

The Rise of H₂Ottawa

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In 2010, the University of Ottawa (hereafter, UO) banned the sale of single-use water bottles. UO decided that the sale of this product ran contrary to their commitments to environmental, social, and economic sustainability. This ban has been adopted by several institutions, locally and globally. However, there is still demand for portable water that operates within the boundaries of sustainability. I developed H₂Ottawa at UO, through my internship with the Office of Campus Sustainability (hereafter, OCS). The goal of H₂Ottawa is to bring portable water to the UO community without compromising the institution's allegiance to sustainability. To do this, we are selling multi-use, metal water bottles in vending machines and select cafés on campus, for the same price one would expect to pay for single-use bottles (\$3.00)¹. I have used a Living Action Research approach, as defined by Mc Niff and Whitehead (2011) to document and analyze the planning, conceptualization, and implementation of this project. For the purpose of this research, I consider that the UO adopts the mentality outlined through Ecological Modernization Theory (hereafter, EM). In short, EM argues that sustainability can be achieved within a capitalist society. I will use a green-Marxist lens to position the critical analysis of this project. Here, it is argued that we cannot 'buy our way out of trouble', meaning that a revolution is necessary to achieve a sustainable society. I will argue that as an institution, the UO makes its goals towards sustainability compatible with a corporate understanding of environmental responsibility. This thesis aims to answer: how does the UO implement sustainability initiatives in a way that complies with the value-set of the university, while also satisfying community expectations? I have found that the UO implemented H₂Ottawa to provide students with access to potable water, and to augment their reputation. Considering that this project is the first of its kind, its adoption reinforces UO's commitments to sustainability and innovation. Research findings will be of use for future students, as I present challenges involved in the conceptualization and implementation of sustainability-motivated initiatives within the Canadian university context.

¹ All monetary figures will be evaluated in Canadian Dollars

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Preface

I began my journey as a Sociology Master's student at the UO in 2015. On my first day of classes in this new school, I stopped at a café to grab a bottle of water before my lecture. I came to learn that the UO had banned their sale in 2010. I could not understand how the second home to over 40 000 students (not including staff), banned the sale of this most basic health item. For my Qualitative Methods class, our end of term project was to design and administer an interview. I was inspired to find out why this institution did not sell bottled water, and put an end to this perceived madness.

I did my research and found that, in fact, my limited access to portable water was a small inconvenience compared to the global, and even local, issues surrounding water rights. I interviewed my current internship supervisor, Jonathan Rausseo, about these issues and was convinced to agree with the reasons as to why the UO banned the sale of bottled water. Being a 1990s baby, I realized for what felt like the first time, that I did not remember life without bottled water. On the one hand, the ban made good sense, but on the other I knew that my community- same as me- would argue that students are always on the move, so easy access to portable water is important!

This is where the project started. Jonathan invited me to think of a way to provide students with portable water on campus without infringing upon the UO's commitments to sustainability. I concluded that the UO should sell inexpensive aluminum bottles for students to fill up and go, and was determined to see this to fruition. People want portable water, but they do not necessarily want to support exploitative companies who produce it. In this context, using a

reusable and accessible container to replace single-use bottles seemed to make sense.

That being said, ‘H₂Ottawa’ began as an idea in mid-2015 and became a reality on World Water Day 2018². I am proud to note that I created the H₂Ottawa initiative; I alone, knocked on the doors of faculty members, tirelessly worked to find suppliers, ceaselessly petitioned for the project’s acceptance, celebrated (and cried). However, if it were not for the incessant support of my internship supervisor, Jonathan Rausseo³, and the University of Ottawa staff more generally, this project may not have come to fruition. The two of us were a well-suited team as I am a third year master’s student at UO, focusing on Corporate Sustainable Development within the field of Environmental Sociology, and Jonathan is a UO Environmental Studies graduate, who is now employed by the university to act as a liaison between student sustainability projects and university officials. The collaboration of science and social science students is not always possible, but in this case it was, and resulted in the well-rounded conceptualization and implementation of the H₂Ottawa project.

² World Water Day is March 22

³ His official title is *Campus Sustainability Manager*

Introduction

The H₂Ottawa project was made possible through the UO's ban on the sales of single-use bottled water. First, this ban created a gap between potable and portable water, which the H₂Ottawa bottle aims to fill. Additionally, the ban gave UO an incentive to construct more water fountains on campus. According to the University of Ottawa Water Fountain Report (2016),

“A pivotal part of going bottled water free was the revitalization of the drinking fountains on campus. As the stewards of the water infrastructure network on campus, Facilities, undertook the task of surveying all the fountains on campus, repairing those in bad condition, and installing new fountains where appropriate. There are currently 165 drinking fountains on campus that are available to the community”

Since the mass production and availability of bottled water, public water supplies, such as water fountains, have diminished in presence and quality. According to the Girard et al. (2009, 2) the University of Ottawa was not alone in this respect: “A major concern voiced by students on (Canadian University) campuses... is the lack of water fountains in buildings and the pervasiveness of bottled water”. The University of Ottawa was the first institution in Ontario to ban bottled water in 2010, and attempted to supplement this ban through the construction of water fountains.

Public buildings in Ontario are required to provide their guests with access to potable water. Through the Safe Drinking Water Act (2002), buildings are required to test their potable water to fulfil the standards outlined by the Government of Ontario. Here, buildings may provide drinking water through their taps, and/or by selling quality bottled water. When UO banned the sale of bottled water, they subsequently agreed to provide greater access to potable water through fountains. The university believed that expecting students to cup water from bathroom taps was an unsatisfactory solution, thus invested over \$250 000 to provide their community with modern

water fountains in good working order⁴ (Report on Sustainable Development at the University of Ottawa, 2015).

UO's Ban the Bottle campaign was spearheaded by Jenna Dunsby⁵ who worked with other students and OCS to inform her community of the ethical and social implications surrounding the bottled water industry. Through her tireless campaigning, she convinced enough students, professors, and university staff that this was a positive change towards sustainability.

Officially, UO decided to ban bottled water for the following reasons:

“1) Removing bottled water and increasing access to water fountains represents significant savings for students. Bottled water can be cost prohibitive, whereas water fountains are free; 2) In a small way, the number of plastic bottles on campus would be reduced. Although the possibility of bringing your own bottle of water on campus still exists, encouraging campus community members to drink from fountains would reduce the total number of disposable bottles; 3) Encouraging the use of bottled water subtly undermines the use of public utilities. The City of Ottawa has some of the cleanest water in the world, and it is counterproductive to sell a product on campus which is already readily available for free” (University of Ottawa Water Fountain Report, 2016)

Here, UO recognizes that banning the sale of bottled water has the potential to save students money. In my own discussions with OCS, university staff believe that programs such as these teach students to trust the public utilities our institution offers, while also freeing up spending money.

From the university's standpoint, offering bottled water for purchase on campus had many unnecessary costs. Most importantly, the price of bottled water is high, as it includes delivery fees and high profit margins, while UO had to pay for disposing the waste it produced; these fees were believed excessive for a product that UO already provides (Interview Transcripts, 2015). From a macro-perspective, UO argues that “CO2 emissions associated with the fuel used

⁴ UO's water fountains are maintained based on the following criteria: The presence of a gooseneck spout that can be used to easily fill reusable bottles; Taste; Meeting accessibility requirements presented by Standards for Barrier-free Design Ontario; Water pressure; Water temperature; Fountain cleanliness (University of Ottawa Water Fountain Report, 2016)

⁵ Jenna worked with student groups, the Student Federation University of Ottawa (SFUO), Food Services, and OCS to make the banning of bottled water possible.

to transport (the bottles) to the campus...electricity consumed to refrigerate the vending machines selling bottled water... (and the) energy required to recycle the disposable bottles” is costly financially, but also environmentally (University of Ottawa Water Fountain Report, 2016). Although the ban first cost the UO money, as ~\$250 000 was required to improve the drinking water system on campus, other sustainability initiatives, such as the one discussed here, stemmed from it. The Report on Sustainable Development at UO (2015) came to reveal that improving water fountains actually *saves* the institution about \$5.6 million/year. These investments and their follow up reports show UO’s commitment to sustainability, and further incentivize UO to foster more initiatives.

H₂Ottawa came out of residual demand for water on campus. When bottled water was first banned, some students objected, arguing that university officials were taking away their purchasing power and healthy beverage options (Interview Transcript, 2015; Le, 2012). UO’s student newspaper, *The Fulcrum*, released an article a year after the ban regarding the community’s response. The article outlined overall, that students understood the ban was “a step toward a more sustainable campus, a smaller ecological footprint, more access to public water fountains, and less money spent on something that is virtually free” (Le, 2012). Despite this, the University of Ottawa’s Conservative Club argued against the ban, stating that “students do not carry reusable water bottles, or [they] have classes in those parts of campus where water fountains are not easily accessible” (Le, 2012). Student-written articles reflecting upon the aftermath of the ban make it evident that they accept the tenets of sustainability it embodied, but would appreciate access to portable water on campus. H₂Ottawa received attention by university

officials as it satisfies both these demands and for the same price as a generic, single-use bottle of water⁶.

The banning of bottled water took about seven years to implement. A big complication were contractual commitments with companies such as Coca Cola, that demanded the university sell its bottled water product (Dasani). For decades now, student groups have mobilized to warn their university administrators about signing into contracts with companies such as Coca Cola. They argue that Coca Cola has been found to conduct themselves unethically, specifically in countries such as India and Colombia, where there have been allegations of mistreating employees (Brownlee, 2015). For various reasons, students do not want the universities that they represent to be involved with corporations such as these. Despite the eventual success of the ban of bottled water, the divide in the UO community is worth mentioning.

In Canada, universities receive the bulk of their funding by respective provincial governments. Recently, the government of Ontario has frozen their funding of post-secondary institutions. As a whole, university revenues are declining while operating costs are on the rise. Currently, the Ontario provincial government is in no state to “fund the shortfall...(as they are facing) a sizeable deficit” (Roadmap at Destination 2020, 2014, 4). The Ontario provincial government has urged universities to partake in ‘differentiation’, where they are encouraged to further excel at their individual strengths, rather than working on new ones (Roadmap at Destination 2020, 2014, 4). Universities report on how they are accomplishing the latter, and from these, the Ontario provincial government will allocate funds as outlined through their new models. One of the ways that UO plans to ‘differentiate’, is through “play(ing) a leading role in

⁶ The cost of this aluminum bottle will be \$3.00 which is comparable to the cost of single-use bottled water in downtown Ottawa

finding innovative solutions to environmental problems and training the green leaders of tomorrow” (Roadmap at Destination 2020, 2014, 9). H₂Ottawa will play a part in this process.

H₂Ottawa plays a part in differentiating the UO from other Canadian universities in the realm of sustainability, as we are the first university in the country to implement this kind of project. Administrators at UO have been active in fulfilling this through including the project in marketing initiatives, pitching it to various media outlets, and defining it as a part of what UO is trying to accomplish as a whole. UO sees this project as positive to their reputation, thus featuring it on the main page of their website, and using it to attract private donors through the *Defy the Conventional* program. Projects such as this one proves that sustainability is valued at the UO and makes room for future initiatives. Due to the novelty and aim of this project, it is expected that the larger Ottawa community will be interested in the institution that facilitated its implementation.

The UO is one of the most sustainable universities in Canada by national standards⁷ (STARs, 2017). This has been achieved in part by UO’s Sustainable Development Committee, whose “mandate is to provide advice and put forward ideas of the University’s Administrative Committee on best practices pertaining to campus sustainability... (this group) is composed of representatives from the staff, faculty, student body, and community” (University of Ottawa, 2015, 3). The idea of sustainability, which will be discussed in more detail below, has been important to UO well before the implementation of this committee in 2007. The university’s first sustainability initiative dates back to 1974, when the decision was made to hire an engineer for the purpose of managing the campus’s energy consumption (University of Ottawa, 2015, 3).

⁷ Canadian universities do not have a cohesive ranking system. When it comes to sustainability, the STARs ranking system is considered to be the standard.

Through my work with UO, I argue that the university has managed to uphold this tradition, working to implement sustainability strategies where it is found to be reasonable.

This thesis analyses the conceptualization and implementation of the H₂Ottawa sustainability initiative. For the purpose of this research, I will be using a living action research approach outlined in Mc Niff and Whitehead (2011). As the creator of the H₂Ottawa project, I have been active throughout its duration; reporting on my experiences provide a holistic view of the initiative. For the purpose of this research, I argue that the UO operates in a manner consistent with the ecological modernization approach to environmental problem-solving (Blühdorn, 1997; Carolan, 2004; Cato, 2011; Langhelle, 2000; Mol and Spaargaren, 2000; Spaargaren and Mol, 2010). My research will show that the UO conceptualizes sustainability in ways that are consistent with other Canadian universities, corporations, and governments. Following from this, my critical analysis of the institution's actions will use a lens of green-Marxism (Carolan, 2004; Cato, 2011; Harris, 2013; Johnston 2006; Mol and Spaargaren, 2000; Smith, 2015; Young, 2014). Here, it is argued that institutions claim to accept sustainability without changing modes of production, which support consumption habits. Employing more sustainable methods of production or procurement are not sufficient for sustainability, as they do not account for over consumption; it is argued that this directly contradicts the overall goal of sustainability.

The second chapter of this thesis will be the literature review. To begin, I will provide an overview of the arguments surrounding water privatization in Canada, which inspired the H₂Ottawa program. Next, I will outline the literature surrounding sustainability and sustainable development, as it is through these lenses that the project was created. Here, I will focus on the

definition of sustainable development presented in The Brundtland Report,⁸ as it is this version that is adopted by UO. Finally, I will present the literature regarding Canadian universities as a whole.

The third chapter of this thesis will present the conceptual and theoretical frameworks that guide this research. The concepts I have worked with include the ethical consumer and reputation. The success of H₂Ottawa depends upon the wants and needs of the consumer; it will be argued that in universities, consumers are generally ethical. The importance of reputation to a university's success follows this discussion. I will then argue that similar to other Canadian Universities, the UO operates within the confines of ecological modernization theory. It will be argued that the structure of H₂Ottawa is consistent with the idea that “there is no essential tension between the way our economy and society function, and a healthy environment, therefore there is no need for fundamental social or economic change” (Cato, 2011, 119). I will complete this section with a critique of my project and its implementation using the green-Marxism theory. While H₂Ottawa aims to address the environment through reducing the purchase of one time use bottled beverages on campus, its essence is consumption.

The fourth chapter of this thesis will outline my approach to living action research adopted from Mc Niff and Whitehead (2011). I will argue that this was the best approach to data collection considering my role in the implementation of H₂Ottawa. From this I will present my use of structured interviewing as supplementary data. Considering the nature of these methods, inductive coding schemes were used to interpret the data. I will conclude this section by discussing the limitations and benefits regarding such use of qualitative analyses.

⁸ This piece is also known as *Our Common Future*. The Prime Minister of Norway at the time, Gro Harlem Brundtland, and his commission, authored the report in 1987. More information on this report can be found in the section entitled: Sustainable Development.

The fifth chapter will present the findings and discussion. Here, I will outline the perceived successes and failures of this project as outlined by myself, the UO community, as well as selected interviewees. In addition to securing a partnership with OCS, I single-handedly attained advertising and financial endorsements from the: Student Federation of the University of Ottawa, OCS, Food Services, Faculty of Social Sciences, Faculty of Common Law, Faculty of Civil Law, Faculty of Engineering, Faculty of Education, Faculty of Arts, and the Telfer School of Management. In addition to this, H₂Ottawa was advertised by: UO Central Communications, UO's Faculty of Science, the Canadian Broadcasting Company (CBC), various magazines across the country, student newspapers at Carleton University as well as UO, a handful of student groups on campus, and the New Democratic Party of Canada. These discussions spanned over my three-year degree and will be used to show how UO embodies and enacts their commitments to sustainability.

The final chapter will conclude and discuss next steps. In writing this thesis, I have been approached by various other public and private institutions who wish to adopt the H₂Ottawa project.⁹ I foresee a bright future for this initiative, hoping that more institutions will ban single-use water bottles now that I have showed how we can offer an accessible alternative.

Although this particular project has not yet been carried out by other institutions, the thinking behind it is not revolutionary. I will argue that as an institution, the UO attempts to make its core goals compatible with a corporate understanding of environmental responsibility. This form of institutional branding frames UO as innovative, and targets consumers with a commitment to societal progression and ethics. This thesis aims to answer the following question: how does the UO comply with its commitments to sustainability, while also satisfying

⁹ At the time of writing this thesis, I am working on a deal with the Alumni Association of UO, Bluesfest, the Museum of Science and Innovation, and a few local Ottawa businesses.

the expectations of its community, through the implementation of H₂Ottawa? It is expected that research findings will not only be of use to the implementation of the H₂Ottawa bottles, but may also act as a guide for sustainability-motivated projects in the future.

Chapter Two: Literature Review

Introduction

In writing this thesis, it has become evident that the values upheld by UO were very much reflected in the literature regarding sustainability (Axelrod, 2014; Barlow, 2013; Brownlee, 2014, 2015; Elkington, 1998; Feldman, 2012; Gleick, 2010; M'Gonigle, 2006; Pocklington and Tupper, 2002; Szasz, 2007; Young, 2014). It may be argued that this is indicative of the university's commitment to representing the community and society in which it operates. I will start this review by discussing broader issues surrounding water, as this inspired the context for my project. The literature on this topic is vast, and while all related, I will limit myself to ideas that are of direct relevance. I will then present the ideas of sustainability that are embodied by UO, as these were formative in the creation of the H₂Ottawa project. This section will review the literature in which this definition of sustainability is reflected. From this, Canadian universities will be discussed, specifically focusing on how they embody sustainability in ways similar to their corporate partners and the Canadian government. It will then be argued that the consumer becomes a focal point when adopting sustainability initiatives. To conclude, I will review the importance of reputation to universities. Here, I will argue that universities create their reputations in ways that attract future consumers, or students, that would fit in with their vision. Through the marketing of H₂Ottawa, it is evident that UO wants to be perceived as an avid supporter of sustainability and innovative ideas. This enforces the ideas that UO cares about being a sustainable, Canadian university.

Water

Water has become a topic of intense interest, as we are beginning to see parts of the world experiencing shortages of clean freshwater. In their book entitled *Ethical Water*, Sanford et al. (2011, ix) assert that “97% of water on the planet is salty, leaving only 3% of it fresh enough to sustain terrestrial life. Of that 3%...(much is) bound in ice or is inaccessible to use because it lies so deep beneath the world’s surface...(only) 1% of the Earth’s total water sustains us today”. In Canada, there is a common misconception that by virtue of our geography, we sit on the majority of this 1%. In contrast to this, “... Canada’s share of the world’s renewable water supply is relatively modest... the two countries with the largest renewable water supplies are Brazil with 12.4% of the world’s renewable supply, and Russia with 10%” (Bakker, 2007, 24). Scholars argue that in Canada too, water scarcity may become a problem. It is important to protect this resource as water is essential to human life, and there is no substitute for it. Our water supply is finite; globally, our governments must realize this and act in accordance.

While many public institutions and corporations in Canada have heeded the scarcity warning and joined the fight to protect our water, the Canadian government has not. Through the literature, this is referred to as taking the stance for water as a ‘human right’. In her book entitled *Blue Future* (2013, 23-4), activist Maude Barlow discusses this position as choosing between,

“...water being a *need* or a *right*. This is not simply a semantic decision, one cannot trade or sell a human right or deny it to someone on the basis of inability to pay... for profit water delivery systems encourage the concept of water as a need that can be filled by private as well as public operators. The *right* to water, however, denotes that water is a basic right, regardless of the ability to pay, and boosts the arguments that it should be delivered as a public service”

In Canada, water is not considered an official human right¹⁰. This is because our government does not provide potable water, nor water sanitation services¹¹, to all Canadians (Barlow, 2013). According to Barlow, the main reason that Canada has not committed to establishing water as a human right, is that water systems and infrastructure in rural Canada are not up to civilly prescribed sanitation standards, particularly in Indigenous reserves.

There have been serious issues concerning the provision of potable water in rural Canada, which in extreme cases has resulted in fatalities. An example of this was our government's failure to effectively operate water systems in Walkerton, which resulted in the outbreak of disease from 2000-2001 (Hrudey, 2011)¹². Although the government took action to provide better access to potable water, rural Canadians continue to suffer from intermittent water advisories. According to Hrudey's (2011, NP) report, *Safe Drinking Water Policy for Canada-Turning Hindsight into Foresight*,

“... the management of drinking water and assurance of safety is not as universally effective as it can and should be, largely because of a management structure that is ill-suited to the task...the regulation of drinking water in Canada is generally guided and managed in a fragmented, almost ad hoc, manner that leaves us vulnerable to future water-quality failures, most likely in smaller systems”

The levels of Canadian government are not organized in a way that is effective for managing the country's water systems. According to Canada's Water Act 1985, the federal, provincial, and municipal levels of governance are responsible for regulating different aspects of the overall system. It is argued that a lack of clarity in their expectations and responsibilities causes confusion, making it easy to neglect communities, often those in rural or economically

¹⁰ For more on this, visit: <http://unac.org/wp-content/uploads/2012/10/A-Human-Right-to-Water.pdf>

¹¹ Water sanitation services include: the collection, transport, treatment and disposal of human excreta, and associated hygiene.

¹² To be clear, these water crises are not independent events. Providing potable water to all Canadians has always been an issue. According to Pentland (2013, 23) “... clusters of acute illness on the scale of Walkerton and North Battleford have mercifully been rare, but a review by Health Canada shortly after those incidents determined that the country had experienced no fewer than 288 outbreaks of illness traceable to contaminated water over the period from 1974-2001- nearly one a month”. For more on this topic, see Bakker (2017) and Pentland et al. (2013)

disadvantaged areas (Pentland, 2013). If our levels of government are expected to become more cohesive and effective in governing water, the right to water must be accepted and supported by the majority of Canadians.

Bottled water is not a solution, but rather a symptom of the problem regarding public water resources. It is alarming that urban Canadians have become convinced that paying about 1000x more for single-use containers of water, rather than use potable and readily available tap water, is an act of rationality (Gleick, 2010; Szasz, 2007). The need for alternate water sources came from a distrust of public water, resulting in the turn to privatized water and following this, a lack of publicly available potable water. Gleick (2010, 3) argues that this can be seen through the displacement of water fountains:

“water fountains used to be everywhere, but they have slowly disappeared as public water is increasingly pushed out in favour of private control and profit. Water fountains have become an anachronism, or even a liability, a symbol of the days when...water wasn't available from every convenience store and corner concession stand. In our health-conscious society, we are afraid that public fountains, and our tap water in general, are sources of contamination and contagion”

This is problematic as it follows the idea that private water is replacing public water, which runs contrary to making water a human right. Banning bottled water is necessary to support public water, as it actively rejects privatizing water.

i. Bottled Water

Bottled water became accessible to all economic classes in the 1980s, and the industry has since enjoyed successful sales (Gleick, 2010). As discussed, the failure of publicly sourced potable water was one such reason for the business of bottled water in the first place. Following instances such as Walkerton were private advertising campaigns, there to remind Canadians that their tap water may not be safe. In her book entitled, *Contested Water: The Struggle Against Water Privatization in the United States and in Canada*, Robinson (2013, 27) asserts,

“since the 1980s, public water systems have been under attack by proponents of market-based models of governance, who argue that ‘governments are less productive, efficient, and effective than markets’ ... private sector involvement in water systems has been hailed as a means of correcting those failures”

Bottled water companies preyed on nationwide anxieties relating to public water systems, by promoting their product at its expense. These companies used marketing tactics to present their product as that which saved the people from public water sources.

Municipal governments in Canada have made several efforts to reverse the damage done to the collective government reputation, regarding the provision of clean, public water. A recent example comes from Ottawa, where the city recommends that we replace “small plastic bottles of water” with “tap water, drinking glasses, and reusable water bottles” (City of Ottawa, 2018). The City of Ottawa’s website informs their public of how water is filtered, where it comes from, and why our municipally sourced water is safe for consumption. Despite this, particularly urban Canadians seem to consistently opt for bottled water. According to Steven Hruddy’s report, *Safe Drinking Water Policy for Canada- Turning Hindsight into Foresight*, “... throughout much of developed, urbanized Canada, public drinking water generally poses a negligible health risk to consumers” (2011, 1). Compared to other affluent countries around the world, Canadians are among the least likely to drink bottled water; those who do, tend to live in cities (Whan et al., 2017). This is problematic as the demographic supporting private companies already *has* reasonable access to potable water.

