are not particularly surprising, but would justify a green certification program allocating substantial time and resources to identifying procedures to engage top management in the Award process and to develop incentive programs to encourage employee involvement. Green Star standard two, “Adopt, post, and circulate to all employees the Green Star policy statement, or your version of it” and Green Star standard three, “Provide three incentives or training opportunities that encourage management and employee participation in the Green Star program” both recognize the importance of creating top management and employee commitment to the green certification program. If an organization is having particular difficulty getting an environmental management program off the ground, establishing top management buy-in and increasing employee participation may be the first step to finding a solution.

The green certification program could provide a concise list of benefits and successful case studies to encourage top management buy-in. Creating a suggestion box and awarding prizes such as gift certificates or bus passes for suggestions that are implemented is one way to offer incentives for employee participation. Providing measurements for positive changes in environmental impacts that are due to employee efforts is another way to increase employee commitment to the program. Using a staff meeting or creating a committee with representatives from different levels in the organization could create unity in the environmental efforts.

Information Exchange

Green Star enrollees reported, “not knowing how to make changes” as one of the three biggest challenges to earning a Green Star Award. Most, if not all, green certification programs offer technical assistance, or perhaps more accurately, consulting. The personnel of the green certification program do not actually make changes to the processes of the organization, but rather inform the organization of how it can make its own changes or improvements. As supported by the findings of this study, a green certification program is only as effective at

decreasing environmental impact as it is at getting information to its members and members are only as effective at decreasing environmental impact as they are at receiving and using the information the green certification program provides. The two prominent ways Green Star transfers information to participating organizations is through its monthly electronic newsletter and site assessments. The relationship between providing information and receiving information is exemplified in the statistically significant difference in the number of standards reported as met between organizations that valued Green Star's monthly electronic newsletter and organizations that did not report the newsletter as one of Green Star's most valuable services ($p=.001$). Organizations that valued the electronic monthly newsletter met 12.4 standards on average—enough to be a Green Star awardee. Organizations that did not report the electronic monthly newsletter as one of the top three services only completed 8.7 standards on average. This result could be because those who read the newsletter are more committed to the Green Star program or that the information in the newsletter is useful and provides information individuals otherwise may not receive. These two possibilities demonstrate the delicate conflict between a green certification program's ability to effectively transfer information to organizations and the ability of an individual within the organization to receive information. All participating organization members were invited to receive the electronic monthly newsletter, but only about 50% of Green Star Coordinators (or 161 coordinators), received the monthly electronic newsletter. While Green Star can encourage a representative from each organization to receive the newsletter, Green Star cannot require individuals to read it. Despite the low number of formal "Green Star Coordinators" who received Green Star's electronic monthly newsletter, the newsletter is emailed to 1,619 individuals (as of February 2007). Using an additional forum for communication, such a mailed newsletter to interested parties may reach the audience that prefers paper mailings over email. For paper conservation purposes, this mailing may be less frequent than the monthly emailed newsletters.

Green Star also transferred knowledge through the site assessment process. On average, organizations that valued the site assessment service also reported completing more standards (11.2 standards) than organizations that did not value the Green Star program (9.20 standards). This difference was nearly statistically significant ($p=.073$), but this relationship also highlights

the important role information transfer plays in successful participation in a green certification program.

Green Star staff members, presidents of organizations, and green star coordinators themselves mentioned that Green Star programs would not progress without the dedication of at least one employee in the organization. Identifying that key individual and encouraging that individual to work closely with staff from the green certification program will establish a venue for frequent information exchange.

Public Recognition

A key characteristic of this particular green certification program is its 501(c)(3) non-profit status. A dependency of Green Star on grants and donations may be the limiting factor in creating a budget for marketing an awards program that is 16 years old because granting organizations usually prefer to fund new and innovative projects rather than support established programs. According to Green Star's annual report, it did not have a budget dedicated to marketing. Limited marketing may be included in the "membership, development, and fundraising" category but that is only 1.4% of the overall expense budget for fiscal year 2005-2006, with the other 98.6% of expenses fitting into the "Program services and general administrative" budget. Without a strong emphasis on marketing and logo recognition, it is unlikely Green Star would attract members that are most interested in expanding their customer base through positive environmental recognition. This may explain why only 1% of the Green Star member organizations were identified as having image oriented goals. The lack of emphasis on marketing may also explain why businesses such as retail, hospitality, and restaurants represent such a small fraction of Green Star membership. These types of organizations cater to the general public and would benefit from the type of program that encourages the general public to support its Award recipients. The organization goals that the Green Star program were most often rated as "a little or not helpful" in attaining were goals associated with cost savings. The combined lack of image improvement and cost reduction may explain why so many Green Star members are more institutionally oriented (more budget, grant run) than efficiency oriented (profit driven).

