An Investigation into UBC Sustainable Swag

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APSC 262

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ABSTRACT

In previous years, the UBC Sustainability Initiative (USI) has participated in various campus-wide events such as Imagine Day, wherein various campus organizations promote themselves to students. One of the typical marketing strategies at these events is the act of handing out swag, a practice the USI participated in. However, concern was raised as to whether the swag being used by the USI was appropriate for the message of the organization, as previously used swag items were either overly expensive or lacking clarity with respect to the environmental impact of their fabrication.

In light of this issue, the USI requested student groups of the APSC 262 course to perform an investigative analysis of sustainable swag. It was requested that this analysis remain primarily focused on literature, as the USI was conducting its own conversation with various swag providers and wished to avoid possible misunderstandings should the student groups contact the same companies by mistake. The desired end result of this analysis was to produce a method to quickly evaluate potential swag items with respect to Triple Bottom Line (TBL) accounting and a recommendation for potential swag items or marketing techniques the USI could use in the future.

To address these issues and arrive at potential solutions, the team performed a literature review on the separate topics of the effectiveness of swag as marketing, the sustainability practices of suppliers, and various decision making processes.

From this research, the team was able to develop a framework for swag TBL assessment, which evaluates items based on the labour practices in the country of manufacture, the carbon impact of the materials used, and the per-unit cost of the item. The team also came up with three potential swag item recommendations for the USI, and would recommend the USI to consider alternative marketing methods in addition to the use of swag.

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GLOSSARY

Analytical Hierarchy Process:
Mathematical method of decision making through comparisons of the potential choices in regards to assigned criterions.

Swag:
Promotional products given away free of charge to serve as an advertising medium.

Ranking System:
For the purpose of this report, defined as the name of the rubric used to account for environmental, social, and economic factors in determining TBL Cost.

Rubric Score:
The scoring index used for the TBL Cost ranking system. Values from each TBL section—social, environmental, and economic—are converted to rubric scores so they can be comparable/combined

Triple Bottom Line:
The accounting of environmental, social, and economic factors in making decisions, often regarding business decisions.

TBL Cost:
For the purpose of this report, defined as the total score created by the Ranking System, a number that takes environmental, social, and economic costs into account.

LIST OF ABBREVIATIONS

UBC Sustainability Initiative (USI)

Triple Bottom Line (TBL)

Analytical Hierarchy Process (AHP)

International Trade Union Confederation (ITUC)

1.0 INTRODUCTION

The UBC Sustainability Initiative (USI) is an organization established in 2010 to lead the move toward integration of UBC's operation and academics with the ideas of sustainability. The USI does this by collaborating with other groups and students on campus, performing experiments such as the "campus as a living laboratory" initiative, and other such tasks.

In an effort to increase awareness among the student body, the USI has appeared at events such as Imagine Day, employing various marketing techniques including handing out swag. In keeping with the goals of the organization, the USI staff began investigating the sustainability of the swag items they were using, as previously used swag items were either overly expensive or lacking clarity with respect to the environmental impact of their fabrication.

As part of their investigation, the USI requested student groups of the APSC 262 course to perform an investigative analysis of sustainable swag. It was requested that this analysis remain primarily focused on literature, as the USI was conducting its own conversation with various swag providers and wished to avoid possible misunderstandings should the student groups contact the same companies by mistake. The desired end result of this analysis was to produce a method to quickly evaluate potential swag items with respect to Triple Bottom Line (TBL) accounting and a recommendation for potential swag items or marketing techniques the USI could use in the future.

2.0 PRIMARY RESEARCH

Research consisted primarily of a review of existing literature related to the topics of marketing effectiveness/sustainability of swag, and methods used for triple bottom line decision making. Efforts were also made into looking for existing guidelines for the usage of sustainable swag as a marketing tool, however no results specifically relating to this topic were found. Instead, papers relating to the separate topics of swag and sustainable product procurement were found and analyzed. These two topics contribute to the decision making process as they provide a basis for the Triple Bottom Line (TBL) indexes used. The information regarding the decision making involved allows for the integration of these indexes into an easily implemented and utilized rubric for judging potential swag items.

2.1 EFFECTIVENESS OF SWAG

In the research, a topic of focus was the effectiveness of swag as a marketing tool and whether it was actually useful to compensate for the obvious economic cost. This search yielded results relating to the impact of swag on college students and what types of swag are most effective for marketing purposes.