So, why have consumers chosen to replace the tap with bottled water? RBC’s Canadian Water Attitudes Study (Whan et al., 2017) found that the most avid consumers of bottled water make this choice: for reasons of convenience and portability (22%); because water is healthier than soda or juice (21%); and for a fear of the tap (19%) (Gleick, 2010; Queiroz et al., 2012). When considering the urbanite lifestyle, the convenience argument seems reasonable. The CEO

of Nestlé Water's North American branch defends her product, stating "we are a 24/7 on-the-go society who wants convenience in our beverage choices" (Gleick, 2010, 87). In regards to the taste argument, studies have shown that when performing taste-tests, consumers believed that they preferred bottled water, but unknowingly chose tap water most times (Gleick, 2010, 81). Here, it may be argued that consumers have been led to believe that publicly sourced water is of a lesser quality than what we can pay for. We live in a society where we "see danger everywhere... we suspect that the water that flows from the tap is contaminated with chemicals that can make us ill... contaminants can be colourless, tasteless, odourless, invisible to the senses, and that fact increases the feeling of vulnerability" (Young, 2014, 1). It is of interest that most people drink bottled water for convenience and portability, as this is the easiest part to fix. In providing city-dwellers with easily accessible multi-use bottles, we may encourage them to drink public water, and find that there is nothing to fear. According to Szasz, some Canadians are "trying to barricade themselves, individually, from toxic threat, trying to shield themselves from it. Act jointly with others? Try to change things? Make history? No, no. I'll deal with it individually. I'll just *shop* my way out of trouble." (2010, 4). This argument applies to how Canadians who opt for bottled water feel about publicly sourced water. These consumers believe that what is provided to them through their taps is suspect, while what they earn or pay for, is healthy. Purchasing reusable water receptacles is a behaviour of people who do not fear the tap; in regulating our public water sources and informing our communities of this, we can make drinking public water a trend.

ii. Privatization of Water

The privatization of water is a major problem identified by academics in this field. Put simply, when corporations bottle water, the resource itself becomes their *property* which they have the right to sell for profit. In his book entitled *Water*, Feldman (2012, 97-100) argues that

“privatization may transform water into a commodity that provides material gain of profit-making enterprises, but fails to regard freshwater access a human need or right... Privatization discourages water conservation and encourages higher consumption so as to maximize profit... The dramatic growth in privatization has prompted questions regarding political accountability, economic fairness, and the willingness of vendors to vigilantly prioritize public health and other community concerns above handsome returns on investment”

Here, private water companies are competing with public water distribution. This is problematic, as the logic of privatization may degrade investment and maintenance of public infrastructures, creating potential problems in the future. Here, market services are presumed to first supplement and then gradually replace public services.

Activists portray the privatization of water as negative because it fosters political mistrust, and monetizes a resource that should be readily accessible, regardless of economic status. In her book *Blue Future*, Maude Barlow asserts,

“...many countries are introducing water markets and water trading, whereby water licenses- often owned by private companies or industrial agribusiness- are allowed to be hoarded, bought, sold, and traded, sometimes on the international open market, to those that can afford to buy it. In all of these cases, water becomes the private property of those with the means to buy it and increasingly denied to those without” (2013, 11)

Barlow problematizes the privatization of water. Here, she argues that putting a price tag on this essential resource relegates public responsibility of restoring water systems. In order to distribute potable water worldwide, governments must maintain jurisdiction and formally accept this resource as a human right.

The literature argues that support for privatized water has made providing potable water an option for governments, rather than a priority. This may result in a lack of effort to maintain public water infrastructure. From a macro-lens, this shows mistrust towards public services more generally. In his book entitled *Shopping Our Way To Safety*, Szasz argues that “most people drink bottled water...(because) they suspect the quality (of publicly serviced water)...Rather than do something politically or collectively to improve the public water supply, they try, individually, to assure themselves a supply of water that is safer to drink” (2007, 128). According to Szasz, this mentality is problematic as it exhibits a lack of confidence in authorities who are supposed to be protecting us. When consumers buy their way out of trouble, money is diverted from public to private services; this deters prioritizing the maintenance of public water systems cross-nationally. This shift disproportionately impacts those without the means to purchase bottled water, who are those living in communities that already have shoddy access to potable water¹³.

iii. Environmental Impact of Single-Use Plastic Water Bottles

The environmental impact caused by single-use water bottles is a huge concern throughout the literature. Water bottles are usually produced from polyethylene terephthalate (hereafter, PET) because it is durable, lightweight and see-through (Miller et al., 2014). However, PET has negative environmental implications. First, the manufacturing of PET bottles consumes about 17.5 kilograms of freshwater, for each kilogram of PET produced (Feldman, 2012, 111). In addition to this, the PET bottle has proven to be environmentally damaging because it is unlikely to be recycled. According to Queiroz in her study entitled *News about Tap and Bottled Water: Can This Influence People’s Choices?*, “... 30 million bottles are discarded

¹³ These areas are much closer than we think! Residents of Wakefield, QC have experienced water bans in the past year. This is only 35 km away from the city with the best water in Canada, downtown Ottawa.

in landfills every day in Canada and only 13% are recycled” (2012, 328). This is significant as PET is not biodegradable; when it eventually leaches into the soil it expends harmful chemicals.

When plastics *are* recycled, they are actually ‘downcycled’. This means that they are used to make a lower-quality form of plastic. Most plastics cannot be recycled more than once, sending the remainder to landfill. Moreover, the plastics that are of a quality that can be recycled are not processed in Canada, but shipped to other countries. Gleick (2010, 99) builds on this, stating “most of our recycled bottles end up in giant bundles stuffed onto contained ships headed for Asia. The Chinese find it cheaper to buy our plastic garbage, ship it across the entire Pacific Ocean, and use it to make stuff to ship back here, than to make virgin PET from petroleum”. Here, the recycling of plastics is unsustainable as the process of producing the plastics and recycling them expend more energy than simply using other materials. In all, the lifecycle of single-use water bottles emit greenhouse gases, which are known to be harmful to us, and to our physical environment.

iv. Water in Canada

In order to better distribute potable water in Canada, policies must be reformed and enforced. In their book entitled *Down the Drain: How we are Failing to Protect our Water Resources*, Pentland et al. (2013, 10) argue that although policies to protect water do exist, they are not prioritized above economic advantage:

...economic thinking has been deeply influenced by market fundamentalism...Canada’s leaders have become increasingly passive in the face of threats to the ecological assets that constitute our natural security...Sometime between the early 1980s and today, the supply-demand balance between human consumption of Earth’s resources and the planet’s biophysical productive capacity (nature) tipped from a condition of *nature surplus* to one of *nature scarcity*

Here, it is argued that we have prioritized economic benefit over our physical environment through exploiting our natural resources. According to Barlow (2013, 19), if the Canadian

government continues to treat water as an exploitable resource, “no place on earth will be free from the consequences of the water crisis...even if we start to slow the damage we have created by challenging the growth imperative and (enacting) water conservation practices and source-water protection”. It is essential that we govern water in a way that is sustainable, to ensure the preservation of our natural environment and future generations. If we continue to define wealth through the exploitation of our natural resources, there will be consequences of scarcity.

Canadian citizens have grown up in a capitalist society; trained to buy, consume, and throw away. This culture of consumption has been fostered by corporations and political leaders who seem to make decisions as if natural resources were infinite, as if unlimited growth were possible (Barlow, 2013; Szasz, 2007). Is there a way to permit economic growth, while maintaining our culture and physical environment?

Sustainability

Ideas around sustainability were formalized through the *Brundtland Report* of 1987. Also known as *Our Common Future*, its main accomplishment "...was to combine systematically, a number of issues that have often been treated in isolation, or at least as competitors: development, global environmental issues, population, peace and security, and social justice" (Dryzek, 2005, 148). During the time of its publication, environmental issues were gaining prominence worldwide (Young, 2014). Despite the concern these generated, governments were reluctant to impose environmental regulations as they feared this would hinder economic growth (Dryzek, 2005). Young (2014, 5) argues,

"The concept of sustainability contains an implicit endorsement of growth- that economic expansion is acceptable as long as it does not worsen environmental conditions over the long term...By breaking the economy vs. environment logjam, the notion of sustainability freed politicians and corporations to embrace moderate forms of environmentalism, while also freeing environmental activists to embrace more environmentally responsible policies and companies"

The *Brundtland Report* had a significant impact in this context, as it legitimized the idea that environmental integrity and economic growth may coexist; we could save the planet without having to drastically change our economic patterns. Here, sustainability is defined as a compromise between protecting the natural environment, our culture, and economic growth.

To this point, there is no consensus on the exact meaning of sustainability, academic or otherwise. As outlined in *The Brundtland Report*, "no single blueprint of sustainability will be found, as economic and social systems and ecological conditions differ widely among countries." (1987, 39). The literature argues that this can be beneficial, as sustainability becomes a living discourse, that grows based on its use in various contexts (Dryzek, 2005). Put more clearly, sustainability becomes defined within the context of the community enacting it. Considering its broad applicability, sustainability became difficult to reject. Authors argue that wealthier nations

generally act more sustainably as they have the necessities of life, as well as accessible funds and technology to pursue innovative practices (Milfont et al., 2016). Altogether, sustainability has gained global respect and presence.

i. Sustainable Development

The most widely used definition of sustainable development was presented in *The Brundtland Report* (1987, 16):

“Humanity has the ability to make development sustainable, to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits...imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities”

Sustainable development contends that we use technology and the direction of our society to advance the physical environment. Here, it is not expected that society change its capitalistic economy, but manage it. According to Milfont et al. (2016, 112), we are to “use goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life-cycle”.¹⁴

Sustainable development became acceptable to institutions, as it fostered growth and development while being perceived as responsible in the public eye (Young, 2014a). Considering this, rhetoric surrounding sustainable development has become written into policy and widely employed by various institutions. Universities adopt sustainable development as it embodies ideas of innovation and social good; doing things better than we have in the past.

Scholars argue that corporations have been instrumental in popularizing and legitimating sustainable development. The literature argues that Canadian consumers have come to expect corporations to act in environmentally responsible ways, and this plays a part in which company

¹⁴ Although parts of *Our Common Future* were changed in 1997, this definition remained unchanged.

they decide to support with their purchasing power (Akehurst, 2012). Considering that corporations respond to the wants and needs of society, this shift has inspired many companies to adopt sustainable ways of producing. In his book entitled *Cannibals with Forks: The Triple Bottom Line of the Twenty-First Century*, Elkington (1998, 28) asserts that,

“...politicians rarely have the vision, let alone the courage, to steer their government... in this new direction. As a result, it is inevitable that a growing portion of the sustainability agenda will land, by default, in the lap of business and of what is increasingly called ‘civil society’: all the institutions and public activities which create the social contract within which markets evolve and business is done”

In this system, corporations that do not adapt and innovate will fail. Considering the position of the consumer, corporations differentiate themselves based on sustainable practices. This is positive as the environment is a focus, but it also means that corporations are actively creating how we define sustainable development.

The ambiguity of this concept allows it to develop in unique ways. In his article entitled *Sustainable Development in a post-Brundtland World*, Sneddon (2006, 254) argues that,

“sustainability may yet be possible if... a plurality of approaches to, and perspectives on sustainability [are embraced], multiple interpretations and practices associated with an evolving concept of ‘development’ [are accepted] and support a further opening up of local-to-global public spaces to debate and enact a politics of sustainability”

Here, it is argued that we should bring people from different backgrounds to actively develop a multidimensional and informed understanding of sustainability. To create a rigid framework for sustainability, when we are unprepared to do so, may deter the constant evolution that we are seeing through innovative approaches to sustainable development. Here, the lack of a definition may actually inspire progress.

The sustainable development movement has pressured institutions to be *aware* of environmental problems, it did not outline *how* it was to be done. As a result of this, corporations became highly active in developing ideas of implementation that benefited their stakeholders

while also sustaining the natural environment (Portney, 2015)¹⁵. One way this was done, was through the advocacy of the ‘triple bottom line’ approach to sustainable development (Portney, 2015, 39). The tenets presented in this approach are called the ‘three pillars’ of sustainability, and consist of environment, society, and economics (Hiedanpaa, 2012, 40). First, the pillars must be explained:

“1) (Environment:) care for the natural environment so that it remains intact, 2) social consciousness that results in actions that build and strengthen the social fibre of our communities, and 3) economic viability oriented toward the long term that generates benefits for current and future generations” (Ott, 2016, 104)

For sustainable development, these tenets inspire and guide macro processes. The problem here, is that this definition is idealistic, as there is no prescribed way to balance these tenets. When it comes to sustainable development, it is defined by the entities who claim it.

The ‘triple bottom line’ approach was used in the conceptualization of H₂Ottawa. In corporate settings, including universities, reporting sustainability is done on a voluntary basis. Businesses find social value in participating, and most of the big corporations “report at least once a year on what they have done to reduce the direct environmental damages caused by their products, services, and operations, and indirectly by damages caused by their supply chains” (Portney, 2015, 39). Reporting under this framework draws attention to some of the environmental harms being inflicted through the production-consumption backbone of our economy, as well as speaks to the efforts being done to lessen such harm. In all, sustainable development has put the spotlight on corporations, and how they are impacting our physical environment, for economic benefit and the maintenance of our consumptive culture.

¹⁵ Here, stakeholders are defined as “people who can affect or are affected by a company’s decisions and actions. They are employees, customers, business partners, investors, regulators, and often the community in which the company operates. These are the people who matter to a company’s commercial success” (Singer, 2014, 64).

Universities in Canada

Canada has some of the most highly ranked universities in the world (Macleans, 2016).¹⁶ Considering this, ~1.7 million local and international students were enrolled in Canadian universities in 2016 (Universities Canada, 2018). For the purpose of this research, it is important to note that Canadian universities have a direct influence on many peoples' lives. The literature argues that the impact of universities is twofold. According to Byron (2002, 45) universities are sites where "pedagogical relationships, which include the initiation into a discipline of learning, the passing on of skills, the sharing of ways of seeing and ways to thinking [develop]...[it also] governs the student's induction into participation in the life of public institution". Universities are respected institutions, thus ideas produced here are accepted, or at least respected, by the greater society. In this way, universities not only teach and evaluate one's understanding of curriculum, but also play an active role in developing Canadian citizens.

Universities have a greater responsibility to sustainability and innovation than do other institutions. These spaces are meant to be breeding grounds for ideas to be shared, and to inspire discussion. Winter et al. (2012, 86) argue that ideas of sustainability "coalesces around a key point: *transforming* people's perspectives, values and actions, in favour of more sustainable ways of working and living". Here, teaching sustainability in universities gives students information, but also a space to discuss with likeminded people and create new ideas. This process helps to develop the next generation of responsible and informed citizens.

The problem with teaching sustainability in Canadian universities, is that ideas surrounding it are still unclear. In Canada, representatives from various provincial governments have agreed on the use of curriculum to disseminate ideas of sustainability. However, there were

¹⁶ Macleans magazine has a well trusted ranking system for Canadian universities; see: Dowling et al. in Singer (2014) for a detailed review regarding the importance of accepted media on reputation.

significant challenges when it came to entrenching these ideas into coursework (Hopkins, 2013). The problem here, is that sustainability is largely understood as an environmental exercise, making it difficult to isolate from environmental education. Sustainability has become a priority for higher education institutions, which gives us hope for future programs (Fonseca, 2011; Hopkins, 2013). While sustainability courses maintain an emphasis on environmental protections, many are incorporating tenets of social good and economic benefit.¹⁷

Another way that universities can exhibit their understanding and commitments to sustainability, is through supporting initiatives. Students are very active in this field considering that all can relate to sustainability, regardless of our personal characteristics or backgrounds. Here, universities may financially and socially support sustainability champions on their own campuses. In doing this, universities “(e)nhance the links between formal and informal curriculum, providing opportunities to align learning in both spheres, and help strengthen sustainability messages for all students” (Winter et al., 2012, 14). Acts such as these not only benefit the university, but encourage students to be solution-oriented and outspoken about their ideas. The outcome of this is presenting sustainability as less elusive and more inclusive of all students.

Literature argues that university students and graduates are increasingly concerned with their institution’s commitment to the tenets of sustainability (Freestone, 2007). The literature suggests that universities make good pilot sites for the implementation and testing of various strategies, as they are places that foster ideas that may translate into the larger society.

M’Gongile (2006, 9-12) argues that,

“the sustainability movement is concerned about the most pressing issues of its time. But it also has a new role for the University- to be not just a site for making protests, but a

¹⁷ The University of British Columbia, known for having the best Sustainability Department in the country, has established many courses that focus on the ‘triple bottom line’ of sustainability. See: <https://sustain.ubc.ca/courses-teaching/courses>

place for creating precedents...changing the world by creating a sustainable University is admittedly a strange idea...(until one takes into account that) universities are located locally, but networked globally...they are actively connected to the past, but also shape the future”

According to this view, the implementation of sustainability on campus has value for teaching the next generation about difficult problems associated with sustainability, and for inspiring them to find solutions.

Critics argue that sustainability-based ideas disseminated from universities cloak economic and political interests. In their book entitled *No Place to Learn*, Pocklington and Tupper (2002, 29-30) assert,

“The Government of Canada became committed to the support of University research...this role was compatible with its broader interests in national economic development...Government funding provided Canadian Universities with financial stability. It also guaranteed that the academy’s priorities would be shaped by democratic politics and economic needs”

Here, it becomes clear that our federal government has a vested interest in Canadian universities. While this provides these institutions of higher education with financial stability, it also closely aligns political interests. This is positive in many ways, but also runs the risk of discouraging change. If university research is focused on wants and needs of the federal government, students do not have as much freedom to discover alternative realities. Academics against the corporatization of universities argue that this influence may result in a cyclical formation of ideas.

While provincial governments provide the largest financial contributions to universities, outstanding costs are attributed to students. This is important as those who provide funding for universities have an influence on what is taught on its grounds (Axelrod, 2014; M’Gonigle et al., 2006; Renke, 2000). Axelrod (2014, 55) explains government funding has not been able to keep up with the influx of demand for university education; he argues that,

“severe financial pressures (have been placed) on Canadian universities. Constrained by accelerating deficits and a diminishing tolerance for tax increases, government funding has not kept pace with the growing demand for University education...tuition-based revenues rose from 12% to 35%. In 1990-91, students paid an average annual tuition of \$1464 compared to \$6348 in 2012-13”

Here, it is clear that costs for maintaining universities are being placed on students. Considering their financial stake, Canadian universities increasingly aim to fulfil the wants and needs of students to improve retention rates (University of Ottawa, 2014).

The question now is, why do young adults choose to go to University? In short, it is to get a job (Axelrod, 2014; Brownlee, 2015). Of course, this has implications regarding what the University teaches. M’Gonigle (2006, 17-24) argues that this is problematic, as we are taking away the creativity that universities once inspired. To further illuminate this point, M’Gonigle (2006, 35) notes that “...Canadian universities in 2004-2005 performed research and development work (that totalled) over 35% of the natural resources research and development”. Here, it is argued that universities, and university students by extension, developed a significant percentage of the country’s research and development. Considering this, it may be argued that the university encourages its students, and provides an environment for them, to carry out research that is in demand by the federal government.

i. The Corporate University

It is argued that Canadian universities are being increasingly corporatized. The corporatization of the university is defined as,

“the process and resulting outcomes of the ascendance of business interests, values, and models in the university system... Universities have always functioned to serve the practical interests of businesses and their other stakeholders; however, this utilitarian approach in and of itself does not constitute corporatization... An institution that is characterized by processes, decisional criteria, expectations, organizational culture, and operating practices that are taken from, and have their origins in, the modern business corporation. It is characterized by the entry of the university into marketplace

relationships and by the use of market strategies in university decision making”
(Brownlee, 2015, 3)

While universities continue to teach and perform research, the context in which this takes place has changed. In short, Canadian universities are operating more like businesses. The literature puts forth positive and negative results of this shift that will be discussed through this section.

The main problem with corporatization, is that it prioritizes business interests above all else. Jamie Brownlee’s book entitled, *Academia, Inc: How Corporatization is Transforming Canadian Universities* argues that,

“Critiques of educational restructuring morphed into a wider critique of the capitalist system... Students and other activists are locating educational concerns within the context of declining public programs and services, austerity agendas, attacks on worker rights, structural unemployment, environmental destruction and the expansion of corporate power... Under corporatization, the public mission of the university- which has often emphasized democratic goals and services to the broader community- is being reduced in favour of private and commercial interests ” (2015, 2)

The literature expands on this, arguing that research inspired by private sector needs may be framed in a way that benefits businesses rather than stating the facts. This is problematic as peer reviewed research would be widely respected, as these are trusted social institutions. The issue becomes the integrity of the university itself and the possible degradation of its unique position in society.

Universities are meant to be sites of social change, where students can freely create and explore new ideas. In the past 50 years, universities have been spaces for social movements such as civil rights in the 1960s, the environmental movement in the 1970s, and social justice movements more recently (Brownlee, 2015, 191). Corporatizing the university is framed in contrast to this goal. To give an example of this, UO stopped a Burmese activist from speaking on campus because what they had to say would negatively impact the Desmarais family business. Jamie Brownlee (2015, 125) argues that,

“In addition to policing teachers and students to protect their own brands, administrators also prioritize shielding corporate sponsors from criticism. It was this concern that motivated the university of Ottawa to prevent a prominent Burmese human rights activist from speaking on campus in 2007. The subject of the activist’s talk was the unethical Burmese business activities of Total SA, a French oil company whose board members included the wealthy Desmarais family, one of the university’s largest benefactors... university officials appeared to be aware that they were violating elementary codes of academic freedom in the service of their corporate sponsor; in an email to the university president Gilles Patry, one vice president noted that preventing the talk ‘flies in the face of many principles we hold dear in the University world’”

Opponents of corporatization argue that prioritizing corporate interests over academic freedom, is one of the greatest challenges facing the university. It is argued that these institutions have the potential to confront global problems, but under this framework are unable to be transparent with, and educate, their community (Brownlee, 2015, 9). Here, the values of universities and corporations are framed as oppositional.

One of the reasons that universities have decided to corporatize, is due to significant financial pressures that have forced them to rely on external funding. In Ontario, universities receive the second lowest government funding in Canada, increasing tuition fees and providing a greater need for external funding (Brownlee, 2015, 40). According to Axelrod (2014, 55),

“...two decades before the massive fiscal ‘meltdown’ of 2008, has imposed severe financial pressures on Canadian universities. Constrained by accelerating deficits and a diminishing tolerance for tax increases, government funding has not kept pace with the growing demand for university education...tuition based revenues rose from 12% to 35% (between 1990-2013)”

As previously mentioned, provincial governments do maintain a dominant role in funding Canadian universities, but have allowed more funding opportunities outside of the public realm since the 1990s. The problem here, is that those who fund the university often have vested interest, which has assisted in the corporatization of universities (Brownlee, 2015, 14). This shift can be subtle, such as research grants being aimed towards corporate needs, or more obvious, as buildings being named after big businesses.

The kind of work that universities are engaged with has changed due to the introduction of these new rationalities. Universities are expected to produce highly skilled students for the purpose of initiating them into an ever-changing global economy, as well as producing innovations that will contribute to economic growth. In short, there is a pressure on universities to reproduce for the benefit of governments and corporations. According to Brownlee (2015, 26),

“University presidents have been recast as ‘CEO’s’, students as ‘consumers’, graduates as ‘products’ and professors as ‘service providers’... Profit has become a leading goal of academic inquiry and a guiding principal for deciding what products and services to offer. Decisions about course offerings, research funding and hiring and enrolment practices are assessed less in terms of academic criteria, and more on whether they represent good business decisions”

Using corporate rationalities changes the perceived educational goals of universities. For instance, universities will cut back programs that are not profitable or that seek to have limited connection with labour market realities.