The majority of Green Star members were small organizations, with 75% having fewer than 100 employees. Because Green Star is a local organization, with most members and services limited to the Anchorage area, it may not appeal to large corporations that standardize procedures and processes nationally. This could partially explain the high percentage of small organization participation. Almost fifty percent of organizations in the Green Star program are privately owned, with the other fifty percent being split among schools, non-profits, and government.

Money Savings and Measurement

Two of the three most common challenges reported by Green Star members were that their organizations do not own the building they work in and do not have the money to make changes. While these are most likely challenges that most small organizations face in green certification programs, Green Star did not appear to offer any special assistance to mitigate these issues. Green Star had not deliberately sought out building owners or property managers to become members and Green Star does not have a working relationship with a financial institution to offset initial capital costs of structural improvements in lighting or heating and ventilation systems. Recycling and energy efficiency assistance is presented on the scale of the organization rather than on a building-wide scale. This small-scale approach does not afford the type of economic savings that a large-scale building approach would realize.

The fact that the most commonly reported challenge to earning the Green Star award is “not owning the building” fuels the challenge of gathering measurements for changes in resource use or waste disposal. In many cases, electricity costs, heating costs, and waste hauling costs are built into the lease for renting organizations. If the organization does not see these utility and waste hauling bills, then it is extremely difficult for it to measure changes in fees due to environmental improvements. Green Star members most often reported that they were dissatisfied with Green Star’s assistance in cutting costs. This could be due not only to the economies of scale challenges that small businesses face, but also an inability to track monetary savings when those savings do not translate to lower workspace rental fees.

Building Owners and Managers

One way to address the difficulty in tracking changes in environmental behaviors is to take a building-wide approach to environmental improvements and get more than one tenant in each building involved in the green certification program. Establishing direct contact and a working relationship with the building manager or property owner would also be useful. A concerted effort to enroll property management businesses in the Green Star, or other green certification, programs could be an efficient approach.

Future Research

According to the finding presented here, Green Star is underutilizing its ability to improve the image of participating organizations and decrease operating costs. As a baseline to better understand how Green Star can increase its capacity to provide recognition to its member organizations, it may want to evaluate the recognition of the Green Star logo and its meaning in the Anchorage community. Would individuals be willing to support Green Star businesses over other businesses? Could Green Star create a consumer level members program so that Green Star businesses could provide a discount to participating Green Star consumers? Is there a way to build a network of Green Star businesses supporting each other? Could those services work in other green certification programs?

Also, are there ways to improve the cost savings associated with small businesses going green? What are the best ways to get building managers to consider improvements in energy efficiency and building wide recycling for their small business tenants?

Other key factors in success in the Green Star program were the commitment of top management and Green Star's ability to transfer information to its members. Studying incentive and outreach programs to increase the commitment of top management and employees to an environmental management system could yield greater decreases in environmental impact and cost. Green certification programs may also want to specifically evaluate its knowledge transfer processes. In Green Star's case, are there ways to increase the number of Green Star coordinators that receive E-News? Is there a way to increase the number of enrollees that participate in a site assessment?

From an Alaskan perspective, in-depth case studies of not just Alaska's green certification program, but also Alaska-owned green organizations such as Chena Hot Springs Resort or ABR Inc. can serve as examples of environmental innovations within the constraints of our northern climate and somewhat isolated geographic region. How many of these organizations have incentive programs for employee involvement? What is the commitment level of top management and what is its effect on employee behavior? Have these organizations gained economically through increased clients or improved employee retention due to their environmental efforts?

Overall, comparing and contrasting other similar green certification programs, such as the PACE program, Montana EcoStar's program and others could illuminate contrasting strengths and weaknesses of various green certification programs. For example, there may be differences in the effectiveness of a green certification program depending on whether it is a national or local program or an independent non-profit or government based program.

Finally, a truly challenging study would be to more quantitatively and definitively determine the extent to which a green certification program aids organizations in creating improved environmental behaviors or processes. Would organizations be making environmental improvements without a green certification program? If so, in what conditions?

