

UBC Social Ecological Economic Development Studies (SEEDS) Sustainability Program

Student Research Report

**Science Undergraduate Society: Policy Analysis and Program Evaluation of Inventory and Waste Management**

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**GPP 504**

**Themes: Waste, Community, Materials**

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# Project Report

## **GPP 504: Policy Analysis and Program Evaluation Science Sustainability Group 2: Inventory and Waste Management**

**Client:** UBC SEEDS; Science Undergraduate Society

**Project Lifecycle:** January 3 to April 5, 2019

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# Table of Contents

i. Table of Contents.....	2
ii. Executive Summary .....	3
iii. Client and Project Overview .....	4
1.0 Project Design .....	7
1.1 The Problem Statement .....	7
1.2 Project Objectives .....	7
1.3 Research Methodology.....	7
2.0 Evidence of the Problem .....	8
2.1 Key Findings.....	8
3.0 Designing the Proposal.....	13
3.1 The Criteria/Alternative Matrix (CAM) .....	14
4.0 The Policy Proposal .....	18
5.0 Knowledge Dissemination.....	21
6.0 Conclusions and Areas for Future Research .....	21
v. Bibliography.....	22
vi. Appendix.....	23

## Executive Summary

This report presents the research and policy proposal of the Inventory and Waste Management Science Sustainability group towards completing the UBC SEEDS project for the GPP 504 Policy Analysis and Program Evaluation course.

It includes an overview of the project and client, providing the context, and background information on the problem and previous efforts to solve it. It thereafter explains the project problem - the Science Undergraduate Society (SUS) is unable to properly organise, store and manage its resources, which generates unnecessary waste.

The research methodology for the project is outlined, spelling out the use of primary and secondary methods such as interviews, survey, onsite evaluations and data analysis that contributed to our policy recommendation. Some key findings of the research were difficulty in finding things, accessing the room, and accumulation of materials was consistent across the course of a month's monitoring of the site. This means that items were either never removed or organised, and if they were, they were quickly replaced by others.

The report details the criteria and alternatives utilised in designing the policy solutions and highlights the three-step proposal to the SUS; namely an initial organisational strategy in the immediate, followed by the implementation of procedural check in/check out system and behavioural interventions – Goal Gradient and Specific Tasks in the mid and long term respectively.

It concludes by detailing areas for future research and knowledge dissemination activities to be carried out by the group.

## Client and Project Overview

The Client for this project is the Science Undergraduate Society hereafter referred to as SUS or the Client. SUS has a relatively old building - the Abdul Ladha Science Student Centre (ALSSC) - which is not at par with other sustainably designed UBC structures making only limited infrastructural changes possible.

The issues laid out by the Client were energy efficiency and consumption, lack of sustainability awareness among students, an unappealing building space described as not “aesthetically pleasing”, as well as event planning and inventory management.

This group tackles the inventory and storage management problem and indirectly, the over purchasing and wastage associated with them through an analysis-based policy proposal. Crucial stakeholders are UBC SEEDS, the SUS, its executives, Committees, external groups, and the science undergraduate student body at large.

At the inception of this project, the Client had not previously implemented a thorough inventory system although there had been attempts to take inventory of all its resources and create an inventory list of all items in the storage unit. This list was however not used in daily operations nor referred to in the course of running things, before or after events. In addition, there was a point person dealing with the inventory - the building manager at the time – and no check in nor check out system. This solution was not a fit for the SUS as it did not track items nor tackle the disorganization of the storage unit. An additional reason for its failure is that the SUS is a big society with various committees and working groups currently marked at upwards of twenty. These different stakeholders use and access the resources of the SUS for their events and the SUS has been unable to find a system that effectively tracks and organizes their inventory and storage unit.

Attempts had been made to organize storage areas into sections to make it easier for committees and working groups to check what was available before buying but it remained difficult to keep

track, especially because several committees have events around the same time. The Client found that the organisation of the storage area falls apart quickly as committees fail to return items to their original places which leads to members continuing to buy new things out of convenience and the inability to ascertain what's available. These previous interventions to change the behaviour of the students towards promoting organization and management of items failed simply because they were hard to follow through with.<sup>1</sup>

One of the initiatives presented by the Client which was implemented and worked well was the requirement for the chair of the planning committee of SUS flagship events such as First Week, Reaction, Science Week to meet with the building manager to do a quick tour of the storage spaces to see what is available for use. This has successfully avoided some overbuying before events but has not prevented poor organization post-event. It is also not implemented for events held during the rest of the year.

It is important to note that there are two types of events hosted at the ALSSC:

- a) Events hosted by the SUS, categorised for the purpose of this project as internal events, and
- b) Events hosted by external organisations renting out spaces in the ALSSC, categorised as external.

On average, there are 2 to 3 external events and one internal event per week except for peak periods such as the beginning of the school year when there are a lot of orientation events. All events are logged at [sus.ubc.ca/alssc](https://sus.ubc.ca/alssc) so detailed information can always be found under Building Bookings with internal events given the SUS tag.

Our project focused on internal events as background information from the Client highlighted that there were no issues regarding external events as they do not use SUS' resources or have access to storage spaces. Furthermore, the building supervisors check that they meet the required post-event

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<sup>1</sup> Kim Vu, e-mail message to authors, February 15th 2019

clean-up standards with possible consequences for failure to do so ranging from warnings to withholding deposits, and/or blacklisting from building privileges, depending on the severity of the mess. However, for internal events, there are no building supervisors assigned nor use of the post-event checklist.

Only the 9 executives, 2 building managers and two other students who chair the sales committee for SUS merchandise have year-round access to the storage space although students working on specific events are able to request and be granted short-term access for the weeks leading up to the event.