Research conducted in Canadian universities elicits a close connection between corporations, universities, and the government. Pocklington and Tupper (2002, 29-30) assert,

“Canadian universities became closely linked with governments...A well-educated workforce was a productive one, and an expanding industrial economy required a solid research base. The Government of Canada became committed to the support of University research...this role was compatible with its broader interests in national economic development...Government funding provided Canadian universities with financial stability. It also guaranteed that the academy’s priorities would be shaped by democratic politics and economic needs”

While universities have done this work for quite some time, the change here is the incorporation of logic and worldview of the corporate world into the university. Considering that governments and corporations are funding universities, it may be argued that their interests are reproduced.¹⁸

¹⁸ It is important to note here that the Canadian government is *not* a leader in sustainability, thus maintaining its current ideas may disservice the natural environment. For more on this, refer to Bakker, Karen (eds.) (2007). *Eau Canada: The Future of Canada’s Water*. Vancouver: UBC Press.

The corporatization of universities has positive as well as negative ramifications. While the interests of corporations and governments may be a focus in certain aspects, the university *does* maintain agency. Universities remain the breeding ground for current and future leaders, innovators, and problem solvers, who have the potential in these institutions to offer solutions to global challenges through their research (M’Gonigle, 2006). Through corporatization, students gain the opportunity to present their ideas, and are encouraged to apply their research, to real-world issues presented by governments and big businesses.

The corporatization of universities provides money, in addition to social resources. According to Fonseca et al. (2011, 24),

“Canada’s higher education sector is a growing \$26 billion enterprise that employs more than 150 000 people and services about 1.5 million students... Since at least the early 1990s, Canadian universities have been incorporating sustainability into their fabrics. There has been a significant growth in the number of environmental management systems, environmental declarations, sustainability offices, sustainability assessments, green buildings, and student-led initiatives at universities across Canada”

Corporate development is ultimately guided by the corporation’s own internal decision making processes, but these operate within the expectations of their consumers. For Canadian universities, to attract the next generation of students, it is important to engage in sustainability and innovation. While corporatization is framed negatively throughout the literature, it is important to recall that most students are going to university with the end goal of solidifying employment. Considering this, it may be argued that corporatization actually fits well with the goals and desires of modern students.

Conclusion of Literature Review

My research falls within the crux of the literature against privatized water, and that pertaining to sustainable development. At UO, the sale of bottled water was banned from campus to encourage students to drink publicly sourced water. UO’s students accepted the ban, but

maintained the desire for portable water. Here, UO acted as a business by implementing a product that was acceptable to their identity, while also fulfilling the wants and needs of the student-consumer (Brownlee, 2015). In the context of Canadian universities, sustainability is defined in ways that determine how such initiatives are pursued on campuses.

Chapter 3: Conceptual and Theoretical Frameworks

Conceptual Frameworks

This research is guided by the conceptual frameworks of ethical consumption, and organizational reputation. The literature provides a foundation for understanding why H₂Ottawa would appeal to students and to university officials, as it provides a convenient, sustainable, and cheap solution to portable water. Here, the university is interested in its reputation and trying to enhance it through its endorsement of this initiative. Through supporting H₂Ottawa, the university provides its community with a ‘feel good’ piece that is also practical. H₂Ottawa is an easy story to identify to for many UO community members who have not had access to portable water for the past eight years; this story may attract positive attention from their past, current, and future clientele.

Ethical Consumption

One way we show our commitment to sustainability is through our buying power. Students may be referred to as ethical consumers, meaning they are “concerned with the ‘people’ element of consumerism... (they) care whether a corporation... worries about product transportation distances and other concerns... being an ethical consumer means buying products which are not harmful to the environment and society” (Harrison et al., 2005 and Strong, 1996 in

Freestone, 2007, 446-7). The university conceptualizes students as ethical consumers. In operating as a corporation, universities reflect the values that they perceive as important to, and embodied by, their clientele: students. Here, it pays to embody ideas of sustainability.

The ethical consumption movement has mirrored the interest towards a more sustainable society. The literature argues that “there has been a documented shift in consumer behaviours, as most Canadians expect institutions to be socially responsible... this has forced companies to shift their standards and practices... A company’s brand is an extension of its attitudes, qualities, beliefs, and the relationship it has with its customers” (Trudel, 2004, 6). Increasingly, Canadians are questioning where their products come from, how they are made, and if they are sustainable. Corporations are being held responsible for their actions, and expected to consistently aim to be more sustainable. UO’s brand experiences a similar shift, appealing to ethical consumers.

A principal component of this framework, is that consumption is motivated by identity (Pinto et al., 2016). In Canada’s capitalist economy, there are many choices to be made when buying a product. Making these decisions are “motivated...by the need of social groups to achieve distinction and recognized status. Consumption is a place of differentiation and distinction between groups...products are often used as status symbols” (Queiroz, 2012, 328). Purchasing certain goods not only act as social markers to one’s peers who share the same symbolic language, but also to the self. According to Lades (2014, 120), “when an individual consumes a good with an identity-relevant symbolic meaning that is congruent with the individual’s ideal self-image, the individual can move closer to her ideal self-image and thereby at least temporarily satisfy her need for self-enhancement”. The H₂Ottawa bottle was designed for ethical consumers. As can be seen through Appendix 1, the story behind the bottle is physically imprinted onto it as a stencilled wrap. This story incorporates ideals presented through

ethical consumption; it communicates how the bottle was conceptualized with ethical, social, and environmental tenets in mind. Through buying this bottle, students buy the story and become a part of it. Attaching this information to the bottle assumes that students *care* about why this bottle is different from generic single-use water bottles. Considering this, the H₂Ottawa bottle becomes a symbol of social responsibility¹⁹.

Although students may have the intention of being ethical consumers, there are barriers that hinder these behaviours. In their article entitled *Mind the Gap: Why Do People Act Environmentally and What are the Barriers to Pro-Environmental Behaviour?*, Kollmuss and Agyeman (2010, 247) argue that there are three main barriers to ethical consumerism²⁰: individuality, responsibility and practicality. The authors define individuality as “barriers lying within the person, having to do with attitude and temperament...environmental concern is outweighed by other conflicting attitudes” (Kollmuss et al., 2010, 247). Here, individuals may prioritize characteristics such as cost or style, over the environment. The barrier of responsibility, is defined as “people who do not act pro-environmentally feel that they cannot influence the situation or should not have to take the responsibility for it...this community may have a lack of trust in the institution” (Kollmuss et al., 2010, 247). In general, people do not always have the confidence that they can influence others to think as they do. For students, it is also true that they do not believe their actions can produce a relevant change; this thinking however, hinders progress. Finally, practicality is defined as the “social and institutional constraints that prevent people from acting pro-environmentally regardless of their attitudes or intentions; lack of time, money, information” (2010, 247). I will argue that the H₂Ottawa project enables ethical

¹⁹ This will be expanded in the Discussion and Findings chapter.

²⁰ Although some discourses separate consumerism from pro-environmental behaviour, the authors introduced in this paper see ethical consumerism as consistent with pro-environmental behaviour

consumerism, as it provides the student body with an economically practical, and responsible alternative to bottled water, which will be further discussed in a later section.

Barriers to ethical consumerism may be internalized in ways that discourage students from acting sustainably altogether. In his study of undergraduate students at Simon Fraser University in British Columbia, Trudel (2004) found that students believed they had to be wealthy to be ethical consumers. In conjunction with the idea that, “personal identity is linked to consumption... (and) consumption has today become our primary means of self-definition, leading us to attempt to satisfy with material things what are essentially social, psychological, and spiritual needs”, these barriers become problematic (Soron, 2010, 172). Here, it is important to offer ‘sustainability’ through retail. Producing sustainability initiatives that are financially exclusionary, deter the younger generation from adopting related practices into their lives.

According to the ethical consumerism framework, consumers buy things that make them feel good about themselves. Szasz (2009, 7), argues that “consuming occupies much of our time, attention, enthusiasm- passion, even”. This quotation asserts that we put a lot of thought into our consumption habits, to the point of consumerism becoming a passion. One’s buying power can be “traced back to self-interest... feeling good (or avoiding guilt) by doing good” (Freestone, 2007, 447). In Canada, people care about their buying decisions as they are central to their lives and identities. Using sustainable products in lieu of others not only reduces ones’ environmental impact in that small way, but makes them feel good about the self-image that they actively portray for themselves, and to their peers. This ‘feel-good’ piece encourages consumers to adopt similar lifestyle choices, resulting in a more sustainable citizen. If we are to create a more sustainable world, we must facilitate these behaviours by providing affordable and accessible, pro-sustainability, identity markers.

UO aims to attract ethical consumers as it is through this lens that they see their students. Considering this, the launch of H₂Ottawa was guided by UO staff, to fulfil the requirements outlined above. This is beneficial for UO, as providing a service that enables ethical consumption attracts more business and good press. It is argued, “people that have favourable attitudes to carrying out pro-environmental behaviour and that perceive the situation to facilitate such behaviour are the most likely to carry out such behaviour... people with unfavourable attitudes towards such behaviour and who perceive the physical environment as inhibitory is the group that is least likely to carry out such behaviour” (Corraliza, 2000, 840). Attracting all monetary backgrounds to consume ethically will help to produce a more sustainable world. In the university setting these ideas are even more important, as students have less disposable income and are actively developing their identities. Exclusion fosters the idea that actions of individuals without power cannot create change, inclusion inspires students to feel as if they can be part of a bigger movement.

Reputation

Institutions are concerned with the ways in which they are perceived by their ‘clienteles’²¹, as this has ramifications for their success.²² For the purpose of this thesis, the conceptual framework of Organizational Reputation (hereafter, OR) presented in the article entitled *Organizational Reputation: A Review*, will be used. Here, de Lange et al. (2011, 157) argue that there is no conclusive definition for OR, but describe it as

“the way key external stakeholder groups or other interested parties actually conceptualize the organization...reputation can be enhanced by corporate marketing and branding campaigns ...by the firm’s affiliation with prominent partners...and by publicity by influential third parties and media outlets...When an organization is well

²¹ Namely, future students

²² Success here may be defined as becoming an elite University, as is outlined through ranking systems. This is important to universities as it increases admission, and attracts prominent academics. In Canada, the media is responsible for ranking universities and giving them this status; Maclean’s is a good example (Cole, 2000; Dowling et al. in Singer, 2014).

known, observers have a strong sense of what is central and distinctive about its attributes, especially relative to other firms”

For the purpose of UO, reputation is important as it stimulates growth. For example, an institution’s reputation and image have a great impact on whether or not students decide to stay for advanced studies. This is important, as these students are responsible for producing the research which differentiates universities (Steiner, 2013). Growth is also fostered through gaining high quality students and professors from different universities, which is resultant from how the institution is perceived.

As a concept, OR is divided into three basic components: visibility, strategic character, and favourability (de Lange et al., 2011). First, I will define these concepts in relation to the conceptualization of H₂Ottawa.

The visibility component is the idea that an organization’s reputation is simply *being known*. More specifically, visibility can be understood as a broad “awareness of the firm... perceivers have a more distinctive perceptual representation of the firm, irrespective of judgement or evaluation” (de Lange et al., 2011, 155). Through being one of few top universities in Canada, UO is well known. One signifier of this is the fact that UO is second home to about 42 000 students, one of the highest university populations in the country (University of Ottawa, 2018). According to Macleans ranking system, UO also enjoys the reputation of being one of the top 20 universities in Canada²³. This component to reputation is important to the H₂Ottawa project, as it offers validation to my project through a UO endorsement.

It is also worth noting that sustainability initiatives are known to effectively drive brand value (Singer, 2014, 4). According to Ott (2016, 683), “...the top universities have strongly embraced sustainability as a concept... Sustainability is an evolving concept, and it has been

²³ For more on this, visit: <http://www.macleans.ca/education/university-rankings/top-reputation-2018-university-of-toronto/>

defined many ways over the years. Organizations should be clear in their communication about what sustainability means to them and how they define it”. Universities embrace ideas of sustainability and define it for their own institutions, through supporting student sustainability projects, and actively engaging key stakeholders in such efforts (Ott, 2016, 672). Considering their goal of attracting students, this approach is valid. Future students likely hold similar values to current students, and would appreciate the university’s commitment to hearing the student voice.

The Strategic Character component of organizational reputation refers to *being known for something*. Here, authors argue that “reputation entails perceptions that the firm has particular attribute of interest or value to the perceiver” (de Lange, 2011, 157). In 2010, UO committed itself to self-defined ideas of sustainability through its Destination 2020 document (University of Ottawa, 2010). Since then, the university has taken steps towards this goal through investing their resources into initiatives such as banning the sale of bottled water,²⁴ participating in sustainability rankings, retrofitting old buildings to reach LEED Silver requirements, and the like (Office of Campus Sustainability, 2018). Through investing in strategic sustainability initiatives, UO becomes viewed as a sustainable university.

Favourability, within the organizational reputation framework, is understood as a generalized idea of how people feel about the firm. The ‘favourability’ component is more specifically defined as, “perceivers assess the firm overall as more or less good and attractive.... measurements of reputation in the generalized favourability dimension are highly dependent upon which audience...decides to investigate” (de Lange, 2011, 159). Considering that UO views its community as ethical consumers, supporting grassroots sustainability initiatives on

²⁴ UO did not directly invest money to ban bottled water, but they did commit to losing money. The university did pay to ban bottled water through investing money into retrofitting existing water fountains on campus as well as installing new fountains and water refill stations to make the ban successful.

campus may gain their favour. UO must be particular when bringing ideas into its reputation, as these must be considerate of the ideals of its collective community.

The favourability component also incorporates the level of esteem to which people hold the institution in question (de Lange, 2011). Here, it becomes important that universities augment their reputations through their quality of research (Axelrod, 2014; Ott, 2016). Research and innovation in the field of sustainability is important to a university's image, as it has the potential to rewrite the way things are currently done. When successful, innovations derived from ideals of sustainability “significantly lower the impact of human activities on the natural environment, and may be viewed in the future as ‘innovations that did not exist yesterday, but the world cannot live without today and in the future’” (Varadarajan, 2015, 35). Successes such as these create hope for the future by providing solutions to socially relevant problems. Considering the novelty of H₂Ottawa, and the fact that it is the outcome of research, the bottle becomes a tangible example of how UO students produce sustainable innovation.

In Canada, having the reputation of a good research university is synonymous with being a ‘high status’ institution (Axelrod, 2014; Ott, 2016). Through the endorsement of this project, the UO was able to promote its commitment to sustainability research, putting a spotlight on their unique programs.²⁵ Through the vehicle of the Defy the Conventional campaign, H₂Ottawa was pitched to external donors and future students, showing an acceptance of this project into their image.

The trouble with marketing an initiative as sustainable, is that while it can help augment a firm's reputation, being accused of greenwashing has an opposite effect. By definition, greenwashing is “intentionally misleading or deceiving consumers with false claims about a

²⁵ The UO offers the ‘Living Laboratory’ program where students study sustainable development from an academic lens, but also requires them to volunteer in the conception of sustainability initiatives. For more information, see the *Report on Sustainable Development at the University of Ottawa* (2015).

firm's environmental practices and impact" (Nyilasy, 2014, 693). Considering that sustainability is an ideal, it is by definition unachievable. In presenting an initiative as 'sustainable', a firm must be cautious to not present themselves as having perfectly achieved balanced sustainability. The authors go on to argue that "'greenwashing' is not merely an ethical issue... consumer perceptions of greenwashing are real and their impact on brand attitudes and purchase intent is significant" (Nyilasy, 2014, 703). Here, it is the perception of the firm that may be detrimental to their brand. Pitching sustainability as something that an institution is striving and innovating towards is accepted, while claiming to have all of the answers is not.

So far, it has been argued that reputation is pivotal to the success of a university and that sustainability initiatives play a role herein. For the purpose of reputation, it is important that H₂Ottawa is conceptualized within its own commitments to sustainability. Nyilasy (2014) asserts that while balanced sustainability may have positive ramifications on a University's reputation, skewing it would have the opposite effect. Considering past sustainability initiatives and successes, the UO enjoys a good reputation in this field.²⁶

Theoretical Frameworks

This section will argue that UO embodies and enacts sustainability in ways that are consistent with the ecological modernization (hereafter, EM) worldview. EM provides a framework for environmental management that is consistent with the capitalist system that currently exists in Canada. This approach to environmental problem solving is attractive to big corporations and governments, because it is not radical nor revolutionary. Instead, EM introduces the idea that environmental maintenance and economic benefit can coexist, if we make minor changes to our existing policies. EM scholars would argue that however small,

²⁶ The Discussion and Findings chapter will provide a more detailed account of this.

engaging ecologically restorative behaviours in dominantly economics-driven institutions, normalizes this way of doing things.

The UO's commitment to a brand of sustainability that is consistent with EM, is criticized by green-Marxism. Green-Marxists argue that EM is not consistent with sustainability as it encourages over- production and consumption, resulting in the exploitation of our physical environment. From this perspective, these initiatives are semi-green at best, and a case of greenwashing at worst. Consistent with EM scholars, I will argue that H₂Ottawa may be criticized through green-Marxism, but is taking steps in the right direction. This project introduces innovative ideas about how we consume portable water as a society, in a way that produces less waste than using single-use bottles, and that encourages the use of public water receptacles.

Ecological Modernization

For the purpose of this thesis, I will use the sociology-based ideology of EM. Here, it is contended that companies change their practices based on the movement of civil society, as well as boundaries erected through government policy. In the early years of EM development, it was used to explain observed changes in individual and organizational behaviours and priorities.

Similar to the *Brundtland Report*, EM is grounded in the notion that environmental integrity and economic growth can be compatible. According to Buttel (2000, 60),

The rise of ecological modernization can be seen as a response to a particularly crucial shortcoming of North American environmental sociology...most of its major theoretical works had converged on the notion that environmental degradation was intrinsically a product of the key social dynamics (be they the treadmill of production, the 'growth machine', the persistence of the dominant social paradigm or of anthropocentric values, and so on) of the 20th century capitalist-industrial civilization... Ecological modernization not only provided a way for environmental sociologists to more directly conceptualize environmental improvement; ecological modernization also provided a fresh perspective on the role of environmental movements by avoiding their

romanticization, and by appreciating the particularly fundamental roles that science, technology, capital and state might play in the processes of environmental improvement.

EM became popular, as it challenged the presiding idea that core institutions of a capitalist society had to be overthrown to make way for environmental reform (Young, 2014, 19). EM was developed about a decade after the *Brundtland Report* was released. This is significant, as it was a time when people were increasingly fearing the environmental harms that presented themselves as a backlash of industrialism. At this time, EM scholars argued that advancements in technology could be used to revitalize the treadmill of production. Here, EM asserted that it was *how* goods were produced that had to change, not the habits of over-production and consumption that capitalist societies were used to. Unlike many other ideologies at the time, EM stood out as optimistic, lending to its success.

EM has changed since its first articulation by economist and environmental sociologist, Joseph Huber in the late 1980s. At this time, there were two dominant, but contending theories to environmental reform: the Risk Society Thesis presented by Ulrich Beck and Ecological Modernization by Joseph Huber. According to Beck, modern society is experiencing

“profound transition(s)...where public faith in the achievements of mass industrialism is replaced by anxiety about its (unknown) effects on human health and the environment...the pursuit of modern ideals-wealth, technology, progress and unfettered consumption- have produced a series of ‘unintended consequences’ that are highly dangerous yet extremely difficult to control, and that are now ‘striking back’ at society and challenging some of our most important beliefs and institutions” (Young, 2014, 4)

Here, Young explains Beck’s pessimistic view of modern society, arguing that through modernism, we are creating dangers that we cannot control, which will ultimately lead to our demise.

Unlike the Risk Society Thesis, the EM ethos asserts that capitalist production and consumption can be consistent with a more sustainable world. EM scholars argued that

institutions must simply tinker at the edges of existing policy to achieve ecological goals, as this would advance environmental management as a whole. Cohen (1997, 109) argues,

“...interest in ecological modernization derives from its purported ability to transcend current impasses through the enactment of a series of adjustments in societal organization... successful execution of this approach depends on the organizational internalization of ecological responsibility”

Here, Cohen argues that we can make adjustments to our current system, however small, in order to produce a more ecologically responsible whole. From a sociological perspective, changes in society and governance inspire change in the way that institutions work. Here, it is in the best interest of institutions to operate in ways that are consistent with how society moves, so that they do not hinder their reputation and client base. This argument is not rejected by businesses, because it promises economic maintenance, or at least neutrality.

Although not revolutionary, EM has provided a means of understanding the significance of existing reforms as very significant and deep-rooted in the institutional transformations of markets, institutions, and governance. Critics see it as apologetics, but EM theorists insist they are only investigating trends that are underway. According to Mol and Spaargen (2000, 36)

“... a capitalist or rather market-based system of production and consumption does not necessarily contradict significant environmental improvements and reforms in any fundamental way. More production and consumption in economic terms (GNP, purchase power, employment) do not have to imply more environmental devastation (pollution, energy use, loss of biodiversity)”

For Mol and Spaargen, technology is no longer the answer to modernization, but societal trends. The authors argue that we can modify capitalism and our governmental policies to maintain the environment. EM provides us with a framework by which we can hope to balance the tenets of sustainability.

The Brundtland Report was created as a response to ‘apocalyptic’ ideas reflecting the physical environmental, making its aim to reframe debates in ways that promised security

without changing much (Young, 2014, 4). This is consistent with ideas of EM. Considering this context, sustainable development was presented as the small tweaking of current production standards to achieve environmental stability. For corporations, ideas presented through

“‘ecological modernization’ only occurs when it makes sense for businesses to make environmental performance a priority. This decision is not based on altruism, but as a response to pressures exerted by the market, civil society and government... (as a theory, EM) refuses to credit any single factor for changing corporate behaviour. Instead, it sees companies as reacting to a complex web of forces- including changing consumer tastes, government policies, and the actions of competitors” (Mol et al., 2009 in Young, 2014, 27)

EM is strongly focused on the perception of a company from the consumer’s point of view. In the corporate context, EM scholars argue that negative pressures, such as loss of reputation, are a more powerful incentive than expanded profits. Here, it is important to maintain the physical environment for the purpose of attracting a broad clientele. The social tenet of sustainability plays a large part here, as economic gain and environmental reform are contingent upon consumption behaviours, the government and competition. This theory understands the complexities of social life, and that all tenets of sustainability are intertwined.

EM is about a capitalist system of production, but argues that we can do it better than currently. Mol and Spaargaren (2000, 23) argue that EM proposes a “focus on redirecting and transforming ‘free market capitalism’, in such a way that...increasingly contributes to, the preservation of society’s sustenance base in a fundamental/structural way”. Here, it is argued that an upheaval of the current system would actually be detrimental. Instead of overthrowing capitalism, we must use it in a way that maintains the natural world so that society may continue to thrive. EM argues that the capitalist system is actually favourable as corporations must be competitive and maintain societal favour to stay in business. Here, the expectations of the buyers, or society, provide a series of incentives to keep corporations in check.

As a theory, EM asserts that we must apply the ideas presented above to the way we academically understand how organizations pursue environmental sustainability. EM theorists argue that these empirical frameworks can- and have- been used concretely in environmental politics. In their article entitled *Ecological modernization theory: taking stock, moving forward*, Mol et al. (2014, 17) argue that,

“ecological modernization scholars made important contributions to social theory through development of a systematic theory of institutional environmental reform; the introduction of a variety of theoretical invocations on the relation between society and the natural environment; the elaboration of new approaches in environmental policy and practice”

EM theory applies to the H₂Ottawa project as it provides a framework for understanding why these kinds of initiatives are perceived as economically and environmentally valuable. Using EM theory, I analyzed UO’s commitments to sustainability and apply them to a social entrepreneurial project that would attract support from both the university and its community. EM theory argues that capitalism is being gradually reformed to reflect ecological as well as economic criteria and priorities, through a combination of evolving knowledge, civil society pressures, and market forces. This aids not only in environmental conservation, but also in teaching the community that there are ways to problem solve for environmental management within this system. EM theory admits that it is not ‘dark-green’ in perspective on the effectiveness of environmental politics, but does present applicable options for the capitalist system in which we operate. To elaborate, the ‘dark-green’ perspective is the idea of revolutionary changes in order to restore the environment, such as overthrowing the current systems in which we operate to benefit our physical environment (Dryzek, 2005). ‘Dark-green’ environmentalism may be seen through the green-Marxist perspective, whereas EM advocates for a ‘light-green’ approach to environmental governance through making small changes that align with our current system.