Conclusion

From an environmental perspective, green certification programs are particularly valuable because they provide assistance with environmental impacts that are not regulated, such as the amount of energy or water used, the types of materials used, and the amount of non-hazardous waste generated.

This research found that the majority of organizations participating in the Green Star program were participating because a single key individual within the organization was dedicated to decreasing the effects of his or her workplace on the environment. While Green Star may be able to broaden its membership base by strengthening economic incentives and public recognition programs, it is important to recognize the role Green Star plays simply as an information and

consulting agency for those individuals and organizations already interested in environmental improvements.

The Green Star standards or other green certification requirements provide guidelines for individuals to begin improving environmental behaviors within the workplace. Because small businesses often do not have an environmental planner or specialist on staff, a lot of time and resources can be lost as employees work to determine where to start improvements, identify best practices, and find the local resources necessary to implement improvements. Established environmental organizations such as Green Star can provide those starting points and information in a more efficient and easily understandable manner. Green Star is particularly useful to small businesses because the fees to participate are nominal and substantially lower than fees for hiring a for-profit environmental consulting firm. Thus, participation of organizations in a green certification program may facilitate a broad transformative social-ecological process towards sustainability that may not otherwise occur.

Appendix A: Survey Instrument

Please provide some background information about your organization.

1. Put an X next to the category that most closely describes your organization:

- Finance, Insurance, or Real Estate
- Agriculture
- Services
- Wholesale Trade
- Construction
- Transportation, Communication, or Public Utilities
- Manufacturing
- Retail Trade
- Oil and Gas
- School
- Non-profit
- If other, please describe _____

2. Please put an X in the box that describes the number of employees in your organization:

- 1-4 employees
- 5-9 employees
- 10-19 employees
- 20-49 employees
- 50-99 employees
- 100 – 249 employees
- 250 or more employees

3. How long has your organization been in business or active?

- _____ Years
- _____ Don't Know

4. Please put an X in the box(es) that best describe the ownership structure of your organization:

- Sole Proprietorship

- Franchised
- Stockholders
- Locally Owned
- Nationally Owned
- Employee Owned
- If other, please describe _____

5. a) Does your organization participate in any voluntary environmental management programs other than Green Star? Please mark the appropriate box.

- Yes
- No
- Don't Know

b) If yes, please mark the appropriate box(es).

- ISO 14000 or 14001
- National Environmental Performance Track
- Natural Step
- If other, please name _____

Please complete the following questions about the relationship between Green Star and your organization.

6. When did your organization enroll in the Green Star Program? Please answer as accurately as possible. If you only know the year, and not the month, please enter the year.

- _____ Month
- _____ Year
- _____ Don't Know

7. When did your organization earn its Green Star Award? Please answer as accurately as possible. If you only know the year, and not the month, please enter the year.

- _____ Month
- _____ Year
- _____ Don't Know

8. Who initiated participating in the Green Star program in your organization? Please mark the appropriate box.

- Director/ CEO
- Manager/Administrator
- Supervisor
- Employee
- Don't Know
- If other, please describe _____

9. Please put an X in the box that best represents the involvement of top management in meeting and maintaining the Green Star Standards, 1 being not involved and 4 being very involved.

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1 | 2 | 3 | 4 | 5 |
| Not Involved | A Little Involved | Moderately Involved | Very Involved | Not Sure |

10. What is the overall employee commitment level to the goals of the Green Star Program?

- | | | | | |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 1 | 2 | 3 | 4 | 5 |
| Not Committed | A Little Committed | Moderately Committed | Very Committed | Not Sure |

11. Please mark your organization's current status on each Green Star Standard:

#	Standard	Currently in place	Not in place, but working on it	Not working on it	Don't Know
1.	Designate a Green Star Coordinator and/or team.				
2.	Adopt, post, and circulate to all employees the Green Star policy statement, or your version of it.				
3.	Provide three incentives or training opportunities that encourage management and employee participation in the Green Star Program.				

