

Cardinal Cupboard

IT Strategic Assessment Report

4/21/2021

Revision History

Date	Version	Description	Author
4/21/2021	1.0	Initial version	Brandon Berney

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Executive Summary

The Commonwealth Credit Union Cardinal Cupboard is a food pantry on the University of Louisville's campus. Founded just over 2 years ago, they have seen huge support from university and community members. They have founded partnerships with local foodbanks and grocers and have just received a \$1,000,000 contribution from the Commonwealth Credit Union. As the organization continues to grow, they would like to find solutions that will allow them to expand their reach to those who are impacted by food insecurity.

Additionally, they are interested in finding ways to encourage more donations so that the cupboard can continue to purchase food for those in need, expand the size of the pantry, handle staffing, and more. Finally, as the cupboard grows, they are in need of more and more volunteers to staff the pantry to greet and check out patrons. One of their main problems is a lack of data flow.

Currently, the organization lacks a proper repository for all of its data. Inventory is kept through a visual scan of the shelving. High-level statistics on the food being taken out of the pantry is recorded in an online form, which is then exported to a spreadsheet and a staffer manually takes the time to create visual reports on the data.

As this report will show, organizations make their best decisions when they have data available. Data heavily influences decisions making on all levels, whether that is a manager, potential donor, volunteer, or visitor.

We will explore some of the solutions that will help the Commonwealth Credit Union Cardinal Cupboard centralize and enhance their data reporting capabilities, helping it to thrive into its future years.

History and Purpose

This section details the history and purpose behind the cupboard. It will provide a brief overview of when it was founded, where they started, and where they are now. Additionally, this section will also describe what they do, how they do it, who they do it for, and why they do it.

History of the Cardinal Cupboard

The **Commonwealth Credit Union Cardinal Cupboard Food Pantry** began operations on January 30th, 2019. The Cupboard was founded and operated by the Engage Lead Serve Board (ELSB) at the University of Louisville in the Student Activities Center (SAC). At its inception, the cupboard worked out of a repurposed utility closet and offered dry goods and select hygiene products. In the present day, the cupboard has formed partnerships with Kroger, Dare to Care (DTC) foodbank, Aramark, and The Lord's Kitchen.

Through a grant Dare to Care has from the Louisville Gas & Electric company, the cupboard was able to purchase a cooler and refrigerator. Kroger has also donated storefront-level shelving, freezers, and coolers, allowing the cupboard to expand its offerings to the cardinal community. Kroger also helped the cupboard renovate and repurpose a conference room in the SAC, allowing the cupboard to expand and grow into a larger organization.

As part of the partnership with Kroger, they have also donated a van that allows the cupboard to participate in the retail pickup program. Each week, a representative from the cupboard is able to visit Central Station Kroger (3165 S Second St) and pick up bakery items, meats, dry goods, and seasonal items that can no longer be sold in the store. This van is also used to pick up items from Dare to Care each week. The cupboard can fill out an order form online and request specific produce, proteins, and dry goods.

The cupboard also operates a Food Recovery Network. Through their partnership with Aramark (the dining provider on the University's campus), volunteers collect food left over at the end of the day from Starbucks, Einstein Bagel Bros, Subway, and will soon be working with McAllister's Deli as well. The network collects individually packaged meals for the cupboard. The network has established a partnership with The Lord's Kitchen at Fourth Avenue Methodist

Church (318 St Catherine St) and donates any additional food recovered that the cupboard is unable to distribute.

Most recently, the cupboard received a \$1,000,000 donation from Commonwealth Credit Union over the next ten years. This generous donation will expand the cupboard's opportunities to grow and will allow them to begin additional renovations to the pantry on May 3rd, 2021. The Commonwealth Credit Union Cardinal Cupboard Food Pantry has had an exciting two and a half years as a valuable resource to the cardinal community and will continue to provide service for years to come as a result of this donation.

To date, the cupboard has had more than 5,600 unique visitors and has been able to have an impact on over 13,300 people in the University of Louisville's community. The cupboard is also the recipient of over 20,000 pounds of food and has helped divert nearly 10,000 pounds of food from being wasted and sent to the landfill.

Purpose of the Cardinal Cupboard

The cupboard operates under ELSB, who defines their mission statement as "to foster a diverse community of students that encourage each other to grow as servant leaders and active citizens through community engagement, active service, and thoughtful leadership." As part of ELSB, the Commonwealth Credit Union Cardinal Cupboard helps students become active in their community through meaningful service and leadership opportunities.

As a food pantry, the cupboard has several purposes:

Addressing food insecurity

According to the cupboard's guidebook, a study in 2018 of around 43,000 students showed that at least 36% were impacted by food insecurity. Food insecurity is defined as having inconsistent access to adequate food due to limited resources. A lack of access to food has been correlated with lower academic performance and graduation rates compared to their peers who have consistent access to healthy, quality foods. The cupboard helps increase the food security of students who are most in need.

Recovering food from grocers and restaurants that would otherwise go to waste

According to the U.S. Department of Agriculture, 30 to 40 percent of food farmed or produced in the United States ultimately goes to waste. One of the cupboard's goals is to reduce the amount of food wasted in our community. Through the food recovery network that they operate, restaurants are able to donate food that they are unable to sell. This may be because it is past the "best by" date but is still fit for human consumption. Another example is in the case of fresh-baked goods. Company policies require items have to be sold the day they are produced or be thrown in the landfills. The food recovery network allows the pantry to reduce the amount of food that is sent to landfills, as items can be collected to go to the pantry, donated to a food kitchen, or composted on campus.