An important aspect of EM theory is the idea of ‘political modernization’. According to Mol. et al. (2014, 18-19),

“Political modernization refers to the renovation and reinvention of state environmental policies and policies in order to make environmental reform better adapted to the new conditions of late-modern societies. The debate on political modernization within environmental politics can be seen as an early formulation of themes and basic ideas of environmental governance... the concept of political modernization connected ideas on innovative governance in a direct and explicit way with the management of environmental change... political modernization... made room for various modes of steering and policy making applied by different actors outside the framework of national environmental governance... ecological modernization scholars have been innovative in allowing economic categories and concepts to enter theories of environmental reform.”

The H₂Ottawa initiative is emblematic of political modernization, as it seeks to ‘renovate’ the UO community’s perception of single-use plastic bottles. This project becomes an innovative policy of governance within the university, as it is an example of the way we choose to manage the community that we can be environmentally reformative in using our buying power. This tells us about how the UO manages environmental reform, which is explained by EM theory. The initiative is unique as it produces a tangible product through incorporating political and ecological modernization.

One of the strengths of EM theory is that it can be easily applied to case studies such as the one at hand. For the UO, the fact that ideas presented through EM can be used rather easily in the production of environmental management strategies lends to its adoption. The H₂Ottawa project is an example of this as it is a relatively easy initiative to implement- for example, there are no costs involved as the project is self-funded and the university did not have to employ someone to follow through with it- yet, it lends to a positive reputation for the UO. EM theory presents a ‘feel good’ approach to environmental management because it is not revolutionary but society understands even incremental changes to be representative of an institution’s commitment to environmental sustainability. For the UO, this project is being used to inhale their

reputation and attract donations which aligns with the idea presented through EM theory that we can innovate to achieve environmental reform.

As previously noted, ideas presented through EM theory have been adopted globally into environmental governance and planning. Through globalization, we have the ability to see what different countries are doing and can adopt certain practices that fit within the context of our own society. According to Mol et al. (2014, 20), "... governmental administrations, political parties, as well as environmental movements, have used the notion of ecological modernization to refer to their main aims and strategies (which) is indicative of the 'practical' proliferation of ecological modernization ideas". Through the conceptualization of the H2Ottawa initiative, ideas presented through EM were used as guiding forces. For example, the project embodies the assumption that we must operate within the capitalist structure, using buying power and marketing in order to sell the idea of environmental sustainability. The fact that the H2Ottawa bottle is a tangible product helps the UO community to understand that there are inexpensive options to portable water that may not have been envisioned previously. In all, EM theory has guided the advent of the H2Ottawa initiative through the application of ideas presented.

Critics of EM argue that at its essence, encouraging production is unsustainable. For the purpose of this research, it is important to note that universities are not large sites of production. Considering this, it is not what is physically produced on campus, but what the university teaches, procurement decisions, endorsements, and ultimately, following EM logic that may be criticized. Langhelle (2000, 306) argues:

"...the core of ecological modernization is that there is 'money in it for business' ... 1) Pollution is a sign of waste'; hence, less pollution means more efficient production, 2) solving environmental problems in the future may turn out to be vastly more expensive than to prevent the problem in the first place, 3) An unpolluted and aesthetically pleasing environment may give more productive healthier and happier workers 4) There is money

to be made in selling green goods and services 5) there is money to be made in making and selling pollution prevention and abatement products”

The motivations presented by EM are cause for critique. One of these, is that EM cannot benefit the physical environment without also problematizing consumption habits in capitalist systems, such as Canada’s (Carolan, 2004, 252). Through its commitments to capitalism and the maintenance income for corporations, EM implies that growth is beneficial, when this mentality is not always sustainable.

For the purpose of this thesis, EM has been used to describe how UO approaches environmental problem solving. As will be seen in the findings chapter, there is no will to completely revolutionize the way UO approaches sustainability. Instead, UO looks to modernize their ways of doing things to accomplish their commitments to sustainability. This is understood by UO’s community as being ‘good at sustainability’, presenting EM-driven ideas of sustainability throughout the university culture. Here, it will be argued that UO community enjoys a capitalist lifestyle while believing that their institution is acting environmentally, socially, and economically responsible ways.

Green Marxism

Marxism has inspired many different theories within the field of sociology. For the purpose of this thesis, green-Marxism is most applicable. According to Foster et al. (2010, 7-8),

“...most analyses of the environmental problem today are concerned less with saving the planet or life or humanity than saving capitalism- the system at the root of our environmental problems...we live in a culture in which there is an ‘inversion of what is real and not real’, where ‘dying oceans and dioxin in every mother’s breast milk’ are considered less real than ‘industrial capitalism.’ Hence, we are constantly led to believe that ‘industrial capitalism’... we are constantly led to believe that ‘the end of the world is less to be feared than the end of industrial capitalism... when most people in this culture ask, ‘How can we stop global warming?’ that’s not really what they are asking. They’re asking, ‘How can we stop global warming without significantly changing this lifestyle...that is causing global warming in the first place?’ The answer is that you can’t.”

Through this excerpt, it is argued that maintaining our consumption driven way of life is prioritized over the physical environment. According to green-Marxists, the essence of capitalism is economic gain, where the bourgeoisie class will stop at nothing to meet and exceed financial goals. It is the treadmill of production- and over production- that has gotten us into an environmental quarry; green-Marxists would argue that we cannot use the same logic to get us out of it.

Scholars in the field of green-Marxism argue that adopting socialism is necessary for an ecological revolution. Foster et al. (2010, 441) argue that,

“What is clear is that the longterm strategy for ecological revolution throughout the globe involves the building of a society of substantive equality- the struggle for socialism. Not only are the two inseparable, but they also provide essential content for each other. There can be no true ecological revolution that is not socialist; no true socialist revolution that is not ecological...Marx’s own vision of socialism/communism, which he defined as a society where ‘the associated producers govern the human metabolism with nature in a rational way, bringing it under their collective control...accomplishing it with the least expenditure of energy and in conditions most worthy and appropriate for their human nature’”

Political views of green-Marxism oppose those of EM. As seen through the excerpt, green-Marxists argue that we must abandon our current capitalist system and adopt socialism. They assert that this is because the essence of capitalism is production and consumption, which is not mindful of the environment, but of the economic bottom line. Similar to arguments around water as a human right, green-Marxists argue that environmental resources must be shared equally and collectively.

Other scholars of green-Marxism argue that Marx cannot be perceived as an environmentalist. In her piece entitled *Green Views of Marx: Reinterpreting, Revising, Rejecting, Transcending* Breen (2010, 2) argues that “...writers who tended to focus their critiques on Marx’s later works, insisted that he could not stand as an environmental defender and must be

rejected rather than revised or reinterpreted”. Here, it is argued that Marx’s theories as they were written cannot be translated into environmental theory, although they have inspired this kind of thinking. One critic of green-Marxism, Plumwood (2010, 244) argues that,

“Those who work for an environmentally conscious non-capitalist society need to go beyond Marx and draw on a broader range of philosophical, ethical, and socialist traditions (including the ethical traditions of some of the “primitive” societies Marxists tend to see as so backward), for Marx’s views on nature, and associated central parts of this theory, belong to the past, and are far too close to those which lie at the root of many of our troubles”

This post-modernist critique on green-Marxism argues that we have to develop environmental theory with our understanding of society as it is now, not how it was at his time of writing in the late 1800s. This critique is one of many in the literature and directly applies to my use of the theory. Although H₂Ottawa makes another product available for purchase at UO, it is an alternative to other products that are much worse for the physical environment. Considering this, it is important to look at what has perspired in society throughout the years, rather than immediately reject procuring more sustainable options to develop environmentally friendly behaviours.

As argued, the fundamental difference between traditional Marxism and green-Marxism is that the former applies Marxian theory to current environmental debates. Despite this, the essence of the theories are very similar. For the remainder of this chapter, I will discuss what green-Marxism is, and how it applies to the research at hand.

Ideas presented through green-Marxism critique the idea that environmental sustainability can be achieved through technological innovation alone. The criticisms presented through this section will help us to mind characteristics of environmental preservation that are not addressed through incorporating an EM approach. What is not captured through EM, is the

scale on which production occurs; while sustaining current social and economic trends of consumption, this is not always environmentally sustainable. In short, green-Marxists argue that

“to be considered ‘green’, sufficient improvements have to be made in either/both scale and intensity to reduce overall consumption of resources...sustainability can only be achieved if future economic growth has a diminishing *overall* environmental impact over time” (Young, 2014, 8-9)

There is an essential contradiction between EM and green-Marxism, as EM argues that overproduction is necessary, while the latter argues for an overall reduction in the consumption of resources. For green-Marxists, an overthrow of capitalism is necessary as it is the consumptive appetite of this system that leads to environmental harm. Applied to the H₂Ottawa bottles, we should not be producing more bottles for the UO community, as this encourages the consumption of more resources than providing no bottle at all.

Although they do not see it as a solution, green-Marxists are not against the use of technology for sustainable development. They argue that technology should be used, but not in a way that enables overproduction. In his article entitled *Green Capitalism: The God That Failed*, Smith (2015, 74) argues,

“While no doubt there are many green technological miracles on the horizon, they cannot save us so long as we live in a capitalist economy. That’s because... under capitalism, there is no assurance that greater energy efficiency or materialist conservation would mean less consumption or less pollution *so long as there is no extra market limit set to the growth of overall production*”²⁷

For growth to be green, it must stop when it reaches an environmental threshold; when growth goes beyond this, it is destructive for the environment. In capitalist economies, growth is perpetually encouraged regardless of environmental boundaries as we have seen throughout

²⁷ Italics in original

history.²⁸ To refrain from destroying our physical environment, green-Marxists encourage us to halt to (over)production.

Green-Marxists contend that we live in a disposable society where overconsumption is commonplace. In this context, environmental technologies become dangerous as consumers believe they are acting responsibly through over consuming sustainable products. It is important to note that eco-efficiency is not the same as sustainability; believing that we are acting responsibly through *over* consuming- even the most eco-friendly products- is not sustainable. Green-Marxists argue that we must change these consumptive habits, rather than assuming that we are positively impacting the environment *through* consumption²⁹. Smith (2015, 50) contends to this, arguing that

“We cannot shop our way to sustainability because the problems we face cannot be solved by individual choices in the marketplace. They require collective democratic control over the economy to prioritize the needs of society and the environment... they require national and international economic planning to reorganize the economy and redeploy labour and resources to these ends... if humanity is to save itself, we have no choice but to overthrow capitalism and replace it with a democratically-planned socialist economy”

It is our shopping habits and producing things we do not necessarily need, that are problematized. Green-Marxists argue that society at large must reform the ways they understand consumption, for the purpose of saving the environment.

The behaviours of consumers have an impact on the way that sustainability is perceived. Considering that consumers do not want to change their habits, and corporations do not want them to, standards of sustainable development have become weaker. It is argued that “...market demand from over consuming... has forced green certifiers to lower their standards so much to keep up with demand, such that today in most cases, ecological certification is virtually

²⁸ In Canada, the Industrial Revolution bestowed a lot of environmental harm. In Ottawa, an example of this is Lebreton Flats. For more on this, see: <http://ncc-ccn.gc.ca/our-projects/lebreton-flats/history-of-lebreton-flats>

²⁹ Here, it is important to note that eco-efficiency and sustainability are not the same.

meaningless” (Smith, 2015, 75). As a society, we have refused to prioritize the physical environment over our allegiance to the capitalist system of wealth generation and concentration. Resulting from this is the reduction in environmental standards to make people ‘feel good’ about their choices. This is problematic as it devalues environmental sustainability. Through enabling corporations to over produce, as a society, we reject environmental conservation. This presents the case of greenwashing in a way that is not as transparent as false advertising may be.

The deceptions presented through ranking systems are examples of ‘false consciousness’. For Marxists, this concept is defined as “the condition wherein a subject fails to recognize its true identity” (Shantz, 2012, 11). As discussed in the previous paragraph, corporations have pressured other firms to mitigate their regulations for the purpose of maintaining the capitalist regime. This may be described as an extreme act of greenwashing, as it presents itself as sustainable yet is inconsistent with environmental conservation. Johnston (2006, 46) asserts that this

“ does not invite debate but instead assumes that a win-win situation for people and the planet can be achieved without sacrificing profits or requiring state intervention and regulation...With these three priorities appearing together in the same list, the priority of profits in a corporate logic is framed as self-evident and the profitability of ecological degradation and resource scarcity is whisked away from view”

Here, the author argues that this view of sustainability is non-critical and pro-capitalist.

Institutions use ecological modernization as a guise, to market a project as sustainable when it- at best- incorporates the environmental tenet of sustainability.

It has been argued that presenting environmental protection in these ways mitigate its true meaning. In his article entitled *A Theory of Post-Ecologist Politics*, Blühdorn (1997) argues that EM skews a less convoluted definition of ecologism, thus obscuring ecological action altogether. According to Blühdorn (1997, 126) “even by the well-educated middle-class young, formerly the

core of the environmental mass protest, (ecological action) is more often regarded as troublesome, or even critical opposition to, infrastructural and economic modernization”. Here, society is distracted from a version of environmentalism that is actually focused on the *environment*, rather than on maintaining current society. In short, these contentions are problematic as they do not present all the facts, only those which suit the economy.

Green-Marxists argue for an overthrow of the capitalist system to save the physical environment. The logic behind this is that the essence of capitalist is consumption, which is contrary to ‘real’ environmental sustainability. In his article entitled *Can Green Capitalism Build a Sustainable Society?*, Harris (2013, 92) asserts,

“...how can we ‘reject consumerism’ when we live in a capitalist economy where... most jobs depend on direct sales to consumers while most of the rest of the economy, including the infrastructure... is dedicated to propping up this consumerist way of life?... most jobs in industrialized countries critically depend, not just on consumerism, but on ever increasing *overconsumption*. We need this ever increasing consumption and waste production because, without growth, capitalist economies collapse and unemployment soars”

Here, it is unrealistic to reduce consumption in a capitalist economy. In relation to the H₂Ottawa project, providing UO community with another bottle if they were to forget theirs at home is problematic. The encouragement to consume these bottles, and the reinforcement that this is a sustainable act worthy of praise, is problematic for green-Marxists. It is not the small-scale production that UO enables, it is the mentality that this project may teach.

For green-Marxists, in a capitalist society, environmental sustainability is an option rather than a goal. When corporations have to choose to sustain the environment over financial gain, it is argued that they will opt for the latter or be driven out of business. According to Smith (2015, 56), “profit seeking cannot be *systematically* ‘aligned’ with environmental goals, much less subordinated, because any corporate CEO who attempts to do so... will shortly find himself in

hot water with his bosses, the shareholders, or if he were to persist, his company would be driven out of the market”. Considering this, green-Marxists argue that the choice must be made to prioritize the physical environment over capitalist gain.

It has been argued that green-Marxists criticize over production and consumption. To flip the current capitalist system on its head, it is argued that we must challenge the “fundamental...concepts that define the market as the highest aspiration of human freedom” (Harris, 2013, 55). Western society has been entrenched in ideas of ‘buying themselves out of trouble’ for decades, which may be a byproduct of our commitment to capitalism (Szasz, 2009).³⁰ According to Harris, a revolution during this time of crisis “may push society to the left or right, but currently it means stagnation and deadlock” (2013, 55). In all, a fear of change will keep us where we are, further contributing to the economic-environmental crisis at hand.

Green-Marxist theory will be used to critique the way that UO embodies sustainability as an institution and a culture. As will be seen through the findings chapter, UO produces sustainability initiatives in a way that green-Marxists would argue is exploitative of the natural environment. UO will continue to run as a capitalist institution, selling products to their students that will make their experience the best and most comfortable it can be. However, it will be argued that UO opts for products to sell that are more environmentally friendly than competitors. This was a prevailing logic in the conceptualization of H₂Ottawa.

³⁰ In his book *Shopping Our Way to Safety*, Szasz (2009, 4) argues that Westerners “barricade themselves, individually, from...threat, trying to shield themselves from it. Act jointly with others? Try to change things? Make history? No, no. I’ll deal with it individually. I’ll just shop my way out of trouble.” Throughout his book he argues that this attitude will eventually degrade public services and cause harm, but we are too scared to change our way of being.

Chapter 4: Methods

This section will discuss the methods I have used for data collection in conducting this research. I have used qualitative methods to answer my research question. More specifically, I employed a ‘living action research’ approach as defined by Mc Niff and Whitehead (2011), as well as in-depth interviewing as defined by Taylor et al. (2016). The ‘living action research’ approach was the main method of data collection, as it allowed me to use my experiences in conceptualizing and implementing the H₂Ottawa project as research. This approach requires validation of my experiences, for which I have used in-depth interviews.

At the time of this research, I was employed as an intern at the UO’s OCS. Therefore, most of the data collected through the ‘living action research’ approach was in this context. Through my internship, I found groups on campus to endorse H₂Ottawa. This project was marketed as an inclusive UO sustainability initiative and a branding exercise; considering this, I contacted Directors of Communications and Marketing from each faculty on UO campus to make H₂Ottawa a reality. After establishing a working relationship with these faculty representatives, I asked each for an interview to triangulate the data collected through my approach to ‘living action research’. This section will discuss which methods I chose to use and how I used them.

Qualitative Research

In sociology, the most widely used categories of data collection are qualitative and quantitative. For the purpose of my research, I have chosen to use a qualitative approach to data collection. Although there is no true right or wrong method to sociological research, there are

more or less effective ways of getting answers to questions presented. According to (Silverman 2000, 12),

We are not faced...with a stark choice between words and numbers, or even between precise and imprecise data; but rather with a range from more to less precise data....
[O]ur decisions ... should depend on the nature of what we are trying to describe, on the likely accuracy of our descriptions, on our purposes, and on the resources available to us.

A qualitative approach to data collection is appropriate to this research, as I am trying to describe the specific motivations, and related actions, of people within an institution. For the purpose of my question, interviews and participant observation are most fitting.

As mentioned earlier, my research aimed to answer the question: how does the UO implement sustainability initiatives in a way that complies with the value-set of the university, while also satisfying community expectations? In reviewing UO's documents, I came to learn that the university has no specific method for employing sustainability initiatives; university staff are responsible for their conceptualization and execution, using their own interpretations of UO's values to guide such decisions. A qualitative approach to data collection allowed me to use my experiences as an intern at UO to build rapport with staff, who became my interviewees. As a researcher, the qualitative method to data collection enabled me to access detailed accounts of what was happening in my social context.

Living Action Research

For the purpose of this research, I have used a living action research approach to data collection and analysis. Here, I used the experiences I encountered through the creation of H2Ottawa to understand the research project in its entirety. First, it is important to understand action research itself. According to Mc Niff and Whitehead (2011, 7-11),

“Action research is a form of enquiry that enables practitioners in every job and walk of life to investigate and evaluate their work...Action research aims to be a disciplined, systematic process...action research is about action: taking action to improve practice; and research: finding things out and coming to new understandings, that is, creating new knowledge. In action research the knowledge is about how and why improvement has happened... Action research is a form of personal-professional development”

The authors present action research as an approach that can be adopted by anyone, not only professional researchers. This was beneficial to my research, as I was encouraged to act naturally and use my experiences as data. If I was not engaged, the data collected would have been less informed. Additionally, this method of research allowed me to grow as a sustainability practitioner. Throughout my internship, the H₂Ottawa initiative came to life, which was the product of action, as well as producing and materializing knowledge, that did not previously exist.

The ‘living’ part of action research refers to the fluidity presented by this type data collection. Mc Niff and Whitehead (2011, 12) describe ‘living action research’ as,

“Person-centred forms of theory are about what ‘I’ am doing as a living person. ‘I’ speak about action research as something I do, as part of ‘my’ experience. ‘My’ theories take on a living form: the explanations the person offers for their life and practices are within the way they live and practice. So, it is usual nowadays to understand the word ‘theory’ in two ways: as an abstract propositional form about what is happening for other people; and as an embodied living form about what is happening for me. This latter view has given rise to the term ‘living theory’”

In all, living action research (hereafter, LAR) is presented as a method of data collection whereby I use my daily actions in a specific social context to create knowledge. Here, I recorded my observations through informal notes as well as by writing the minutes for all meetings I attended. I recorded my observations mainly on my laptop, but also in a notebook. Through the analysis of the data, I coded all notes recorded as well as email threads. This is appropriate for the research at hand, as it allowed my interpretations to change and develop as the project did.

Figure 1. Table of Codes:

Economic Return	Ethical Consumerism/Social Good	Environmental Conservation	Reputation	Corporate University	Working in Silos	Employee/Student Dedication
<ul style="list-style-type: none"> - Does the respondent mention costs? - How does the respondent frame costs regarding sustainability? - Does the respondent mention the financial climate at UO? - Is the respondent concerned with initiatives paying themselves off? - Do respondents connect economic savings with environmental benefit and social good? - Did economics hinder the respondent from participating in this project? 	<ul style="list-style-type: none"> - Are respondents talking about the good of the students, or 'clients'? - Are respondents talking about what is for the betterment of the university's culture? - Are respondents talking about the people-element of this project? - Do respondents connect social good with economic return and environmental benefit? - How does this project connect our community? 	<ul style="list-style-type: none"> - Are respondents talking about environment conservation? Reform? Management? - Are respondents talking about this project as beneficial to the physical environment? - Are respondents connecting environmental conservation with social good and economic return? - How does this project connect to the physical environment? - Was this a prime motivation for the acceptance of the H₂Ottawa initiative? 	<ul style="list-style-type: none"> - Are respondents talking about the university's reputation and how sustainability initiatives align? Are respondents arguing that H₂Ottawa fits within the image UO wants to portray to future clients? - Do respondents argue that this initiative is consistent with the university's mission? - What are respondents saying about branding? - What are the respondents saying about media? - How do respondents understand the relationship between sustainability and reputation? 	<ul style="list-style-type: none"> - Are respondents talking about students as consumers or clients? - Are respondents referring to the university as a business? - Are respondents talking about university policies surrounding sustainability? - How is the university using its resources to become a leader in sustainability? How is the university using its policies to enact sustainability? What does this have to say about how the university's understands sustainability as a whole? 	<ul style="list-style-type: none"> - Do employees feel like they can fund sustainability initiatives without backlash? What makes employees feel like they can make these choices? - Do employees feel supported by their faculties to endorse sustainability initiatives? - Do employees realize the efforts that are happening on campus regarding sustainability? - Is there a newsletter or some form of media that is offered to employees to keep them up to date on sustainability efforts at UO as a whole? 	<ul style="list-style-type: none"> - Are employees going above and beyond to implement H₂Ottawa? - Would H₂Ottawa have been a success without the dedication of employees and students? - How did employees show dedication? Did they stay after-hours? Call me on their personal devices? Take time out of their lunch or busy schedule to meet with me? - How did my dedication to this project lead to its success?

LAR embraces biases inherent to the data collection rather than trying to justify them.

This is useful as the conceptualization of H₂Ottawa is the product of mine, and UO's, values. Mc

Niff and Whitehead (2011, 27-8) argue,

“Ontology is the study of being, and is strongly linked with values... Our ontologies influence how we view ourselves in our relationships with others... Action research is value laden; action research is morally committed; action researchers perceive themselves as in relation with one another in their social contexts... Action research is done by people who are trying to live in the direction of the values that inspire their lives... your values come to act as your guiding principles. Action research often begins by articulating your values and asking whether you are being try to them”

It is an inherent tenet of LAR to use one's personal values in the creation of data. My ontological commitments to the triple bottom line of sustainability drove me to see the H₂Ottawa project through to completion. Of course, there is no way to perfectly balance all three tenets of sustainability, but there was definite effort. In developing H₂Ottawa, I viewed myself as an advocate of ecological modernization; I value our physical environment, but also believe that human beings should be comfortable in daily activities. My ontological commitments to my community influenced the support of a product that is not necessarily essential, but makes daily life a little bit better.

