Communicating sustainability: Engaging Students Effectively

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Executive Summary (Abstract):

In the twenty-first century, promoting appropriate environmental-friendly behavior and effective resource consumption has become a social consensus. Existing researches have completed evidence that a dialogical approach based on henceforth social and environmental report through teaching and learning experiences in university campus can increase awareness and positive response to sustainability issues and formalize people's knowledge about sustainability (Aguiar & Paterson. 2017). While considering the role played by the social and spatial context, it is also necessary for us to have an insight into individual cognitive aspects. We have done a survey at the University of British Columbia focus on exploring students' thoughts, and clarify how internal factors can affect people's behavior, our research question is: What type of sustainability information are students interested in knowing and what is the most effective channel to reach them with sustainability news and information? We found that students showed great interest towards sustainability information relevant to their academic life and social media like Facebook seems to play an important role in transmitting information.

Introduction:

Sustainability and environment protection seem to become one of the most discussed topics across the globe. Universities, the place where higher level education is taking place has become one of the best location to advocate the idea of sustainability and protecting the environment. Before this research, tremendous researcher about sustainability on campus have already been conducted. For example, Aguiar and Paterson (2017) demonstrated that teaching and learning practice and the application of specific project such as the social and environmental reports (SER) could be perceived as a good initiative through which to develop awareness of sustainability issues, meanwhile also equip students with various employability and social skills. Additionally, Too and Bajracharya (2015) have found a 6-p framework engagement, including factors such as psychological needs, physical facilities, personal motivations, public perception, price mechanisms and policies, which are the necessities for engaging university campus community in sustainability.

However, after a variety of experiments and researches have been done, the types of the sustainability information students are most interested in knowing and the most effective channels to reach student with sustainability news and information remain an open question. Naturally, the researches questions are What type of sustainability information are students interested in knowing and what is the most effective channels to reach students with sustainability news and information. Using an experimental setting to examine which channel is effective in conveying sustainability information and facilitate student's environmentally friendly actions is significantly time-consuming, because the process of storing the information last for a fairly long time. Moreover, we don't have the access to effective ways to induce the channel as a stimulus and means to motivate students to follow along a long-term experiment.

As result, we will conduct a questionnaire-based survey and the goal of this survey is to acquire student's general preference of information and channels and give future studies a general direction. We hypothesized that the sustainability information that can help students in find job or help student with their career will be the kinds of information students are most

interested in knowing. Based on the fact that most university students are eager to gain working experience before graduation. Secondly, we hypothesized that social media software and e-mail are student's most favorite channels in conveying sustainability information. Because e-mail is able to reach students in a more personal and direct way and the people are more frequently daily exposed to different kinds of social than anyways means of conveying information. Other than that, our survey also tried to solve others relevant and important questions, such as: What is student's ideal frequency of receiving the sustainability information? Which source of information will be taken more seriously? Which type of content students prefer the most? Which kind of thematic areas university students are interested in knowing? Moreover, we also tried to examine whether there are some associations between the preference of channels or information and each kind of demographic information such as nationality, education level, the university year students are in. The entire survey takes approximately 5 minutes.

Method:

This entire research was conducted in the University of British Columbia. On 23rd of March, the first data collection began. Two of our experimenters were sent to Marine Drive resident and started collecting data at the commons block for around four hours. The second data collection was on 24th of march. The process was the same as the first one except for the location of the collection was the student center, the Nest. The second data collection lasted for approximately four hours as well. The experimenters firstly ask the participants if they are willing to spend 5 minutes on taking a questionnaire. After the participants agree to take the survey, they were presented with the survey on a laptop or a tablet.