4.	Notify your customers of your efforts to meet the Green Star Standards.				
5.	Assist at least one other organization in becoming a Green Star participant.				
6.	Conduct an annual waste assessment specific to the award.				
7.	Practice conservation of office paper in at least three different ways.				
8.	Incorporate at least three energy-conserving changes.				
9.	Monitor, record, and post utility usage and waste disposal.				
10.	Purchase products and services that are environmentally preferable.				
11.	Purchase at least three different types or sources of recycled-content products.				
12.	Enhance your maintenance program to improve efficiency and reduce waste in at least three ways.				
13.	Separate waste materials for recycling.				
14.	Practice proper handling and disposal of hazardous materials.				
15.	Reduce your use of toxic materials in at least three ways.				
16.	Establish a litter-free zone in the immediate vicinity of your facility.				
17.	Provide waste reduction, recycling, and energy efficiency information to employees.				
18.	Develop a different waste reduction method.				

Part of Green Star's mission is to assist organizations in decreasing resource use and waste production. Answering the following questions will help Green Star know how to best track changes in these areas.

12. a) Is it possible for your organization to track gallons of water used?

- Yes
- No
- Don't Know

b) Is it possible for your organization to track the amount of money spent on water use?

- Yes
 No
 Don't Know

c) If asked, does your organization have records to estimate the change in water use, by either volume or money, since implementing the Green Star Standards?

- Yes
 No
 Don't Know
 Can't measure water use

d) If possible, estimate the change in water use below. Please remember to put a time measurement, such as week, month, or year.

_____ gallons per _____ (time)

_____ dollars per _____ (time)

- Don't Know
 Can't measure water use

e) If your organization has decreased water use (whether it can be measured, or not), please give an example of how it was done:

1. _____

13. a) Is it possible for your organization to track the volume of oil or gas used?

- Yes
 No
 Don't Know

b) Is it possible for your organization to track the amount of money spent on oil or gas use?

- Yes
 No
 Don't Know

c) If asked, does your organization have records to estimate the change in oil or gas use, by either volume or money spent, since implementing the Green Star Standards?

- Yes
 No

- Don't Know
- Can't measure oil or gas use

d) If possible, estimate the change in oil or gas use below, in either volume or dollars. Please remember to put a put time measurement, such as week, month, or year.

<input type="checkbox"/> Oil	<input type="checkbox"/> Gas
_____ _____ per _____ (time)	_____ _____ per _____ (time)
_____ dollars per _____ (time)	_____ dollars per _____ (time)

- Don't Know
- Can't measure oil or gas use

e) If your organization has decreased oil or gas use (whether it can be measured or not), please give an example of how it was done:

1. _____

Below are a series of ranking questions. Your responses will be very valuable in the analysis of the Green Star Program.

14. As the Green Team leader, please rank the following actions in order of importance to your organization's participation in the Green Star Program, 1 being most important and 6 being least important. Do not give any of the items the same rank.

- _____ Reducing costs associated with resource use
- _____ Improving environmental image with business partners
- _____ Improving environmental image with the public/consumers
- _____ Reducing the environmental impact of your organization
- _____ Increasing employee and public environmental awareness
- _____ Reducing costs associated with waste disposal

15. Is Green Star able to help with these goals? Please rate the Green Star Program's helpfulness in achieving these goals, with 1 being not helpful and 4 being very helpful.

a) Reducing costs associated with resource use

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Not Helpful	A Little Helpful	Moderately Helpful	Very Helpful	Not Sure

b) Improving environmental image with business partners

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Not Helpful	A Little Helpful	Moderately Helpful	Very Helpful	Not Sure

c) Improving environmental image with the public/consumers

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Not Helpful	A Little Helpful	Moderately Helpful	Very Helpful	Not Sure

d) Reducing the environmental impact of your organization

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Not Helpful	A Little Helpful	Moderately Helpful	Very Helpful	Not Sure

e) Increasing employee and public environmental awareness

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Not Helpful	A Little Helpful	Moderately Helpful	Very Helpful	Not Sure

f) Reducing costs associated with waste disposal

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1	2	3	4	5
Not Helpful	A Little Helpful	Moderately Helpful	Very Helpful	Not Sure

It will help Green Star to know a little bit about the Green Team Leaders in each firm, and how you feel about the Green Star program. In the next few questions please tell us a little bit about yourself.