The Client identified that the UBC-wide waste and recycling sorting bins are utilised in the ALSSC and most students and executives use these properly. Although the Client noted that the SUS is interested in beautifying the space, and conducting an educational campaign towards behavioural changes, they identified their main focus in order of greatest to least as improved organization of the storage space, reduced overall waste production and improved organization of the storage space.

This project assessed four rooms:

- Room 106 - the Study Room
- Room 107 - the SUS Executives Office
- Room 116 - the Storage Room
- The Terrace/Balcony<sup>2</sup>

The only room intended for use as a storage space is Room 116. However, the storage problem resulted in a spill over into the others.

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<sup>2</sup> This was not included in the final analysis. Although the client mentioned that in the past, storage had spilled over into this space, in the course of this project, it was mostly empty with the exception of one day when chairs were kept there and soon after removed showing no evidence of this problem.

# Project Design

## The Problem Statement

The Science Undergraduate Society is unable to properly organise, store, and manage its items/resources, which generates unnecessary waste.

## Objectives

The main goals of this project and report are to:

- Identify, define and analyse the problem
- Create an effective system that improves organisation, reduces waste and over purchasing.
- Propose an effective, practical and usable policy that addresses the behavioural and procedural issues highlighted in the research.

## Research Methodology

This project was conducted through the following combined methods:

- Primary Research: Observation, data collection and analysis through:
  - On-site evaluations for which we developed a site assessment tool and monitoring schedule (Appendix A) used to assess the four rooms. During every site visit, each room was scored on a 6-point scale across the 5 different criteria: Ease of Access, Ease of Finding Items, Level of Categorization, Cleanliness, and Amount of Non-Boxed Items/Clutter. (See Appendix A.II for a scale guide with detailed definitions)<sup>3</sup>
  - Interviews with Kim Vu (Vice President, Administration) and other student executives

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<sup>3</sup> Ease of Finding Items and Level of Categorization were highly correlated and therefore, Level of Categorization was not included in the analysis. The variable Cleanliness was also excluded as it was found to be too subjective and because the research focus was primarily the SUS' storage and organization not the building's cleanliness.



- Surveys: To refine our solutions, the team administered a survey using Google Forms to the nine executives on the SUS who have access to the Storage Room in order to understand the incentives of the SUS and its volunteers. (See Appendix B for the survey instrument)
- Secondary Research: The team reviewed successful inventory policies, behavioural principles and incentives.

Some limitations to the research are the subjectivity of the scaling, categorisation, and assessment. In addition, there were time constraints which limited the methods of research possible and extensive data collection. There was also a lack of data on the extent to which the identified problem generates waste and leads to overbuying.

### **Evidence of the Problem**

The first indication of the problem was observed during the first site visit as there was a lack of organisation and storage such that there was overflow beyond the Storage Room to the three other spaces – the Study Room, the SUS Executives Office and the Balcony. (See Appendix C for pictures of the state of the rooms on the first day of the site visit compared to the last.)

### **Key Findings**

#### **I. Information from Onsite Evaluations**

The team analysed the data collected throughout the month of March on the state of the following rooms:

#### **Room 116 - Storage Room**

- Throughout the month of site visits, there was a range of 27 to 32 cardboard boxes and 8 to 20 crates.

Although some items were put away over the course of the month-long monitoring exercise, some remained. For example, a red crate and broom at the front of the storage room was left in the exact same position for 20 days. This points to the consistent as well as changing clutter and shows the nature of the problem to be continuous and growing. This can clearly be seen in a comparison of photos taken on March 1, 2019 and March 21, 2019 (See Appendix D).

- There was consistent difficulty in finding items – rated either 4 or 5 throughout the entire month of monitoring.
- The difficulty in accessing the room was also consistent - rated 4 or 5 meaning that getting around the storage room was difficult.



Figure 1

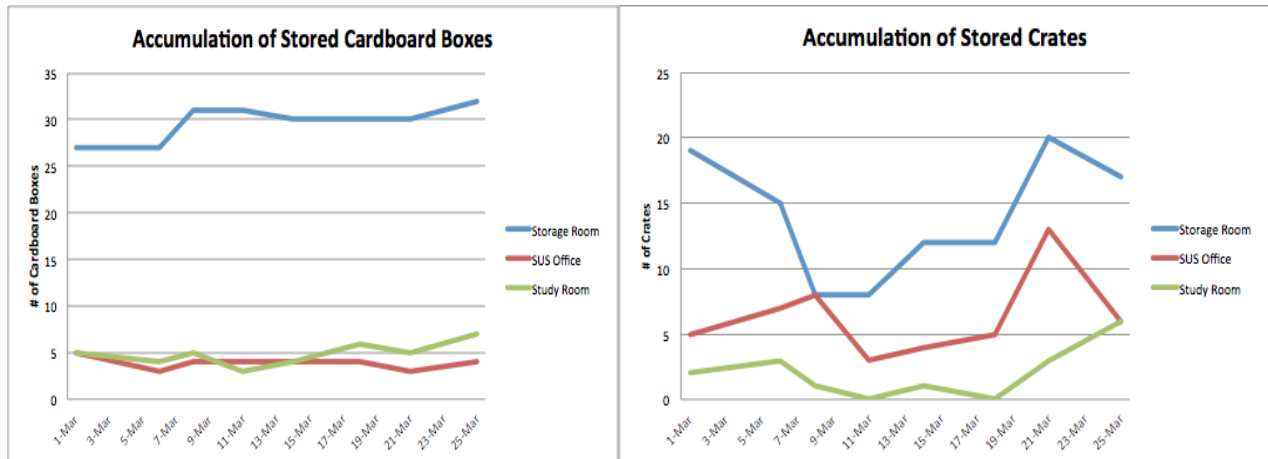


Figure 2

### Room 107 - SUS Executives' Office

- Throughout the month, the number of cardboard boxes and crates ranged from 3 to 5 and 3 to 13, respectively. The amount of non-boxed items and clutter also remained stable meaning that those items were either never put away or if they were, new items/clutter quickly replaced them.
- Ease of access fluctuated quite a bit but for the majority of the month ease of finding was consistently rated 5 indicating it was difficult to do so.