From the surveys specifically concerning impact of swag on college students, it was found that 90% of students have received at least one piece of swag on campus (Workman & Freeburg, 2008). The survey finds that one third of the students still kept one piece of swag in their possession. Of these items, the most effective swag is those that are useful, serving some purpose in daily life, and effective, well made and designed. This survey also found that the most popular swag items are as follows: T-shirts, pens/pencils, magnets, calendars, water bottles, gum, key tags, mints, sticky notes, popcorn, and Frisbees. Swag which was kept for long periods was most effective as an advertising method, as the majority of the students were able to remember who provided the swag. The distribution of swag in a college setting could have potential social implications and as such there is importance in the message sent out by the companies supplying the swag.

As Workman and Freeburg have found that that swag is a useful advertising medium for students, the types of swag that would act as the most effective advertising was also researched. Workman and Freeburg themselves found certain items which were most popular, as mentioned above. Further research into the topic reflects the previous findings that useful items act as the best swag items. The most effective top swag items are: pens, calendars, coffee mugs, magnets, MP3 players, shirts, bags, and food (PPAI Research, 2009). Research for increasing the effectiveness of swag finds that swag is best as an extension of your brand; it should relate to the message you want to convey and continue to convey it after the recipient has left the event where it was handed out (Birkner, 2011). Swag should also serve as an attraction for people towards booths and should be distributed as a way of engaging people, not something that people simply pick up and leave with. The usage of raffles or lottery towards a single more

expensive item is a less effective method of developing interaction compared to properly created swag given out to a large number of recipients.

From the research into the effectiveness of swag as a marketing tool, it was found that swag can act as cost-effective advertisement when done well. To best implement swag as a marketing tool, it should be used in a way that draws people for conversation and conveys messages that relate to the organization distributing it. Effective swag should also be something that is long lasting and used often in daily life.

2.2 SUSTAINABILITY PRACTICES OF SUPPLIERS

Research was undertaken in regards to the use of sustainability-minded suppliers and decision makers in a corporate environment. Sustainable procurement methods was the main topic that was researched as the UBC Sustainability Initiative is highly limited in its ability to produce its own products as swag, and would most likely look toward other sources to provide swag.

The procurement of products plays an important role in the overall sustainability of an organization, as the environmental and societal impacts of the suppliers are all reflected onto the organization's own. The procurement processes of the organization are often based on previous practices, which in most cases did not take the triple bottom line into account. These existing policies can act as a form of inertia which prevent change towards greater sustainability, but this inertia can be overcome by having clear individual steps for adopting sustainability. For procurement specifically, the integration of existing performance indicators into the triple bottom line framework rather than development of wholly new indicators is recommended (Meehan & Bryde, 2011).

Also important to achieving sustainability in procurement is the relationships between the various stakeholders involved in the process. These stakeholders, which may be economic, environmental, or societal in nature, should have increased engagement when making purchasing choices. Expectation from the stakeholders should be reflected in the indexes used when implementing a triple bottom line decision. As an organization moves towards sustainable procurement, it is also of great importance to build up relationships with the supply chain, both outside and inside the organization, to ensure that they are cooperative in the fulfillment of sustainability goals (Schneider & Wallenberg, 2012).

The sustainability of a product and its supply chain can also be dependent on a number of non-profit third-party organizations. Various labelling organizations, technical experts, ecological foundations, governments, media networks, and regulatory agencies all play a role towards the development of sustainability (Crespin-Mazet & Dontenwill, 2012). Building cooperative relationships with these third-parties can help bolster the sustainability initiative.

2.3 DECISION MAKING METHODS

Research went into existing processes used in TBL decision making for sustainable sourcing. Two methods specifically for determining TBL sustainability were found, the Analytical Hierarchy

Process (AHP) and the Bayesian framework method. The AHP method makes use of the TBL categories to construct a comparison between the possible choices. The Bayesian method involves a far more complex mathematical process which involves the usage of parameters and sampled data for those parameters.

The AHP creates a table that finds the best choice according to certain assigned criteria; for the purpose of sustainable decision making, the criteria to be used would be the relevant triple bottom line indexes. The choices are compared to each other on a criterion-by-criterion basis and given a comparative score by how much one would be preferred over the other. The criteria also have individual priorities calculated for them, which are used to incorporate the comparative scores of each criterion into a single overall priority number for each choice. This overall priority is used to make a final decision between the available choices (Godfrey & Manikas, 2012).