Make a more environmentally sustainable community

Reducing food waste and environmental sustainability are closely tied together. According to the Environmental Protection Agency, throwing food in the trash wastes the water, gasoline, energy, labor, pesticides, land, and fertilizers used to make the food. The rotting of foods also releases methane, one of the most powerful greenhouse gases. Being wrapped in a plastic trash bag also prevents the nutrients from returning to the soil. This type of waste is unsustainable, and by consuming food before it reaches the landfill means we can conserve valuable resources. By operating the food recovery network, the cupboard serves this purpose by giving wasted food more opportunities to be used before it is no longer fit for consumption and must be sent to a landfill.

These goals listed above were the key themes during the interview process with the overseers of the cupboard. These discussion points we had aligned with the mission statement which they defined as being "a campus resource dedicated to addressing and alleviating the burden of food insecurity, promoting sustainable consumption, and prompting the elimination of food waste on campus."

Management and Business Processes

This section describes the management and business practices within the organization. These practices are what are currently in place to help the cupboard fulfill its mission.

Management Practices

Functional Organization

The cupboard has a functional organization structure. Kathy is the overseer and supervisor of the group. Taylor is a graduate intern who works as an advisor or manager and has four student workers report to them. Those student positions are internal and external operations, public coordination, and internal programming, with a fourth position being added soon. Although both Kathy and Taylor work and oversee the student workers and volunteers, they prefer to be seen more as advisors than supervisors. However, they are still a functional organization as data flows bottom-up from the student workers to Taylor and then to Kathy.

This functional organization hierarchy is also evident given the narrow scope of labor.

Volunteers are given very narrow assignments, such as stocking inventory, checking out guests, or recovery food from on campus locations, the Dare to Care warehouse, Kroger, etc. They are driven by standard operating procedures as defined in the cupboard's policy documents. With this information in mind, any IT that implemented in the organization should be centralized to allow for the best flow of data.

Volunteerism

Although the organization has a few workers who are paid for their work, the majority of people who staff the cupboard are volunteers. As such, the cupboard wants to make it feel like a welcoming environment to anyone who chooses to volunteer. It is especially important to make the feel as though they are part of an organization rather than just a person who staffs the cupboard and takes temperature checks and logs food being taken out of the food pantry.

Additionally, the cupboard maintains a large pool of volunteers rather than only a few. Their policy requires that volunteers commit to a minimum of a one-hour shift each week but should not serve more than 5 hours per week. There also be a minimum of one and a maximum of two student workers or volunteers staffed in the cupboard during their normal operating hours.

Finally, at least one volunteer must be associated with an elected position within ELSB. Examples of this include Executive Board, Leadership Board, General Board, or Advisor.

Basic Hygiene

Those who are staffing the cupboard are expected to follow basic hygiene procedures to keep food collected safe for consumption. Staff are expected to wash their hands when they arrive and whenever they participate in an activity that could contaminate their hands. This includes things such as eating, drinking, sneezing, coughing, using the restroom, etc. Additionally, non-latex gloves must be worn when touching unpackaged foods; This includes items such as produce or food collected through the recovery network, like bagels from Einstein's.

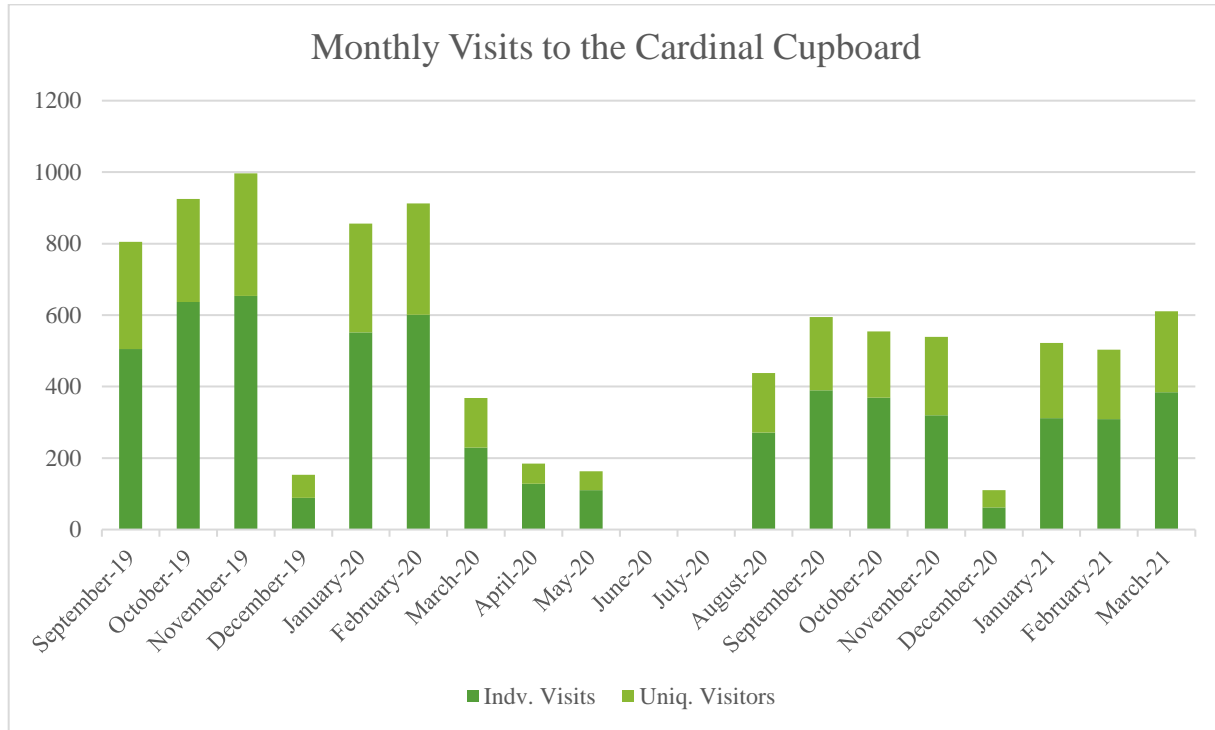
The cupboard itself should also be clean. Volunteers are expected to monitor food inventory for quality and discard or compost items that should no longer be donated as well as remove garbage, recycle cardboard boxes, and clean up any debris that may be on the floor. This helps provide a welcoming and clean environment to guests as well as ensuring that food stays fresh for as long as possible.