### Room 106 - The Study Room

- Throughout the month, the number of cardboard boxes and crates ranged from 3 to 7 and 0 to 6, respectively.
- The ease of access and ease of finding items remained consistent meaning again, that either those items were either never put away or if they were, new items quickly replaced them.

## II. Information from Client Meetings and Interviews

Some of the comments from executives noted that:

- Committees use items and return them to the office in no particular order as there is no system for inventory and management of resources. After hosting events, students have no

incentive to properly store whatever items are left from each event. They do not take the items back to the storage room and often leave them in the first available space.

- The SUS and its committees buy whatever is needed for the next event without first checking what is in the storage unit.

### III. Information from the Surveys

The information provided through the client meetings, interviews, conversations with the client and on-site evaluations indicated the problem to be both systematic and behavioural. The evidence pointed to the need for not just an inventory system or procedure but also long-term behavioural incentives and solutions in order to keep the space organised. This guided our questions to the executives seeking to identify their motivations and expectations as well as help refine our policy recommendations. Of the 9 executives the survey was administered to, 7 responded.

- **Cleaning Schedule:** When asked “*how often do you spend time helping with storage organisation?*”, 57.1% said monthly, and 42.9% said once every term. This indicated that there is no consensus as to how regularly the organisation of the storage room should be done and that it is being conducted on an informal basis.

- **Importance of Storage Organisation:** 86% of executives believe that storage organization is either very important, important, or moderately important to their specific role in the SUS. 100% believe that storage organization has some level of importance to the SUS overall.

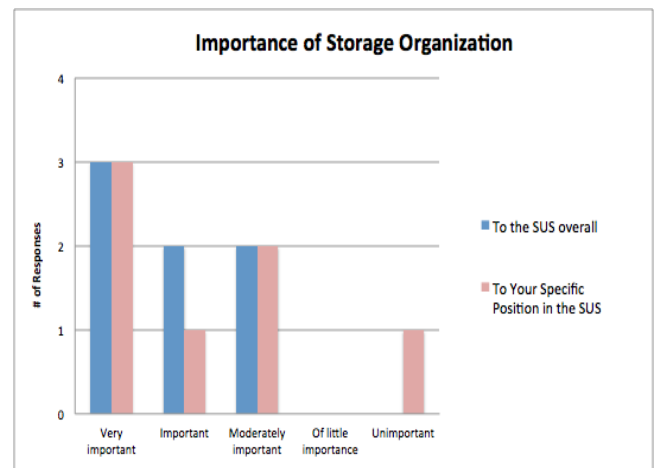


Figure 3

- **Barriers to Organising:** 86% of respondents identified not knowing where to put things as a barrier to keeping the storage area(s) organized while 57% of executives identified that time is a barrier to keeping the storage area(s) organized.

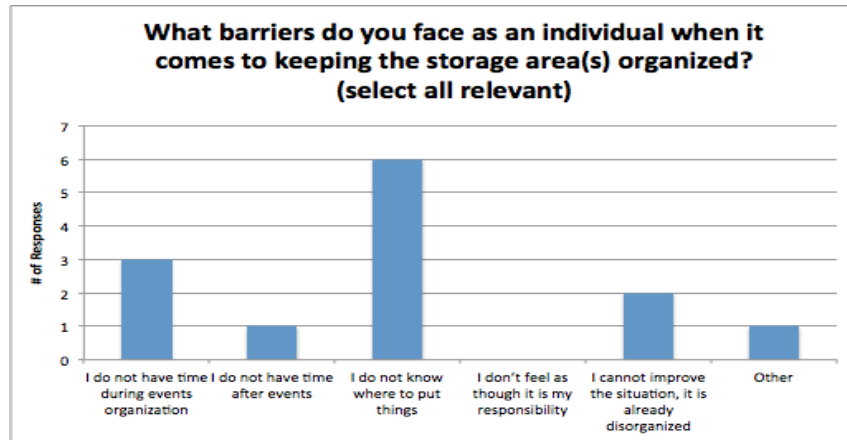


Figure 4

- **Time Constraints:** The team also assessed the time executives spend on storage organization against how much time they have stated they are willing to help organize. Figure 5 highlights the gap between these and also indicates that willingness to help is probably not the main cause of storage disorganization.

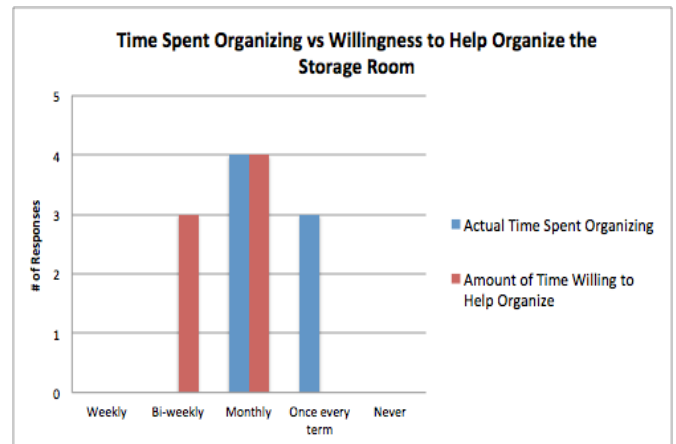


Figure 5

- **Responsibility:** Interestingly, 57% of respondents consider the Building Management Commission to be in charge of the organization of the storage room. However, 71% believe all the users of the storage room are responsible for its maintenance.

Finally, when asked what would encourage the executives to help with the storage organization, the most common response by 85.7% of respondents was *“a specific list of duties”*.