16. Please mark an X above the category that best describes your position in this organization.

Director/CEO

Manager/ Administrator

Supervisor

Employee

If other, please describe _____

17. Please mark an X beside the category that describes how many years you have been with this organization.

- 0-2 years
- 3-5 years
- 6-8 years
- 9-11 years
- 12 or more years

18. Please put an X next to the three sets of goals that are most important to you. Do not mark more than three.

- Set 1: A) Maintaining order in the nation
B) Fighting Rising Prices
- Set 2: A) Giving people more to say in important government decisions
B) Protecting freedom of speech
- Set 3: A) Maintaining a stable economy
B) Fighting Crime
- Set 4: A) Progressing toward a less impersonal and more humane society
B) Progressing toward a society in which ideas count more than money
- Set 5: A) Maintaining a high level of economic growth
B) Making sure this country has strong defense forces
- Set 6: A) Seeing that people have more to say about how things are done at their job and communities
B) Trying to make our cities and countryside more beautiful

19. What services provided by Green Star are most valuable to your organization? Please put an X next to the three most valuable. Do not mark more than three.

- Site Assessments
- Workshops/Tours
- Electronic Monthly Newsletter
- Green Events
- Alaska Materials Exchange
- Electronics Recycling
- Recognition/Awards Program

Air Quality Programs

20. Do you have any recommendations for improving the Green Star Program?

21. When is the best time for Green Star to offer workshops/tours?

- | | |
|------------------------------------|--|
| <input type="checkbox"/> Monday | <input type="checkbox"/> Morning, between 9-11 |
| <input type="checkbox"/> Tuesday | <input type="checkbox"/> Lunch, between 11-1 |
| <input type="checkbox"/> Wednesday | <input type="checkbox"/> Afternoon, between 1-4 |
| <input type="checkbox"/> Thursday | <input type="checkbox"/> Late Afternoon, between 4-6 |
| <input type="checkbox"/> Friday | <input type="checkbox"/> Evening, between 6-7 |

22. a) Do you feel that the Green Star Award is a valid indication that a business is committed to high environmental standards? Please mark the statement with which you most agree.

- No, a Green Star Award does *not* necessarily mean an organization is committed to high environmental standards
- A Green Star Award means an organization is at least *a little* committed to high environmental standards
- A Green Star Award means that an organization is *moderately* committed to high environmental standards
- Yes, A Green Star Award means that an organization is *very* committed to high environmental standards
- Not Sure

b) Why do you, or don't you, feel that the Green Star Award is a valid indication that a business is committed to high environmental standards?

Please feel free to write any comments about Green Star, your organization, or this survey, below. Thank you for your time!

Appendix B

Interview Questions

Interview Consent

A little bit about me:

Graduate Student from UAF

Intern with Green Star from January-May 31, 2005

Started working part time for Green Star June 1, 2005 (if interview occurred after start date)

This Interview

Kept completely anonymous

Please be honest, looking for experiences, good, bad, or indifferent. There are no wrong answers.

Voluntary, can stop at any time.

Questions

How long have you been with this organization?

What is your job description?

Are you familiar with Green Star?

Who initiated, or suggested, participating in the Green Star Program?

Why do you feel your organization joined the Green Star Program?

What type of interactions have you had with Green Star?

Does your organization participate in any other Environmental Management Systems, such as ISO 14001, or EPA's environmental performance track?

How would you rate top management interest on a scale of one to ten in your Green Star Program or other internal environmental management systems?

How would your rate employee interest on a scale of one to ten?

Are there ways top management tried to encourage employees to participate?

Have employees tried to encourage the participation of top management?

What would you describe as the most challenging part of the Green Star Coordination?

Do you feel that Green Star has helped you in achieving your goals?

In what ways could Green Star be more helpful?

When you joined the Green Star Program, did you try to keep track of changes within the organizations, such as decreased paper use or electricity saved? Why/Why not?

Has the Green Star Program changed over time?

Has participating in the program affected work processes?

Do you feel the Green Star Program has changed the atmosphere of the building or employees?

Do practice any environmental behaviors outside of the office?

What do you feel is the most pressing environmental issue for businesses at this time?

Appendix C: Goal Ranking Frequencies

Public Image Ranking	Frequency n=53	Reduce Environmental Impact	Frequency n=53	Reduce Resource Cost	Frequency n=53
1	1	1	33	1	4
2	5	2	5	2	10
3	20	3	7	3	9
4	4	4	7	4	12
5	14	5	1	5	13
6	9	6	0	6	5

Biz. Image Ranking	Frequency n=53	Increase Environmental Awareness	Frequency n=53	Reduce Waste Disposal Cost	Frequency n=53
1	1	1	10	1	4
2	3	2	22	2	8
3	5	3	4	3	8
4	9	4	12	4	9
5	11	5	3	5	11
6	24	6	2	6	13

Appendix D: Goal Profile Indicators Environmental, Economic or Image Designations

Legend:

☀ = Environmental 😊 = Image \$ = Economic

Goal Ranking

Each respondent was asked to “please rank the following actions in order of importance to your organization’s participation in the Green Star Program, 1 being most important and 6 being list important. Do not give any of the items the same rank.” The goals were listed in different orders in three versions of the survey to mitigate the possibility of goal listing order biasing the ranking.

