Leveraging Knowledge for Zero Waste at ASU

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Executive Summary

Arizona State University had established a set of institutional sustainability goals of which Circular Resources or zero waste is one. The Zero Waste department of Arizona State University "aims to create and implement programs to reach the university's circular resources goal and strengthen overall institutional sustainability by designing lasting, universal models that support ASU as a global leader in sustainable solid-waste management". This project addressed the need for a new engagement strategy to help the university meet the institutional goal around waste.

Problem

The university diversion rate for fiscal year 2018 was 43.2% well below the 90% by 2025 goal. Results of a waste characterization highlighted that nearly 33% of the overall commingled recycling stream was contaminated while roughly 26% of the landfilled material was found to be recyclable. While the university has an established department and subsequent programs and initiatives to drive success towards university wide zero waste, the growth of the university and changing recycling markets have challenged the department's engagement resources. A new model for deploying training to the university population was identified as a need to help meet the 2025 goal deadline.

Strategy

In an effort to help the department reach the university goal, a new online engagement strategy was proposed. The strategy leverages an online learning management tool the university was already utilizing. The primary focus was on the creation of a short video lesson and knowledge quiz for the ASU community to access. The platform allows the department to scale and add in additional training for the deployment of future programs, like composting. The project identified staff as a test audience and worked with a small group to test the efficacy of the training.

Solution

The test group proved the training platform would work as a way to rapidly deploy information to the university staff and in addition support professional development and for staff members. In

addition, the creation of a new engagement model highlighted the importance of leveraging technology as a communication and education tool to advance university sustainability.

Project Background

This project focused around implementing a new engagement strategy to advance the Circular Resources/Zero Waste goal at Arizona State University. ASU has established a set of institutional sustainability goals of which Circular Resources/Zero Waste is one. The university has an established department and subsequent programs and initiatives to drive success towards university-wide zero waste however, there is still the opportunity for growth to help the university achieve the goal. While having an idea is a necessary starting point for change, it is also critical to understand the values and structure of an organization to implement more long-term change. This project explores the development of an engagement platform to support an organizational goal without compromising the values of the organization or creating additional, burdensome work to maintain the project.

The project began by reflecting on and assessing personal leadership traits necessary to change with a changing world. It is known that the leadership landscape has changed and there now exists a "sustainability leadership gap" where companies need to modify or adjust key traits for leaders to focus on to ensure long term business success (Frauk, 2013). Knowing this paved the way for reflection around my personal leadership traits and styles and subsequently informed a better understanding of how to lead projects. After reflecting on my personal leadership style and that of successful leaders within the sustainability industry, I could begin the organizational research necessary for the project.

Organizational Research

Organizational research was conducted on two levels both a macro, Arizona State University (ASU) as an institution, and a micro, as one department with Zero Waste. The purpose of doing this research was to better understand the cultural elements at work to support or impede project progress within Arizona State University as well as the Zero Waste department of the university.

Organizational research highlighted areas of opportunity within the greater university culture as well as the departmental level specific to Zero Waste. The ASU Charter clearly sets a precedent for taking responsibility for the economic, social, cultural, and overall health of any of the communities ASU serves (ASU Charter). Understanding the significance of the Charter to

the organization was helpful to understand the value set of the organization. Once known, it was possible to brainstorm ways to overlay sustainability onto it to better guide practices and operations to advance the mission and charter of ASU.

Digging further into the culture of ASU it was found that ASU had eight published sustainability goals with one of the eight goals, Circular Resources, focused on guiding the university in becoming zero waste. Key aspects of the Circular Resources/Zero Waste goal are 90% diversion of waste from the landfill and 30% reduction of waste over a baseline year by 2025 (ASU Zero Waste department, 2018). Next it was time to understand how the larger institutional values and goals played out at a departmental level to inform how to impact change specifically around waste.

Department Level Insight

The following table (see Table 1) demonstrates how the university parcels out sustainability work into three main categories; University Sustainability Practices, Facilities Development and Management, and other campus partners.