## Designing the Proposal

Our findings indicated that a successful policy would:

- make it easier to identify where to put things
- make organizing the storage and putting things away a quick and easy task.
- involve implementing a specific list of duties for executives and/or others to accomplish with regard to storage organisation.

With the information and evidence provided by the research, the team set about designing the policy proposal. In order to do this, we decided on a criteria alternatives matrix (CAM). Before doing so, we asked and answered the following questions to inform our alternatives<sup>4</sup>:

1. **Whose behaviour do we want to change?** Students who make up the SUS and volunteers who enter the storage room and leave it disorganized.
2. **What is our ideal future state?** Students classify, categorise and keep the record of all items put in the storage space. Students check the availability of products before buying new items for upcoming events.
3. **What might be causing the behaviour?**
  - (a) **Default bias:** People often pick the easiest option to avoid complex decisions. In this case, students see the state of the storage spaces and instead of taking the time to organize, place things in the easiest and most immediate location, often the floor.
  - (b) **Herdling:** People tend to do what others are doing. Once several students get into the habit of putting things wrongly, everyone else tends to do the same.
  - (c) **Time discounting:** People put an unrealistically high value on the here and now and an unrealistically low value on the future. In this case, students value going to class or home as soon as possible after an event, even if it will make future events harder to organize.

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<sup>4</sup> These were guided by behavioural economics principles.

(d) **The “What the hell” effect:** People give up on their goal when they fall off track. Once students see how disorganized the storage area is, they may lose the motivation to do any organization on their own time.

**4. What interventions would help nudge users toward the ideal future state?**

(a) **Goal gradient:** People will work harder to achieve a goal as the goal gets closer.

(b) **Implementation intentions:** People are more likely to do something when it is specified how, when, and where they will do it.

(c) **Social proof:** People want to be like everyone else and are heavily influenced by what they perceive everyone else is doing.

(d) **Self-signalling:** People behave in ways that reinforce the type of person they believe themselves to be, even if no one else is around to witness it.

**The Criteria/Alternative Matrix (CAM)**

Following the analysis above, we deployed the Criteria Alternatives Matrix (CAM) to evaluate potential policy solution(s) that could address the problem according to the needs of the client. The criteria and alternatives were developed based on the research laid out above and include both procedural and behavioural changes.

**A. Criteria (in order of importance)**

1. **Storage organization:** Sorts existing and newly bought items in an organized manner.

Ideally, a solution would have the following two characteristics:

(a) **Visibility/ease of finding things** i.e. stored items are easy to find at any given time in order to quickly assess what items are available to use and avoid overbuying.

(b) **Categorization:** there is a classification method that stipulates where items should be placed in the storage room(s).

2. **Ease of compliance:** Implements a user-friendly policy that makes maintaining organization relatively easy throughout the course of the year/term.
3. **Controlled access:** Monitors and limits the flow of students that have access to the storage area(s).
4. **Limited waste production:** Promotes and prioritizes the use of previously purchased items that are available in the storage room(s) to prevent overbuying and waste generation.
5. **Ease of implementation:** Suggests an alternative that is fairly easy to set up. Considering that the client is an undergraduate student body, an alternative that is simple to implement in order to accommodate students' busy schedule is necessary. Since there has been no clear system in the past, a system that is complex and difficult to introduce is ill-advised.
6. **Low Cost:** Alternative needs to be low cost as the SUS has a limited budget of only \$17,000 to be used for various needs including office supplies and furniture.

## **B. Alternatives**

1. **Use of inventory software:** There are several free online systems that serve as management tools to track stored items. Most of these types of software allow the input of information such as product identification, quantity, and availability by multiple users. Three potential free options are StockPile, ABC Inventory and SalesBinder.
2. **Establish a goal-gradient system<sup>5</sup>:** Set specific goals that are achievable in a bi-weekly/monthly manner. Each of the students would have different goals according to their position (executives or volunteers) and assigned tasks. The common objective will be to keep the storage room organized. This involves a visual tracker of the goals so that everyone involved can see in an easy manner, the progress made to incentivize students to keep working towards their goals. Additionally, the goals would be published in a public

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<sup>5</sup> Based on the principle that people will work harder to achieve a goal as the goal gets closer.



space within the storage room that allows mutual monitoring. This strategy could function as an assessment tool for the client in order to see the progress and, at the end, evaluate the overall performance of the team.

3. **Outlining specific tasks (Implementation of intentions strategy)<sup>6</sup>**: Outline the duties and tasks that each of the students has as part of the organization of events. We could set a schedule with a list of students, specifying each of their responsibilities, due dates and worked hours. Currently, while there is a collective feeling of responsibility to clean and organise the storage spaces, there are no assigned roles and tasks which is one of the identified barriers and feeds the continued disorganisation as responsibility is easily diffused. This strategy would also allow SUS executives to follow the individual performance of each member.
4. **The check in/check out system (A social proof system)<sup>7</sup>**: Creating a check in/check out system where everyone can see what others are doing allows for mutual monitoring. This would involve a sheet in which all people entering and exiting the storage area would be required to sign in their name, what time they used the storage area, as well as declaring what they categorized, put in order or used, and signature. The sheet would be public in order to allow public monitoring. A variation of this could be digital, through a Facebook group, listserv or other platform where SUS students can send pictures to show what they did. This would be a mandatory activity after having participated in an event or having access to the storage rooms.

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<sup>6</sup> Based on the principle that people are more likely to do something when they specify how, when, and where they will do it, and the common response from executives that a list of specific duties would motivate them to help organize storage.

<sup>7</sup> Based on the principle that people want to be like everyone else and are heavily influenced by what they perceive everyone else is doing.

