Clean Energy Coalition

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Executive Summary

The Clean Energy Coalition (CEC) is a nonprofit organization that promotes the use of clean energy technologies. It is divided into three divisions – Mobility, Communities and Structures – that each work on projects within their sectors. However, due to the organization's recent increase in size, the existing division structure has become obsolete and actually prevents communication and collaboration between divisions. Innovation and creativity through collaboration are part of the organization's central values, so something had to be done to increase collaboration between the divisions.

We gathered data in interviews with eight employees. The resulting data was filtered and organized through a series of models and an affinity diagram. Common issues and breakdowns were grouped, their origins analyzed and appropriate recommendations were brainstormed, keeping in mind their achievability and impact on the CEC.

Finding 1a: There is an inability to assign and manage projects across divisions
• Staff in one division do not know what projects staff in another division are working on
• Division managers do not know the skill sets of employees in other divisions
• Tasks cannot be effectively assigned to staff across divisions
• We recommend using *Insightly* and *Google Groups* to make projects visible to all and to create employee skillset profiles, respectively.

Finding 1b: Client contact and history information is not shared across divisions
• Staff manage client contact information individually and with different software
• There are lost opportunities to understand clients more deeply
• We recommend using *Insightly* to store and manage clients by projects and history as well as to show previous employees who worked with them and their roles.

Finding 2: Physical space separates divisions
• Stairs present a physical barrier between the divisions
• There is a lack of properly sized (3-4 person) collaboration/meeting spaces
• The organization expressed future plans to expand into an adjacent annex space
• In the short run, we recommend the Mobility division move downstairs while their previous spaces can be retrofitted/remodeled for collaboration/meeting spaces
• In the long run, we recommend that the annex space be renovated to include an Innovation Lounge as well as a kitchen space

Finding 3: Staff meetings are unproductive and lack feedback
• Two-minute presentations of individual weekly goals followed by a lack of feedback
• In the short run, we recommend restructuring the staff meeting to solely discuss company-wide issues, goals and ways to accomplish them
• In the long run, we recommend a mandatory monthly company-wide meeting where an in-depth presentation of team projects can lead to constructive criticism

We believe that these recommendations will encourage more communication and collaboration between divisions, thus fostering innovation and creativity.

Background Information

Client Information

The Clean Energy Coalition (CEC) is a nonprofit company located in Ann Arbor, Michigan. It is dedicated to promoting the use of clean energy technologies in Michigan communities. Together with federal, state, and local partners, the CEC implements, manages, and evaluates projects to create energy-efficient and energy-independent communities.

The CEC is divided into three divisions – Mobility, Communities and Structures – plus an administrative team. Each division works on projects within its sector. The Mobility division works on projects related to transportation, while the Structures division works on projects related to buildings, and the Communities division works on projects related to cities and other kinds of communities. This structure leads to siloed divisions that work independently on projects with little project collaboration between divisions.

Projects start with a project proposal. As a nonprofit company, the CEC must seek external funding for projects, and any employee at the CEC can find a funding notice and start writing a project proposal. While writing project proposals is something each division does, it is something they all do independently, and there is little collaboration between divisions during the proposal writing process. Because of those factors, this was the perfect process for us to examine in more detail during our contextual inquiry interviews, as it spoke to larger issues within the company.

Project Scope

There is a lack of open communication between the three divisions, and our project scope looks at how to increase openness and communication between the three divisions, and to some extent the administrative team, in order to foster collaboration, creativity and innovation within the CEC.

The project proposal writing process is a good representation of the kind of thing we are hoping our project scope will address. There is no way to ensure that a project proposal is getting to the employee with the right skill set to write the proposal or do the project, and there are lost opportunities for other employees to collaborate in proposal writing or in the project process. Because there is a lack of open communication, employees are in the dark about what employees in other divisions are working on and cannot know where their help might be needed or wanted. Our project scope addresses these open communication barriers and how to increase openness between the divisions.