There are food storage policies for the cupboard, with recommendations provided by Dare to Care. For example, dry food must be stored at least 6 inches off the floor and away from walls. Food should be kept in a cool, dry, and well-ventilated environment, as well as out of direct sunlight. Refrigerator temperatures are expected to be between 32 - 40 °F. Freezer temperatures are expected to be between -10 - 0 °F. These food storage policies must be monitored daily to ensure the highest quality food is available.

Finally, volunteers are expected to store and rotate the inventory using the first in, first out method. This will ensure that food with the nearest "best by" or "sell by" date is in the front of the shelves. The cupboard also maintains a food permit from the Louisville Metro Department of Public Health and Wellness.

Operating During Peak Hours

The schedule that the cupboard currently operates is as follows: Mondays thru Fridays during the spring and fall semester, the cupboard is open from 9am to 6pm. During the summers, winters, and weekends of the spring and fall semester, hours are by appointment only. Since the majority of students are on campus during the weekdays of the spring and fall semester, this allows the cupboard to reach most students without the overhead of student workers or volunteers during off-peak times.



Although the number of visitors per month has been cut nearly in half since the start of the pandemic, one trend has remained the same for both 2019 and 2020: the number of visitors in December (during winter break/winter session) drops to less than 90 guests for the month. Staffing workers full-time during this period would be wasteful, so it makes more sense to offer appointment-only hours.

Business Practices

Providing Fresh, Healthy Foods

The cupboard would like to emphasize a healthy diet with foods such as fresh or frozen fruits, vegetables, low-fat dairy products, plain water, whole grains, and lean proteins rather than heavily processed foods such as chips, candy, cookies, donuts, sodas, etc. or canned goods that are in high sodium. The cupboard tries to obtain as much healthy food as possible through donations and their community pickup programs, although will accept donations that are less desirable. They classify goods that are less desirable as though that are high in either sugar or sodium. The cupboard will not accept alcohol, energy drinks, dietary supplements, or over the counter drugs. Although not food, the cupboard also makes hygiene products available to their guests.

Obtaining Fresh, Healthy Foods

The cupboard uses several practices to obtain fresh and healthy food. Some of this has been previously detailed, such as the use of the food recovery network to recover food that would otherwise be discarded from on-campus food partners. The cupboard also places orders through the Dare to Care foodbank and has a weekly pickup at Kroger. However, the cupboard also accepts financial donations. They also occasionally host events with ELSB that cover fundraising and food drives. Finally, students on campus can make purchases at one of the POD stores and donate that food or choose to directly contribute money that is stored on their Cardinal Card. ELSB funding can also be used to purchase food, hygiene products, and/or cleaning supplies from a retail store.

Delivering Fresh, Healthy Foods

Of the food that is recovered via the Food Recovery Network, some is not suitable to be stored in the cupboard. For example, the cupboard prefers foods that are individually packaged rather than large tubs of food. Food could also be too close to its best by date, and the cupboard would not be able to clear the inventory before it spoils. In these instances, the cupboard partners without outside kitchens in the area and will deliver food to them that they can use to provide fresh food for those who need it that same day. This helps increase the impact the cupboard has on the community and helps it reach its goals of sustainability and reducing the amount of food that is wasted.

Judgement-Free

One of the most important components of the cupboard that is practiced is that the cupboard is a judgement free zone. Many people may feel shame or guilt having to take food from a pantry, so it is important that the cupboard overcome this difficult roadblock in order to increase the number of visitors it receives. To overcome this, the cupboard needs to emphasize that there is no judgement in taking food from the pantry. One of the ways the cupboard practices this is by making the pantry a welcoming environment.

Student assistants and volunteers help greet visitors and check them in or out. They also do not request any proof of income or discriminate based on race, sex, age, color, national origin, ethnicity, creed, religion, disability, genetic information, sexual orientation, gender, gender

identity and expression, marital status, pregnancy, or veteran status. This helps to respect and protect the dignity of their guests and makes those who are need the pantry more likely to return, which helps the organization meet its goals.