Table 1

University Sustainability Practices **Business and Finance**	Facilities Development and Management **Business and Finance**	Arizona State University additional **campus partners**
• Coordination. • Engagement. • Measurement. • Practices.	• Construction. • Design. • Maintenance. • Operations.	• ASU Foundation. • Auxiliary Business Services. • ChangeMaker Central. • Environment Health and Safety. • Office of Special Events. • Materials Management. • Parking and Transit Services. • Print and Imaging Lab. • Purchasing and Business Services. • Residential Life. • Staff Council. • Sun Devil Dining. • Surplus property.

It was key to understand the university culture and the structures in existence to support sustainability work in order to better understand how this project could add value to the

organization without disrupting or burdening the work already being done by various departments. The Zero Waste department "aims to create and implement programs to reach the university's circular resources goal and strengthen overall institutional sustainability by designing lasting, universal models that support ASU as a global leader in sustainable solid-waste management" (ASU Zero Waste). In addition, the insight from my own perspective sitting within the Zero Waste department helped to frame out the constraints and growth opportunities for the department. One can achieve the same level of understanding by conducting personal interviews with individuals in the department or organization you're looking to change or work within.

Uncovering Opportunity

Talking directly with staff members of the department, and from my own understanding, I knew a waste characterization has been conducted in the spring of 2018 in an effort to better understand ASU's waste stream. The results of the characterization highlighted contamination in the commingled recycling stream as an issue. Nearly 33% of the overall commingled recycling stream was found to be contaminated. In addition roughly 26% of the landfilled material from ASU was found to be recyclable (Cascadia Consulting Group, 2018). In addition, according to the Zero Waste Annual Report Fiscal Year 2018, the university diversion rate for fiscal year 2018 was 43.2% well below the 90% goal (ASU Zero Waste department, 2018).Uncovering the results of the waste characterization coupled with the current institutional diversion rate demonstrated a need for advanced programming either in operations and engagement to help the university meet its goals.

Analyzing the Current State

Further research into engagement programs the Zero Waste department was running indicated room for growth. Seeds of Sustainability, a module based training addressing the broad concepts and ASU sustainability goals was rolled out to the ASU community in 2016. The training initially did a great job of outlining what the ASU Circular Resources goal, and other university sustainability goals, and helped to educate a large percentage of the ASU population on broad overarching concepts and programs the Zero Waste department runs. However, since the roll out of Seeds of Sustainability what can be recycled at ASU changed. The changes were

influenced by global recycling markets ultimately impacting what local recycling vendors were able to accept (Joyce, 2019). This impacted ASU's ability to recycle some plastic and paper materials, items like plastic cutlery and paper cups with plastic lining were no longer able to be recycled (ASU Zero Waste department, 2018).

Identifying the Project

This project focused on implementing a new engagement strategy to advance the Circular Resources/Zero Waste goal at ASU. The strategy implemented was an online training module with a short video presentation and quiz to further educate ASU staff about the basics of recycling specific to ASU. Data from fall 2018 indicates there are approximately 7,412 staff members working across Arizona State University (ASU Facts). ASU staff represented the main audience and main end-users in this project.

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SWOT

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After the organizational research was conducted and a project identified, a SWOT assessment was completed to frame out the project within areas of strengths, weaknesses, opportunities and threats present within Arizona State University and the Zero Waste department. In conducting this type of analysis one is able to see where leverage and pivot points exist to take advantage of in advocating for or moving the project forward.

- Strengths: A department backing the support of the creation of an online based recycling training.
- Weaknesses: Lack of formal way to require training to be taken. The training will be voluntary and will rely on good marketing to incentivize staff to participate in the training.
- Opportunities: Currently the Zero Waste department lacks a formalized training or engagement system to teach the ASU community how to recycle at ASU beyond labels on bins or one-off requests for presentations
- Threats: The ever increasing ASU population and the shifting global recycling markets.

Another form of a SWOT that can be utilized to gain buy in for sustainability projects is the sSWOT. An sSWOT table takes the traditional SWOT (Strengths, Weaknesses,

Opportunities, Threats) and overlays sustainability into the model as a way to help decision makers better understand and take action on environmental issues impacting their organization at a core business level (Metzger, Putt del Pino, Prowitt, Goodward, & Perera, 2012).