Methodology

We conducted eight contextual inquiry interviews in the course of this project. Three were with project managers in each division, another three were with the division

managers in each division, and two were with two members of the administrative staff. We encountered some difficulty in our contextual inquiry process as most of the work employees of the CEC do is off-site, and we could not observe that work. We overcame this obstacle by creating a set of highly detailed and open-ended interview questions to get at the information we needed. There were some times when we were able to observe work being done while we were at the CEC, and this provided us invaluable insight for our project.   These interviews were followed up with interpretation sessions in which we pulled and interpreted data from our interview notes in order to create affinity notes.

We then made six different kinds of work models from these affinity notes: a cultural assessment model, artifact model, physical model, flow model, sequence model and cultural models. We created individual work models for each employee we interviewed and then created one consolidated model for each type of model. These helped us see processes and, more importantly, breakdowns within the CEC.

Our group then made an affinity diagram with the affinity notes from our interpretation sessions. In this affinity diagram, we organized the data to uncover important findings. When we arranged the data hierarchically and let it "speak" to us, we were able to find out what the CEC values and what larger issues needed to be addressed.

After these tasks were completed, we brainstormed recommendations to address those issues by creating a fishbone diagram and an achievability-impact graph. We chose to focus only on those recommendations that we thought would have the highest impact and achievability. A particular recommendation's impact score was determined by judging its level of impact (high or low) on the company and/or employees. We asked ourselves questions like, How much will this impact the way employees work or do things? Is this a big change or a small change? To determine achievability (high or low), we asked ourselves similar questions, How much will this cost the company financially? Will this be hard for them to do? The answers to those questions determined a recommendation's score.

Finding 1a - There is an inability to assign and manage projects across divisions

Evidence

Our first major finding is that although each division works functionally on its own, there is a lack of project collaboration and information sharing across divisions. This is due to the lack of knowledge about other divisions' projects and the lack of communication with other divisions' employees. Multiple interviewees stated that they do not know the undertakings in other divisions, and "cross division projects are rare". One employee stated that projects are on hold because division managers do not know the skill sets of employees in other divisions when trying to assign tasks. In addition, numerous employees expressed the desire to collaborate with other divisions' employees.

Finding 1b - Client contact and history information is not shared across divisions

Evidence

In addition to a lack of cross-division project collaboration, we found that CEC employees maintain their client lists and client history individually instead of sharing the client information across the organization. One employee explained that there are problems sharing client information because not everyone uses the same CRM software. Opportunities to collaborate and share client knowledge are being lost, though several employees stated that the organization should encourage more open sharing of the clients information so that people can work and represent the whole company in front of their client.

Recommendations

Our recommendations for cross-division project management should 1) track projects, 2) be visible to all employees, 3) include employee skill set profiles, and 4) assist with efficiently assigning tasks. The company-wide client management system should be able to store client contact information and the history of projects and contacts as well.

After analyzing the cost and the benefits it can bring to the company, we choose Google Insightly as our recommended application. It is an efficient assistant tool, which can be integrated with the other Google Applications that the CEC are using right now. It also can work with the database system the CEC uses to store documents. It has an excellent project management system built in, which defines tasks and milestones for projects, emails reminders of what is coming up and what needs to be done and links current and past projects with clients, employees involved, and their roles. Another significant reason we choose Insightly is that it also provides customer relationship management system for managing the contacts and related organizations, partners, vendors and suppliers of the CEC. Employees are allowed to put comments and "lessons learned" into Insightly anytime, no matter the project or the client.

We recommend that the CEC implement the applications in one division for a short term and, depending on how the employees like it, consider expanding the application company-wide for the long term. We also recommend hiring a professional application maintainer and developer to customize the application based on the CEC's needs.

For the skill set sharing issue, we recommend the company use Google Group as the tool to set up employee portfolios and encourage them to share the projects they have worked on and their skill sets. Google Group provides an online forum that encourages employees to share personal or project related information in an informal way. Anyone can feel free to ask questions to the whole company on the forum, which will address

issues that arose when an employee had a question but did not know whom to ask. The forum requires a longer period to implement and encouraging employees to use it might take even longer. People need time to get used to the forum environment. Also it takes time to change their "focus on their own division" mindset.