Privacy

Being judgement-free also ties into the privacy that is given to patrons of the cupboard. When someone takes food from the cupboard, the attendant on duty will record basic usage statistics including visually showing their university identification card and recording their uLink username/email address, number of people in the household impacted, age range, and whether or not the guest is a veteran. Over time, this has ranged from the weight of food to the types of food collected. However, workers in the cupboard never sort through a guest's bags to log exactly what was taken. Also, volunteers agree not to discuss visitors to the cupboard except for certain business proceedings. This helps visitors retain some privacy and also keep their dignity.

Current IT Environment

This section will describe the current IT environment of the cupboard. It will cover the current IT hardware utilized by the organization as well as software. We will also cover the current IT budget and the skills and training required out of staff workers.

Hardware

The cupboard uses the following piece of hardware in their day-to-day operations:

iPad

The cupboard currently utilizes one iPad tablet in the cupboard. This device is used to log basic demographics and record utilization statistics. It is kept in the cupboard at all times for student workers and volunteers to use. This is the only piece of hardware the organization owns.

BYOD

For any other IT needs, users bring their own devices. This includes to register for volunteer opportunities, to generate reports, and to communicate with other volunteers and student workers in the cupboard, which will be discussed in the software section below.

Software

The cupboard uses the following pieces of software in their day-to-day operations:

HelperHelper

This piece of software is an online platform and mobile app available to its users. This software requires licenses to be purchased for each organization for a certain amount of user to be able to register to the organization. HelperHelper allows organizations to post service opportunities, and users are able to view all the activities in a directory-type listing. The software also logs service hours for volunteers who may need them for programs such as fraternities and sororities.

Additionally, it allows the organization to collect some data on volunteers and to understand the types of service opportunities that volunteers are most likely to sign up for. The software also allows the cupboard to group individual volunteers into a team and to have group messaging capabilities. Currently, the group messaging feature is not utilized.

GroupMe

GroupMe is an online chat platform that is used to send messages to a large group of people in a given chat channel. Each semester the cupboard creates a GroupMe chat group for volunteers. They use this platform to keep volunteers up to date on information and to fill spots if someone who is scheduled to work a shift is suddenly no longer able to work that shift. Student workers and volunteers are able to install the GroupMe app on their mobile device or use the web platform to send and receive messages in specific channels that they are invited to. Although a new group message is created each semester, messages are occasionally sent in older channels to keep previous volunteers up to date on the latest information in the cupboard.

Primarius

This system is provided by the Dare to Care foodbank and is used by the cupboard for restocking the cupboard's inventory. Each week the cupboard can place an order using the system and Dare to Care will prepare the order based on the selections chosen. From there, someone will pick up the order in the cupboard's van and restock inventory for the following week. As a partner of DTC, the cupboard is also required to submit certain reports to the agency each month through the software.

Google Forms

When a visitor to the cupboard takes food, the staff on duty is expected to record this information into a Google Form. Using the iPad provided in the cupboard, the worker collects information on what types of food were taken, their uLink identifier, and basic demographics such as age range, veteran status, and number of people in the household who will be impacted by the food they have taken from the cupboard.

Google Sheets

Every month, a staff worker for the cupboard uses the data collected in the forms records to present the data in a higher-level format. Their report tracks the number of individual and unique visits, the number of people impacted, age ranges, veteran status, and whether or not the visitor took only produce or took more than just produce. This report is then sent to Dare to Care using the *Primarius* system described above.

The cupboard also uses Google Sheets for their scheduling. When a volunteer reports an absence through GroupMe, the spreadsheet can be updated to reflect that shift change. Volunteers and team members have access to this file, so any user is able to modify or update the records in the file at any time.

Google Drive

Google Drive is an online cloud storage platform. The cupboard uses the cloud to store their files and share them with other volunteers or student workers. One specific example is the spreadsheets they generate as a part of the forms that staffers at the cupboard fill out, or the scheduling spreadsheets that anyone is able to edit.

Websites

The cupboard has two presences on the web. One is hosted by ELSB (<https://www.uoflelsb.org>), which uses the Weebly platform to host their pages. This website contains a link to forward a visitor to the website hosted by the university (<https://louisville.edu/involvement/leadership/engage-lead-serve-board/cardinalcupboard>). The university's website runs on the Plone content management system. Currently, this website shows a video, frequently asked questions, a donation link, and hours of operation. The cupboard uses both websites to target visitors to the cupboard and increase its web presence.

However, they believe that currently nothing is driving visitors to the website. User tracking is enabled on the websites so that they can view visitor statistics. They would like to continue hosting a page on the university's servers so that you are able to search for the cupboard from the university website.

Canva

The cupboard uses Canva to create marketing materials. Canva is an online platform for web or mobile that allows users to make graphic designs. Currently, the marketing directors use Canva to make flyers, posters, and yard signs which can be distributed around campus. This helps increase awareness of the cupboard and drive additional traffic to the pantry located in the Student Activity Center.

FoodKeeper

FoodKeeper is a mobile application and website created by the U.S. Department of Agriculture. This app helps a user determine the maximum length of time an item will maintain its freshness and quality. For example, an item such as hummus may be good for 3 months if refrigerated after purchasing. However, it is only fresh for 7 days after being opened and is classified as "not recommended" to freeze the product. This application helps volunteers make more informed decisions regarding whether it is safe to serve a specific food to visitors or if the food is no longer fit for consumption.