5. **Improve Building Supervisor Guidelines:** We analysed the Building Supervisor Handbook to determine what happens in terms of cleaning and maintaining the state of the building. The guidelines show scheduled cleaning times and bi-weekly meetings to review how are projects going specifically, stating that paid cleaning hours will be scheduled monthly to work on cleaning and maintaining the state of the building and for the first few months, there will be bi-weekly meetings to check up on progress and get the ball rolling on projects<sup>8</sup>. These are not enforced and could be improved upon by for example, expanding their role to include specifically helping clean the storage room not just only the state of the building.
6. **Status Quo:** Keep the system as it is without any changes.

### **C. Weighting System**

The CAM served to evaluate alternatives based on specific evaluation criteria weighted by importance. Each criterion has a number of points (determined by the value assigned to the criteria) that will be distributed among the six (6) alternatives. The value of the alternatives has been calculated by evaluating their performance with respect to each individual criterion. The alternative that better meets the criteria received more points. If the alternative did not meet the criteria in any way, zero (0) points were allocated.

The CAM analysis above indicates the three highest scoring alternatives to be a goal gradient system, specific tasks system and the check in/check out system. Combined, these alternatives tackle both the procedural and behavioural aspects of the problem. See Appendix E for the CAM table.

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<sup>8</sup> Science Undergraduate Society. Building Supervisor Handbook, “Our Expectations of you”, pp2.

## The Policy Proposal

Before our proposal can be implemented, there must be an initial cleaning and organizing of the storage area. Accordingly, our proposal provides guidelines to facilitate the organization and cleaning of the area. We suggest the SUS consider the following steps:

### Step 1: Organizational strategy

In the immediate/short term, the SUS needs to implement an organisational strategy

Current state	Students do not know where to put items.
Cause	<p><i>Default paralysis or fatigue</i> - “When given many options, people make the easiest choice, which is often no choice at all.”</p> <p>The thought process of categorizing/storing/managing items is exhausting for executives; they often state that they don’t know where to start.</p> <p>This organizational strategy aims to provide clear guidelines to facilitate initial clean-up and organization.</p>
Proposed Strategy	<ol style="list-style-type: none"> <li>1. Categorise and List: Classify all existing items into distinct categories. Make a list of all the items. Although this may not be exhaustive, it should include most of the items stored, reducing thought process See sample in Appendix G.</li> <li>2. Organise: Organise storage area space with shelves and transparent crates so that students can clearly visualize what is stored in them.</li> <li>3. Map: Create a map of the storage room with a complementary legend that depicts where items are stored so that it is easy to identify where things belong. This will be placed in the room to make it easy for everyday users.</li> <li>4. Identify: Identify unwanted items and categorize them into waste to be disposed or resold so unnecessary items are not put back in the storage if they are not to be used again</li> </ol>

### Step 2: Procedural Intervention: Check in/check out system

After the storage area is organized, a procedure for its continued maintenance needs to be established. This is the mid-term solution. We recommend the implementation of a check in and check out system. If Step 1 is effectively implemented, the list above can be used as a registry. With

this, everyone can note items taken out (i.e. to be used at an event) or recently purchased items (i.e. leftovers from an event). In this way, executives can keep track of items stored, missing or still available. This needs to be accessible to all parties with access to the storage room(s). Since everyone is able to see what other colleagues are doing in terms of utilizing or adding resources, and it requires the declaration of who entered the room and what items they took or put in, a mutual monitoring system is created. This policy is also useful to control for the flow of people entering the storage room. A sample sheet to pilot the system is available in Appendix H. We suggest using this in addition to a large sign reminding people to put things back where they found them. It should also be mandatory to check the storage room and inventory before all internal events.

### **Step 3: Addressing Behavioural Issues through the Specific tasks + Goal-gradient system**

This is a long-term solution aimed at changing the behaviour attached to this problem. For the system to remain effective, there needs to be a change of behaviour beginning with the current users of the storage spaces and then transferred to the new executives and users as they come in. We recognize that students face a busy schedule and so we want to minimize the amount of time spent organizing by assigning clear tasks.

1. Encourage division of labour and ensure tasks are completed by assigning specific tasks as in Appendix I for all 9 executives.
2. Ensure the attainment of short-term cleaning and organisational goals using the goal gradient system which incentivises participants to keep working towards a common goal. This will remind participants of the importance of storage organization and its benefits in terms of time saving. It will also keep track of each participant's monthly cleaning participation through showcasing completion of designated tasks, show who is the most engaged in achieving the storage organization and allow for mutual monitoring. For this, we suggest the

use of a cork board outside the storage room. The board would include the name of all of the 9 executives as well as pins of 4 different colours for each month of the term. The idea is that after dedicating 45 min to cleaning the storage room (i.e. completing assigned task), students will add a pin in the board. A Sample is provided in Appendix J.

The implementation of these combined strategies offers the best solution to the problem at stake. It provides a system to manage items going in and out as well as a monitoring system that controls access, is low cost, easy to implement and assures behavioural compliance. This policy will however not succeed unless students are constantly motivated to organize and manage items and storerooms.

**Budget<sup>9</sup>:** A minimal budget of \$714.04 was developed to make the implementation of this proposal more effective. A breakdown is available in Appendix K.

**Beneficiaries:** The main beneficiaries of this proposal are our client, the Science Undergraduate Society. Our recommendations are primarily aimed at influencing the behaviour of SUS executives; however, if implemented, it will benefit the SUS at large.

**Policy outcomes and indicators:** The ideal marker of success is that the SUS is able to carry out an initial clean up using the organisational guidelines following which they are able to maintain this standard in the long-term.

**Political Constraints and Potential Consequences:** Some of the political constraints and potential consequences include the fact that the Science Undergraduate Society was currently undergoing an election during the last portion of our analysis. This may be a political constraint because we are unsure of the extent to which the new executives will be willing to carry out our intervention. Another constraint could be the will to implement and follow through on our interventions.