Expected benefits and challenges/disadvantages

Most online CRM systems require monthly payments from around $100 to $250, which is an extra cost for the company. The free ones have limited data space and don't have advanced functionality, which won't meet the CEC's needs. The recommendations we choose are highly achievable and have a great positive impact on the company, which will create a more integrated company and an atmosphere of sharing across divisions, but it takes time to teach people how to use it and let them get used to it.

We expect significant benefits such as working collaboratively on cross-division projects, flexible task assignments across division based on people's skill sets, open and free communication within the whole company. As a result, the CEC will be able to implement more cross-division projects and recommendations for the client.

Finding 2 - Physical space separates divisions

Evidence

During our interviews, several employees noted that the two-floor structure of the CEC is inconvenient and creates separation. This obviously creates a very physical barrier to cross-division communication and collaboration. Since the Mobility team is isolated on the second floor, it is a lot harder for members of the Mobility team to collaborate or even communicate with the employees in Structures and Communities, who sit together on the first floor. Several interviewees noted that communication is better between the Communities and Structures divisions, because they are in closer proximity to one another. Other interviewees noted that they could go the whole day without seeing employees on the second floor. There is no way to tell who is in the office or not, unless one actively seeks them out or they are sitting nearby.

On a related note, several employees stated that they would like more appropriately sized meeting spaces. A few interviewees noted that they liked the downstairs conference room because it is perfectly sized for three to four people and has whiteboards for brainstorming and collaborating. We found many employees did not care for the upstairs conference rooms, since they were either too large or too small. This lack of appropriately sized meeting rooms creates another barrier to collaboration, as employees have limited options when it comes to meeting spaces away from their desks.

Recommendations

In the short term, we would like to see the Mobility team incorporated into the downstairs workspace. Once the Mobility team is downstairs, it opens up space on the second floor for use as collaboration and meeting spaces, and all three divisions will be in close proximity to one another, which will facilitate communication and collaboration.

A more long term solution – in the sense that it will take more time to implement – is to turn the upstairs annex space into an "Innovation Lounge" and create more collaboration spaces for three to four people. The Innovation Lounge will be integrated with a kitchen (the necessary pipe work is already in place on the second floor) and will be a more informal gathering place for employees to congregate and share thoughts and ideas. There will be *IdeaPaint* on the walls and an informal project-sharing bulletin board or display where employees can post what they are working on, questions they have, and thoughts on others' projects, kind of a "Twitter-style" feed. Having a kitchen on the second floor incorporated with the innovation lounge will encourage the employees to use it as an informal gathering space. The Mobility division's spaces on the second floor will be reappropriated and used as collaboration space. The division manager's office is ideally sized and can be turned into a three-to-four-person conference room, and the workspace for the Mobility project managers can be used as a larger collaboration or lounge space.

Expected benefits and challenges/disadvantages

There are several benefits to these physical space recommendations. First, all three divisions would be unified under one space. This will improve communication between members of the three divisions by facilitating more opportunities for face-to-face communication. Second, these recommendations will open up more of the second floor for use as gathering and meeting spaces, both formal and informal. By creating these spaces, there will be more opportunities for situations in which information sharing and constructive criticism might happen.

There are some challenges with these recommendations, however. There are logistical problems associated with creating the Innovation Lounge and moving the Mobility division downstairs. The creation of the Innovation Lounge will probably disrupt the work environment, creating unwanted noise and construction woes. However, we believe that the benefits of having such an Innovation Lounge will outweigh these temporary issues. The more challenging recommendation is moving the Mobility team downstairs. There is finite space on the first floor, and while there is enough space for the current employees of the CEC, there may be challenges as the company expands. The CEC would have to experiment with desk arrangement to find the optimal desk configuration to accommodate new employees. We believe, however, that this is something the CEC can handle, and that the benefits of having the employees of all three divisions in the same workspace outweigh this potential problem.