Using LAR was interesting, as it enabled me to use memories, in addition to more precisely documented observations, as field notes. For my research, I used an inductive method of coding. When I started H₂Ottawa, I did not intend for it to become the topic of my thesis. I gathered my experiences and started collecting field notes when the project got funding, about 8 months after its conception. Inductive, or open, coding was used for data analysis. After my field notes were written, I searched for common themes; I did the same thing with data collected through interviews. I settled on the categories that have been presented through the literature review chapter. Coding will be further explained when I have gone through my use of interviews, at the end of this section.

Considering the casual nature of conducting LAR, validation through other means of data collection is important for well rounded research. According to Taylor (2016, 93-4),

...the term *triangulation* refers to the combination of methods or sources of data in a single study... Although field notes based on firsthand experience in a setting provide the key data in participant observation, other methods and approaches can and should be used in conjunction with fieldwork. Triangulation is often thought of as a way of checking out insights gleaned from different informants or different sources of data. By drawing on other types and sources of data, observers also gain a deeper and clearer understanding of the setting and people being studied.

In short, triangulation assists in ensuring that research is more balanced for accuracy. In using LAR, I cross-referenced my understandings of social situations with colleagues for validity. To further ensure that my colleagues were heard, I interviewed them one-on-one, to get their thoughts on specific matters even more in depth. In the next section of this chapter, I will speak to my use of in depth interviews for data collection.

Interviews

As mentioned in the past section, interviews were used to triangulate the data I collected through my internship with OCS. The major difference between interviews and participant observation through LAR, is context. According to Taylor et al. (2016, 102),

The primary difference between participant observation and in-depth interviewing lies in the settings and situations in which the research takes place. Whereas participant observers conduct their studies in natural field situation, interviewers conduct theirs in situations specifically arranged for the purposes of research

Interviews were conducted on a day and in a place of the interviewee's choosing, typically in their offices on campus. It is significant that the data collected through participant observation was consistent with what was divulged in interviews. Possibly because data collection was done on campus grounds, there was a certain value set and demeanour that was upheld by participants in either setting. Interviewing was necessary to supplement data collected through LAR, to confirm my findings, as well as ask more pointed questions to fulfil my specific research question.

As a social scientist, I largely relied on the verbal accounts and actions of those around me to answer my research question. Interviewing helped me in this process, as it enabled me to ask more direct questions in a more intimate setting. According to Taylor et al. (2016, 102),

... (interviews) adopt a standardized format: The researcher has the questions, and the research subject has the answers... in most structured interviewing each person is supposed to be asked identically worded questions to assure comparable findings... In

stark contrast to structured interviewing, qualitative interviewing is flexible and dynamic. Qualitative interviewing has been referred to as non-directive, unstructured, non-standardized and open ended interviewing... by in-depth qualitative interviewing, we mean face-to-face encounters between the researcher and informants directed toward understanding informants' perspectives on their lives, experiences, or situations as expressed in their own words

I describe my approach as 'in-depth, qualitative interviewing'. Although questions were premeditated to get the conversation started, most were quite open-ended to achieve a more fluid interview³¹. Considering that most interviewees hold similar employment positions within UO, they were asked very similar questions. However, some of my participants required a different approach based on their unique employment positions. One of the interviews conducted used only guiding questions, as she was more comfortable with having a recorded discussion. In all, my interviewing methods and questions were based upon the interviewee; not on our personal relationship, but based on their position and expertise within the university.

Alike all methods of data collection, regardless of how well an interview goes, data collected is not entirely accurate. It is argued that,

“even when informants have come to accept and trust interviewers, what they say cannot be taken at face value as indicative of deeply held beliefs and feelings. In social interactions, meanings are not simply communicated, but constructed... knowledge and social meanings are constructed during the interview process” (Taylor et al., 2016, 114)

Being employed as an intern at OCS throughout my research made data collection much easier.

According to Taylor et al. (2016, 107), it is important to “...get to know people well enough to understand what they mean and creating an atmosphere in which they are likely to talk freely”.

As previously mentioned, I spent a lot of time with just under half of my interviewees experiences before the official interview. This helped me as a researcher as I more fully understood the motivations for their responses, and put them more at ease as they knew my

³¹ It is important to mention that I had spoken with all interviewees at least once before conducting the interviews. I had built more of a relationship with just under half of my respondents, having weekly or monthly meetings with them leading up to the interview.

specific goals for the thesis. Interviewing was very useful in validating my experiences throughout the conceptualization of H₂Ottawa, and in helping me choose categories through which I have steered this thesis.

As mentioned earlier, coding of interviews was done inductively. Through my internship, I developed ideas regarding how UO implements sustainability initiatives. From these assumptions, I built interview questions. For example, I came to learn that one's position in the university determined the power they had in accepting or denying sustainability initiatives, so the first question asked was: "Can you please tell me about your job here at the University?" From this, I asked respondents how they felt that UO embodied sustainability, and if they believed H₂Ottawa to be consistent with these values. These questions were open-ended enough that respondents' answers varied based on personal experiences. Through coding, I recognized that respondents had similar answers, many having learned about sustainability through their work at UO. Here, the use of inductive coding itself assisted me in finding intricacies between interviews that directly related to my topic of interest.

Interviewing was critical to the data collection portion of this research, as well as to the validity of this project more generally. When I emailed my respondents to endorse H₂Ottawa during the summer of 2017, most did not get back to me. This was because I did not explain through my email that H₂Ottawa *was* my master's thesis; I presented it as an advertising and marketing opportunity for faculties. One respondent who requests to remain anonymous notes, "I did not realize that this project was part of your master's thesis, and I understand that you need to know the reasons behind our decision" (Anonymous Respondent, 2017). Here, it was not the project itself but my position as a student, that granted me access to respondents.

In creating H₂Ottawa, I had I no idea where to start. When I sent my first round of emails to faculty deans looking for endorsement in summer 2017, I was discouraged by the lack of response. I spoke with my internship supervisor in September 2017, and was told that I should not be interested in speaking with academics, but administrators who worked in Marketing and Communications. A few months later, I knocked on the doors of each faculty's Marketing and Communications Director at UO. When I explained to them who I was and what I was doing, the response was very different; I was invited in and well received by every one of them. This proceeded to take the form of snowball sampling as from one administrator, I was led to another; from one endorsement, I was granted another. These people eventually became my interviewees.

As a graduate student, my first thought was to reach out to professors and academics for the purpose of progressing H₂Ottawa. I learned that this was not the right avenue for my end goal of getting H₂Ottawa bottles on the shelves at UO. I originally thought that universities were run by academics; through the advent of this initiative I came to find that there are two very distinct sides to Canadian universities, as described in the section on Corporate Universities. In working with the non-academic side of UO, the project took on a very different form. H₂Ottawa was no longer just a sustainability project, but became a highly marketable, grassroots initiative started by a Master's student. Diverting from academia changed the conceptualization of H₂Ottawa, as it became defined by the UO's version of sustainability. The process to find interviewees redefined H₂Ottawa, allowing it to thrive in a university setting. What is unique about this project is that it uses both academic theory and a pragmatic approach to sustainability to form a tangible product. I have worked to align these very different worlds to create H₂Ottawa.

Chapter 5: Discussion and Findings

The aim of this thesis is to answer the following question: how does the UO comply with its commitments to sustainability, while also satisfying the expectations of its community, through the implementation of H₂Ottawa? To answer this question, I used a living action research approach, where I triangulated the collected data with semi-structured interviews. In this chapter, I will start with a discussion of the data collected using action research. I will then review the interviews, discussing them in relation to the topics outlined throughout this thesis.

Living Action Research

Through my internship with the Office of Campus Sustainability (hereafter, OCS), I learned what was required for a sustainability initiative to come to fruition at UO. First, I learned that the office did not have specific a budget to support sustainability initiatives. Let us recall that H₂Ottawa was the product of conversations regarding the ban of bottled water on campus. Considering this, we were inspired to use steps taken by the student (Jenna) who banned the sales of bottled water in 2010 as a conceptual guide. To convince the university to ban bottled water, Jenna argued that: the UO community is already accessing water through fountains; UO community should not have to pay for a resource being provided to them for free, twice; and that UO would save money through abolishing the waste that single-use bottles produced³². Through this experience, I learned that for OCS to accept a sustainability initiative, it had to be: environmentally beneficial in some way, something that the campus community would endorse, and most importantly, promise an economic return or at least to break even. In short, the project

³² UO's latest report on waste diversion revealed that the university saved \$800 000 CAD through waste diversion efforts in 2014. The ban of bottled water is not solely responsible for this amount, but the report presents initiatives such as this one as being significant (University of Ottawa, 2015)

needed to contend to the triple bottom line of sustainability, consistent with UO's official commitments to sustainability.

When I first started H₂Ottawa in mid-September of 2016, I learned that all sustainability proposals at UO start with a business case to solidify the funds needed.³³ This is relevant as it frames these initiatives as small business endeavours, and the university becomes similar to a corporation. In my business case, I argued that the pilot project would be economically neutral, provide UO community with reasonable access to portable water, and that H₂Ottawa bottles were better for the environment than single-use plastic bottles. When talking to students, I learned that many would buy a bottle of Vitamin Water or soda water, dump out the contents, and use the bottle to hold water for the day. These behaviours produced unnecessary waste, and were an annoyance to students. As for economic neutrality, this project was self-funded, meaning that all funds lent to H₂Ottawa would be reimbursed upon the sales of the bottles. This means that I priced the bottles so that assuming all of them sold, the project would break even. Of course, there was the risk that bottles may not sell at all. Here, we argued that the bottles were inexpensive and could be distributed to students and guests to the campus as tokens of appreciation. UO was convinced that economic risks were low enough that they could approve the project.

Regardless of the amount of funding required for a sustainability initiative at UO, a business case is required. This is relevant as it frames these initiatives as small business endeavours, and the university becomes similar to a corporation. When conceptualizing the business case for this project, Jonathan and I developed a cost-benefit analysis. Here, we argued that students would be able to have reasonable access to bottled water on campus, that was affordable for the students and the university, and that was better for the environment than

³³ See Appendix 2

single-use plastic bottles. When talking to students, I learned that many would buy a bottle of Vitamin Water or soda water, dump out the contents, and use the bottle to hold water for the day. These behaviours produced unnecessary waste, and were an annoyance to students. When this document was drawn up, my internship supervisor and he took to his boss for approval.

During this process, I was active in producing the business case, but not in presenting it. Jonathan took the proposal to his financial managers because, being a staff member, he was to be held responsible for the trajectory of the project. Jonathan let me know that if a student alone attempted to make this initiative happen, it would be very difficult. Students cannot be held accountable if projects go awry, whereas staff members can. OCS assessed this proposal, and agreed to lend me ~\$3000.00 to make H₂Ottawa happen.

In addition to the general model for sustainability initiatives presented above, cost of the project was important because of the fiscal environment of the university. Alex Latus, UO's Communications and Special Projects Manager for Facilities, asserts:

... given the current financial climate at the university- we are trying to tighten our belts. It is a lot easier to swallow an investment on something when we know that it will either generate a positive return, or at least not cost anything (2017, 5)

Alex argues that UO is in a financial deficit, meaning that the university cannot- or more accurately, will not- invest in projects that do not break even. This changed how the H₂Ottawa project was conceptualized because it had to promise economic neutrality.

I was appointed to find a bottle that would be inexpensive enough wholesale, to sell to students at \$3.00. It was at this stage in the project that cost-neutrality became problematic. Through my experience, I learned that the market for inexpensive water bottles does not exist at this time. I found that most bottled water companies are competing with luxury reusable bottles, such as S'well which retail at ~\$45.00. Consistent with societal trends of portable water, this

expensive option exists at UO, where reusable bottles are sold at the University of Ottawa Bookstore for upwards of ~\$15.00. Through my search, I found many promotional companies who sell bottles that businesses then distribute to special clients, but these were outside of our price range. I finally found a bottle from McKernan Packaging in Nevada, USA that fulfilled our financial requirements. This bottle is originally intended for cosmetic products, but I changed the top from a pump to a cap to make it look like a water bottle.

Once we found the bottle, we ensured that it was safe for its intended use. To do this, I asked the distributor for all of the speculations on the product and cross-referenced them with the Government of Ontario's Health and Safety standards for food products. I was then required to make sure that the bottle was manufactured in an ethical environment, following with the university's policies around procurement. UO's Policy 98 regarding Ethical Purchasing states,

The University of Ottawa is committed to conducting its business affairs in a socially responsible and ethical manner consistent with its educational, research and service mission, as well as its own employment policies. This Policy on Ethical Purchasing defines the principles and responsibilities pertaining to the conduct of business affairs at the University.

When the distributor provided us with this information, Jonathan Rausseo brought the initiative to the financial manager at OCS for approval. These policy requirements had a large impact on the project, as it left us at the end, with only one option. Additionally, UO has a policy that if a project is over \$5000, multiple options must be given and it would go to bid. To bypass this, we spent less than that amount, which enabled us to purchase 810 bottles. Considering this limit, we had to go to the faculties for financial support in order to sell bottles to students at \$3.00.

I was then required to find the product and outline all costs involved for UO to have H₂Ottawa bottles in their vending machines. The cost breakdown was³⁴ as follows: \$184.47 for a case of 90 bottles, \$258.61 for a box of 4500 caps, \$336.95 for freight charges, and ~\$80.00 for

³⁴ Pricing for these bottles are in constant flux, depending on sales, new inventory from the supplier, etc.

duty charges. UO agreed to purchase 810 bottles³⁵ for the pilot project of H₂Ottawa that launched March 22, 2018. Bottles and caps were purchased in the quantities outlined as it was required by the supplier. The remaining caps are being held at OCS for (hopefully) future use. I was told that cost-neutrality was important in this stage to make the project attractive to the university's Finance Managers. This approach was not questioned by any of the administrators involved at this stage, and was taken as given by other employees who became involved with the project at a later date. Here, it may be concluded that sustainability initiatives at the UO must first be deemed economically neutral before conversations may start about getting approval.

When the cost sheet was ready for H₂Ottawa, Jonathan and I met with Philippe Demers who is the Manager of Operations and Finance for Food Services at UO. We were informed that to have the bottles in vending machines, it would be a \$0.50 charge per bottle to rent the space and for the labour to put the bottles into the machine. Including this fee, the cost of each bottle was \$3.05. Considering that the intention of this project was to sell reusable bottles for the same price one would expect to pay for a bottle of single-use water, Jonathan and I wanted to sell H₂Ottawa bottles for \$3.00. Due to the discrepancy in cost, we decided to ask Marketing Directors from all faculties for endorsements.

At this point, it had been about a full year. The bottles were purchased on June 20, 2017 by OCS, on the condition that the project be not for profit and self-funded. In September 2017, I started looking for endorsements from faculties. I personally knocked on all of the Marketing Directors' doors at UO and spoke about H₂Ottawa³⁶. I was endorsed by all faculties, with the exception of the Faculty of Science, mainly because they did not have vending machines in their buildings. I learned that vending machines use quite a bit of energy, especially those dispensing

³⁵ The total cost for the H₂Ottawa pilot project was ~\$2290.00

³⁶ I did not get to speak with the Marketing Director for UO's Faculty of Medicine because they are not on the physical campus. They have become interested in H₂Ottawa, and will likely endorse the second round.

beverages, because they work as refrigerators. The Faculty of Science specifically had none, as they have many labs that use most of their energy budgets and could not afford to waste energy on vending machines to maintain LEED Platinum rankings. Despite this, the Faculty of Science supported my efforts through marketing for H₂Ottawa.

Endorsements from Faculties were \$2/bottle, which added up to a grand total of \$1240; the endorsements were as follows: 40 for Telfer, 50 for the Faculty of Arts, 120 for the Faculty of Social Sciences, 50 for the Faculty of Education, 50 for the Faculty of Engineering, 100 for the Faculty of Civil and Common Law, and 210 for OCS. With this extra funding, we were able to sell bottles to students for \$3.00ea; if all bottles sell, we are able to break even or be close enough that losses are negligible. 200 bottles were also bought by the Student Federation of the University of Ottawa to be sold at their variety store on campus called Pivik. Finally, Food Services purchased 50 bottles to give to students who had bought boxed lunch meal plans. In the case that all bottles do not sell, it was agreed that they be used by faculties and OCS as 'swag' to give away at various events.

The sales of bottles became an issue in March 2018 as vending machines were not dispensing the product properly causing students to lose money and become frustrated. The company who owns and maintains vending machines on UO campus, Ventrex, has recently (May 2018) bought different coils for the machines to fix this problem. In addition, not all bottles were put into machines in the correct buildings. There was much frustration around this, as faculties paid to have their own branded bottles in their respective buildings. In future, we will test the condition of *all* machines before putting bottles in them to assure they are in working

order³⁷. Additionally, we will remove the information wrap³⁸ that covered bottles, to assure that faculty branding can be seen and bottles are put in the proper buildings.

When faculties decided to endorse H₂Ottawa the initiative's budget became more balanced, as costs were managed. This is where the triple bottom line of sustainability became important, as we tried to balance social, economic, and environmental tenets³⁹. The social tenet of H₂Ottawa was twofold. First, bottles are sold empty which makes the statement that water is a human right as we are not containing and reselling water; this encourages students to use City of Ottawa public water, as well as UO water fountains. Second, the bottles provide UO's community with portable water which was not available previously. Up to the launch of H₂Ottawa, if UO community members had forgotten their reusable bottle their only option was to purchase one from the University Bookstore for upwards of \$15. The economic tenet of sustainability was the cost management that I have outlined above, as well as providing UO community with an affordable option to portable water on campus. Finally, the environmental impact of the H₂Ottawa bottle is much less than that of single-use water bottles. In my experience with H₂Ottawa, I have found that the environmental good these bottles represent along with the low price and availability has lent to the project's success.

In working with the faculties' Marketing Directors, H₂Ottawa became geared towards augmenting the university's reputation. UO's own marketing team also supported H₂Ottawa by using my story for their Defy the Conventional Campaign, which is used to gain donations. This is consistent with the EM worldview, as UO used an innovative way of accessing portable water to draw donations and future students. Advertising and marketing was beneficial to the project as

³⁷ Some machines were tested with the bottles to ensure that they would dispense. Bottles were originally tested in snack machines, but were sold in drink machines which caused dispensary issues. I am unsure as to why Ventrex decided to put bottles in drink machines when it was not confirmed that they would dispense properly.

³⁸ See Appendix 1

³⁹ See Appendix 3

experienced media relations officers and graphic designers were employed to popularize H₂Ottawa, and also make the bottles aesthetically pleasing⁴⁰. In addition to this, the Faculty of Social Sciences where I study, funded a photoshoot for me⁴¹. Using various media outlets at the school, faculties pitched H₂Ottawa to students as an innovative sustainability project started by a student. The messaging was meant to attract future students, as well as show our current community that UO cares about sustainability and supporting its students.

To conclude, my personal experience with H₂Ottawa showed me that the university will fund a sustainability initiative if: all costs are returned, it is socially attractive and fitting with UO's vision, and it is environmentally neutral or reformative. This logic fits within UO's commitment to sustainability and to its community. UO entertained the idea of H₂Ottawa because it was seen as an initiative that would enhance the student experience. In preparation for this initiative, I studied the archives of the student newspaper, The Fulcrum. Here, I learned that students understood and approved of the ban on bottled water, but missed having access to reasonably priced portable water on campus. UO satisfied its community through allowing this project to come to fruition. Building a sustainability initiative at UO was definitely time consuming, but I would not say that it was difficult. I would argue that UO is committed to sustainability, which is reflected in the actions of their staff. That being said, there is a definite need for sustainability champions on campus to implement initiatives. The interviews section that follows will act as support for the data outlined here.

Interviews

This section will discuss the interviews I had conducted to triangulate data collected through living action research. I chose to interview all Marketing Directors that I worked with in

⁴⁰ See Appendix 4-7

⁴¹ See Appendix 8

the implementation and conceptualization of H₂Ottawa. These staff members, I came to learn, dictate which student initiatives come to fruition. This is because they hold much of the finances for their respective faculties, which is telling of UO's commitment to their reputation and image. Marketing Directors choose initiatives based on the value to student experience, how they reflect the university's image, and if they work within budgets. Considering this, their viewpoints are important in revealing how the UO complies to sustainability, while also satisfying the expectations of its community.

For the purpose of this thesis, I conducted 12 interviews. Most interviews used the same interview guide⁴²; this guide was manipulated for staff who had different job titles. All interviews were conducted at UO, at a location of the interviewee's choosing. Interviews were conducted from September 2017 to January 2018 and have been transcribed for accuracy. I used inductive coding, where I read all interview transcripts and chose codes from the data collected. These codes are: economic return, ethical consumerism/social good, environmental impact, reputation, corporate university, working in silos, and employee/student dedication⁴³. Not all topics were used in the literature review and theory sections, those that were excluded were less popular among interviewees. Categories of interest including: economic return, environmental impact, the corporate university, ethical consumption/social good, and employee and student dedication, will be used to guide this section. Following this, I will review how H₂Ottawa was conceptualized through an ecological modernist worldview. I will conclude this section with a discussion of how H₂Ottawa may be critiqued through a green-Marxist lens.

⁴² See Appendix 9

⁴³ I also coded for student experience, greenwashing, and health, but they have been omitted due to lack of popularity.

Interview Analysis

Economic Return

As noted in the living action research section, economic return was fundamental to the fruition of this project. According to Jonathan Rausseo,

“Programs that work best are the ones that end up having some form of financial or social payback...the bottled water free campus is an example... even though the university is looking down the pipeline, saying ‘oh! Bottled water is one of our highest marked up, best selling items’ and we’re coming along saying... ‘we’d like you to get rid of that’... it takes a certain amount of trust from these groups to be able to say ‘ok, we’ll get this happening’, but if the payback is there- then it can be done” (Rausseo, 3, 2017)

Jonathan argues that for a sustainability initiative to receive funding, it must provide financial or social payback. What is interesting here, is that the social payback generally manifests through an augmentation of the university’s reputation, which attracts future students. According to Marcelle Kimberly, UO's Manager of Strategic Initiatives, the end goal when approving projects is to generate more money, which is then reinvested into the student experience (Kimberly, 2, 2018). In doing this, UO becomes a place where students want to be as they feel that their values are reflected; here, UO has the opportunity to buy their reputation through being strategic with choosing which initiatives to support. This is consistent with the EM worldview, as resources are spent to augment the institution’s reputation, which is important to attract civil society.

Sustainability has become important to the structure and growth of Canadian universities. One of the reasons for this, is because the Ontario provincial government is beginning to implement more serious fines if institutions go over certain resources quotas.

According to Food Services Dietitian and Sustainability Director Maryann Moffit,

“...the economics for sure definitely a part- like once we manage...to get deeper into the conversation (regarding the sustainability initiative at hand), then it’s all about- we have to do this in a way that isn’t going to require us to hire another person. Is it going to require somebody to take an hour out of their schedule everyday? Because they don’t have that hour in their schedule, right? You have to find a way to do it that doesn't *add* or that adds

like, *so little* that you can keep operating as per usual and include this new piece... what I say to people, I try to keep highlighting the zero waste legislation that's coming- right?... So, it's like, be ready or pay. So, we're ready. I think there's definitely that, I'm using that to leverage a lot of conversations bridging out a lot from these conversations about sustainability and how we're going to get there- we need to get there, we're going to be made to get there- so let's get there first so that there's no penalty right" (Moffit, 2017, 5-9)

First, sustainability initiatives must align with the UO's mission, and then they must not cost the university any money. For Maryann, illuminating upcoming legislations are important to convince the university to employ more sustainability initiatives. She goes on to mention that even with budgetary cutbacks, the university would continue to implement sustainability initiatives in Food Services because "a lot of them save us money" (Moffit, 2017, 8). In centring her arguments around financial loss and budget cuts, she is able to convince her financial management team to fund initiatives that she supports. This is consistent with the EM ethos, as Maryann argues that UO wants to be progressive by anticipating where society is going. Ideas such as these help push the government into implementing sustainability policies, through proving that it is possible to achieve certain goals.

