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## **Shedding Light with Trees**

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### Abstract

This multidisciplinary capstone project focuses on education of the benefits of trees to incentivize the planting of trees at stakeholder homes or businesses. The approach of taking individual action to address a large-scale issue is also highlighted as a qualitative aspect of the capstone. The goal of the project is to understand the benefits of trees, plant more trees and to utilize the approach taken to address other large-scale issues in the future.

## **Introduction**

Global warming is a complex worldwide problem. The scope of the issue can be paralyzing, stymieing individual action. Tainter (2000, p 6) discusses our general aversion to complexity and states the reason behind sayings like “Keeping it simple” is universally understood. This capstone proceeds in that vein. The planting of trees at a stakeholder’s home or business provides a means to take a simple step to address a global issue on a manageable individual scale. Providing factual substantiated information about the environmental, health, and financial benefits of trees will serve as incentive to participate in the tree planting campaign. The stakeholders are a diverse mix of clients, business owners and associates in my database. The project will also consider the progressive benefit of taking the first step addressing a larger issue.

## **Section 1: Innovative Approach**

### **Bringing Together Perspectives**

The perspectives given provide views of trees from a financial viewpoint (real estate value, energy cost savings), an environmental view (trees are the lungs of the earth, produce oxygen, filter harmful contaminants), and a health standpoint (trees provide a sense of well-being, have a positive impact on mortality). There is also a stance taken on taking positive action within yourself (the one thing you can control) to impact the larger world. The opposing perspective may be that planting one tree won’t make a difference or that trees themselves have no impact. There may even be a denial of the greater issue of global warming or views of indifference. The greater number of perspectives increases the opportunity to impact stakeholders which in turn addresses the larger problem.

Information in the American Journal of Preventive Medicine (2013) discusses the relationship between trees and human health. The study quoted in the article ties the loss of trees (over 150 million trees) because of the emerald ash borer to increased mortality related to cardiovascular and lower respiratory-tract illness. The Journal of Arboriculture (1986) states trees can impact the energy use of a home with proper placement, consideration of the type of tree and other energy source considerations. It suggests the potential annual effect of trees in conventional housing is about 20 to 25% compared to the same house in the open. The National Wildlife Foundation (n.d.) provides a quick, multicategory informational guide on how trees make a difference. Improvement of air quality, water quality and health, are just a few of the benefits mentioned. It is a well-known foundation, and the information carries weight. The Department of Energy (1990) study provided substantiation of the environmental and financial advantages posed by the presence of trees. According to Arborist News (2007) decades of research indicate property values associated with trees are higher than homes without.

Ranseth (2015) speaks of Mahatma Gandhi and his words, “If we could change ourselves, the tendencies in the world would also change.” Gandhi’s quote serves to promote the qualitative portion of the project with reference to making positive change within oneself to have a greater impact on the surrounding world.

### **Creating Innovative Approaches: Beyond Either/Or**

There is too much time being spent arguing back and forth on the cause of global warming (manmade or natural phenomenon) instead of addressing a problem already upon us regardless of causation. A large scope can inhibit any sort of action creating a bystander effect waiting for a problem to just go away. Taking action addresses the issue as opposed to debating

who or what is to blame. It provides a means for an individual to experience how taking the first step feels and to hopefully replicate the action for another large-scale issue.

## **Section 2: Emotional Intelligence**

### **Awareness of Self and Others**

The awareness of self in the capstone project is recognition of a strength, breaking complex subject matter down to something more easily understood by others (addressing global warming through a simple personal step of planting a tree in one's own yard or business). We live in a busy world, so the project has taken that into consideration. Participation through reading of the research results in the mailer or planting a tree because of the information directly benefits the stakeholders financially and health wise. Since the project creation there is more memory and reestablishment of a higher level of respect for the environment.

Because of constant contact with the stakeholders there is an awareness of polarity frustration. This is another reason the capstone focuses on a partial solution and not causation of global warming. The awareness of tight timeframes for all stakeholders is a consideration so the commitment to plant a tree (winter) comes months before actual planting in spring.