Finding 3 - Staff meetings are unproductive and lack feedback

Evidence

Weekly staff meetings are held to serve as "company gatherings" where employees and administration go through a series of activities aimed to increase awareness of others. One of these activities is a two-minute presentation by each employee of individual weekly goals. Currently these presentations are limited in time, and little or no feedback is given. Furthermore, project and personal goals are shared randomly, not by division or project. This led to some employees expressing that time was not being used efficiently. Others highlighted the fact that these meetings were the only time they acquired a general understanding of other divisions. They also said they were unaware of other divisions' projects if they missed the meetings. Furthermore, some employees also commented that these meetings served to communally define company goals and values. Complementing this finding, we found that there has been a push to restructure the staff meetings to share company-wide values, present current status, goals and ways to accomplish them.

Recommendations

In the short run, we agree with the CEC's push to restructure the staff meeting so they can be used solely to discuss company-wide issues. This idea is reinforced by an employee's comment regarding meetings as serving to connect divisions through education and learning. Therefore, through educating employees about company goals and learning about their concerns and problems, both administration and staff will be on the same page.

Furthermore, we want to retain the importance of keeping employees up-to-date regarding current projects and events across divisions. To accomplish this, we propose that, in the long run, the CEC can implement a mandatory monthly company-wide meeting. This meeting will be both casual and celebratory in nature and should include an in-depth presentation of at least one team's project. The monthly meeting would take place in the Innovation Lounge, where employees have the right tools to write down and brainstorm ideas from the presented projects, creating conversation and constructive criticism across divisions.

Our recommendations were chosen by keeping in mind what works and does not work in the current meeting structure to maximize impact and achievability. Building upon this approach and the client's initiatives, our recommendations centralize and expand the effectiveness of sharing company-wide goals as well as the goals from each division in order to increase collaboration, discussion and constructive criticism.

Expected benefits and challenges/disadvantages

We expect that our recommendation will make the weekly staff meeting more time efficient and provide room for feedback. By learning specifically about company goals, employees can better understand where the company is headed and relate those values to their own. Because this process is meant to be both educational and discussion focused, it gives employees a chance to question and express opinions and for administration to learn from them as well.

Our approach towards the monthly meeting can lead to a potential challenge where employees might simply not participate or will feel forced to do so. We understand that providing the tools and opportunities to participate will not necessarily lead to participation. However, based on the feedback from the employees, there is a strong desire to learn, collaborate and push creativity across divisions. Furthermore, such values were highly ranked by many employees.

Conclusion

To study the challenge of increasing collaboration, creativity and innovation inside the CEC, our team decided to analyze the proposal writing process. From this process, we were able to trace many of the broader company-wide issues that were mentioned by the employees. These issues mainly have to do with not having the right tools and spaces for collaboration across divisions. We tackled this problem across multiple fronts. We tackled it through management, by suggesting the use of the *Insightly* and *Google Groups* applications to unify project management and client contact information into one *Google Apps* bundle. We tackled it spatially, by bringing together all three divisions and providing spaces for collaboration and discussion. Finally, we tackled it through meeting restructuring, by reallocating time and setting primary activities such as company-wide goals discussion as well as in-depth project presentation and brainstorming. It is our intention that through these tools and interventions, administration and staff in all three divisions can learn and provide feedback from each other in an organized and proactive manner.

Furthermore, we have also included more specific minor changes (see Appendices) to the current way of working with files and documents. These recommendations have to do with working in an organized fashion and allowing room for coordination and collaboration.

In conclusion, our recommendations could be summarized as providing the right tools and conditions to foster collaboration, creativity and innovation across divisions. Since we cannot change behavior, we seek to provide the right conditions for such values to play out. Finally, we consider that our multiple front interventions provide a solid foundation from which the CEC can accommodate present and future growth.

We would like to thank the CEC for their extensive cooperation and willingness to follow-up with our work, as well as our GSI Melody Ku for her guidance.

Appendices

Finding 4 - Collaboratively revised documents are flooded with insignificant comments

Evidence

The employees at the CEC regularly collaborate on documents like project proposals. When it is time to write a project proposal, the division managers will either assign the writing of a proposal draft to themselves or one of their employees or they will assign different sections of the draft to several employees. After a draft has been written, it will then be sent out to other employees involved in the project and go through several rounds of revision. One interviewee explained that documents are revised first for content and later for grammar. Editors will add comments or make changes to the document with track changes turned on to record all changes.