The majority of interviewees noted that UO is currently facing budgetary cuts, and insinuated that this was a big reason as to why economic neutrality within projects is so important. According to the Marketing Director of Telfer, Christian Colombe,

"...in a tight budgetary environment it's going to be a lot easier to get initiatives approved if they have no impact on the budget, or if it's... instead of buying 'X' buy 'Y' because... it'll be about the same price... if budgets are tight, investing in something that will have no return will be more difficult. Buying bottles of water with the logo on it at \$2 each... it's not- not that it's not material- but it's not a huge expense... I can easily include that in my budget, and I won't spend \$80 on something else, but I've spent it on that and it's equivalent and it works well. The fact that it's sustainable and that it's good for the environment is a bonus" (2017, 5)

Here, it is argued that UO might invest in a project with no economic return, but it is unlikely considering their financial status. H₂Ottawa was possible for Christian's faculty because of the

low price for endorsement, in addition to being for a sustainability initiative. This is consistent with ideas presented through EM, as it proves that we can develop sustainability initiatives that balance environment reform and economic neutrality.

Environmental Impact

Considering H₂Ottawa was pitched to university staff as a sustainability initiative, many interviewees addressed the topic of environmental impact. When asked if their own faculties had done anything for the specific goal of benefiting the environment, most responded that they did not. Despite this, all respondents noted that UO was ‘getting better at sustainability’. When I asked how they believed this was being done, most respondents pointed to policies created by OCS that all faculties are required to oblige, such as having recycling bins in their buildings on campus. This mindset is consistent with the EM approach to environmental management as being ‘good at sustainability’ does not require a radical shift, but small changes at the fringes of policies define environmental progression.

Through the advent of H₂Ottawa, I learned that staff and students are responsible for the bulk of sustainability initiatives that exist at UO. According to Vice Dean of Governance and Internationalization of the Faculty of Social Sciences Nathan Young, “... (sustainability) becomes like an individual preference as opposed to an institutional mandate” (2017, 2). Jonathan Rausseo, Campus Sustainability Manager, updated the university’s Sustainability Policy in late 2017. When this comes into effect, all faculties will be required to design their own sustainability policies and direct more effort towards reaching the goal of being a more sustainable campus. This policy was created to force all faculties to think about sustainability. Students and staff being responsible for innovative sustainability initiatives is problematic as when champions have graduated, there is no incentive to continue to develop or maintain these

projects. With this policy in place, there is hope that UO as a whole will continue to get better at sustainability.

When asked to define sustainability, most respondents focused on the environmental tenet. According to Guillaume Cossette, Marketing Director for the Faculty of Arts,

“(Sustainability) is the capacity to have our way of life in the longterm without impacting our environment, our community, the resources that we use for our needs- because we still need to consume things... sustainability is the capacity to sustain our way of life, develop our economy in a way that we will not run out of air, water, timber, resources, green spaces, dark skies at night if we want to go as far as that... it is the capacity to grow without impacting or having a negative impact on our resources” (2017, 2)

This definition of sustainability fits in line with the definition that UO has drawn into their official mandates. Here, we can see that the university hires people who fit within the DNA of the institution. During the launch of H2Ottawa, the university is structured in a way that requires employees to manipulate their budgets to support sustainability initiatives or to create them on their own. Although there are employees mandated to keep the school up to date with sustainability initiatives, very few people hired for this purpose. It is important in our structure to have employees and students such as myself, dedicated to sustainability to push these initiatives to fruition.

We can see the importance of sustainability to UO community, as many student groups on campus are dedicated to creating and improving sustainability initiatives. Enactus is one such group, making their goal to create social enterprises that are in line with the TBL of sustainability. Marketing Director of the Telfer School of Business Christian Coulombe, notes that

There's a magazine called 'Corporate Knights' ... they're all about corporate social responsibility and sustainability... They do a top MBA programs that support corporate social responsibility initiatives and last year Telfer was in the top 40... whenever they review courses, they always want to make sure that they stay current with trends and what's going to be useful for graduates once they get their degree... I think that the ideas of CSR and

sustainability, it's been a long time that we've been talking about including that in the curriculum. I think it's based on market needs...Our students do projects like growing food in Iqaluit in those containers, or they have a project now that they've applied for- a competition to get money on recycling plastics- and so there are all sorts of projects, initiatives that they do, and it's all run by students... our role is... to support them (2017, 3-5)

Christian argues that students want to learn more about sustainability and that Telfer will oblige by creating courses that meet this need. In addition to this, UO lends students financial resources and support to create innovative solutions to- in this example- food scarcity. In all, it can be argued that UO and its employees dedicate their time to improving sustainability on campus.

UO is a downtown campus and is designed in a way that makes it much easier to travel on foot or by non-motorized vehicle. By virtue of this location, UO receives high rankings in sustainability. According to Nathan Young,

“...we have certain structural advantages here in that way. We're an urban campus, we are located at the core of a pretty big city by Canadian standards, the campus is quite contained...It's not sprawled out like a lot of them are. So, you know, that limits the amount of parking that there is on campus, it also improves the accessibility in terms of cycling and walking and transit- we're on the main transit line. I think that that more than anything else has kind of been the ace in the hole when it comes to the University of Ottawa and how its performance gets reflected in these rankings is that we have this you know, kind of a structural advantage, some might see it as a disadvantage if you want to drive to campus... It's almost impossible to get parking, it's also almost impossible to get here or to leave just because of the way that the road system is structured, but it is quite accessible by bus” (2017, 3)

In addition to these structural advantages, UO has made sustainability an institutional priority.

The university has lent its resources to create a sustainability department where people are employed for the purpose of creating initiatives and staying up to date with various policies.

Jonathan Rausseo is responsible for implementing most sustainability initiatives on campus. He argues that,

“we (UO) are really good at managing our resources, so like water, energy, transportation...we do *pretty* good at the community side of sustainability, working on social justice issues, trying to take into consideration socio-economic impacts of our

projects and so forth. On the curriculum-research side of things, we're not as strong as other institutions are- but we're still doing pretty well" (2017, 3)

Here, it can be seen that UO directs the bulk of their efforts towards environmental sustainability. As he mentions, there is work being done towards social sustainability and in creating programs for students who want to learn more about it. At this time, UO is building a Social Entrepreneurship program for students which will be one of the first in the country. In addition to this, UO has resources such as Pet Therapy and free yoga for students when they need mental health support. Through what I learned in my internship as well as from interviewees, UO is committed to innovative sustainability initiatives and is willing to lend resources to meet the goal of becoming a more sustainable campus.

H₂Ottawa promises to help UO reduce waste and inspire change in students' habits. In purchasing this bottle, students have a canister to hold local water and learn to use reusable containers. This is fitting with the EM worldview, as the H₂Ottawa bottle presents the community with the same luxuries as single-use bottles of water, but retrofits the latter to be consistent with environmental expectations. The implementation of this project and the support it received from staff shows the UO's collective commitment to innovative sustainability solutions to modern, downtown life. When it comes to implementing sustainability initiatives, I would argue that UO has the right people in the right places to meet their goal of becoming a greener, socially aware, and economically stable campus. Importantly, these people are producing policy that will enforce those who may replace them to maintain their efforts.

The Corporate University

Many respondents spoke to the idea of UO as a corporate university. The Marketing Director for the Faculty of Law Sylvie Corbin, argued that UO has committed itself to sustainability because it is "...on trend. It's attractive to donors, the general public, to know that

this university is going that route” (2017, 3). According to Sylvie the university wants to be innovative and creative for the purpose of attracting more money. Although this motivation is reprehensible, the products that come out of it help to build a better future.

During my time at UO, I have noticed buildings and spaces increasingly being named for large companies. Sonia Vani, Marketing Director for the Faculty of Social Sciences, noted on this when talking about the Living Wall on the first floor of the faculty’s main building. The Living Wall is significant at UO, as it is “a nice Instagramable space that people love...*earned media* on that space is just incalculable...If I were to try to look at that from a strictly money side of things, it wouldn't necessarily look like it was a winner” (Jonathan Rausseo, 2017, 7). According to Jonathan, the Living Wall makes students feel good about going to UO which made its construction worthwhile. Sonia was involved in discussions regarding naming the Living Wall, where she

“...contacted (an Indigenous family that UO works with) ...asked her to tell me about her grandfather, and told her, ‘do you think the Commanda family would be open to if we were able to lead an initiative to call this the All Nations Wall?’ ...whether you're an Indigenous person or not, a First Nations person or not, no matter what creed, no matter what religion, that this is a wall that welcomes people. So, for me, sustainability had this dimension that was also ‘all accepting’. I was told that it would probably get some resistance because we could probably get quite a lot of money given from an individual if it bore the name of an individual” (2017, 7).

Here, UO lends more attention to the economic benefit of naming the Living Wall for a corporation rather than maintaining this space where students can feel accepted. The prioritization of economic benefit over social good here contends to the argument that UO is a corporate university.

In some ways, UO needs to act as a corporate university in order to function. UO is home to over 40 000 students making a corporate structure necessary for efficiency. Manager of Strategic Initiatives for Student Life, Marcelle Kimberly, spoke to the way UO services are run:

“...we run our own services, like a business. So, we generate revenue and we receive- there are only two of our services that receive money from central. It’s a considerable amount, but we still generate most of our funds. So, for example, in Residence, you know we charge for Residence Fees, to live in Res. Same with meal plans for food, that kind of stuff. We generate our own revenue. However, unlike businesses, we reinvest all of our money into the student experience...They’re all kinds of things, all part of the initiatives that we put forth for students. That’s what we mean by ‘reinvest’. We don't sit on the profit, we reinvest it in everything that we do and everything that we put together is with the student experience at mind” (2017, 5)

According to Marcelle, structuring the services that UO offers students as businesses is important for their maintenance. This also UO agency to choose what they want to sell to their community and gives them funding to support student initiatives. In all, UO is a corporately run campus for the purpose of efficiently offering a large student body services to make their time on campus more enjoyable.

Reputation

As mentioned, H₂Ottawa was created through work with Marketing Directors at UO. Considering this, reputation of the institution became an important topic in interviews. For Waste Diversion Coordinator Brigitte Morin, not only does diverting waste save the institution money, but “waste diversion strategies augment the university's reputation” (2017, 5). In working with the Defy the Conventional Campaign team, H₂Ottawa was used for purposes of gaining donations. Nathan Young notes,

“if they're doing it with Defy the Conventional then they're using it for marketing, clearly. But also for fundraising and that’s quite interesting. They see this as being something that they can put out there to potential donors that are at the cutting edge, they're the movers and shakers, they're defy the ways that things are done. It’s a huge complement that’s for sure, because this is no small deal” (2017, 8)

H₂Ottawa was used by UO as a representation of what their students are accomplishing as well as advertising how the school funds student initiatives. The fact that UO is the first university to establish a program such as H₂Ottawa, is important to its reputation as a leader in sustainability.

The marketing scheme used has been successful, as the product has been pitched and sold to other companies such as Desjardins.

The Defy the Conventional Campaign is used by UO to promote interesting projects that are created on campus. According to Communications and Special Projects Officer for Facilities Alex Latus,

“The university- or even potentially a professor- (uses DTC to market projects that are) interesting... as you know, the university’s campaign, Defy the Conventional, they appreciate having a sort of ‘home grown’ story with either a student or a professor that does something groundbreaking, or generally, defies the conventional. They have gone against the convention and come up with something truly interesting, and they have come up with a new discovery, or a different way of doing things” (2017, 5)

For Alex, the H₂Ottawa project was a good fit for the Defy the Conventional campaign. He argues that the bottle provides a tangible example of ideas presented through EM, that there are different ways of living comfortably while also maintaining our physical environment. He argues that H₂Ottawa is good for UO’s brand because it shows student ingenuity and how the university structured and funded it, so it may come to fruition. Future students will be attracted to this kind of a story because it shows them that UO is willing to stand behind their students, be that financially or otherwise.

The H₂Ottawa initiative further embodies UO’s commitment to sustainability, and becomes an institutional artefact that incorporates itself into the university’s image. Through strategic initiatives such as this, UO becomes viewed as a sustainable university. For Christian Coulombe,

Our whole branding is about connecting you to what matters, and so, the ‘what matters’ is always dependent on the person... in terms of what matters to the school, we’ve got our areas of excellence which are our entrepreneurship and innovation, health systems, management, and business analytics, but sustainability and corporate social responsibility is part of the fabric of the vision as well- or the mission of the school- because we want to graduate alumni who are going to influence, or have a good impact, on their career, on their organizations and

on their communities. Being sustainable is definitely in line with having a positive impact on your communities, so it's well connected to the school's vision (2017, 4)

Here, it is argued that UO incorporates sustainability into their branding strategies. In order to show their commitments to the larger community, the university funds and markets student projects such as H₂Ottawa. In allocating funds to make H₂Ottawa happen, the university makes the project representative of UO and its commitments as a whole.

Ethical Consumption and Social Good

H₂Ottawa has been marketed as a beacon of social good, as the community is given access to portable water while maintaining institutional commitments to sustainability.

According to Nathan Young, this project is a “feel good piece...it does play directly into the reputation of the University, I think it's part of the image they want to project and I think it has indirect effects on how the University is perceived” (2017, 6). UO supported this initiative to show the broader community who they are as an institution. Here, the university develops their brand as leaders in social innovation. This is important because it positions UO as a supporter of sustainability and reifies the university's commitments to water as a human right.

The H₂Ottawa bottle helps UO to get their brand out to the community. Banning the sale of bottled water was an important step towards having a more sustainable campus, but it took the access point to water away from the community. Nathan Young asserts that this created

“...a real need. I think that allowing people to have access to this stuff when they are in class or whatever, when they're not near a water fountain is great... this makes a contribution at the more normative level, you know, normative changes happen slowly, but they happen through these incremental steps where it becomes normal to carry a bottle and it becomes abnormal to consume something in its more traditional form, right? ...that's an important transition that is underway, has been underway for a while, but is going to help, right? So, it also ties it into school spirit, gives it something that's recognizable so that when people see it with others, they're going to be curious about it and hopefully go out to try to get one on their own. I think that norms around overconsumption have been challenged for a while, but in terms of getting that into the mainstream, this is how you do it. So, yeah, at the risk of sounding avuncular, I think

that this is a great project and I'm very proud of you for having conceptualized it and seen it through a very difficult process, a very complex process" (2017, 8)

H₂Ottawa becomes not only a bottle, but something with UO's logo that students can walk around with and be used to represent the school. Additionally, students can talk to friends and family about the project and note how UO does things that are socially beneficial.

Finally, the bottle encourages UO's community to use locally sourced Ottawa tap water. In selling bottles empty, UO makes the statement that water is a human right. As noted in the Literature Review section, compartmentalizing water infers that those selling it own that resource. Considering this, H₂Ottawa bottles are sold empty; we do not go into small communities and take their water for the purpose of reselling it at a higher price. This is consistent with ideas presented through green-Marxism, that the physical environment should be treated as a common resource for all of society to share. Additionally, this argument created a platform to inform students of the high quality Ottawa public drinking water. Many students who study at UO are from other countries where drinking water might be subpar or even harmful. When moving to Ottawa, these behaviours and ideas are likely to follow. Here, H₂Ottawa helps to inform the community that our water is of better quality than most bottled water, which may assist in changing their behaviours about bottled water. This is a social good as it instils confidence in Ottawa's governance and may encourage people not to buy bottled water finish.

This section has been much smaller than the previous because most respondents viewed H₂Ottawa as an environmental project rather than one pointed to social good. In our first interview together, Jonathan Rausseo notes that this is similar to what happened during the ban of bottled water on UO campus:

"...the biggest misconception about the (ban the bottle) campaign is that people think it's an environmental initiative...and it's not? They think that if people come in and say... "we're getting rid of plastic bottles" and people freak out and say like "well, you're still selling all of

these other things in plastic bottles uh, so you know, by that token, you should be selling bottled water”. And so, it’s the you know, where I tell people “no no, we don’t do this because uh, we are trying to get rid of bottles... So a lot of people think like, we’re going to reduce the amount of plastic bottles, and we *have* seen, an immense reduction in plastic bottles on campus, but that’s not the reason why we did the program” (2015, 8)

Here, Jonathan notes that UO did not ban bottled water for reasons of environmental reform or maintenance. What is interesting, is that students got behind the campaign because they believed that it was to maintain the physical environment. Similar to the H₂Ottawa campaign, I have found that most of my respondents chose to support it because they saw it as an environmentally beneficial project rather than one to increase access to bottled water for students. This fits into the EM framework because they see environmentalism as something that can be bought or ‘retrofitted’.

The respondent working for the Telfer School of Business pointed to the social tenet of sustainability significantly more often than others. Christian noted that Telfer students are being increasingly taught of Corporate Social Responsibility as part of the ethical component of their courses. For Christian,

“... sustainability is one of the areas, where it matters for the school to be involved... we have an endowed professor in sustainability, we have courses that make sure that it’s part of the curriculum for students at the graduate and undergraduate level, there’s research done by our professors that touch on sustainability... it’s always a theme in terms of management of things that we are trying to do... the larger theme of corporate social responsibility and sustainability... I don’t think you can, I mean, forcing people, you know, ‘you must adopt sustainability initiatives’, I guess it’s one way to do things, but where it can have a bit more impact is where it comes from the person themselves” (Columbe, 2017, 2-5)

Christian gives a good account of social sustainability here, noting that it has to ‘come from the person themselves’ and relating that to ideas of social responsibility. It is significant that the representative of UO’s business school had the most to say on this topic, as it ends to ideas of the corporate university and inspiring ethical consumption through marketing.

In all, most respondents saw the H₂Ottawa initiative as one of environmental reform and maintenance rather than a project for social benefit. Similar to the ban of bottled water, environmental maintenance was part of the inspiration behind the project, but access to potable water was the driving force. Through marketing the project, universal themes of political responsibility for the Canadian government and human rights to water, as well as environmental benefit, were exaggerated.

Employee and Student Dedication

The final theme found through coding the interviews was employee and student dedication. Many respondents commended me on the success of this project, and putting time and effort into its execution. For my internship supervisor Jonathan Rausseo,

“...genius is 10% inspiration and 90% perspiration... ideas are cheap. Very cheap. I have come up with hundreds of ideas that can save the university millions of dollars. You know? We can sit here right now and just like ‘you know if you went to the Free Store you could probably save yourself tens of thousands of dollars’ and it’s like ‘whoa I just saved tens of thousands of dollars!’ It’s cheap! It’s just an idea, or a thought. But perspiration, doing the project, that’s the hard part- otherwise we’d all be billionaires with our ideas if they were actually worth anything. Going in, putting in the work, the sweat equity on things, that’s what’s important. So, kudos to you for actually having put in the sweat and the time to making this happen” (Rausseo, 2017, 18)

Jonathan noted that many students will email him with great sustainability-related ideas for the campus, but the majority do not follow through on executing them, even when given the chance. Here, sustainability at UO becomes a student or employee passion project, rather than something that we are sanctioned to implement.

The respondents who worked with me the most closely through the execution of H₂Ottawa, were those with the most experience in sustainability. By this I mean that these interviewees either committed themselves to learning of sustainability in the classroom, implementing initiatives that they believed in, or both. This is noteworthy because these UO

employees were not required to help me through their contracts, but did so because they wanted to. For the remainder of this section, I will outline the background of these respondents and how they helped me in the implementation and conceptualization of H2Ottawa.

At the Faculty of Social Sciences where I am a student, Sonia Vani was heavily involved in conceptualizing a marketing strategy for H2Ottawa. Sonia came to UO from working with the Council of Canadians, which is a non-profit environmental activist group that specifically advocates for water as a human right. In addition to this, Sonia worked with the Student Federation of the University of Ottawa. Here, she worked closely with their Sustainability Coordinator to help promote sustainability projects. Sonia noted that when she was in this position, she felt fulfilled as “sustainability (was) part of (her) work even if it is not written into (her) job description” (Vani, 2017, 5). Considering Sonia’s background, I approached her to help with H2Ottawa and she willingly obliged.

For Sonia, sustainability is important and something that she wants to pursue even though it is outside of her formal job description. In her interview, Sonia noted,

A lot of what I try to do is, if I propose something, sometimes I try to sit on it for a while until I find the right time or the right *way* to propose it. I sort of did that a little with this project, I didn't tell my managers about this project for many months until you, I, and Jon, had met several times...I wanted to make sure that by the time I mentioned it, I was *so* convinced of this and had such a clear vision of where it was going that my influence would be like a bulldozer. It would be like, ‘ok, we of course we *have* to go through with this’. I find that I have to be that way with sustainability because ...it’s actually very few people at the faculty, aside for some select few professors and select administrative personal that I know, personally take the environment at heart. I find that there’s still a culture of feeling like sustainability is something extra. Totally opposite from where I’m coming from... (Projects like this) is how change happens, it doesn't have to be that everybody is convinced all at the same time, everybody swallows the same coloured pill... I hope the project works, but I’m not going to measure its success by he number of bottles that are sold. I’m not concerned by that. I’m already measuring its success because of a student being able to talk about this idea and convincing a bunch of people who knew nothing about it before to put their time and money into it. *That’s*, for me, the *real* measure of success behind this (Vani, 2017, 5-14)

Here, Sonia argues that most employees at UO do not care to add volunteering their time to help students with sustainability initiatives to their already busy schedules. As the Director of Marketing, Sonia has many responsibilities, but does not see helping with sustainability initiatives as ‘extra’. Considering this, her help with H2Ottawa is exemplary of her commitment to sustainability. Without Sonia, the Faculty of Social Sciences may not have been as convinced that they should support H2Ottawa. At UO, employees with a passion and commitment to sustainability are important, as it is through them that projects like mine come to fruition.

My thesis supervisor Nathan Young, was an advocate for the execution of H2Ottawa, and used his academic expertise to guide the conceptualization of the project. In building this project with Professor Young, I was inspired to go forward with the project despite the fact that it could have been risky to turn into a thesis. Nathan notes that at UO, “... (sustainability) becomes like an individual preference as opposed to an institutional mandate” making it important for driven students to embark on initiatives (Young, 2017, 2). Considering the confines of our system, supporting a project such as this was integral to its fruition as I would not have had the time to work on it and my thesis cohesively. In addition to this, using academic outlets to address tangible projects is important for the innovation of social theory. I hope that the work done here can be reused by other students to understand how to implement sustainability initiatives within Canadian universities, and not be discouraged to adapt it to their academic programs. Professor Young taught me that social theory is integral to the conception of lasting ideas, which inspired the conceptualization of this project.

At the Office of Campus Sustainability, I was intensely inspired by Jonathan Rausseo. I found Jonathan so convinced that implementing sustainability initiatives was for the betterment of the campus, it was infectious. In our many discussions, Jonathan assured me that the

H2Ottawa initiative just made good sense. He went back and forth between his superiors and myself to generate approval, ensuring that this project came to life. In Jonathan's personal life, he notes:

... I've worked with a bunch of different groups. I sit on a couple of boards and so forth, so I've worked with some city groups and I've worked with some provincial groups. Mostly related to... quasi governmental items... the university fits under the provincial context... I work on standards for rebuilding and advocacy, I work with a group of sustainability professionals from other universities... I'm one of the chairs... we work on trying to promote the professional aspects of being a sustainability practitioner (Rausseo, 2017, 2)

As can be seen through this excerpt, Jonathan works on building his understanding of sustainability outside of what is required by his contract with UO. He had also worked with me after and before hours, to teach me how to make H2Ottawa a success. When I was going to Deans for funding, he taught me how university procurement works, and forwarded me to the right departments. If it were not for Jonathan's undying support, I am convinced that this project would have taken much longer to implement, if not, had failed.

To conclude, students are vulnerable when implementing initiatives in the university setting, as they are dependent on the support of either other students or faculties. The problem with mustering support from other students is that it takes time to build traction for a cause, and find the right media avenues to attract attention. At UO, other than student newspapers, I found no way for students to mass-contact their peers. In addition to this, there was no university-wide sustainability policy at the time of this project. Considering this, there was not much knowledge or urgency around building H2Ottawa. At UO, the support of instrumental employees, for myself and this project, was integral to its fruition.

Ecological Modernization Theory

The data analysis has alluded to how the UO embodies ideas presented by EM in the conceptualization and implementation of sustainability initiatives. This section will illuminate how ideas of EM inspired H₂Ottawa. Here, we may argue that UO's understanding of sustainability and environmental management is consistent with an EM approach to environmental problem solving.