Staff IT Skills/Training

With the current IT environment of the cupboard, minimal IT skills and training are required by the users. New employees or volunteers at the cupboard will go through a short training session which typically takes 30 minutes or less and is available as a recorded video, presentation, or a set of written instructions. Additional training may be required for those who are responsible for generating reports but, like training for volunteers, can also be trained using a short step-by-step guide. Any new IT software introduced will need to be as easy as possible to use to ensure the greatest level of user acceptance to the new technology.

IT Budgeting and Spending

The organization currently has none of their budget or spending dedicated to IT. Although the organization has several platforms mentioned above in the *Software* section, they do not allocate

any of their funds towards these systems. Although Google Forms, Sheets, and Drive are already available for use free of charge (with some minor limitations), ELSB has purchased Google Suite access. Google Suite enables additional functionality and cloud storage space for small businesses and enterprise environments.

HelperHelper is another piece of software that the cupboard uses. Similar to the Google tools, ELSB pays for these licenses and uses it for every organization that they operate, such as Green Initiatives, Equality and Justice, and Animal Welfare. Of the 1,000 licenses ELSB has purchased, the cupboard has a small allotment for their organization. The rest are shared between the other organizations that ELSB oversees.

GroupMe is also free software. Anyone can download the app and register with their cell phone number or email address. From there, anyone can create a group message or join one which is also free of charge. There is an unlimited number of users, chat messages, and channels that one can join or send to.

The FoodKeeper app is also free software, similarly to GroupMe. There is no charge to download the app and there are no subscription fees or additional costs required to unlock its full functionality. This app can be placed on the iPad which the cupboard already owns, so there is no added cost to be able to use this application.

Similar to HelperHelper and the Google tools, ELSB purchases access to Canva for the entire organization to use. Other groups within ELSB also use this tool, so they purchased licenses and made it available to everyone. This means that there is also no cost burdened upon the cupboard for this software.

Finally, ELSB pays for their Weebly website, and the university pays for their website. The cupboard is not charged to have links or content on either site. The use of free software, combined with software licenses purchased by other organization and hosting provided by other groups means the cupboard has an effective IT budget and spending of \$0.

With the recent \$1,000,000 donation from Commonwealth Credit Union, the cupboard can expect a \$100,000 donation annually for the next ten years. This would give the cupboard the

opportunity to allocate some of their new budget towards IT projects should they choose to do so.

Envisioned IT Capabilities

This section will detail the vision of future IT projects as described by the overseers of the cupboard. It will also include the top 10 technology issues that the group is currently facing as listed by the overseers and that were identified as a result of the discussions we had during the interviewing process.

Leadership's Vision

Leadership of the cupboard would like to see additional programs available in the future to make the cupboard more inviting and accessible for all. One vision they have is to provide a grab-and-go system, which will allow guests to get food from the cupboard at any time. Currently, the business hours are 9am to 6pm on weekdays, and any other time is by appointment. For students who are in classes or work during those hours, the cupboard is less accessible to them.

Introducing a grab-and-go system would allow a staffer to select items and leave it in a secure location for a guest to pick up at their convenience. They would also like to see many other enhancements, such as a better website, increased privacy, report generation, and more. These current issues are due to either a complete lack of IT or because the technology they currently have is not advanced enough.

Top 10 Technology Issues

Current State of the Website

Right now, the website for the cupboard is very bland and unexciting. It doesn't attract a lot of network traffic because there isn't much to see. The directors would like to see the website provide more information for three groups. The first group is community members who could choose to invest, donate, and learn more about the cupboard.

One such group they would like to target is the Cardinal Dames, an organization who makes contributions to different University organizations each month. Adding more information about the cupboard to the website would help groups better understand the cupboard's purpose and make them more likely to send a donation in.

The next group the website should be built for is volunteers. There should be a section where people who are interested can sign up for more information to get involved. Those who already volunteer should also have their own section of the website. This section could include training materials and videos.

Finally, the website should target patrons. The current website includes hours and a frequently asked question section, but not much else. The cupboard would like their website to include more information on how patrons shouldn't feel guilt for coming in or that they're being judged. They would also like to emphasize the sustainability aspect that is important in the cupboard's operations.

Lack of Monitoring for the Van

The cupboard was donated a van from Kroger to be able to pick up and deliver food without volunteers having to use their personal vehicles. However, there are currently no maintenance logs on the van. Management is unsure of when the van is due for basic, routine maintenance tasks such as oil changes, tire rotations, wiper blade replacement, etc.

This lack of information presents a high risk to the organization. If the van eventually breaks down due to the lack of preventative maintenance, they will be unable to pick up and deliver food or would have to resort to asking volunteers to use their personal vehicles. This also presents a risk as insurance companies could choose to not pay a claim in the case of an accident. Many insurers have policies that if a personal vehicle was used for a commercial purpose without first notifying the insurance company, the claim will not be covered.

Report Generation

In order to report on data, a staff worker must first export data from Google Forms into Google Sheets. Then, they copy the specific data they need for a report into another spreadsheet. After that, they have to custom create tables, charts, etc. to report on the data collected from the form into a higher-level format that is useful to management. This process is all manually performed.

This leaves a higher margin for human error and requires a staff member to spend time going through the process of generating a report every time it is needed. It would be better for the

organization if there was a system that could generate the report for them at the press of a button. This would save time and reduce errors in the reporting.