- _____ Reducing the environmental impact of your organization ☀
- _____ Reducing costs associated with waste disposal \$
- _____ Improving environmental image with the public/consumers 😊
- _____ Reducing costs associated with resource use \$
- _____ Improving environmental image with business partners 😊
- _____ Increasing employee and public environmental awareness ☀

Services

Each respondent was asked “What services provided by Green Star are most valuable to your organization? Please put an X next to the *three most valuable*. Do not mark more than three.” The services were listed in different orders in three versions of the survey to mitigate the possibility of service listing order biasing the responses.

- _____ Green Events ☀😊
- _____ Site Assessments ☀\$
- _____ Workshops/Tours ☀\$
- _____ Electronics Recycling \$☀
- _____ Electronic Monthly Newsletter 😊☀\$
- _____ Recognition/Awards Program 😊
- _____ Alaska Materials Exchange \$

Materialist/Post-Materialist Values

Each respondent was asked to “please put an X next to the *three sets of goals* that are most important to *you*. Do not mark more than three. The goals were listed in different orders in three versions of the survey to mitigate the possibility of goal listing order biasing the ranking. Each set contains two goals. Both goals are either materialist or post-materialist. To decrease the influence of one specific goal (rather than the general materialist or post-materialist qualities of it) in each version of the survey different materialist goals were matched as a set and different post-materials goals were matched as a set.

- _____ Set 1: A) Progressing toward a less impersonal and more human society☀
B) Progressing toward a society in which ideas count more than money
☀

- _____ Set 2: A) Seeing that people have more to say about how things are done at their job ☼
B) Trying to make our cities and countryside more beautiful ☼
- _____ Set 3: A) Maintaining a high level of economic growth \$
B) Making sure the country has strong defense forces \$
- _____ Set 4: A) Maintaining order in the nation \$
B) Fighting rising prices \$
- _____ Set 5: A) Giving people more to say in important government decisions ☼
B) Protecting freedom of speech ☼
- _____ Set 6: A) Maintaining a stable economy \$
B) Fighting crime \$

The Green Star Standards

The six required standards:

1. Designate a Green Star Coordinator and/or team.
2. Adopt, post, and circulate to all employees the Green star policy statement, or your version of it.
3. Provide three incentives or training opportunities that encourage management and employee participation in the Green Star Program.
4. Notify your customers of your efforts to meet the Green Star Standards.
5. Assist at least one other organization in becoming a Green Star participant.
6. Conduct an annual waste assessment specific to the Award.

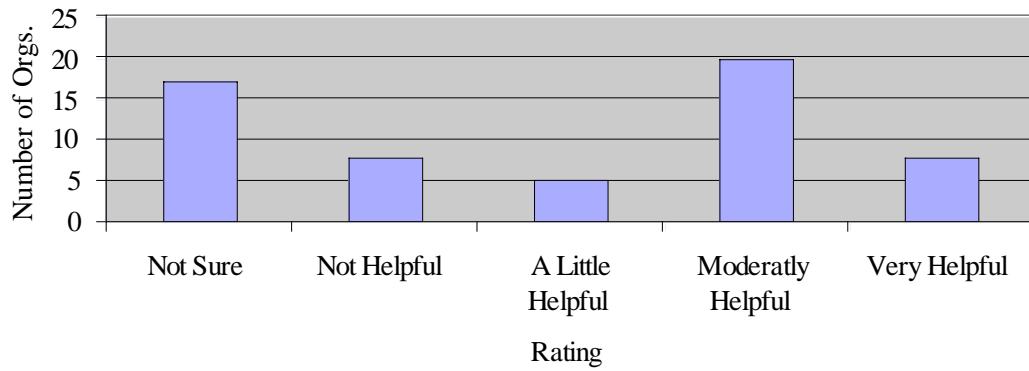
The 12 remaining standards:

7. Practice conservation of office paper in at least three different ways. \$
8. Incorporate at least three energy-conserving changes. \$
9. Monitor record, and post utility usage and waste disposal. (education)
10. Purchase products and services that are more environmentally preferable ☼ (often more expensive)
11. Purchase at least three different types or sources of recycled-content products ☼ (often more expensive)
12. Enhance your maintenance program to improve efficiency and reduce waste in at least three ways. \$
13. Separate waste for recycling. ☼
14. Practice proper handling of and disposal of hazardous materials. ☼ \$
15. Reduce your use of toxic materials in at least three ways. ☼ \$
16. Establish a litter-free zone in the immediate vicinity of your facility. (education)
17. Provide waste reduction, recycling, and energy efficiency information to employees. (education)
18. Develop a different waste reduction method.