As mentioned, this story started with the ban of bottled water. When I learned of this ban, I found it silly that UO did not provide its community with a replacement product that filled the same purpose. Of course, the motivations for this project were anthropocentric before they were environmentalist, which is consistent with the EM framework. When conceptualizing this project, I found the reasons for why UO banned bottled water, and made sure that these expectations were maintained. This kind of thinking is consistent with EM. The idea behind H₂Ottawa, is not radical; I did not change how we access water in a revolutionary way, but I used what I already knew about UO society to provide a different option for thirsty students. Here, the H₂Ottawa bottle presents itself as a sustainable retrofit of single-use bottled water, or a modernized way of carrying water around. The logic here is simple: give students exactly what they get from bottled water, for the same price, in the same locations, but sell bottles empty and made from a recyclable material, to be consistent with expectations of sustainability.

I would argue that this project was successful *because* it was not radical. The H₂Ottawa initiative was easy for UO to implement because there was social, economic, and environmental space for it. Similar to most other respondents, Sylvie Corbin, Director of External Relations at the Faculty of Law, states: "I think it's a great initiative... I don't see any negatives coming out of this, period" (2017, 8). It was attractive for employees involved in the endorsement of this

project that it seemed like a win-win. If this project presented some reputation or economic challenges, it is very likely that it would not have been so widely accepted.

In addition to the reputation benefits presented through H₂Ottawa, employees were attracted to the fact that the project itself was easy to implement. For Jonathan Rausseo,

“A project like this ends up being low risk. So, if we don’t end up hitting our payback numbers, we’re talking in the hundreds of dollars, so that’s fine we didn’t lose millions or anything. Most people would be happy because it’s one of those like ‘at least you tried’ sort of thing... I think that this project, it’s just a really good idea ” (2017, 15)

Here, UO employees did not have to worry about making a poor decision in accepting this initiative. Instead, staff were able to use their own agency and discretion to accept or deny the project. The H₂Ottawa initiative shows how employees are integral to the presentation of sustainability for the institution. This aligns with the EM worldview, as civil society is advancing how we understand sustainability within UO. In turn, these actors guide the embodiment of sustainability for the university.

It should be mentioned that it is not common for universities to allow students to go about implementing these kinds of sustainability initiatives. This is because they require a range of resources, from financial to assigning employees for making them successful. The fact that UO allowed me to go ahead with this project shows the way it commits to sustainability. This is reflective of the EM worldview, as it shows that spending resources on sustainability initiatives will be repaid in other ways, such as social payback and student experience. Here, the resources used allows UO to be perceived as ahead of other universities which augments their reputation. In all, UO attempts to foresee what their community wants and fulfil that need.

UO proves its commitment to sustainability through the advent of many projects, H₂Ottawa is just one example. I would argue that all sustainability initiatives at UO are conceptualized through an EM ideology. For instance, the ENACTUS group that operates

through the Telfer School of Management, has transformed old portables into greenhouses. These have been shipped to northern Canada for the production of fresh vegetation year round. Similar to the H₂Ottawa project, this solution is not revolutionary, but provides an innovative solution to food scarcity in these parts. Through my work at OCS, I have learned that this project has gained much popularity and turned into a successful business.

In Canada, we maintain a rationale that we can purchase what we need wherever we go. H₂Ottawa does not suggest that we change this behaviour in its entirety, but that we offer modernized solutions to this issue. Here, I argue that the purchase of a multi-use bottle rather than a single-use one is better for the environment. Nathan Young's position on the project is as follows:

Oh, I don't have concerns. No, I think it's a great project. As much as it sounds avuncular for me to say, I'm really proud of this work that you've done, I think it's really great. I mean, there are direct benefits, clearly, and then there are indirect benefits. I mean, I think that the problem you identified at the get go... where if you want to consume water on campus and you don't happen to have a bottle, you don't have much of a health choice. You go out and buy like, a juice, or a coke, which is different from what you would find on other campuses that hadn't taken the steps in terms of banning the bottled water. So, I mean, there's a real need there. I think that allowing people to have access to this stuff when they are in class or whatever, when they're not near a water fountain, I think, is great... this makes a contribution at the more normative level, you know, normative changes happen slowly, but they happen through these incremental steps where it becomes normal to carry a bottle and it becomes abnormal to consume something in its more traditional form, right? ...that's an important transition that is underway, has been underway for a while, but is going to help, right? So, it also ties it into school spirit, gives it something that's recognizable so that when people see it with others, they're going to be curious about it and hopefully go out to try to get one on their own. I think that norms around overconsumption have been challenged for a while, but in terms of getting that into the mainstream, this is how you do it. So, yeah, at the risk of sounding avuncular, I think that this is a great project and I'm very proud of you for having conceptualized it and seen it through a very difficult process, a very complex process. (2017, 8)

According to Professor Young, the H₂Ottawa project will inspire people to change their behaviours on a micro-level. This idea aligns with the EM framework as it presents small

changes on the fringes of UO's policies, that contribute to sustainability, but in marginal ways. Here, there are efforts being made towards making UO a more sustainable campus, but not in radical ways.

Finally, the H₂Ottawa project is representative of the EM ethos as it demonizes waste. EM scholars argue that pollution and wasted resources are signs of inefficiency and should be rejected when possible. The H₂Ottawa bottle is metal, which studies show is less likely to be thrown in the trash (Kauffman et al., 2000; Miller et al., 2012). The rates of recycling aluminum is also a lot higher than plastics (Kauffman et al., 2000). In addition to this, the H₂Ottawa bottle is presented to UO community as a replacement to single-use bottled water⁴⁴. This production of aluminum products is less harmful to the environment than PET, and there is less of a carbon footprint in bringing these bottles to campus because you do not have to ship as many as often.

Green-Marxism

Green-Marxists would criticize the H₂Ottawa project, as it inspires more over-consumption and production. This section will provide an overview of how the H₂Ottawa initiative can be framed as regressive. I will start with the argument that Green-Marxists would frame the ban of bottled water as a step in the right direction towards a more sustainable world. Next, features of Green-Marxism from the theory chapter of this thesis will be aligned with the attributes of the H₂Ottawa project to present a critique of my initiative.

Green-Marxists would argue that the ban on bottled water was a step in the right direction. This is because UO stopped purchasing this product altogether, forcing their community to change their behaviours and expectations towards portable water. If community members did not bring their own receptacle, the consequence was not having portable water, or

⁴⁴ See appendix 3.

having to buy a bottle for upwards of \$15 at the bookstore. Here, UO has put a stop to the treadmill of production; not using the same logic to get out of our environmental problems as they did to get into them. In all, rather than inspiring over-consumption, UO abolished access to what they agreed was an unnecessary resource.

The ban of bottled water can also be understood as a step towards a more socialist society. In banning this product, UO took the responsibility of providing their community with potable water. Contrasting this, the capitalist worldview would inspire more production of bottled water. Here, there would be a stronger focus on the bottom line of sales from bottled water, rather than putting forth the university's own resources to adjust water systems on campus so that all can access water free of charge. For green-Marxists, environmental resources must be shared equally and collectively. UO's commitment to providing this resource to their community and all visitors embodies this idea of accessibility, regardless of one's purchasing ability. The ban of bottled water is a powerful move towards a more inclusive society.

Green-Marxists argue for a rejection of the capitalist system. In its place, they argue that we must adopt a socialist system to radically change the thinking behind environmental protections. For green-Marxists, socialism would enable us to better protect the physical environment as it requires that we share resources rather than privatize and resell them. The H₂Ottawa project's relationship with this is twofold. First, the bottles are sold empty, which encourages students to use publicly sourced water. This is consistent with the idea of sharing environmentally sourced resources, as it assigns responsibility to UO to maintain water systems. In contrast to this, the project sells a product that uses our shared resources for personal use. For green-Marxists, this may be seen as an unnecessary use of resources. With this project, we give people another choice to consume, which may relegate these previously formed good

behaviours. In all, green-Marxists argue that environmental resources must be shared equally and collectively.

Unlike ideas presented by EM, green-Marxists argue that small changes on the fringes of current policies will not protect our physical environment. As mentioned, environmental technologies can become dangerous as consumers believe they are acting responsibly through over consuming products that are marketed as sustainable. These products lose their meaning when used in this way, while consumers maintain the feeling that they are acting in the environment's favour. This can be problematic when addressing the H₂Ottawa project. Here, consumers may start to forget their bottles at home more often because they know that there is an alternative. Consumers may also purchase more than one of these bottles, producing new behaviours about consumptive habits that was previously not encouraged. The H₂Ottawa project may also be criticized by green-Marxists because it produces more waste. If students no longer want the bottles, or favour a different bottle, they are recycled. Although aluminum is infinitely recyclable, meaning it is an easier and more durable material to meltdown and reproduce than plastic, there is still waste produced and energy used to recycle it. This perpetuates the behaviours behind the throw-away culture that we live in. Green-Marxists would problematize the inspiration for behaviours, stating that we are perpetuating the problem rather than working towards a solution.

Overall, green-Marxists would criticize the H₂Ottawa project because it is not radical and provides a new product for consumption. Despite this, the bottle does encourage the UO community to share public water resources. The biggest problematic for me, is that people may treat these bottles as single-use which is not their purpose, and would produce a lot of waste. Additionally, the possible unraveling of behaviours produced through the banning of bottled may

become an issue. For next steps, I hope to track the frequency by which students recycle, or waste, these bottles.

Chapter 6: Conclusion

This thesis has followed the rise of the H₂Ottawa sustainability initiative at UO. Throughout this research, I have answered the following question: how does the UO comply with its commitments to sustainability, while also satisfying the expectations of its community, through the implementation of H₂Ottawa? Here, I found that employees entrusted to approve or deny sustainability initiatives, had the goals and aspirations of the university at the forefront. As an institution, UO focused on the student experience which included maintaining the TBL of sustainability. To implement sustainability initiatives, the university had to: act ethically to draw in socially-minded students, and support innovative strategies to fulfill their needs; act in a way that is consistent with environmental reform; and maintain or enhance their economic status.

Through the Literature Review section, I have outlined the relevant basis within which this initiative was built. In this chapter, I reviewed arguments surrounding water and water rights in Canada, arguments surrounding sustainability, and Canadian universities. This provided the reader with an academic basis regarding what inspired H₂Ottawa, and what I learned before it was conceptualized.

In the Conceptual and Theoretical Frameworks chapters, I addressed the placement of UO and the H₂Ottawa project within academic theory. Here, UO was positioned as an institution that uses an EM-lens on sustainability to augment their reputation. UO understands their students

as Ethical Consumers, which is instrumental in teaching them what it means to be Canadian citizens. Finally, I outlined the green-Marxist critique on EM which outlines the flaws of viewing sustainability through the EM lens. Although UO uses a corporate view of sustainability, the university does value sustainability and has made it an official part of their commitments to their community and government.

The final chapter of this thesis speaks of the Discussions and Findings. Here, I found that most UO staff see sustainability through the lens that UO has bestowed upon them through its official commitments to the community. The main finding here, is that UO staff and students are integral in the implementation of sustainability initiatives on campus. If students are not supported by staff, projects may be underfunded and take a long time to come to fruition. At UO, there are committed employees and students that create innovative sustainability initiatives, as has been seen through the rise of H₂Ottawa. Without these passionate actors, sustainability projects within the UO structure would be unlikely to come to fruition.

I hope that this thesis encourages the UO community to develop further discussions surrounding sustainability; this is the way that, as academics, we will be able to build on its definition. I also anticipate that this project may inspire some practical and multidisciplinary sustainability initiatives, to build upon tangible approaches to sustainability. As a follow up to this thesis, I plan to write a small brochure that teaches students what they need to do to have their ideas heard. In implementing H₂Ottawa, I learned that these initiatives are time consuming, and one must be strategic in their conceptualization, but the feeling of satisfaction at the end- that you have done something for the greater good- is worth the stress and discomfort. I sit here, finishing this thesis, looking back at my journey, and know that it must be shared with others

who like me, thought something like this would be impossible. Find the right contacts, find a proper positioning to convince people that what you do is important, and nothing can stop you.

Works Cited

- Axelrod, Paul (2014). *Are Canadian Universities Sustainable in the Years Ahead?* Canadian Issues.
- Akehurst, Gary et al. (2012) *Re-Examining Green Purchase Behaviour and the Green Consumer Profile: New Evidences*. Management Decision V. 50(5). Emerald Group Publishing Limited.
- Bakker, Karen (eds.) (2007). *Eau Canada: The Future of Canada's Water*. Vancouver: UBC Press.
- Barlow, Maude. (2013) *Blue Future*. New York: The New Press.
- Beck, U. (1992) *Risk Society: Toward a New Modernity*. London, Sage Publishing.
- Beck U. (1995) *Ecological Politics in an Age of Risk*. Cambridge, Polity Press.
- Beck, U (1995). *Ecological Enlightenment: Essays on the Politics of the Risk Society*. Atlantic Highlands, NJ, Humanities Press.
- Beck, U (1995). *The Reinvention of Politics: Towards a Theory of Reflexive Modernization in Reflexive Modernization: Politics, Tradition, and Aesthetics in the Modern Social Order* (eds.) U. Beck, A. Giddens, and S. Lash. Cambridge, Polity Press.
- Blühdorn, Ingolfur (1997). *A Theory of Post-Ecologist Politics*. Environmental Politics V. 6(3). London: Frank Cass.
- Breen, Sheryl D. (2014). *Green Views of Marx: Reinterpreting, Revising, Rejecting, Transcending*. Minnesota, Sage Publishing.
- Brownlee, Jamie (2014). *Irreconcilable Differences: The Corporatization of Canadian Universities* (Doctoral dissertation). Web: https://curve.carleton.ca/system/files/etd/b945d1f1-64d4-40eb-92d2-1a29effe0f76/etd_pdf/2fbce6a2de5f5de090062ca7af0a4b1e/brownlee-irreconcilabledifferencesinthecorporatization.pdf Date Accessed: May 31, 2018.
- Brownlee, Jamie (2015). *Academia Inc.: How Corporatizing is Transforming Canadian Universities*. Manitoba, Fernwood Publishing.
- Buttel, F. (2000). *Classical Theory and Contemporary Environmental Sociology: Some Reflections on the Antecedents and Prospects for Reflexive Modernization Theories in the Study of Environment and Society*. in Spaargaren, Mol and Buttel (2000).

Byron, John (2002). *What Should Students be Entitled to Expect from Universities: A Postgraduate Perspective in OECD: Responding to Student Expectations*. Web: <http://www.oecd-ilibrary.org.proxy.bib.uottawa.ca/docserver/download/8902041e.pdf?expires=1488842198&id=id&accname=ocid195476&checksum=37C1266455736CC7431482A3CC2C3B3C>

Canada Water Act (R.S.C., 1985) c. C-11. Canada. Web: <http://laws-lois.justice.gc.ca/eng/acts/c-11/index.html>. Date Accessed: May 31, 2018.

Carolan, Michael S. (2004). *Ecological Modernization Theory: What About Consumption?* Journal of Society and Natural Resources V1 7(247-260). Taylor and Francis.

Cato, Molly S. (2011) *Environment and Economy*. New York: Routledge.

City of Ottawa (2018). *Drinking Water: Frequently Asked Questions*. Web: <https://ottawa.ca/en/residents/water-and-environment/drinking-water/drinking-water-frequently-asked-questions>. Date Accessed: May 31, 2018.

Cohen, Maurie J. (1997). *Risk Society and Ecological Modernization: Alternative visions for post-industrial nations*. Great Britain, Elsevier Science.

Corraliza, Jose and Berenguer, Jaime (2000) *Environmental Values, Beliefs and Actions: A Situational Approach*. Environment and Behaviour, V 32 (6). Sage Publications Inc.
de Lange, Deborah E. (2013). *How do Universities Make Progress? Stakeholder-Related Mechanisms Affecting Adoption of Sustainability in University Curricula*. Journal of Business Ethics V 118 (103-116). Springer.

Dowling, Grahame and Gardberg, Naomi (2014). *Measuring Corporate Reputation in Sustainability Matters 2014: How sustainability can enhance corporate reputation*. The Conference Board.

Dryzek, John S. (2005). *The Politics of the Earth: Environmental Discourses*. Oxford University Press, New York.

Elkington, John (1998). *Cannibals with Forks: The Triple Bottom Line of 21st Century Business*. British Columbia, New Society Publishers Ltd.

Feldman, David Lewis. (2012) *Water*. Massachusetts: Polity Press.

Fonseca, Alberto et al. (2011). *The State of Sustainability Reporting at Canadian Universities*. International Journal of Sustainability in Higher Education V 12 (1). Emerald.

Foster, John B. et al. (2010). *The Ecological Rift: Capitalism's war on the earth*. New York, Monthly Review Press.

Freestone, Oliver M. and McGoldrick, Peter J. (2007) *Motivations of the Ethical Consumer*. Journal of Business Ethics V. 79 (445-467). Springer.

Girard et al. (2009) *Campus Water Fountains: The Good, The Bad, and The Ugly*. Web: <https://d3n8a8pro7vhm.cloudfront.net/polarisinstitute/pages/102/attachments/original/1419365015/WATERfountains.pdf?1419365015> Date Accessed: May 31, 2018.

Gleick, Peter. (2010) *Bottled and Sold: The Story Behind Our Obsession with Bottled Water*. California: Island Press.

Harris, Jerry (2013). *Can Green Capitalism Build a Sustainable Society?* Perspectives on Global Development and Technology V. 13 (43-60). Brill Publishing.

Harrison, R., T. Newholm and D. Shaw (2005). *The Ethical Consumer*. London, Sage Publishing.

Hiedanpää, Juha et al. (2012). *Making Sense of the Social: Human-Nonhuman Constellations and the Wicked Road to Sustainability*. Journal of Sustainability: Science, Practice and Policy V8(1). Proquest.

Hopkins, Charles in Buckler, Carolee and Anne MacDiarmid (2013). *Education for Sustainable Development in Formal Education in Canada in Education for Sustainable Development in Manitoba: A Provincial-Wide Approach*. Springer.

Hrudey, Steve E. (2011) *Safe Drinking Water Policy for Canada: Turning Hindsight into Foresight*. Canada: C. D. Howe Institute.

Huber, J. (1985). *Die Regenbogengesellschaft: Ökologie and Sozialpolitik*. Frankfurt am Main, Fischer.

Johnston, Josée et al. (2006). *Nature's Revenge: Reclaiming Sustainability in an Age of Corporate Globalization*. Toronto, Broadview Press Ltd.

Kollmuss, Anja and Agyeman, Julian (2010). *Mind the Gap: Why Do People Act Environmentally and What are the Barriers to Pro-Environmental Behavior?* V 8 (3). Routledge.

Lades, Leonhard K. (2014) *Impulsive Consumption and Reflexive Thought: Nudging Ethical Consumer Behaviour*. Journal of Economic Psychology V. 41 (114-128). Elsevier.

Langhelle, Oluf (2000). *Why Ecological Modernization and Sustainable Development Should not be Conflated*. Journal of Environmental Policy and Planning V 2 (303-322). John Wiley and Sons, Ltd.

Le, Lisa. The Fulcrum. (2012) *Revisiting U of O's Bottled Water Ban*. Web: <http://thefulcrum.ca/opinions/thirsty-revisiting-u-of-os-bottled-water-ban/> Date Accessed: March 7, 2016.

M'Gonigle, Michael and Starke Justine (2006). *Planet U: Sustaining the World, Reinventing the University*. New Society Publishers, Canada.

Macleans Canada (2016). *Best of the best: Introducing the 2016 Maclean's University Rankings*. Web: <http://www.macleans.ca/education/best-of-the-best-introducing-the-2016-macleans-university-rankings/>

McNiff, Jean and Whitehead, Jeff (2011). *All You Need to Know About Action Research: Second Edition*. Sage Publications.

Milfont, Taciano L. and Markowitz, Ezra (2016). *Sustainable Consumer Behaviour: A Multilevel Perspective*. Journal of Consumer Behaviour V. 10 (112-117). United Kingdom: Elsevier.

Miller, Lindsey et al. (2014). *Challenges and Alternatives to Plastics Recycling in the Automotive Sector*. Materials Journal. Open Access.

Mol, Arthur P. J. and Spaargaren, Gert (2000). *Ecological Modernization Theory in Debate: A Review*. Research Gate.

Mol, Arthur PJ, Sonnenfeld, David A, & Spaargaren, Gert (Eds). (2009). *The Ecological Modernisation Reader: Environmental Reform in Theory and Practice*. New York: Routledge.

Mol, Arthur P. J., Spaargaren, Gert, Sonnenfeld, David A. (2014). *Chapter 2: Ecological Modernization Theory: Taking stock, moving forward in Routledge International Handbook of Social and Environmental Change*. Eds. Lockie, S., Sonnenfeld, D., Fisher, D. Routledge Taylor & Francis Group. London and New York.

Nyilasy, Gergely et al. (2014). *Perceived Greenwashing: The Interactive Effects of Green Advertising and Corporate Environmental Performance on Consumer Relations*. Journal of Business Ethics. Springer.

Office of Campus Sustainability (2018). Web: <https://sustainable.uottawa.ca/>. Date Accessed: May 31, 2018.

Office of Campus Sustainability (2018). *H₂Ottawa arrives on campus: making water accessible on our campus*. Web: <https://sustainable.uottawa.ca/h2ottawa>. Date Accessed: May 31, 2018.

Ott, H. et al., (2016). *Communicating Sustainability Online: An Examination of Corporate, Nonprofit, and University Websites*. Journal of Mass Communication & Society Division. Routledge.

Pentland, Ralph and Wood, Chris (2013). *Down the Drain: How we are Failing to Protect our Water Resources*. Vancouver: Greystone Books.

- Pinto, Diego C. et al. (2016) *Green Consumers and their Identities: How Identities Change the Motivation for Green Consumption*. International Journal of Consumer Studies, V40. John Wiley & Sons Ltd.
- Pocklington, Thomas C. and Tupper, Allan (2002). *No Place to Learn: Why Universities Aren't Working*. UBC Press.
- Portney, Kent E. (2015) *Sustainability*. The MIT Press: Essential Knowledge Series.
- Plumwood, V. (1993). *Feminism and the mastery of nature*. New York, Routledge.
- Queiroz, Josiane T. M., et al. (2012) *News about Tap and Bottled Water: Can This Influence People's Choices?* The Journal of Environmental Protection, V 3. Canada: Scientific Research.
- Renke, Wayne N. (2000). *Commercialization and Resistance* in Turk, James eds. *The Corporate Campus: Commercialization and the Dangers to Canada's Colleges and Universities*. Canadian Association of University Teachers. Toronto: James Lorimer and Company Ltd.
- Robinson, Joanna L. (2013). *Contested Water: The Struggle Against Water Privatization in the United States and in Canada*. Cambridge: The MIT Press.
- Safe Drinking Water Act (2002) C. 32*. Canada. Web: <https://www.ontario.ca/laws/statute/02s32>. Date Accessed: May 31, 2018.
- Sandford, Robert William and Phare, Merrell-Ann S. (2011) *Ethical Water: Learning to Value What Matters Most*. Toronto: Rocky Mountain Books.
- Shantz, Jeff (2010). *Green Syndicalism: An Alternative Red-Green Vision*. Journal of Environmental Politics. Taylor and Francis.
- Silverman, David (2000). *Doing Qualitative Research: A Practical Handbook, Edition 4*. Thousand Oaks, CA, Sage Publishing.
- Singer, Thomas (eds., 2014). *Research Report- Sustainability Matters 2014: How Sustainability Can Enhance Corporate Reputation*. The Conference Board of Canada.
- Smith, Richard (2015). *Green Capitalism: The God That Failed*. World Economics Association.
- Sneddon, Chris et al. (2006). *Sustainable Development in a post-Brundtland World*. Journal of Ecological Economics V 57 (253-268). Elsevier.
- Soron, Dennis (2010). *Sustainability, Self-Identity and the Sociology of Consumption*. Sustainable Development V. 18 (172-181) Wiley InterScience.
- Spaargaren, Gert and Mol, Arthur P. J. (2010). *Environmental Social Sciences and Sustainable Consumption*.