For our artifact model, our group chose to examine three proposals marked up with comments. We noted that these comments revealed ten ways in which employees engaged in revision. They 1) changed formatting, 2) made minor word-level or sentence-level changes, 3) asked questions, 4) answered questions, 5) moved sections of text, 6) added sections of text, 7) shared concerns, 8) explained the rationale behind revisions, 9) noted errors and how to correct them and 10) gave instructions to other staff members. Even during content revision, documents were flooded with comments that focused on formatting changes and minor word-level or sentence-level changes. This was problematic, as these lower-level comments cannot foster creativity or innovation the way higher-level comments can. One employee noted that these lower-level revisions are always accepted, so there does not seem to be much benefit in tracking them. The volume of these comments also leads to some technical issues. Another employee explained, "when comments and tables start getting added to the document, it gets more cumbersome. The more comments and tables, the more prone it is to crashing, etc."

Recommendations

In order to address the issues associated with collaboratively revising documents, our group has devised the following short-term recommendations. First, we recommend that during the content revision stage, editors stop tracking lower-level changes like formatting changes or minor word-level or sentence level changes. Second, we recommend that employees be encouraged to make higher-level changes by requiring draft writers to pose any questions or concerns they have about the document to their editors for commentary. We chose these recommendations because they require relatively minor changes to the company's current revision process and would thus be highly achievable while also having a significant impact on the major issue of encouraging creative and innovative commentary.

Expected benefits and challenges/disadvantages

We expect that these recommendations would make the revision process more effective. By no longer tracking lower-level comments, it should significantly reduce the overall number of comments, thus decreasing the likelihood of crashing. Furthermore, we expect that shifting the editors' focus from lower-level comments to higher-level comments will likely generate more sharing of creative and innovative suggestions. One potential challenge is that it will likely take longer to revise a document, because higher-level comments simply take more time to generate than lower-level comments. However, we believe that the benefit of increased creativity and innovation outweighs the time concern.

Finding 5 - Files access in not open, and there are no standard file policies for organizing files

Evidence

In our interviews, we found that employees have limited access to folder and files. They do not understand why folders are blocked to staff. Some said they do not need to access other server folders, and others said everyone should have access to everyone else's files. One said that there are missing opportunities to learn from other divisions' projects because access is not open. The limited access to folders also causes additional processes such as requesting and approving an access to folders when files are needed.

In the course of our interviews, we learned that present projects are colored but employees cannot find a meaning for a specific color. This is because everyone has their own system for creating folders and files. We also found that multiple processes are required to write collaborative documents like project proposals. Staff are not aware of the project proposals being drafted in other divisions; there are many lost opportunities for input.

Recommendations

We found several effective ways the CEC could create, share, and retrieve files by implementing a file policy. Our first suggestion is to clearly define which file/folder should be blocked and which should be open to all employees. We recommend that most projects files should be accessible to everyone.

In addition, we recommend that the CEC should implement a color-coding policy when creating and managing folders. The colored system could be used to identify the status of files. For example, files in the drafting process can be saved in a yellow-colored folder, files in the feedback process can be saved in a green-colored folder, and files in

the final proposal can be saved in a blue-colored folder.

These recommendations are highly achievable because it only requires a person who is good at creating organized system/policy and some time for staff to become familiarized with the policies. The impacts on the cross communication could be great.

Expected benefits and challenges/disadvantages

If staff have open access to the files, they would freely see other divisions' projects, allowing employees to know what other divisions are working on and to learn lessons from others' projects. Also, there would be no additional process like requesting and approving access to files, shortening the time to access files when they need. Secondly, the color-coding policy allows people to easily retrieve files and to quickly find information they need instead of needing to ask where the information and file is. The challenge is that everybody should make an effort to follow the policy. Although it takes some time for staff to familiarize themselves with the policy, they will found it convenient later when they are looking for files.