The Bayesian framework method is a decision making process which depends on mathematic selection based on sampled data for different parameters as an input. Sustainability and the concepts relating to TBL analysis are incorporated into the Bayesian framework as various metrics relating to economic, environmental, and social performance. Using data sampled for these criteria, scored as a dimensionless number and over a given time period, the possible supplier choices can then be compared (Sarkis & Dhavale, 2014). The Bayesian framework method is not recommended as it requires greater mathematical expertise and extensive statistical information to be collected and sampled. The cost and amount of time that would be required for the collection of statistics makes the method impractical for relatively small decisions.

3.0 RANKING SYSTEM

After examining the two styles of supplier selection described in Section 2.4, it was found that they are overly lengthy and unsuitable for making quick decisions without prior in-depth knowledge or mathematical expertise. Thus, a more simplified ranking system was constructed in an effort to make the selection system more intuitive and user friendly. The simplified ranking system is based on the three TBL categories: social, environmental, and economical, with each category weighted the same. The score for the social aspect is determined from the labour rights rankings for different countries compiled by ITUC (2014). The score for the environmental aspect is inferred from the carbon impact of different materials assembled by Hammond and Jones (2008). The score for the economic aspect is derived from the per-unit cost of the item normalized by the maximum possible budget of one dollar.

3.1 RATIONALE

The ranking system has to achieve two goals. First, it has to account for social, environmental, and economic costs. Secondly, it needs to be simple and easy to use so that the client can effectively gauge and estimate the TBL cost without requiring hours of research.

From the research findings, it was concluded that the most difficult part of calculating the TBL cost is finding the appropriate data. Very often, retail outlets or manufacturers do not provide information beyond the product price, which can make evaluation extremely difficult. Some of the established methods of calculating TBL cost are very accurate but require large amounts of data that is often hard to obtain. After looking at the AHP and Bayesian methods, it was concluded that without extensive research, these tools could not effectively evaluate the TBL cost of a product.

In response, a ranking system was created that uses data that is easy to obtain, removing the largest barrier to TBL costing. This ranking system does not include every variable nor is it intended to provide an exact cost to high accuracy and precision, but it is helpful in providing a ballpark figure that aids the decision maker in accounting for social, environmental, and economic factors.

3.2 CONSTRUCTION OF THE RANKING SYSTEM

The ranking system is designed based on the three TBL categories: social, environmental, and economics. First, a score scale is constructed for each category, then the scores are summed for each category to determine the preferred item via lowest score.

3.2.1 SOCIAL

The social aspect will focus on the labour rights of the country the item is manufactured in. Data are taken from a compilation made by the International Trade Union Confederation (ITUC) in 2014, where each country is given a score out of 5 on their workers' right, with a lower score indicating a better rating. A small number of these countries are given a score of 5+. For the purpose of constructing the ranking index, these are changed to a 6. The ITUC score for each

country is normalized to 10 against the highest ITUC score (6 in this case), and these normalized scores (rubric scores) will be used in the ranking system. As the ITUC ranking takes into account 97 international standard indicators regarding labour practice, and their findings have not been challenged by any other organization or government, it was concluded that their findings are of reasonable reliability. Included in Table 1 below is a table showing the ITUC and the corresponding normalized (rubric) score for a few countries.

Table 1 – Sample Rubric Scores for Social Metric

COUNTRY	**ITUC SCORE**	**RUBRIC SCORE**
CANADA	3	5
USA	4	7
CHINA	5	8

The rubric score for Canada, for example, would be calculated as:

$$CAN_{Rubric} = \frac{CAN_{ITUC}}{6} \times 10 = \frac{3}{6} \times 10 = 5$$

For a full list of rubric scores for each country, see APPENDIX A – SOCIAL SCORE, LABOUR RATING COUNTRIES INDEX.

3.2.2 ENVIRONMENTAL

The environmental aspect focuses on the carbon footprint of the material the item is made of. This is measured in terms of kilogram of CO_2 per kilogram of product, with the data estimates taken from an analysis performed in 2008 by Hammond and Jones. Similar to the ITUC scores for the social aspect, the $kgCO_2/kg$ value for each material is normalized to 10 against the highest $kgCO_2/kg$ value (8.24 in this case), and these normalized scores (rubric scores) will be used in the ranking. Included in Table 2 below is a table showing the normalized scores for a few example materials.