- Spaargaren, Gert et al. (2000). *Environment and Global Modernity*. Sage Publishing.
- STARs (2017). The Sustainability Tracking, Assessment & Rating System™ (STARs): University of Ottawa. Web: <https://stars.aashe.org/institutions/university-of-ottawa-on/report/2018-03-29/> Date Accessed: May 31, 2018.
- Steiner, L. et al. (2013). *An analytical model for university identity and reputation strategy work*. Journal of Higher Education. Sweden, Springer.
- Strong, C. (1996). *Features Contributing to the Growth of Ethical Consumerism - A Preliminary Investigation*. Marketing Intelligence and Planning.
- Szasz, Andrew (2009). *Shopping Our Way to Safety: How We Changed From Protecting the Environment To Protecting Ourselves*. University of Minnesota Press.
- Taylor, Steven J. et al. (2016). *Introduction to Qualitative Research Methods*. New Jersey, John Wiley & Sons Inc.
- Trudel, Remi J. C. et al., (2004) *Do Corporate Ethics Influence Consumer Purchase Decisions?* Simon Fraser University. British Columbia, Canada.
- United Nations Association in Canada (2007). *A Human Right to Water*. Web: <http://unac.org/wp-content/uploads/2012/10/A-Human-Right-to-Water.pdf>. Date Accessed: May 31, 2018.
- Universities Canada (2018). Web: <https://www.univcan.ca/>. Date Accessed: May 31, 2018.
- University of Ottawa (2008). *Policy 98: Ethical Purchasing*. Web: <https://www.uottawa.ca/administration-and-governance/policy-98-ethical-purchasing>. Date Accessed: May 31, 2018.
- University of Ottawa (2010). *Destination 2020*. Web: <http://www.uottawa.ca/about/sites/www.uottawa.ca/about/files/destination-2020-strategic-plan.pdf>. Date Accessed: May 31, 2018.
- University of Ottawa (2014). *Roadmap at Destination 2020— Getting There From Here: Reaching Destination 2020 in the Age of Differentiation and Financial Challenges*. Web: <https://www.uottawa.ca/about/sites/www.uottawa.ca/about/files/roadmap-to-destination-2020.pdf> Date Accessed: May 31, 2018.
- University of Ottawa (2015). *Report on Sustainable Development*. Web: https://www.uottawa.ca/administration-and-governance/sites/www.uottawa.ca/administration-and-governance/files/rapport_developpement_durable_2015_en_final_accessible_0.pdf. Date Accessed: May 31, 2018.

University of Ottawa (2016) *Water Fountain Report*. Office of Campus Sustainability. Web: https://sustainable.uottawa.ca/sites/sustainable.uottawa.ca/files/water_fountain_report_2016.pdf
Date Accessed: May 31, 2018.

University of Ottawa (2018). *2018-2019 Programs and Admissions*. Web: https://www.uottawa.ca/undergraduate-admissions/sites/www.uottawa.ca.undergraduate-admissions/files/2018-19_uottawa_international_admissions_brochure_en.pdf. Date Accessed: May 31, 2018.

Varadarajan, R. (2017). *Innovating for sustainability: a framework for sustainable innovations and a model of sustainable innovations orientation*. Journal of the Academic Marketing Sciences. CrossMark.

WCED (1987). *Report of the World Commission on Environment and Development: Our Common Future*. Web: <http://www.un-documents.net/our-common-future.pdf>

Whan, Eric et al. (2017). *RBC Canadian Water Attitudes Study*. RBC Blue Water Project.

Winter et al., (2012). *Experiencing transformation in Sustainability: a student perspective*. UK, Research Gate.

Young, Nathan. (2014a) *Chapter 4 – The Great Debate: Social Constructionism vs. Environmental Realism*.

Young, Nathan (2014). *Chapter 7: Making Capitalism Work? Sustainability, Neoliberalism, and Ecological Modernization Theory*.

Appendix 1:

This is the paper wrap that is taped around each bottle.

H₂Ottawa

mot Moins de plastique
+
moins d'eau privatisée
=
un monde plus équitable et durable

the word Less plastic
+
less water privatization
=
a more equitable + sustainable world

Cette bouteille est géniale *elle a été créée par*

Remplissez-la autant de fois que vous voulez
Prévenez l'accumulation de plastique dans notre environnement
Démontrez que vous défendez le droit à l'eau potable

This bottle is awesome *it was created by*

Fill it, then refill it as many times as you want
Keep plastic bottles out of our environment
Show the world you stand for water as a human right

Celeste DiGiovanni *passée la*

Étudiante à l'École d'études sociologiques et anthropologiques de l'Université d'Ottawa.
Vous tenez entre vos mains ma maîtrise (**oui, la bouteille!**) en sociologie environnementale.
Vous soutenez le développement durable au droit fondamental à l'eau potable.

Celeste DiGiovanni *spread*

Student at the uOttawa School of Sociological and Anthropological Studies
You're holding my master's thesis (**yes, the bottle!**) in Environmental Sociology.
You're making a statement about sustainability and human rights.

Partenaires
Bureau du développement durable et Faculté des sciences sociales, Université d'Ottawa

Partners
Office of Campus Sustainability and Faculty of Social Sciences, University of Ottawa

Appendix 2:

This document was produced by myself and Jonathan Rausseo for the purpose of presenting H₂Ottawa to funding managers at the UO.

Reusable Bottles for Vending Machines

CONTEXT

The University of Ottawa has been a bottled water free campus since 2010. This has brought uOttawa a lot of praise as a leader in water accessibility and environmental sustainability.

ISSUE

Although the campus is bottled water free, there is still demand from the community for beverage containers.

SOLUTION

Offer inexpensive, high quality, reusable bottles in vending machines as a substitute for disposable bottles.

SOCIAL	ECONOMIC	ENVIRONMENTAL
Demonstrates Facilities commitment to sustainability.	Revenue neutral for capital costs (conditional)	Reduced plastic waste generated on campus.
Building positive habits for environmental change.	Reduced waste removal costs.	Reduced transportation of goods.
First University in North America to embark on such a program.	Potential advertising opportunity.	Increase use of water fountains on campus.

RATIONALE

Placing reusable bottles in vending machines is a novel idea in North America.

Offering reusable bottles at the same price as bottled water would remove the barrier cost to purchasing a reusable bottle. Similarly, by offering them in vending machines, they will be as accessible as any other alternative. The idea has already been accepted by Food Services who are willing to let us put the bottles in their vending machines.

OPTIONS

Plain bottle

ITEM	UNIT COST	QUANTITY	TOTAL COST
------	-----------	----------	------------

Reusable bottle	\$1.54 USD	4,500	\$6,950 USD
Caps	N/A	4,500	\$202.50 USD
Delivery	\$834 USD	N/A	\$834.00 USD
TOTAL			\$7986.50 USD

BOTTLE WITH LABELS

ITEM	UNIT COST	QUANTITY	TOTAL COST
Stickers	\$0.12 USD	4,500	\$540 USD
Transport (to labeler)	\$485 USD	N/A	\$485 USD
Transport (to uO)	\$625 USD	N/A	\$625 USD
TOTAL			\$1650 USD

COST MODEL

	ITEM	COST	TOTAL COST
COSTS	Place in vending machines	\$2,250 CDN	
	Bottles + caps + delivery	\$10,685.54 CDN	\$12,935.54 CDN
	Bottles + cap + delivery + stickers	\$11,777.30 CDN	\$14,027.50 CDN
	ITEM	REVENUE	TOTAL
REVENUE	Sales in vending machines	\$3 per bottle	\$13,500 CDN
	Sponsorship (labels)	\$2,500 CDN	\$2,500 CDN

AVOIDED COSTS

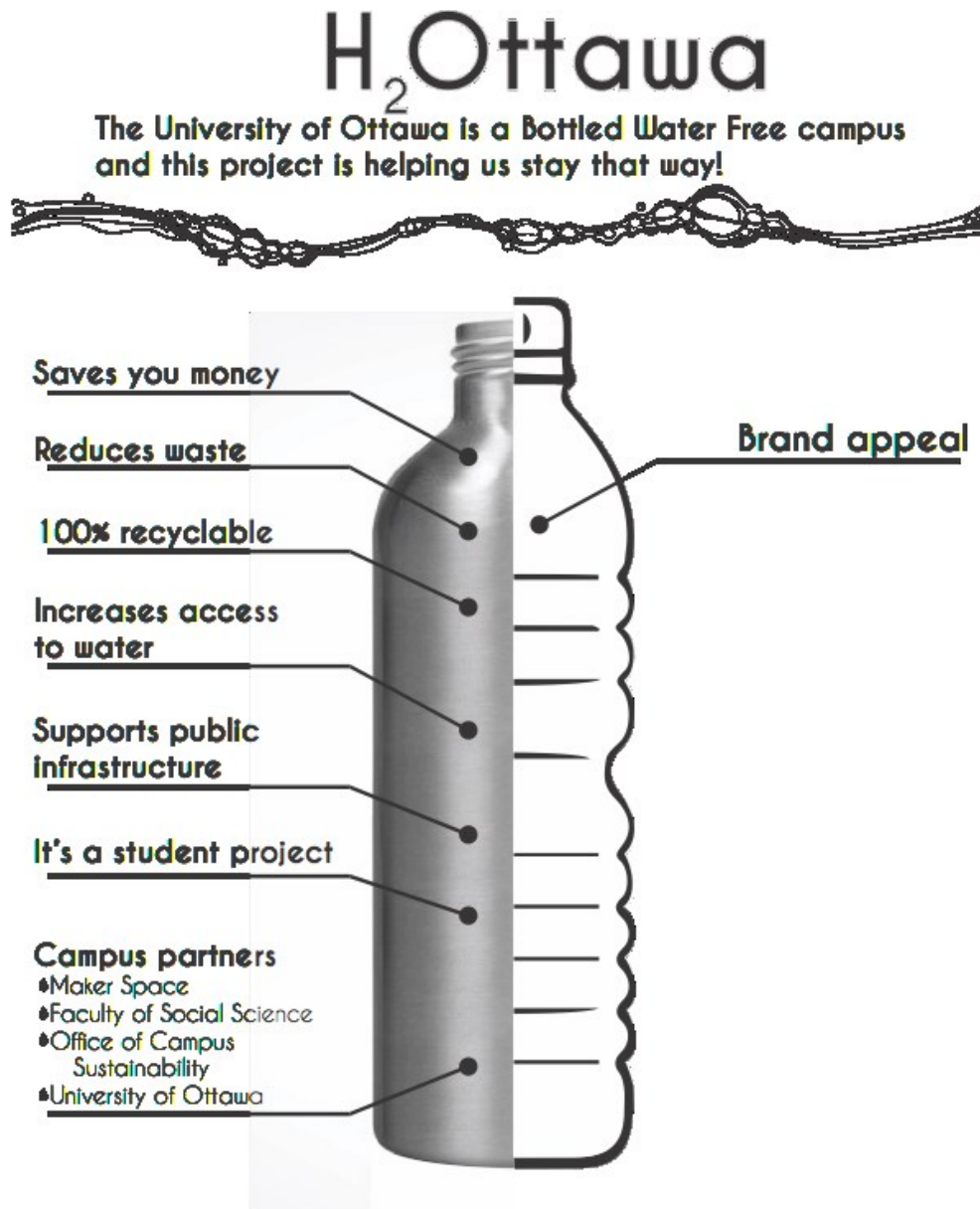
- Recycling and waste hauling – reduces costs related to the manipulation and
- hauling of recyclables, as well as reduces contamination costs related to plastic bottles.
- Earned media - substitutes for marketing and advertising costs related to creating pro-environmental behaviours and attitudes.

ADDITIONAL DETAILS / OPTIONS

- Donate additional funds to charity -
Any additional savings from the program could be donated to a water related charity. Several have been researched that would be a good fit for this program.
- Unsold bottles -
Any product that is not sold in vending machines could be used as promotional products or gifts from Facilities. Bottles could be given away as prizes during events, given to volunteers, or supplied to new employees or either Facilities or the University as a way to demonstrate commitment to Sustainability.
- Branding -
The option exists to use the bottles as a branding opportunity and bring on a partner to cover some of the costs of the program. There would be additional logistics with this option but it would offset some costs.

Appendix 3:

This is the infographic that was created for the launch of H₂Ottawa on March 22, 2018. Here, we specifically compare the H₂Ottawa bottle with a single-use bottle. The purpose of this is to show the UO community that this product is meant to directly *replace* single-use bottles of water.



Appendix 4:

This is how the bottles were going to look before we brought in the Defy the Conventional graphic designers, versus how they ended up looking. There is clearly more attention to aesthetic detail in the second image.



Appendix 5:

On World Water Day, UO featured my story on the front page of their website.



Appendix 6:

This is the article that CBC wrote on the H₂Ottawa campaign.

Metal water bottles for sale in U of O vending machines

Bottles cost \$3 each

CBC News · Posted: Mar 25, 2018 4:00 AM ET | Last Updated: March 25

Celeste Digiovanni may have found a solution for schools that have banned the sale of bottled water on campus. (University of Ottawa)

After banning the sale of bottled water on campus in 2010 to cut down on waste produced by plastic bottles, the University of Ottawa has launched a new initiative — selling aluminum bottles in campus vending machines.

It's something you can just grab if you forget your bottle, and you don't feel super bad about it.

- Celeste Digiovanni University of Ottawa student

Celeste Digiovanni, a graduate student at the university, is the architect of the new initiative. She said the plastic water bottle ban left a gap for students who wanted easy access to transportable water.

"It's something you can just grab if you forget your bottle, and you don't feel super bad about it," said Digiovanni on CBC's Ottawa Morning.

She said many students — herself included — were buying bottled beverages, such as pop, from vending machines and reusing the bottles for water.

"Plastic is actually downcycled, every time you recycle a piece of plastic, only a fraction of that plastic is reused," Digiovanni said.

Wanted portable access to water

Digiovanni met with the campus sustainability manager and landed herself an internship with the sustainability office to come up with a plan to come up with a solution.

"I was super torn, because on the one hand I agreed with the ethical implications and the environmental good — but on the other hand I still wanted a portable way to access water on campus."

Ultimately they decided to sell aluminum bottles in vending machines.

The metal water bottles, which can be bought at University of Ottawa campus vending machines, cost \$3 each. (Andrew Foote/CBC)

The bottles cost \$3 each, and are sold empty — that way students are still encouraged to use public water and at the same time making it portable.

The bottles can be used over and over again.

Digiovanni now hopes that other schools might look at the new program for inspiration.

"I'm really hoping they might take it on."

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Visitez Radio-Canada.ca

Appendix 7:

These are some photos from the segment that TVA filmed on World Water Day.



Appendix 8:

This photo is from the photoshoot I did with the Faculty of Social Sciences, which was used in the marketing campaign for H₂Ottawa.



Appendix 9:

This is the interview guide that I used for most interviewees. All interviews were inspired by this guide.

Interview Schedule, H₂Ottawa Analysis

Preamble: Thank you for agreeing to speak with me regarding your role in the implementation of sustainability initiatives at the University of Ottawa. I am interested in the institutional procedures such initiatives go through to get the green light, or not. For this interview, I am most concerned with how sustainability initiatives are accepted or denied, deemed high or low risk, worth it or not etc. This interview should last between 45-90 minutes. Please don't hesitate to ask me any questions at any time during the interview. If you wish to remain anonymous, I am willing to use a pseudonym in the publishable product; myself and my supervisor are the only ones who will be aware of your identity.

Section A: Background

1. Can you please tell me about your job here at the University?
 - a. *Probe:* What were the requirements for applying to this position? How long have you been in this position? What is your professional background? Educational background?
2. Have you worked on projects related to sustainability before?
 - a. [Have you only worked on projects related to sustainability in the university setting?]
 - b. *Probe:* Where (or how) else have you practically applied this frame?
3. Can you please tell me about your role in the implementation of the Multi-Use Bottle Project?
 - a. [Are you involved with allocating funds to the Multi-Use Bottle Project (or budgeting)? With the marketing/public announcements work? With the logistics? etc.]

Section B: Sustainability and Differentiation

4. Of the two scenarios, which would you say you are more likely to accept:
 - a. A highly-effective sustainability initiative that also saves the university a good deal of money (\$1 million)
 - b. A highly-effective sustainability initiative that requires an investment by the university of a good deal of money (\$1 million)
Probe: Please explain, why you answered in the way that you did?
5. What other initiatives have you supported at the University of Ottawa? Denied? What were the reasons for these discrepancies?
6. The 'Destination 2020' document mentions sustainability as a 'strength' of the University of Ottawa. Why do you think the University is making this claim? Do you agree with it? Why?

- a. [Have we gotten 'better' at sustainability during your time here? How? What were the steps taken?]
7. The University of Ottawa's 'Strategic Mandate Agreement (2014-7)' document states that academically, we do well in the field of environmental protection and would like to continue to grow in this area of study. Does this mandate blend into/inspire more movement in the practical acceptance of sustainability initiatives? Who makes these connections between academic goals and practical implication?
 - a. Would you say more sustainability initiatives are accepted than denied? What needs to be at the core of the project for it to succeed?
 - b. Would you say that the sustainability initiatives accepted by the University of Ottawa have to promise an economic return from the start? [Do all sustainability initiatives need to be 'economically neutral'?]
8. 'Destination 2020' puts an emphasis on student experience, stating that it is important for students to have regular interactions with professors, staff and other students as it 'enriches the learning environment inside the classroom and out'. For administration, would you say that the actor *initiating* the sustainability project matters? In other words, are you more likely to accept an initiative that is designed by a student? Why?

Section C: Reputation

9. In your opinion, do sustainability initiatives augment the university's reputation? How? If you are in the marketing of these initiatives, how do we market them? How do we know who to impress/who cares?
 - a. [Is it the government who cares? External donors? What are the avenues through which these initiatives are presented (and why these avenues?)?]
10. Do you have a role in measuring or reporting sustainability at the University of Ottawa? If so, which ranking systems are you familiar with? Where are the areas of concern, that may be addressed (ex. reducing our carbon footprint, zero waste etc.)?
 - a. [Why do we care about the ranking systems? Do they help us attract students? Save on taxes? Receive honourable mention in world renowned media venues? Etc.]
11. Do you think that the University of Ottawa will continue to implement sustainability initiatives, even now that there is more talk of cutbacks at the university? If so, why would we choose to spend in this area when money is tight?
12. The University of Ottawa's sustainability models are outdated (last edited in the 90s). In your opinion, do you think this matters?
 - a. Is it a 'known' process by which sustainability initiatives are passed? [Is there a trust amongst the administrators that they know the process?]
 - b. Is there the freedom for administrators to accept projects that they believe in?
 - c. Would you say that there are any 'institutional safeguards' in passing these initiatives? [For example, through the stages of presenting these initiatives to so many people in various departments?]
 - d. What are the strengths of our current sustainability policy? Where do you think we can improve? Do you have any practical examples you can think of? [*Probe for details*]

Section D: MBP

13. What do you hope will result from the implementation of the MBP? Do you have any concerns about the project or its implementation?
14. In your opinion, is the MBP going to improve or help the university's reputation?
 - a. How? Why? Through which avenues?
15. In your opinion, do you think the MBP will succeed?
 - a. Do you think students will like this provision? Do you think it will be well-received by the because it has never been done before?
16. In your opinion, do you think that the MBP is a good idea for the university?
17. In your opinion, do you see the MBP causing any problems for the university?
18. [For Defy the Conventional respondents only] Do you think that the MBP will receive interest and funding from external donors?
 - a. Why? Who are the people you will target? Are they only those interested in sustainability, or will you frame this initiatives more broadly? If so, how? Which frames? Will we only look at the current Tabaret Society, or try to reach out? If you are reaching out, how do you plan to do that?
19. Other than yourself, do you know anyone else that influenced decision-making around this initiative, and would be willing to sit for an interview?
 - a. I heard that there were economic constraints at the University of Ottawa that hindered the implementation of the MBP, is this true? Or did the administration feel that it was not worth putting more money into (breaking even)? Were their any policies, goals or mandates that pushed or constrained the implementation of this project?
20. Any final thoughts that you would like to add?

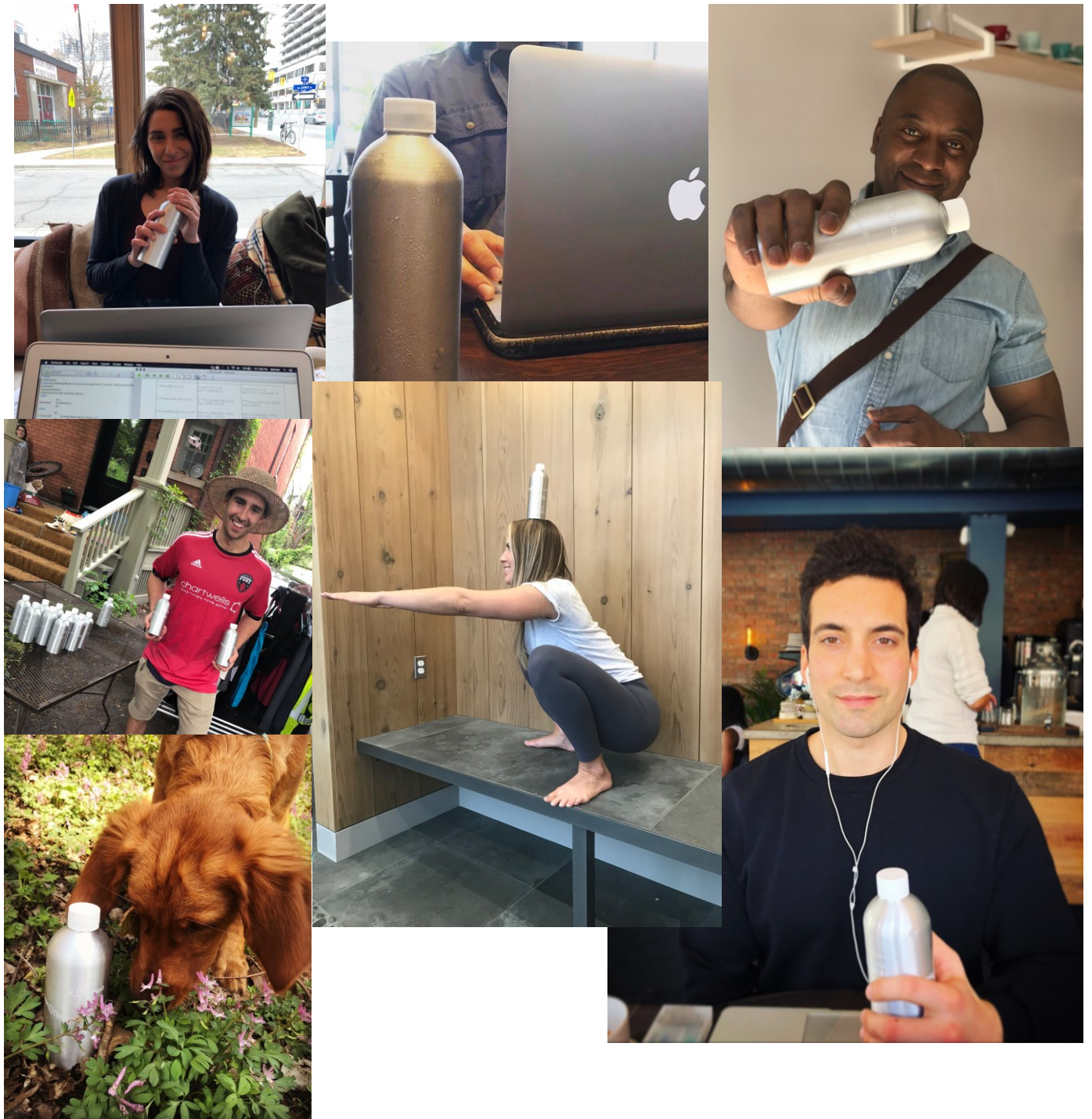
Appendix 10:

This is the bottle that will be presented to the CEO of Desjardins on June 5, 2018. If the company likes it, they will continue to purchase H₂Ottawa bottles for all of their branches to give to clients. In addition to this, Desjardins did some rebranding which included a commitment to social entrepreneurs such as myself. The H₂Ottawa bottle will be given out to inform new and old clients, as well as the community more broadly at certain events, of their new allegiance



Appendix 11:

These are some pictures from the H₂Ottawa Instagram page. Moving forward, I want to continue to conceptualize this project as an inclusive Ottawa initiative that the community at large can get behind.





Appendix 12:

Following the theme of the Instagram, this generic bottle now comes with a cityscape of Ottawa. The intention here is to engage the Ottawa community more broadly. This screen will be printed on all bottles for the Bluesfest event.