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<sup>9</sup> Prices taken from Staples.ca

## **Knowledge Dissemination**

At its core, our policy project centres on effective policies that help student groups find ways to organize their resources and produce less waste. Following the popular trend of Marie Kondo's best-selling novel, *The Life-Changing Magic of Tidying Up*, and her new Netflix show, our group recognized the increased public interest in tips on tidying up and being organized. We created a blog "Thinking Sustainably" <https://blogs.ubc.ca/thinkingsustainably/> as an easy and fun way to disseminate our ideas and recommendations. The target audience is student groups looking for easy and practical ways to be more sustainable. Its aim is to highlight how small organizational practices can increase sustainability efforts, share our knowledge on best practices that are easily adoptable, and inspire groups to implement these changes. Currently, this blog is public and published through the UBC blogs platform as well as promoted through the Pub, the Master of Public Policy and Global Affairs (MPPGA) Student Blog in conjunction with other 504 groups <https://www.pubpoli.com/projects/2019/4/3/thinking-sustainably>. However, if it aligns with and is approved by SEEDS, we hope to have them promote it through their various social media platforms and their website.

## **Conclusions and Future Areas for Research**

While the proposed policy aims to establish a permanent system and shape students' incentives to adapt personal short-term goals with communal long-term goals, we realise that student executives are re-elected on a yearly basis. In order for the system to be maintained, this policy needs to be part of the transitioning training provided to new executives. We also recommend an initial review of the success of the implemented policy after one term of implementation followed by a regular review of the state of the storage space. We recommend referring back to this report should storage organization become a problem again.

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# Appendix

## Appendix A: Site Assessment Tools

### I. Site Assessment Monitoring Schedule

# March and April 2019

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
			SUS Internal event (11:00 a.m. - 2:30 p.m.) External Event (4 p.m. - 7 p.m.)	1 <b>Sam and Josh</b> SUS Internal Event (5 p.m. - 1 a.m.)	2	3
4	5 External Event (4 p.m. - 9 p.m.)	6 External Event (4:30 p.m. - 10:00 p.m.) <b>Citlali and Josh</b>	7 External Event (8:00 a.m. - 4:30 p.m.) SUS Internal Event (5:00 p.m. - 9:00 p.m.)	8 External Event (5:00 p.m. - 11:00 p.m.) <b>Ese and Alessia</b>	9	10
11 <b>Josh and Sam</b>	12 External Event (4:00 p.m. - 10:00 p.m.)	13 External Event (12 p.m. - 10:00 p.m.)	14 External Event (12 p.m. - 10:00 p.m.) <b>Alessia and Citlali</b>	15 External Event (11 a.m. - 4:00 p.m.) Internal Event (4:00 p.m. - 9:00 p.m.)	16	17
18 <b>Ese and Alessia</b>	19 External Event (4:30 p.m. - 10:30 p.m.)	20 External Event (5:00 p.m. - 8:00 p.m.)	21 <b>504 PROJECT CHECK IN</b> External Event (3:00 p.m. - 8:00 p.m.) <b>Sam and Citlali</b>	22 External Event (4:00 p.m. - 10:00 p.m.)	23	24
25 <b>Josh and Ese</b>	26 Internal Event (5:00 p.m. - 7:00 p.m.)	27 Internal Event (5:00 p.m. - 7:00 p.m.) <b>Sam and Alessia</b>	28 External Event (5:00 p.m. - 9:00 p.m.)	29 External Event (10:30 a.m. - 4:00 p.m.) External Event (4:00 p.m. - 8:00 p.m.)	30	31



## II. Site Assessment Tool

### Guidelines:

- On each visit, there are four rooms to visit:
  - Balcony
  - Storage Room
  - Office
  - Study Room (small room in front of the office)
- Visits should take around 30-40 minutes
- During each visit:
  1. Take photos of each room and upload them
  2. Count the number of cardboard boxes in each room
  3. Count the number of crates and clear bins in each room
  4. Fill out the 6-point scale (0-5) for the 5 different Criteria for each room
    - a. **Ease of Access** (0= Can perfectly walk around the room with no trouble / 5= Extremely difficult to get into the room)
    - b. **Ease of Finding Items** (0= Super organized; Everything easy to find / 5= Extremely difficult to find items)
    - c. **Categorization** (0= Everything is categorized and stored in an organized way / 5= No clear system of categorization; things placed randomly for no reason)
    - d. **Cleanliness** (0= Extremely Clean / 5= Extremely Dirty)
    - e. **Amount of Non-Boxed Items/Clutter**<sup>10</sup> (0= No non-boxed items or clutter / 3= equal amounts of non-boxed items and boxed items / 5= more non-boxed items or clutter than boxes)

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<sup>10</sup> This variable compares the amount of non-boxed items and items in boxes. It is supposed to represent the amount of clutter that is stored in a haphazard manner around the room.

## Appendix B: Survey Instrument *administered through Google Forms*

### SEEDS Storage Survey

Thank you for taking this survey. This will help us design an intervention to improve the organization the organization of the storage room(s) in the Abdul Lahda building.

#### \*Required Question

1. Please select, in your opinion, what is the main benefit from the organization of the storage room?

- Saving money
- Produce less waste
- Saving time by being able to find what you need
- Other: \_\_\_\_\_

2. How important is storage organization to your role in the SUS?

- Very Important
- Important
- Moderately important
- Of little importance
- Unimportant

3. How important is storage organization to the SUS overall? \*

- Very Important
- Important
- Moderately important
- Of little importance
- Unimportant

4. What do you like most about being part of the SUS? \*

\_\_\_\_\_

5. Over the past year, what steps have you as an individual taken to improve the storage organization? \*

\_\_\_\_\_

6. What barriers do you face as an individual when it comes to keeping the storage area(s) organized? (select all relevant) \*

- I do not have time during events organization
- I do not have time after events
- I do not know where to put things
- I don't feel as though it is my responsibility
- I cannot improve the situation, it is already disorganized
- Other: \_\_\_\_\_