Table 2 – Sample Rubric Scores for Environmental Metric

MATERIAL	**(kg CO_2)/(kg MATERIAL)**	**RUBRIC SCORE**
Paper	1.5	2
Plastic - General	2.53	3

Rubber - Synthetic	4.02	5

The rubric score for Paper, for example, would be calculated as:

$$Paper_{Rubric} = \frac{Paper_{\frac{kg\ CO_2}{kg\ Material}}}{8.24} \times 10 = \frac{1.5}{8.24} \times 10 = 2$$

For a full list of rubric scores for each material, see APPENDIX B – ENVIRONMENTAL SCORE, MATERIALS INDEX.

3.2.3 ECONOMICAL

The economics aspect looks at the per-unit cost of the item and how close it is to the per unit budget. To get the economics rubric score, the unit cost of each item is normalized to 10 against the budget ($1 in this case), and this normalized score (rubric score) will be used in the ranking. For example, for a unit cost of $0.50, the rubric score will be calculated as follows:

$$ECON_{Rubric} = \frac{Unit\ Cost}{Budget} \times 10 = \frac{\$0.50}{\$1.00} \times 10 = 5$$

3.2.4 SUMMATION

The rubric score for each category—social, environmental, and economic—are summed to give an overall score, with a lower score indicating a more preferable item.

3.3 USAGE

The ranking system relies on three basic yet important pieces of information:

1. Country of Manufacture
2. Primary Material Type
3. Product Unit Cost

After obtaining this information, the user determines the score associated with each category (an index with countries and common material types coupled with scores is provided). It is a simple act of looking up the country and material type in the provided index and inputting the correct value into the appropriate box in the excel sheet calculator. The system automatically calculates the TBL cost, with the lowest cost being the most favorable product. This process is illustrated in Figure 1 through Figure 4 below.

11	**Maximum per unit Budget**		**$1.00**	
12	Name	**SAMPLE 1**	**SAMPLE 2**	**SAMPLE 3**
13				
14	**Social**			
15	Country	Canada	China	
16	Country Labour Index	5	8	
17				
18	**Environmental**			
19	Material	Aluminum - General	Wood	
20	Material Carbon Footprint	10	1	
21				
22	**Economic**			
23	Unit Cost	$0.65	$0.72	
24	Cost Score	7	7	
25				
26	TOTAL SCORE - TBL Cost	22	16	
27				
28				

Figure 1 – Setting the Maximum Budget Per-unit Product

11	**Maximum per unit Budget**	**$1.00**	
12	Name	**SAMPLE 1**	**SAMPLE 2**
13			
14	**Social**		
15	Country	Canada	China
16	Country Labour Index	5	
17			
18	**Environmental**		
19	Material	Aluminum - General	Wood
20	Material Carbon Footprint	10	
21			
22	**Economic**		
23	Unit Cost	$0.65	
24	Cost Score	7	
25			
26	TOTAL SCORE - TBL Cost	22	
27			
28			
29			
30			
31			

Ranking System | Countries Index | Materials Index

Ready

	A	C
1	**Country**	**RUBRIC SCORE**
2	Albania	3
3	Algeria	8
4	Angola	3
5	Argentina	7
6	Australia	5
7	Bahamas	5
8	Bahrain	7
9	Bangladesh	8
10	Barbados	2
11	Belarus	8
12	Belgium	2
13	Belize	3
14	Benin	5
15	Bolivia	5
16	Bosnia and Herzegovina	3
17	Botswana	7
18	Brazil	5
19	Bulgaria	5
20	Burkina Faso	3
21	Burundi	5
22	Cambodia	8
23	Cameroon	3
24	Canada	5
25	Central African Republic	10
26	Chad	5

10				
11	**Maximum per unit Budget**	**$1.00**		
12	Name	**SAMPLE 1**	**SAMPLE 2**	**SAMPLE 3**
13				
14	**Social**			
15	Country	Canada	China	
16	Country Labour Index	5	8	
17				
18	**Environmental**			
19	Material	Aluminum - General	Wood	
20	Material Carbon Footprint	10	1	
21				
22	**Economic**			
23	Unit Cost	$0.65	$0.72	
24	Cost Score	7	7	
25				
26	TOTAL SCORE - TBL Cost	22	16	
27				
28				