Digitized Parking System

Currently, free parking is inadequate near the Student Activity Center that the cupboard resides in. Management would like to see some sort of technology system implemented in the future that would allow them to validate tickets for those who park in the Floyd Street garage. The university currently allows the first 15 minutes to be free. However, this is not enough time for someone to park their car, visit the cupboard, check out, and return to their car before they are responsible for paying for parking.

Offering patrons a free parking pass or validation could increase the number of visitors to the cupboard. The cost of parking may be a barrier to those who live off campus. Of those commuter students who do take advantage of the cupboard, they are able to carry less food via bus or foot than they could if they were able to take their car to the cupboard.

Better Tracking of Volunteers

Currently, the organization uses a spreadsheet to coordinate shifts, GroupMe to notify of absences, and HelperHelper to record the total number of hours volunteered. However, management currently has a problem with volunteers not accurately tracking their hours. Having accurate hour counts helps the organization enhance the experience of their volunteers. There needs to be a way to instill in volunteers the importance of logging their hours and making sure that the counts are accurate.

Increase Food Recovery Options

The cupboard would like to increase their avenues for the Food Recovery Network, particularly with large events. While the cupboard currently does a good job of recovering wasted food from restaurants on campus, they would like to expand this to include large events that are hosted on campus. There is currently no good way for the cupboard to reach out to large events, or vice-versa, to let the cupboard know that there is excess food that can be collected. One proposal they have considered is a mobile application for the iPad called Share Meals, but this has yet to be implemented.

According to the Share Meals website, they define their application as “a digital platform where students can share extra meal swipes and post extra food from club events with students who are food insecure. It works in real time, based on your location.” This would allow large scale events to post that there is leftover food or students could volunteer their meal swipes. From there, either the cupboard or patrons themselves could go to the location to get a free meal at that exact moment in time.

The cupboard would likely try to partner with Aramark for this project, since they are responsible for catering a lot of the largest university events. However, they recognize a large burden would fall onto Aramark as they would be responsible for individually packaging food when those orders come in. This may make implementation difficult, and a solution would need to be found to address this problem.

Privacy of User Data

Currently, data regarding the cupboard and their patrons are submitted into a Google Form which is unencrypted. All data can be read by whoever has read permissions on the form or spreadsheets. This is a problem as one of the primary business practices is ensuring user privacy, which also helps lower the chances that a patron feels guilty or judged if they feel like they visit the pantry too many times in a given time period.

To alleviate this problem, the cupboard would like a solution that allows them to better protect a student’s identity and keep them safe, especially if something like the Share Meals applications was adopted across the university.

Transition from Physical Security to Digital Security

Currently, in order to access the cupboard, volunteers must have a physical key to open the room. Each semester, the volunteers for the cupboard change. It can be difficult to remember who the current volunteers are, and thus who should be allowed to get the key from the ELSB office. There is always the potential that the key could be lost, stolen, or maliciously copied. Because of this, the cupboard would like to find a solution that would allow them to use digital keys or a keypad of some sort.

Ability to Collect Donated Meal Swipes

In the past, the cupboard has partnered with Aramark to allow students to donate their flex points or meal swipes off of their Cardinal card. A student should be able to visit one of the POD locations on campus and make a donation at checkout. There can also be food donation bins within the POD that are collected daily.

However, this partnership is shaky as there is no way for the cupboard to see how many meal swipes or flex points it was actually donated. During the interview process with the leadership of the cupboard, they could not remember whether this program occurred last fall. Having a different process for collecting donations would enhance the security of donation collection and help the cupboard generate more accurate budgets for the following semester after counting all donations for the semester.

Increased Digital Marketing

As mentioned in the software section of the Current IT Environment, the cupboard uses Canva to design various marketing materials for the cupboard. However, their small digital presence makes it difficult for there to be any online marketing. The current website for the cupboard has one YouTube video that describes the organization, but there are no digital images or even the logo of the cupboard appearing on the current website. Increased digital marketing would allow more students to be aware of the cupboard and encourage them to visit it or make a donation. This could also be extended to social media postings or having the cupboard included in weekly student emails that are sent out across the campus.

Closing the Gap

This section lists various recommendations to bridge the gap between where the organization currently is and where it would like to be. These recommendations will be IT systems that the organization could choose to implement to help it better reach its purpose and address its current top 10 technology issues.

Use Fuely to Keep Maintenance Logs on the Van

Fuely is a website and mobile application that helps vehicle owners create logs on their cars.

When a user registers, they add the make, model, year, and trim of their vehicle. Afterwards, the

website will allow a user to input many different logs for their vehicle. One of the primary features of the app is to allow a user to track to fuel consumption of their vehicle.

When filling up the van, a user will enter the current mileage, cost per gallon, and total gallons filled. From there, the application will automatically calculate the fuel consumption in miles per gallon since the last fill-up. It tracks this data over time, which is helpful for understanding the costs associated with driving the van and average fuel economy of the vehicle. Additionally, the app allows users to input maintenance logs.

When a vehicle receives an oil change, tire rotation, wiper blade change, etc. The user can input that information into the app along with the costs associated with receiving that service. Users can also choose to set up reminders based on time or mileage. After consulting the van's owner's manual for recommended service schedules, that information can be inputted into Fuely. After a fill-up is recorded, the system checks to see if any maintenance items are now due either from the mileage or the time since the last service was recorded. Finally, the app also lets users take notes.