The survey consists of three parts: In the first part of the survey, participants were asked to provide us with some demographic information including their nationality, current major, which years they are currently in, their age, whether or not they are undergraduate and which parts of UBC they are living in. The second part mainly examines which channels what is the most effective channels to reach students with sustainability news and information. Based on the theory that increasing the frequency of exposure to a specific information can lead to a better remembering of that information, we assume that the most effective channels would be the one students are most frequently exposure to. The participants were asked how frequent do they read the information of different kinds of channels, including email newsletters, social media, digital signage, posters, booths, word-of-mouth, flyers and digital ads. The answers for this question are given in rating scales, 0 represent not and all and 5 represent always. Secondly, participants were asked to rank their most favorite social media app, in order to deepen the first question. The given social media app including Twitter, Facebook, Instagram, YouTube, Wechat, Weibo, Line. Thirdly, participants were asked to rank their most favorite types of content (Video, Audio, stories/news, infographics, images/photos, short statements). Moreover, participants have rated how important the information from different sources are (Faculties, Professors, Friends, Students Club, UBC Official Channel), from the scale from 0, representing not important at all to 5, representing extremely important. The last part of the survey tried to find what specific kinds of sustainability information are students interested in knowing. Our group member and our project client came up with a long list of environment-related information that students may be interested in and there 21 kinds of information in total. In order to concentrate the survey

and shorten the time. We manage to divide these 21 kinds of information into 9 general categories, which will be provided in the appendix. Participants were asked to rate their desirable frequency of receiving those 9 general categories of information, from rating 5 representing once a day to 0 representing once in six months. Lastly, participants were asked to rank their most interested thematic aspects of information.

Results and Conclusion:

After the two data collection, we were able to reach 75 students. Because students ignored some of the crucial questions and did not provide the answer. The final valid population of the participants is 60. 92.6% of participants are undergraduate. They are evenly distributed across different university years and across different resident on campus. 52% of the participants has Chinese nationality and 40% of the participants has Canadian nationality. The results from the second part of the research show that: More than 76% of the participants rated "5" or "4" for the frequency of checking email. Approximately 70% of the participants rated "5" or "4" for the frequency of checking social media app. Both of them are significantly higher than other channels (17.4% for digital signage, 8.6% for posters, 4.2% for flyers). The results of ranking social media app show that: 60.5% of the participants ranked Wechat the first, 23.6% ranked Facebook the second. If we breakout the result by nationality, 92% of Chinese rank Wechat the first, and 68% of Canadian ranked Facebook the first. Lastly, subjects have rated professors as information sources the most important (43.48% rated extremely important, 32.61% rated very important), followed by faculties. (28.89%% rated extremely important, 35.56% rated very important)

The results of the last part of the research show that: 53.65% of participants want to receive paid working experience more than once a week (14.63% once a day, 39.02% once a month), which is the highest rating among all of the general categories. The next highest rating is volunteer opportunity (36.59% rated higher than once a week) and research participation opportunity (39.03% rated higher than once a week). The general category that had the lowest rating is the information about global environmental initiatives. (0% rated once a day, 17.95% rated once a week). Lastly, no other associations between the demographic characteristic and effective channels or interesting information were found.

Combining all the results, social media and email are two of the most effective way in conveying sustainability. Paid working experience is the students' most interest information, followed by volunteer opportunity and research participation opportunity. In conclusion, my previous hypothesis is supported.

Discussion:

One of the flaws was that the survey was too long, which would reduce participants' interest and rise impatient feeling. This could be one of the reasons why we have multiple invalid responses. Secondly, it is a pity that we were not able to conduct an experimental setting, which means that there were no independent variable and dependent variable. Neither causal nor correlational relations were found in the research. Thirdly, the participants' nationality lacked the diversity. In our research. Although we collected data from multicultural campus, participants' nationalities were not evenly distributed. 40% of the participants were Canadian, 52% were

Chinese whereas only 8% of the participants came from other countries. Fourthly, how we measured which channel is more preferable than others or which type of content is more desirable than others were not accuracy. For example, we measure the importance of each information sources by simply add the rating higher than "very important", meanwhile we ignore the information from another choice like "moderately important" and those below. To reduce the amount of invalid data, we could shorten the survey or give participants enough incentives to attentively follow along with the entire survey. Two strengths of this study are the simple process and the survey was not financially consuming. Also, this research was done outside of the lab, face-to-face communication between researchers and participants could potentially reduce participants' defensiveness and feeling of nervous.

From this research, UBC will be able to keep students updated with the important events around campus by knowing students' most preferred way of receiving information. Likewise, student clubs, faculties and UBC official media are also given an idea of the best frequency to spreading information. The environmental administrator can also apply those findings from the study to a variety of fields.