Figure 2 – Setting the Country of Manufacture and Corresponding Score

10			
11	**Maximum per unit Budget**	**$1.00**	
12	Name	**SAMPLE 1**	**SAMPLE 2**
13			
14	**Social**		
15	Country	Canada	China
16	Country Labour Index	5	
17			
18	**Environmental**		
19	Material	Aluminum - General	Wood
20	Material Carbon Footprint	10	
21			
22	**Economic**		
23	Unit Cost	$0.65	
24	Cost Score	7	
25			
26	TOTAL SCORE - TBL Cost	22	
27			
28			
29			
30			
31			

Ranking System | Countries Index | Materials Index

Ready

	A	C
1	**Materials**	**RUBRIC SCOR**
2	Aluminum - General	10
3	Aluminum - Recycled	2
4	Brass - General	3
5	Brass - Recycled	5
6	Cardboard	2
7	Carpet	5
8	Clay	0
9	Copper	3
10	Cork	0
11	Glass	1
12	Iron	2

10				
11	**Maximum per unit Budget**	**$1.00**		
12	Name	**SAMPLE 1**	**SAMPLE 2**	**SAMPLE 3**
13				
14	**Social**			
15	Country	Canada	China	
16	Country Labour Index	5	8	
17				
18	**Environmental**			
19	Material	Aluminum - General	Wood	
20	Material Carbon Footprint	10	1	
21				
22	**Economic**			
23	Unit Cost	$0.65	$0.72	
24	Cost Score	7	7	
25				
26	TOTAL SCORE - TBL Cost	22	16	
27				
28				
29				

Figure 3 – Setting the Primary Material and Corresponding Score

10				
11	**Maximum per unit Budget**	**$1.00**		
12	Name	**SAMPLE 1**	**SAMPLE 2**	**SAMPLE 3**
13				
14	**Social**			
15	Country	Canada	China	
16	Country Labour Index	5	8	
17				
18	**Environmental**			
19	Material	Aluminum - General	Wood	
20	Material Carbon Footprint	10	1	
21				
22	**Economic**			
23	Unit Cost	$0.65	$0.72	
24	Cost Score	7	7	
25				
26	TOTAL SCORE - TBL Cost	22	16	
27				
28				

Figure 4 – Setting the Per-unit Cost of the Product

4.0 RECOMMENDATIONS

After research a website was found that potentially supplies more sustainable swag, but in order to determine whether they supply more sustainable swag, a sustainability analysis was conducted using the ranking system described above. For more details on this analysis please refer to Appendix C. To better prove that this website provides more sustainable products, swag were selected from other websites that do not claim to provide sustainable products. Including swag from other websites enables the comparison of the Rubric Score of general swag with the ones from the recommended website. The results of this brief market survey, using the previously developed ranking system, are included in Figure 5 below.