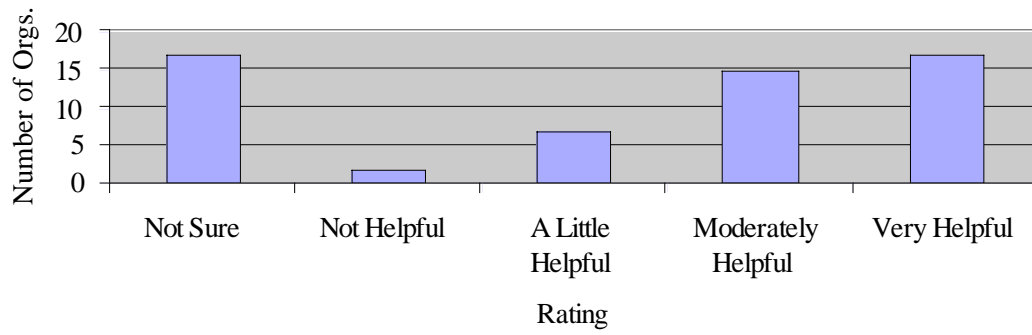
Appendix E

Satisfaction Ratings for Green Star's Helpfulness in Attaining Goals

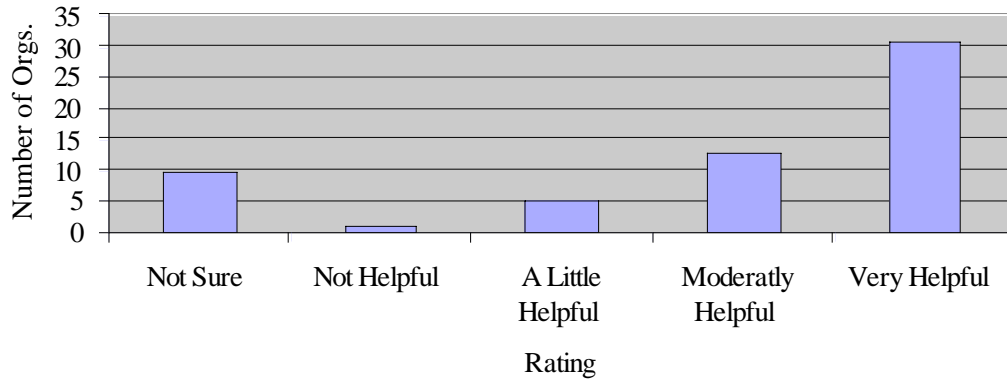
Decrease Waste Disposal Costs



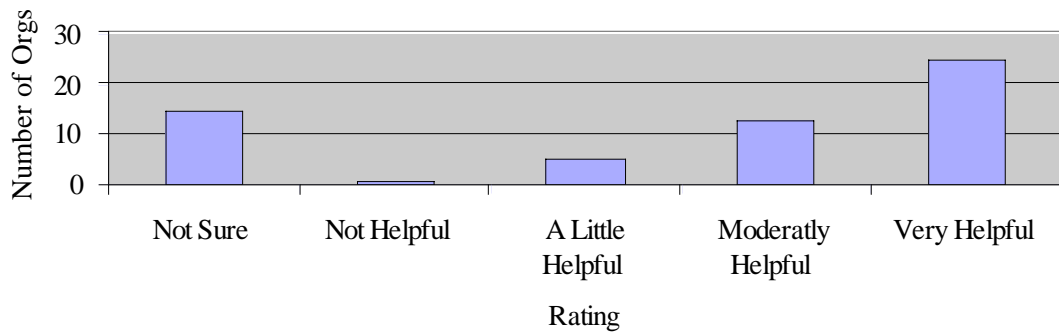
Improve Image with Businesses



Increase Environmental Awareness



Improving Image with Public



Decreasing Resource Cost