### **Consideration of the Audience: Emotional Intelligence**

This capstone approach seeks to inform stakeholders on a simple way to improve value on their home or business, save money on energy and do something positive for the environment building rapport with them along the way to motivate them to participate. The individual participation is not overly time consuming as time is a precious commodity these days for the database. The project channels the negative feelings regarding global warming into positive action for a good purpose.

**Value to Others: Emotional Intelligence**

The research is valuable to others because it shows trees are more than just shade in the summer or colorful leaves in the fall although that alone has value. The project serves to demonstrate trees' value on a larger stage. According to the National Wildlife Foundation (n.d.) trees can improve property values from 9 to 15 percent. They also have the potential for reduced energy output and the cost associated with the output. It is good to recognize the health benefits of trees. Informing stakeholders has the potential for a ripple effect when individual stakeholders inform their sphere of influence. It also is a positive action in a present world chocked full of negativity and divisiveness.

**Section 3: Creative Thinking****The Creative Framework**

Initially, there was a give on some control and a taking of input from others selecting the tree planting campaign as the capstone. It was not a first choice, but taking recommendations resulted in an expansion of a personal comfort zone. Running a campaign to plant trees and provide educational material about trees is out of normal and customary activities. Sharing this project with the database/stakeholders has an unknown factor. There isn't a way to know what they will all think. The project needed to not be overly time consuming yet still have an impact demonstrating consideration of stakeholder's time.

When planning this project, there was a constant perspective of a stakeholder who may have the thought, "What's in it for me and why is this important to me?" The educational material provided them the opportunity to improve their property value, improve health and contribute positively to the environment giving the answers to those questions.

Photo selection was carefully thought out so they could help tell the story and paint the picture with the narrative filling in the rest of the capstone details. The conclusion of the presentation has three photos. There is a single tree being planted, a picture of a pond with a ripple, and a final photo looking up to the trees in a forest. It represents the planting of one tree that may be duplicated (the ripple) and the result would be the forest picture.

### **Unique Approach/es to Project**

The approach is unique because it is a group campaign being measured through individual choice and participation. We are not all going to a location to plant trees as a group. Everyone will decide whether they will plant a tree at their home or business or encourage someone else to do so based on material provided. Participation benefits the individual and the campaign.

Gaining the desire to participate either by planting a tree, encouraging another, or sharing the project is done through subtle comparison of either staying in a bubble and doing nothing or doing something that will be beneficial. Because we all take in information differently, the approaches to the capstone presentation are through printed material, viewing capstone presentation and email. Those who are auditory learners will hear the presentation, visual learners will see the photos and printed material, feelers may interpret the capstone, the selection of the photos and potential impacts provided.

The approach is more than trees. It is an example of how a large-scale problem can be addressed through individual action. Participation may inspire stakeholders to approach another large-scale issue (we have no shortage of those).



## **Section 4: Your Innovative Solution**

### **Accomplishment of Capstone**

A mailer was sent to all stakeholders detailing the tree planting and education campaign. The mailer was followed up with an email to all stakeholders explaining the capstone project again and a link to the capstone presentation was provided. The same email contained a five-question survey to measure the quantitative and qualitative results of the campaign.

This approach was innovative because the project was detailed in different mediums for a greater impact. It also considers the value of stakeholder time. Outcomes from participation can be realized through utilizing the same approach for a different large-scale issue i.e., recycling to reduce waste. If a stakeholder plants a tree or multiple trees the information provided details the value of having or being around trees.

### **Innovative Approach to the Problem/Project**

Typical tree planting campaigns involve groups going to a location to plant several trees. This plan focuses on individual action to plant trees and evaluation of the process of individual action to address larger scale issues. Participation benefits the stakeholder directly. Putting the survey on the email eliminates a step and provides a reason for follow up calls to either thank the stakeholder for participation or obtain survey results if there was no reply.