Users can choose to write notes about their vehicle in addition to the fuel, service logs, and reminders. This is a free text form that can be used to write anything from noticing a strange sound, warning light on the car, or even just mileage for a given time period if the van is refueled infrequently. This app is available for free or for a small monthly subscription.

The app is functional in the free tier, as fuel-ups, service logs, reminders, and notes are all available to users who choose not to pay. However, for a 99-cent monthly subscription, users also unlock additional functionality such as being able to upload images of receipts. For the cupboard, the free tier will work adequately. This will help address the issue of a lack of logs for the van while also keeping in digitized in a way that the data can be accessed by anybody and with less risk of the records being unintentionally lost.

Add an Inventory System

One of the visions from the leaders of the cupboard is to increase the accessibility and make the cupboard more inviting for everyone. As mentioned before, some students are currently unable to visit the cupboard during its normal operating hours because they have other obligations such

as work, class, etc., and would have to otherwise schedule an appointment to be let into the pantry. The cupboard envisions a grab-and-go program where users can place an online order and retrieve their order from a locker.

However, without the proper systems in place, this system would be very basic. At most, the cupboard has considered an online form where a guest can enter their name, pickup time, and any allergies to food. From there, a volunteer would grab items without much consideration beyond allergens. This may result in wasted food if a volunteer grabs foods that a patron does not want to eat, which goes against one of the goals of aiding in sustainability and reducing the amount of food that is wasted in American households.

An inventory system would allow visitors to be more selective in the foods they order while also keeping the available stock information up to date. However, this could require serious changes to the current process of the cupboard. At the moment, the cupboard does their inventory through a visual scan of the shelving and storage room. When they notice a certain item is low, they order more from Dare to Care or from a retailer.

By adding an inventory system, those who are responsible for keeping the pantry stocked could keep better track of when things need to be replaced as well as how often. As the cupboard grows, inventory will need to be restocked more often and it can get to a point where visually tracking inventory becomes too difficult or labor intensive. Handing the work off to a computer allows the user to verify and agree with any calculations the computer has made and choose to place the final order either through the system with Dare to Care or by visiting a retail store and purchasing the items if they are desperately needed.

One potential solution is to implement a free, open-source software kit that is called ERPNext. ERP stands for enterprise resource planning and is typically a large piece of software that handles almost any need or functionality for a company or non-profit organization. There are paid plans available, but the software is completely free if a user chooses to host the software on their own servers. There are many modules available, but the Retail module would work best for the cupboard: <https://erpnext.com/open-source-retail-erp-software>

The retail module could be used for many different functions. One piece of the tool kit is the Point-of-Sale functionality. Although the cupboard is not selling food to its patrons, it could be a useful feature to better keep track of inventory. While the cupboard wants to respect the privacy and dignity of their patron's by not snooping into their bags, this would provide the most accurate method of keeping inventory.

There are also inventory modules available. Recognizing that the cupboard does not want to record every single item taken by an individual, they could instead choose to do an inventory count at the start and close of the day. From there, they could take advantage of additional functionality in the application, such as the automatic stock replenishment functionality. This would allow the system to predict when it will next run out of a certain item in the pantry and alert a user to reorder soon.

This functionality could also be useful for their partners, such as the Lord's kitchen. After the Food Recovery Network collects food, they could upload that to the inventory system and the kitchen could choose exactly what it wants for the day. The cupboard could then compost the remaining food that will be discarded, which would reduce the amount of food that is unnecessarily transferred between the cupboard and the kitchen.

Finally, using this software could help automate the generation of reports. If staff transitioned over to this software, it could be customized to record the specific demographics and information the cupboard is looking for, and then generate those reports at the press of a button. This would save time and reduce the possibility for human error when exporting, transferring data, and creating models and graphs for the report.

Consolidating the Attendance System

Management wants to stress the importance of accurately logging the hours that people are choosing to volunteer for the cupboard. However, between reserving slots through HelperHelper, communicating absences through GroupMe, and then maintain a scheduling sheet through Google Sheets, it becomes very difficult to have the same information across three platforms.

For this reason, the cupboard should consider consolidating these three systems into either one or two systems. HelperHelper appears to already have an attendance validation system built into it,

which could eliminate the need for the scheduling that is done through Google Sheets.

HelperHelper could generate the attendance sheet instead, and by implementing the validation function the cupboard would see more accurate attendance data.

GroupMe could still be used as a communication tool between the volunteers, but volunteers should be encouraged to add and remove shifts from HelperHelper before communicating their absences within the GroupMe chat. If a volunteer fails to notify the group of their absence, the missing attendance data would be reflected in HelperHelper.

Create an Online Platform to Donate Meal Swipes

Instead of students having to make donations through the POD locations, the cupboard could work with the Cardinal Card office to build out an online platform. The Cardinal Card already has the ability to make deposits to the account either at a terminal or online (<https://get.cbord.com/louisville/full/login.php>). Withdrawals from the card can be made at retail locations that accept Cardinal Cash but aren't an affiliated dining location and at printers across the university. One such example is Insomnia Cookies that can accept transactions with this card. The cupboard could start a partnership and build out an online donations platform where a student can input their uLink information or student ID and choose to donate a specific amount of meal swipes, flex points, or cardinal cash.