Feasibility Study

After the SWOT was completed a feasibility study was conducted to determine the needs of the project and any available resources that could be used. The current organizational structure of the ASU Zero Waste department aligns well with the implementation of an education module. There is a position within the department dedicated to outreach and education of the campus community therefore this project can exist under the scope of work for that position.

What made this project an easy yes for the department was the fact that it could be scaled up or down in terms of target population outreach. In addition, once successfully implemented the project can continue to reside under the scope of the Program Manager overseeing all other outreach and marketing for the department.

Resources

The financial impact of this project could be tied directly back to the waste hauling tipping charges of the university. As more individuals recycle or reduce overall the amount of waste produced goes down resulting in a decrease of material sent to the landfill ultimately resulting in a decrease of waste related charges for the university.

The project itself had costs associated with personnel time and not infrastructure. The start-up of the program was completed by myself and the maintenance of the program will fall within the scope of duties under the Program Manager responsible for outreach and education for the Zero Waste department. Within the Program Manager role a focus has already been allocated to increasing outreach work so financial support from the department has already been granted.

Overall, the project has a potential tangible financial benefit as well as a value benefit of changing the culture of the ASU community to be more educated about waste reduction and recycling. In order to collect data on the overall impact, a knowledge test will be administered after the training. The test will provide the department with data on the total number of

individuals that have completed the training as well as their baseline understanding so that each year the test results can be compared. In addition, a pre and post sort of a randomly selected office will gauge the efficacy of the training overall. Within the scope of this project, a test group office was identified. Before the office took the training an audit of the waste streams within the office was conducted noting what was misplaced. After the group completed the training the same audit took place again to determine how well the information resonated with the individuals. In addition to waste audits, it was recommended the solid waste hauling bills be examined to see if recycling is increasing or total solid waste is decreasing and potentially link that back to the training noting the other programs or initiatives the department is also undertaking in tandem with the training.

Work breakdown structure

A work breakdown structure was created to guide the project. Below you can find the details of the Work Breakdown Structure that were presented to the Zero Waste department.

1. **Planning (50%)**
   1.1. Storyboarding (20%)
   - Responsible party: Katie
   1.2. Canvas Shell: Structure outline (5%)
   - Responsible party: Katie
   1.3. Knowledge test outline (5%)
   - Responsible party: Katie
   1.4. Establish metrics of success (10%)
   - Responsible party: Katie
     1.4.1.1.   Staff
       1.4.1.1.1.   Identify office test group
   1.5. Marketing plan (10%)
   - Responsible party: Katie
     1.5.1.1.   Staff marketing plan (2.5%)
2. **Creation (40%)**
   2.1. Communications request draft (30%)

- Responsible party: Katie

2.1.1. Recording (15%)

- Responsible party: Katie

2.1.2. Editing (10%)

- Responsible party: Katie

2.1.3. Marketing plan creation (5%)

- Responsible party: Katie to be delivered to Zero Waste department for deployment

  2.1.3.1.1.   Social posts (Instagram, Twitter, Facebook)

  2.1.3.1.2.   Banner ads (UTO)

  2.1.3.1.3.   ASU Insight

  2.1.3.1.4.   Email announcement

  2.1.3.1.5.   ASU Now story

2.2. Canvas shell request (5%)

- Responsible party: Katie

2.2.1. Canvas shell set-up (2%)

- Responsible party: Katie

2.3. Office test group: Pre training waste audit (3%)

- Responsible party: Katie

3. Launch (10%)

3.1. Handoff marketing recommendations(6%)

- Responsible party: Katie

3.2. Office test group: Post training waste audit (4%)

- Responsible party: Katie

Audience research

After completing the feasibility study and the Work Breakdown Structure it was important to further research the primary audience to better understand their motivations and values. First it was determined what segment of the Lifestyles of Health and Sustainability (LOHAS) Audience Segmentation ASU staff members primarily sit in to understand what broadly attracts them to sustainability (NMI's LOHAS, 2013). ASU staff sit in the 'Conventional' leaning on practicality and rationality more than eco-benefits but still interested

in driving change. Understanding this helped frame out some of the staff desires and communication channels that would reach the audience.