7. How often do you use the storage room? (select the best fit) \*

- Daily
- Two or three times per week
- Weekly
- Bi-weekly
- Monthly
- Once a semester
- Once per year

8. How often do you spend time helping with storage organization? \*

- Weekly
- Bi-weekly
- Monthly
- Once every term
- Never
- Other: \_\_\_\_\_

9. According to you, who is responsible for the storage organization? \*

\_\_\_\_\_

10. How often would you be willing to help with the storage organization? \*

- Weekly
- Bi-weekly
- Monthly
- Once every term
- Never

11. What would encourage you to help with the storage organization? \*

- Free food, movie tickets, gift cards, or other swag
- A specific list of duties
- I would do it if someone was supervising

12. In comparison to other executives, how much time do you put into organizing the storage area?\*

- More
- Less
- About the Same

13. How do you know? (with regard to the above question)\*

\_\_\_\_\_

14. Which social media tool do you use most? \*

- FB
- Instagram
- Prefer Email
- Snapchat
- Whatsapp

## Appendix C: Pictures from the First Site Visit vs Last Site Visit

### I. Storage Room

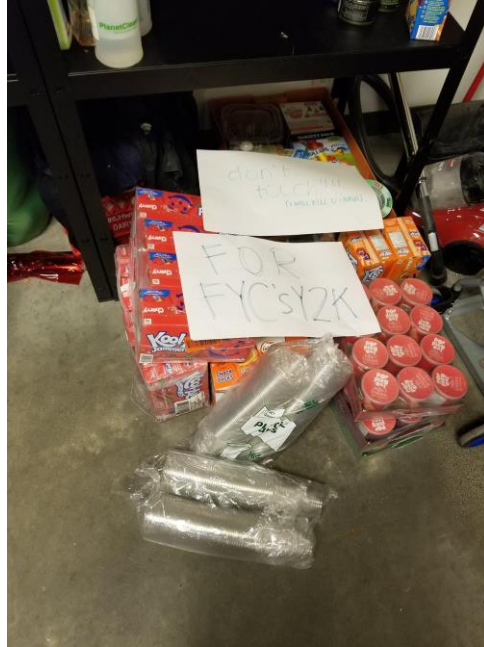


### II. SUS Executives' Office

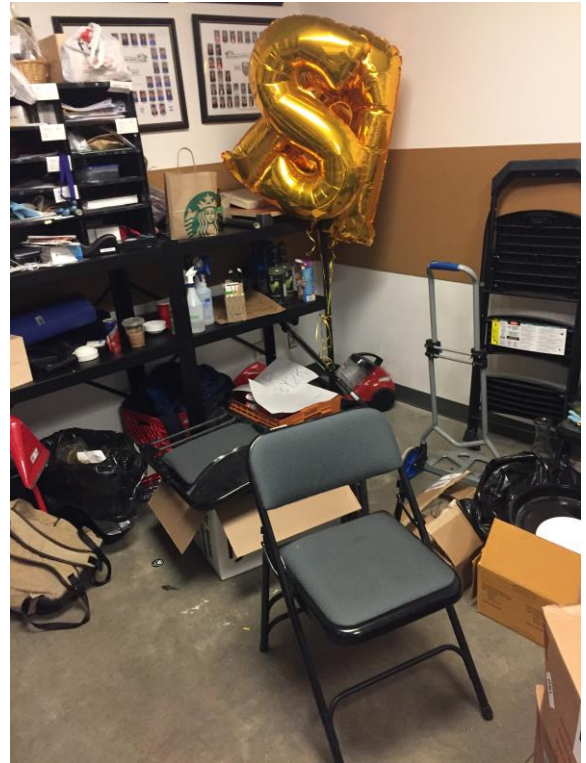


III. Study Room

March 1, 2019



March 25, 2019





# Appendix D: March 1 and March 21, 2019 – Photo Comparison of Storage Room

Storage Room (March 1, 2019)	Storage Room (March 21, 2019)
 A photograph of a cluttered storage room on March 1, 2019. The room is filled with various items including cardboard boxes, plastic bins, and bags. A red plastic crate is visible in the foreground, and a blue tarp is partially visible on the right. The room appears disorganized and crowded.	 A photograph of the same storage room on March 21, 2019. The room is still cluttered, but there is a noticeable change in the arrangement of items. A large blue tarp is now more prominent in the foreground, and a red plastic crate is visible. The overall appearance is similar to the first photo, but the items have been rearranged or added to.

## Appendix E: The Criteria Alternatives Matrix (CAM)

Criteria		Alternatives					
		Implement inventory software	Goal gradient system	Specific tasks (Implementation of intentions)	The check in/check out system (Social proof)	Modifying the current Building manager/supervisor's guidelines	Status quo
30	Organizes storage	30	30	30	30	15	0
25	Ease of compliance	5	25	25	25	25	0
17	Ease of implementation	10	17	10	10	10	17
13	Controlled access	0	0	13	13	10	0
10	Limits overall waste	5	10	5	0	0	0
5	Low-cost	5	5	5	5	0	5
Total = 100		55	87	88	83	60	22

## Appendix F: Certificates

**PANEL ON RESEARCH ETHICS** **TCPS 2: CORE**  
Navigating the ethics of human research

*Certificate of Completion*

*This document certifies that*

**Eseho Ojo**

*has completed the Tri-Council Policy Statement:  
Ethical Conduct for Research Involving Humans  
Course on Research Ethics (TCPS 2: CORE)*

Date of Issue: **24 March, 2019**

**PANEL ON RESEARCH ETHICS** **TCPS 2: CORE**  
Navigating the ethics of human research

*Certificate of Completion*

*This document certifies that*

**Alessia Rodriguez**

*has completed the Tri-Council Policy Statement:  
Ethical Conduct for Research Involving Humans  
Course on Research Ethics (TCPS 2: CORE)*