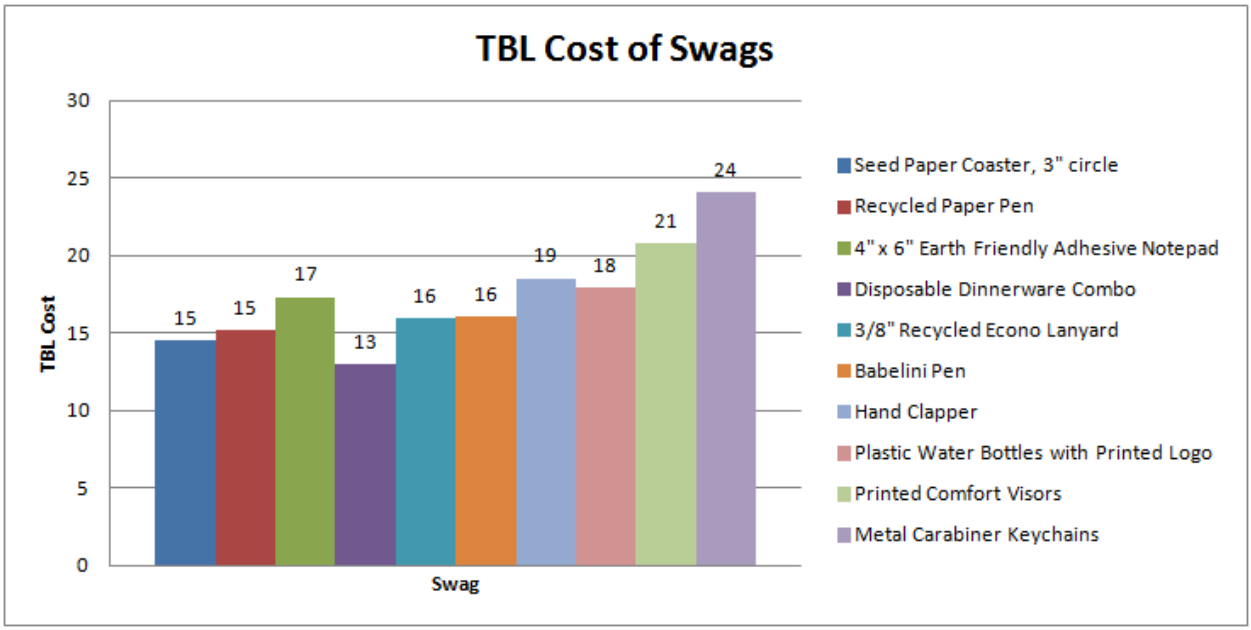

Figure 5 – TBL Cost Summary of Example Items

In the figure above the first five items are selected from the recommended website and the next five are general swag items. It can be seen that on average the swag from the recommended website have a smaller TBL cost, and as such are more sustainable according to the developed ranking system. However, it should be noted that this analysis is meant as a general overview only, as direct comparison of a number of these objects is illogical.

One specific comparison of TBL Rubric Scores from the previous analysis is included in Figure 6 below.

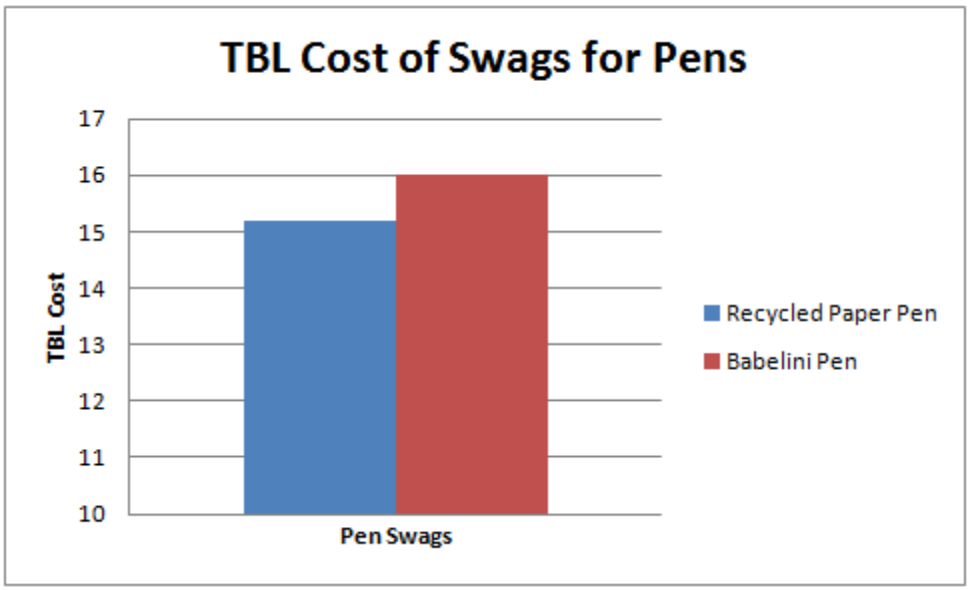

Figure 6 – TBL Cost Comparison of Two Example Items

It can be seen from the plot above that the recycled paper pen from the recommended website is more sustainable than the Babelini pen (the link to this product is provided in Appendix C). Based on both methods of analysis it can be seen that the recommended website provides more sustainable swag overall.

5.0 FUTURE CONSIDERATIONS

There are many alternatives to swag, which could be separated in two general categories, traditional marketing and modern marketing. The following are examples of traditional marketing: TV or radio commercials, billboards, and exhibitions. There are also more modern methods of marketing that might be more effective for a younger audience such as: activities, crafts, sporting events, marathons, and BBQs or any other type of events where food is being given out. Although either traditional or modern marketing could be used for UBC students, it would be more effective to use the modern methods marketing. Swag is also very effective for students, however they could be more popular if they were paired with one of the modern marketing examples. A list of such combinations is provided below.