Recommendations and Future direction:

Due to the fact that the university requires to continuously consume a considerable amount of resources such as electricity and water resource for its operation, and its nature of culture diversity and inclusiveness, increase people's awareness about sustainability and plan ahead for the future has become crucial in making UBC a sustainable place. After conducting the survey, our team has got a rough sense of how UBC students think about sustainability-related issues, but because of some practical issues and the weakness of self-report method, the answer to our research question was still unclear. Hence we think it is necessary for our client to explore further into the field, master other techniques in the future. Below are some recommendations.

In the future study, an experiment with within-subject design might be helpful and it is possible to recruit a larger sample size with the help of Residence Advisor (RA). Consider the following scenario: four RAs from two buildings of Marine Drive Residence at UBC participate in the study, each of them is responsible for collecting data of residents live in two floors, each floor has 39 residents, so a sample with a total ideal number of 312 would be formed in this way. The RAs first send emails to residents in their floors and ask them to complete a questionnaire regarding their interests in knowing information about sustainability, our first research question would be answered by them. Then researchers set up three conditions which represents three typical channels for transmitting information: Bulletin boards; Stickers on the door and Emails, each of them contains some information points about sustainability. After exposing that information to residents for one week, the condition will be removed, RAs then send another email to their residents to collect feedback specifically ask them to describe contents they saw in the past week. By comparing their responses with what researchers expected, an accuracy rate would be obtained, and a further inference of statistical technique (e.g. T-test) would allow researchers to analysis the data more effectively. In this imagined experiment, the manipulation of dependent variables and independent variable would overcome the limitation of a survey and give researchers higher control, the independent variable is different channels that transmit information and including three levels (i.e. Bulletin boards; Stickers; Emails), dependent variable

is the responses from residents. By letting the same group of people experience different levels of the independent variable, the stability of study's outcome would be improved and some random errors would also be reduced due to high degree of control. The external validity of this experiment would be improved as the sample would large enough to contain people from different countries and cultural background, people with different age level and education level, the advantage of the sample make the result of the experiment more generalizable. In addition, in order to encourage people to participate into the study, a positive enforcement like give them gift cards or extra credits as rewards is also feasible.

By doing this study, Residence Advisor at UBC will gain a chance to get closer with their friends in the dormitory, it will build a bridge between the RAs and residents, RAs could also add information that they are interested knowing (e.g. Problems that residents have; Advice and Suggestions to their work etc.). The results might benefit more people at UBC and have a wider application in this sense.

Appendix:

During the setting of our survey, our team first had a conversation with the client who is responsible for sustainability projects at UBC regarding the nature and purposes of the project, we delivered our ideas to our client and the client has given back some useful suggestions for our future work. Due to the number of members in our team is small and the lack of essential measuring equipment, we were unable to design an elaborative experiment which fully meets our expectations, we also have limited time and insufficient financial support as we are all full-time students and currently unemployed. After considering a balance between realistic conditions and our current resources, we decided to adopt a self-reporting method to collect data.

This link of the survey is:

https://qtrial2017q1az1.az1.qualtrics.com/jfe/form/SV_4YFySkEhnIrEcBL

This list of student's potential interested information and the general categorization

Paid work opportunities	
Volunteering opportunities	paid working opportunities
Applied research opportunities	
Networking opportunities	Volunteer opportunities
Talks on timely issues	
Research-related talks	Research related participation opportunities
Opportunities to share own research and interests	
Tips on how to be more sustainable	Timely environmental issues
Facts and figures about UBC's sustainability efforts	
Information about sustainability-related courses	Research related talk show
Information about sustainability-related programs	
Articles related to timely and emerging issues	Opportunity to communicate and share research finding
Student perspectives or reflections on sustainability topics	
Researcher/faculty perspectives or reflections on sustainability topics	Articles about environmental issues
Staff perspectives or reflections on sustainability topics	
International opportunities	Tips and trick on how to be more sustainable
Off-campus community events	
Research findings	Off-campus community events
Student sustainability projects	
Campus sustainability initiatives	Environmental initiatives
Global sustainability initiatives	

Reference:

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Too, L., & Bajracharya, B. (2015). Sustainable campus: Engaging the community in sustainability. *International Journal of Sustainability in Higher Education, 16*(1), 57-71. doi:10.1108/IJSHE-07-2013-0080