This would remove the dependence on Aramark and the POD locations for receiving donations to the cupboard and would be a more straightforward method of receiving the cash donations from students. Additionally, this could be tied into the website for the cupboard which would address the goal of making it easier for people to donate. The current donation link on the website does not list the cupboard as an organization; instead, users are asked to select "Other" and manually type in the cupboard when making a donation through the current donation portal.

Perhaps another option is to donate a point-of-sale machine to the cupboard, similar to what is in use at dining locations across campus. A student interested in making a donation could enter the cupboard, swipe their card, and have the staff worker on duty select a certain amount of flex points or meal swipes to donate.

Enhance the Website with Databases

The biggest problem the organization currently has is with the website being static. The leaders of the cupboard have specifically requested the website was more dynamic, where the website could display information in real time. This would include general statistics on users, such as how many students are visiting in a month on average, the pounds of food collected or diverted from landfills, etc. By showing the impact the cupboard has on the community and environment, donors will be more encouraged to make contributions to the organization.

This information could be pulled from the inventory system recommendation mentioned above. The ERP could be configured to perform some basic calculations and provide those statistics to the website in real time. By adding more data to the website, we can also encourage patrons to visit.

One of the most important goals for the cupboard is to make visitors not feel guilty, ashamed, judged, etc. for needing the assistance of the cupboard. By including data on the number of people who have been assisted or impacted by this project, potential patrons would feel less alone in their struggle with food insecurity and feel more confident in visiting and patronizing the cupboard.

Additionally, this helps volunteers see the impact that they have or could have on the community if they aren't already volunteering. Besides providing these general statistics on data, the website can be revamped with multiple pages describing the organization's history, purpose, goals, and specific pages for each group the cupboard is trying to target. This could include donation links, registration links to volunteer through HelperHelper, and general questions/information or a grab-and-go sign up link for patrons. In the future, the website could also include a contact form rather than providing an email address on the webpage, which would further drive engagement with the platform.

Conclusion

One of the most important investments the Commonwealth Credit Union Cardinal Cupboard can make is to increase the amount of data they have easily accessible, and from there we can see improvement in all other IT concerns. Having a database that monitors the inventory and usage

statistics is the key that would allow the cupboard to excel forward. An enhanced web experience could be made with dynamic, real-time content. By providing more information to the community, potential donors or those who are interested in supporting the cupboard have a better understanding of what they do and the impacts that the cupboard has on the community and environment.

Having proper access to data will help the cupboard better understand when it needs to take actions, such as in the case of when to reorder stock from Dare to Care or when the van is due for an oil change. This proactive approach will help the cupboard be prepared before things go wrong, such as running out of stock or having the van break down due to following an improper maintenance schedule.

Consolidating the attendance system will help management have cleaner and more accurate data, which they can use to better schedule volunteering shifts in the future. Also, since HelperHelper can break down students by categories of service or most frequent organizations they volunteer for. The cupboard could use this information to reach out to people who would likely be interested in volunteering for them.

Finally, having the cupboard handle its own donations would allow them to better track the annual inflows of cash, meal swipes, flex points, etc. Data is an organization's most important asset and being able to take it in and interpret it will allow the cupboard to continue to grow and expand its impact on the community for years going forward.

Remember, the goal for the cupboard is to be "a campus resource dedicated to addressing and alleviating the burden of food insecurity, promoting sustainable consumption, and prompting the elimination of food waste on campus." The current IT infrastructure of the cupboard can be enhanced to further achieve their goals. Adding IT systems that are integrated and responsibly maintain data can move the cupboard into a stable and secure infrastructure that will last for years to come.

Appendices

Basis of Analysis

According to the unified theory of user acceptance of technology, any IT system can only be assimilated into an organization if there is the belief that a system has a perceived benefit, that the learning curve is worth the effort, that there are social factors influencing the decision, and that there are facilitating conditions.

An improved IT system that allows staffers to generate reports more easily and keep better track of inventory will have perceived benefits both for those responsible for reordering stock and those who have to report information up. While there may be a bit of a learning curve compared to Google Forms, age and experience are two moderators that will make users more willing to switch. The majority of volunteers are young college students who have lots of experience with technology and can quickly be taught to learn the new changes.

To further assimilate any new technology, it is best to incentivize users to do so. This ties in to the four-stage model, and by describing the benefits and ease of use, most people will like the software, which leads to rationalization and control and (assuming the organization does not put in too many controls) eventually results in widespread adoption of the software.

One of the current problems with the envisioned “grab and go” model the cupboard is proposing is the lack of selection in an online form. One of the moderators of the 10 properties of the internet is tacit knowledge. A patron may prefer to visit the cupboard in person and select any produce, meats, etc. and foods that they actually want to eat rather than having a volunteer pick it out for them. Unless they can overcome this barrier by including pictures, detailed selection, and more, patrons may have a hard time adopting a simple online form unless they truly have no other choice. Having a digital inventory system would allow the guest to have a better idea of what they would receive in their pickup order, encouraging more people to use it even when they don't have to.

Technology Inventory

No technology inventory documents available. This inventory was completed during the interviewing process.

Top 10 Technology Issues

No organizational documentation for these issues available. They were all discussed during the interviewing process.

Strategic Planning/Visioning Document

2020 ELSB Strategic Plan and CCFP Guidebook documents are included.

IT Budget/Spending Documents

No IT Budget documentation is available. This was discussed during the interviewing process, and as mentioned in the report there is virtually no spending on IT as it stands.