1. An athletic competition where the winner is given a high value swag such as a coffee mug and all the contestants are given low value swag such as pens.
2. A crafts or painting competition where the winner is provided with a high value swag item and all the contestants are provided with a low value item.
3. Companies could offer healthy food options such as fruit platters or baskets where the basket or the platter has the company's information written on it.

Examples provided above are generalized for report purposes, but using similar ideas to the three mentioned above one can create many other examples.

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APPENDICES

APPENDIX A – SOCIAL SCORE, LABOUR RATING COUNTRIES INDEX

COUNTRY	ITUC SCORE	RUBRIC SCORE
Albania	2	3
Algeria	5	8
Angola	2	3
Argentina	4	7
Australia	3	5
Bahamas	3	5
Bahrain	4	7
Bangladesh	5	8
Barbados	1	2
Belarus	5	8
Belgium	1	2
Belize	2	3
Benin	3	5
Bolivia	3	5
Bosnia and Herzegovina	2	3
Botswana	4	7
Brazil	3	5
Bulgaria	3	5
Burkina Faso	2	3
Burundi	3	5
Cambodia	5	8
Cameroon	2	3
Canada	3	5
Central African Republic	6	10
Chad	3	5
Chile	3	5
China	5	8
Colombia	5	8

Costa Rica	3	5
Cote d'ivoire	5	8
Croatia	2	3
Czech Republic	2	3
Democratic Republic of Congo	4	7
Denmark	1	2
Djibouti	3	5
Dominican Republic	2	3
Ecuador	3	5
Egypt	5	8
El Salvador	4	7
Estonia	1	2
Ethiopia	3	5
Fiji	5	8
Finland	1	2
France	1	2
Georgia	3	5
Germany	1	2
Ghana	3	5
Greece	5	8
Guatemala	5	8
Haiti	4	7
Honduras	4	7
Hong Kong	4	7
Hungary	2	3
Iceland	1	2
India	5	8
Indonesia	4	7
Iran	4	7
Iraq	4	7
Ireland	2	3
Israel	3	5

Italy	1	2
Jamaica	2	3
Japan	2	3
Jordan	4	7
Kenya	4	7
Kuwait	4	7
Laos	5	8
Latvia	2	3
Lebanon	4	7
Lesotho	3	5
Libya	6	10
Lithuania	1	2
Macedonia	2	3
Madagascar	3	5
Malawi	2	3
Malaysia	5	8
Mali	4	7
Mauritania	4	7
Mauritius	4	7
Mexico	4	7
Moldova	2	3
Montenegro	1	2
Morocco	4	7
Mozambique	3	5
Myanmar	4	7
Namibia	3	5
Nepal	4	7
Netherlands	1	2
New Zealand	2	3
Nigeria	5	8
Norway	1	2
Oman	4	7
Pakistan	4	7

Palestine	6	10
Panama	4	7
Paraguay	3	5
Peru	4	7
Philippines	5	8
Poland	3	5
Portugal	3	5
Portugal	2	3
Qatar	5	8
Republic of Congo	3	5
Republic of Korea	5	8
Romania	3	5
Russian Federation	2	3
Rwanda	2	3
Saudi Arabia	5	8
Senegal	2	3
Serbia	2	3
Sierra Leone	4	7
Singapore	3	5
Slovakia	1	2
Somalia	6	10
South Africa	1	2
South Sudan	6	10
Spain	2	3
Sri Lanka	3	5
Sudan	6	10
Swaziland	5	8
Sweden	1	2
Switzerland	2	3
Syria	6	10
Taiwan	3	5
Tanzania	3	5
Thailand	4	7

Togo	1	2
Trinidad and Tobago	2	3
Tunisia	2	3
Turkey	5	8
Uganda	3	5
Ukraine	6	10
United Arab Emirates	5	8
United Kingdom	3	5
United States of America	4	7
Uruguay	1	2
Venezuela	3	5
Yemen	4	7
Zambia	5	8
Zimbabwe	5	8