Communications channels

This audience, since outside of the Zero Waste department, represents an external audience but also an internal given it is still within ASU. Therefore, the three primary internal to ASU channels proposed be utilized to communicate the training were:

E-mail Marketing

Promote through the weekly ASU staff newsletter, ASU Insight. This newsletter highlights ASU happenings as well as professional development opportunities for ASU staff and is sent to each staff member.

Social Media

Utilize social media channels, primarily Facebook as this is where most of the staff audience is spending their time. There is a large portion of younger staff on both Twitter and Instagram that are following the Zero Waste department. Those that are not directly following the department can be reached by tagging larger ASU channels such as Human Resources, colleges or other professional networks at ASU when posting about the training.

Brand ambassadors/Word of mouth

Staff members share information with each other so utilizing the Staff Council Sustainability Committee, a staff group representing many departments and colleges across campuses specifically interested in ways to advance sustainability at ASU, as well as the staff professional organization, The Green Devil Network to promote the training. Both groups have diverse audience members who manage their own internal department communications specific to sustainability that could then promote the training and thus in turn help to reach an even larger staff audience.

Challenges

Some of the challenges represented within this audience group come from the size of the group and the diversity within it. In order to better work around this challenge it was recommended the department parcel out different staff groups and try out different messaging for each in an effort to aggregate staff group motivations and values down to bite size chunks to better understand how to frame messaging that is relevant to each group.

Staff desire to feel connected to their workplace and to the larger ASU mission, connecting over a shared university sustainability goal can help staff feel like they are contributing to something greater than just their daily tasks within their departments. *The Business Guide to Sustainability* states "when you give people permission to use their job as a catalyst for positive, transformative change, many end up with a passionate calling, not just a career"(Hitchcock & Willard, 2012, pg. 168). Overall, the values of this initiative were to create a shared understanding of what can be recycled at ASU so that each staff member could feel confident in participating in recycling to help ASU reach one of its sustainability goals. In addition, this training is meant to build community by demonstrating shared knowledge is important when coupled with action and that together we can make a large impact.

Pilot Implementation

Five individuals within the Capital Programs Management Group department participated in the pilot training. During the pre-training sort, it was noted there were three major items regularly misplaced in bins the five individuals utilize; napkins, paper towels, and plastic bags. The post training audit indicated an improvement in those misplaced items. In addition, audience feedback indicated an increase in understanding and a general happiness to know what goes where and have reference material to share.

These findings were presented to the Zero Waste department and demonstrated the efficacy of the training and noted similar audits can be conducted by the department to continue to gauge the efficacy of the training module and platform. Upon hearing of the success and ease of use the platform provided the Zero Waste department immediately began brainstorming future content to be created. This indicated the flexibility in the programming and an additional tool in the engagement tool-belt of the department. In addition to the pilot pre and post sorts a marketing

plan outline was delivered to the Zero Waste department to better guide the outreach and participation in the recycling training.

Pilot Implementation Challenges

The individuals that were able to participate in the training indicated that the training module and program was successful. However, it should be noted that several challenges also presented themselves. While conducting the pilot, unforeseen global factors impeded the ability to recruit a larger pilot test group. In addition, for public health reasons and due to the global Coronavirus pandemic shortened the time frame for data collection on the post-training sort. Although the sample was small and the timeframe for data collection short, it was extrapolated that the training impacted individual disposal habits.

Despite the challenges, the pilot demonstrated the importance of having a broadly accessible option for the dissemination of information such as an online training platform. Given the reach of ASU continues to grow, and working situations continue to expand and become more remote, programs that can easily pivot and disseminate information broadly and rapidly are needed.

Conclusion

To carry out a successful project it has been important to personally reflect on leadership traits to understand how to best engage, propose and gain guy in, on a project. In addition, conducting organizational research at various levels to understand the value sets at work within the organization and to uncover opportunities for projects based on what has or could advance sustainability within an organization was critically important to the overall success. After uncovering the opportunities it was important to utilize frameworks and tools such as SWOTs, or feasibility studies to determine if the project was viable. To help gain buy in it was important to complete a breakdown of the work to help guide the project. Lastly, researching the target audience for the project was necessary to understand how best to connect with and ensure long term success. In the end, this project produced a short module based video training highlighting what can be recycled at ASU for educational purposes with a subsequent knowledge test for users ultimately resulting in a higher diversion rate for the university

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