A video email to stakeholders to kick off the program would have elicited curiosity and anticipation and may have resulted in more participation. Greater participation reduces the time of calls to stakeholders to gather their survey answers. A more universal link to the demonstration or attachment of the video itself would have improved results as not all were able to get the link to work. Also, more consideration could have been given to a social media campaign to broaden the impact of the capstone.

## **Section 5: Results**

### **Benefits to Stakeholders**

There were 100 mailers sent followed by emails to 141 stakeholders. 45% of the emails were opened and of the 64 opened emails there were 27 respondents, 10 electronic survey responses and 17 verbal survey responses. The project benefit assessment is gauged on the respondents. 18 of the 27 respondents will be planting a total of 54 trees. Their property values should reflect a higher value than homes without trees. The Journal of Arboriculture article (1986, p123) suggests reduced energy output up to 20% and the associated costs compared to a home out in the open. The trees also provide direct health benefits the respondents will have access to, given the proximity of the trees. Those respondents who opted not to plant a tree either couldn't plant anymore trees as their home possessed a mature landscape or were unable to plant a tree because of where they lived (townhouse or condominium). 26 of the 27 respondents found the information provided in the mailers and email personally beneficial and liked the approach of taking individual action to address a large-scale issue. The respondents benefited quantitatively (54 trees being planted) and qualitatively (taking the capstone problem approach to address another large-scale issue) 26 of the 27 respondents stated they would use the approach again. The respondents will experience less stress because they have elected to act instead of having to just tolerate the noise. Those who didn't respond still have access to the information.

### **Impact on Stakeholders**

The impact on the stakeholder is positive. 100% of the respondents said they would share the information. One informed me they had already shared the information with their son, and he will be planting a tree as a result. Sharing is impactful and part of the ripple effect the project

was seeking to generate more tree planting. 100% of respondents stated they would use the capstone approach of addressing a larger scale issue through individual action again (like buying a reusable bag for grocery shopping to reduce waste). This is the other impact or part of the ripple effect sought. The community will be positively impacted with the environmental benefits of 54 additional trees. The stakeholders who did not respond to the survey may still take action and model those who did respond.

### **Section 6: Conclusion**

After submitting the project to the database in a mailer and follow up email, I learned the most significant and impactful form of communication with my stakeholders is verbal (either face to face or over the phone). Though a significant number of emails were opened, the participation in the survey was limited. After follow-up calls, the number of stakeholders who took the survey verbally were more than those who submitted electronic responses. The verbal communication also allowed hearing stakeholder expression of thanks for the information. It opened more dialog with the database which serves business and the project.

Even though there was a link to the project presentation on the email, program introduction calls would have generated even more respondents and results. Another lesson learned is the need for expansion of understanding of social media dynamics. Adding a social media campaign to the project would have expanded the reach of the project generating a greater response.

The stakeholder participants directly benefited from the project. All who responded whether planting trees or not, learned trees are more than just shade and fall colors. Indirectly benefiting from the 54 trees that will be planted are the subdivisions where the stakeholder's homes are located and the greater community at large. The a-political approach taken allowed for

all to garner benefits of the project rather than debating the cause of global warming. Individual action allows each stakeholder to experience the positive feelings associated with acting as opposed to standing on the sidelines. The long-term qualitative goal was to establish an understanding that resolution of large-scale issues begins with individual action and that taking action carries a degree of personal satisfaction.

One of the skills acquired in this project is the value of mind mapping to arrive at the best possible topic for the capstone. Another skill acquired is overcoming hesitancy to share something important to me with the stakeholders. It was rewarding hearing the overwhelming support demonstrated by the respondents. Finally, this project has opened the door for future projects with the stakeholders, improving on process and utilizing a different context that will be mutually beneficial to stakeholders and the greater community.

Trees are more than just shade and fall colors. Trees shed light on being part of a solution to a greater issue and provide financial, health and environmental benefits.

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