APPENDIX B – ENVIRONMENTAL SCORE, MATERIALS INDEX

MATERIAL	(kg CO_2)/(kg MATERIAL)	RUBRIC SCORE
Aluminum - General	8.24	10
Aluminum - Recycled	1.69	2
Brass - General	2.42	3
Brass - Recycled	4.39	5
Cardboard	1.32	2
Carpet	3.89	5
Clay	0.22	0
Copper	2.8	3
Cork	0.19	0
Glass	0.85	1
Iron	1.91	2
Lead	1.33	2
Linoleum	1.21	1
Paint	3.56	4
Paper	1.5	2
Paper - Cardboard	1.6	2
Paper - Cardboard Recycled	1.365	2
Paper - General	1.45	2
Paper - General Recycled	0.895	1
Plastic - General	2.53	3
Plastic - General Recycled	0.383	0
Plastic - HDPE	1.6	2
Plastic - LDPE	1.7	2
Plastic - Nylon	5.5	7
Plastic - Polyurethane	3	4
Plastic - PVC	2.41	3
Rubber - General	3.18	4
Rubber - Natural Latex	1.63	2
Rubber - Synthetic	4.02	5
Steel - General	1.77	2
Steel - Recycled	0.43	1

Steel - Stainless	6.15	7
Stone	0.056	0
Wood - General	0.46	1
Wood - Plywood	0.81	1
Wool	0.15	0

APPENDIX C – TBL COST RANKINGS OF RECOMMENDED ITEMS

Swag from the recommended website:

Name	**Seed Paper Coaster**	**Recycled Paper Pen**	**Earth Friendly Notepad**	**Disposable Dinnerware**	**3/8" Recycled Econo Lanyard**
Country	United States	United States	United States	United States	United States
Country Labour Index	7	7	7	7	7
Material	Paper - General Recycled	Paper - General Recycled	Paper - General Recycled	Wood - General	Paper - General Recycled
Material Carbon Footprint	1	1	1	1	0
Unit Cost	$0.65	$0.72	$0.93	$0.49	$0.89
Cost Score	7	7	9	5	9
TOTAL SCORE	15	15	17	13	16

Seed Paper Coaster:
http://ecoimprints.espwebsite.com/ProductDetails/?productId=6557445&tab=Tile&ProdSetIds=10432&referrerPage=ProductResults&refPgId=508368313&referrerModule=PRDREB

Recycled Paper Pen:

http://ecoimprints.espwebsite.com/ProductDetails/?productId=5911044&tab=Tile&ProdSetIds=10437&referrerPage=ProductResults&refPgId=508368313&referrerModule=PRDREB

Earth Friendly Notepad:

http://ecoimprints.espwebsite.com/ProductDetails/?productId=4805861&tab=Tile&ProdSetIds=10431&referrerPage=ProductResults&refPgId=508368313&referrerModule=PRDREB

Disposable Dinnerware:

http://ecoimprints.espwebsite.com/ProductDetails/?productId=4928162&tab=Tile&ProdSetIds=7496&referrerPage=ProductResults&refPgId=508368313&referrerModule=PRDREB

3/8" Recycled Econo Lanyard:

http://ecoimprints.espwebsite.com/ProductDetails/?productId=4998507&tab=Tile&ProdSetIds=10448&referrerPage=ProductResults&refPgId=508368313&referrerModule=PRDREB

General swag from other websites:

Name	**Babelini Pen**	**Hand Clapper**	**Plastic Water Bottles with Printed Logo**	**Printed Comfort Visors**	**Metal Carabiner Keychains**
Country	China	China	China	China	China
Country Labour Index	8	8	8	8	8
Material	Plastic - General	Plastic - General	Plastic - General	Plastic - General	Aluminum - General
Material Carbon Footprint	3	3	3	3	10
Unit Cost	$0.50	$0.75	$0.69	$0.98	$0.61
Cost Score	5	8	7	10	6
TOTAL SCORE	16	19	18	21	24

Babelini Pen:
http://swagblue.espwebsite.com/ProductDetails/?productId=7262118&tab=Tile&ProdSetIds=158&referrerPage=ProductResults&refPgId=505590973&referrerModule=PRDREB

Hand Clapper:

http://swagblue.espwebsite.com/ProductDetails/?productId=4952043&tab=Tile&ProdSetIds=158&referrerPage=ProductResults&refPgId=505590973&referrerModule=PRDREB

Plastic Water Bottles with Printed Logo:

http://www.discountmugs.com/product/wb20-wb20-20oz-plastic-custom-water-bottles/

Printed Comfort Visors:

http://www.discountmugs.com/product/em925-custom-printed-comfort-visors/

Metal Carabiner Keychains:

http://www.discountmugs.com/product/key66-custom-metal-keychains-and-imprinted-key-chains/