Date of Issue: **25 March, 2019**

**PANEL ON RESEARCH ETHICS** **TCPS 2: CORE**  
Navigating the ethics of human research

*Certificate of Completion*

*This document certifies that*

**Citlali Cruz Cruz**

*has completed the Tri-Council Policy Statement:  
Ethical Conduct for Research Involving Humans  
Course on Research Ethics (TCPS 2: CORE)*

Date of Issue: **29 March, 2019**

**PANEL ON RESEARCH ETHICS** **TCPS 2: CORE**  
Navigating the ethics of human research

*Certificate of Completion*

*This document certifies that*

**Samantha Coronel**

*has completed the Tri-Council Policy Statement:  
Ethical Conduct for Research Involving Humans  
Course on Research Ethics (TCPS 2: CORE)*

Date of Issue: **23 March, 2019**

**PANEL ON RESEARCH ETHICS** **TCPS 2: CORE**  
Navigating the ethics of human research

*Certificate of Completion*

*This document certifies that*

**Joshua Tafel**

*has completed the Tri-Council Policy Statement:  
Ethical Conduct for Research Involving Humans  
Course on Research Ethics (TCPS 2: CORE)*

Date of Issue: **2 April, 2019**



## Appendix G: Sample Categorisation List

List of Categories		
<b>Food</b> <ul style="list-style-type: none"> <li>• Cookies</li> <li>• Chips</li> </ul>	<b>Drinks</b> <ul style="list-style-type: none"> <li>• Pops</li> <li>• Juices</li> <li>• Alcohol</li> </ul>	<b>Tools &amp; hardware</b> <ul style="list-style-type: none"> <li>• Cords</li> <li>• Lightbulbs</li> <li>• Appliances</li> </ul>
<b>Recyclables</b> <ul style="list-style-type: none"> <li>• Cups</li> <li>• Paper</li> <li>• Reusable bags</li> </ul>	<b>Kitchen utensils</b> <ul style="list-style-type: none"> <li>• Glasses</li> <li>• Cutlery</li> <li>• Plates</li> </ul>	<b>Decor</b> <ul style="list-style-type: none"> <li>• Lights</li> <li>• Plants</li> <li>• Paint</li> <li>• Stickers</li> </ul>
<b>Cleaning products</b> <ul style="list-style-type: none"> <li>• Broom</li> <li>• Shovel</li> <li>• Lysol</li> </ul>	<b>Office supplies</b> <ul style="list-style-type: none"> <li>• Paper</li> <li>• Notebooks</li> <li>• Pencils</li> <li>• Scissors</li> <li>• Markers</li> </ul>	<b>Games</b> <ul style="list-style-type: none"> <li>• Cards</li> <li>• Hula-hoop</li> <li>• Balls</li> </ul>
<b>Furniture</b> <ul style="list-style-type: none"> <li>• Foldable table</li> <li>• Foldable chairs</li> </ul>	<b>Clothing</b> <ul style="list-style-type: none"> <li>• T-shirts</li> <li>• Hoodies</li> <li>• Caps</li> </ul>	<b>Other</b> <ul style="list-style-type: none"> <li>• Awards</li> </ul>

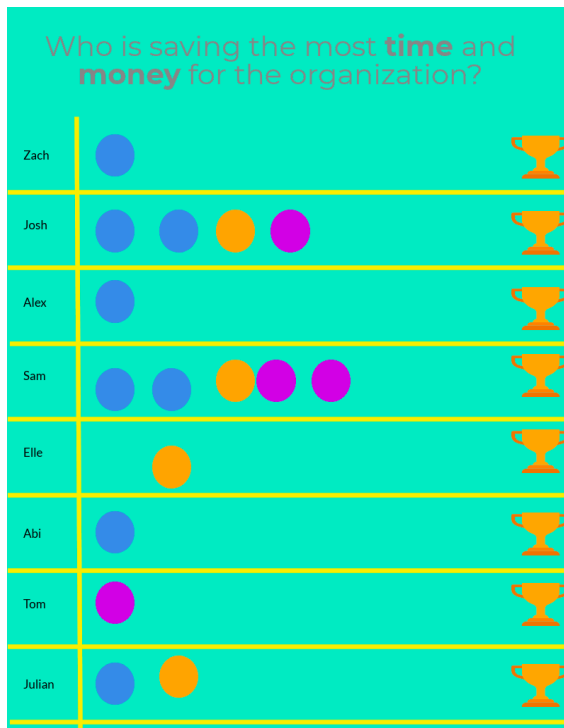
## Appendix H: Sample Check in/Check out Sheet

I had access to the storage room and properly arranged the items I took out/put in					
Date	Time	Name	Item	In/Out?	Signature

## Appendix I: Sample List of Assigned Tasks

Executive	Tasks
1	Food: Keep in designated shelves or crates. Eliminate expired food.
2	Drinks: Keep in designated shelves or crates. Eliminate expired drinks.
3	Tools & hardware: Keep in designated shelves or crates.
4	Recyclables (cups and plates): Keep in designated shelves or crates. Keep organized and visible. Recycle.
5	Non recyclables (glasses). Wash. Keep in designated shelves or crates.
6	Decor: Organize, categorize, and eliminate decor outdated.
7	Cleaning products: Keep organized
8	Office supplies: Keep organized
9	Keeping room 1 and 2 clear.

## Appendix J: Goal Gradient Sample Board



## Appendix K: Budget

- Notepad (12 pads/pack - \$18.99)
- White poster board for checklist sample (5/pack - \$2.59)
- White poster board for tasks (5/pack - \$2.59)
- Cork board for goal-gradient system (\$28.29)
- Colour pushpins (50/pack - \$3.14)
- Stickers (2500/pack - \$8.49)
- Markers (8/pack - \$9.99)
- Shelving (4 x 5-shelf, 24" x 48" = \$159.99 x 4 = 639.96)