Harm Reduction for Corporations

by

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

When corporations set out to do good for the environment and society, they usually do so under the banner of corporate social responsibility. This approach has become commonplace among the public, in business schools, and in issues of academic journals. However, corporate social responsibility has a few flaws. First, some corporations may never be socially responsible because of their core business. Second, there are corporations who pursue corporate social responsibility campaigns that are highly removed from their core business and these campaigns seem inappropriate. Finally, there are corporations for whom corporate social responsibility is unattainable because it requires too many resources.

This thesis offers another tool for social responsibility: harm reduction for corporations. My harm reduction framework fills the gaps left by corporate social responsibility and encourages every corporation to set and meet goals that reduce the harms that they do to the environment and society. My harm reduction framework offers a low threshold for engagement, where corporations can reduce harms for any reason they choose and to any extent that they choose. This low threshold approach makes room for every corporation to contribute to reducing harms done to the environment and society.

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Introduction

In this dissertation, I achieve two goals. First, I establish corporations as an arena where harm reduction frameworks can apply. Second, I develop a framework for applying harm reduction to the oil and gas and pharmaceutical industries. I chose these industries because they have been met with significant public criticism for being harmful to the environment and/or society. They also teach us important lessons about the usefulness of my harm reduction framework. I suspect that these industries, especially the oil and gas industry, will become the typical examples of harm reduction being applied to corporations. They will serve as a starting point for future harm reduction researchers who want to apply harm reduction frameworks to other industries.

Before we proceed to a discussion about harm reduction for corporations, it seems important to explain why harm reduction frameworks are useful in the current business context. Currently, corporations who wish to do social good, or wish to appear to do social good, usually do so under the banner of corporate social responsibility. This is an approach where corporations do environmental or social good to be socially responsible entities that exist in society. Corporate social responsibility is based on two fundamental principles. First, corporations exist as businesses. Nobody thinks that corporations should use corporate social responsibility to become non-profit organizations. Second, corporations must do some kind of social good, broadly construed. Corporations typically donate to charitable organizations, volunteer their employees for environmental or social initiatives, and reduce their impact on the environment.

Despite its broad reach, the exact definition of corporate social responsibility is up for debate. It is often confused with other related concepts, such as corporate citizenship and sustainability (Schwartz and Carroll 2008). Further, the definition of corporate social responsibility has itself been contested. Many definitions of corporate social responsibility have been suggested (e.g. Carroll 1979; Elkington 1998; Garriga and Melé 2004; Sarkar and Searcy 2016; Schwartz and Carroll 2008) and the

literature has settled on none of them. In fact, Okoye (2009) argues that the definition of corporate social responsibility is impossible to nail down because the concept is the kind of thing that cannot be universally defined. Regardless of the difficulty with defining corporate social responsibility, the approach has been proven to offer corporations many benefits. It increases a corporation's ability to compete in the market (Burke and Logsdon 1996), protects a corporation's reputation (Minor and Morgan 2011), and attracts job applicants (Duarte et al. 2014).

Many consumers criticize corporations for pursuing corporate social responsibility for the above-mentioned pragmatic reasons. Instead, consumers argue, corporations should be socially responsible because that is the right thing to do. Indeed, the reader might have the intuition that businesses that perform corporate social responsibility initiatives for the sake of increasing profits are somehow less good than the corporations who pursue these initiatives out of the goodness of executives' hearts. I will say more about this intuition below. The point I want to make here is that it seems undeniable that corporations play a part in protecting our environment and taking care of society regardless of their motivations. The demand for corporate social responsibility initiatives is high, to the point where it is difficult to name a large corporation that does not have a formal corporate social responsibility platform. It seems that corporate social responsibility is here to stay.

Now, let us pause here for a moment to think about these varying reasons for pursuing corporate social responsibility. It seems as if we have discussed two of them. First, corporate social responsibility can boost the bottom line. In addition to the pragmatic reasons for pursuing corporate social responsibility listed above, by pursuing environmental or social initiatives, corporations attract more customers and customers are willing to pay more for the product. This is beneficial for the business overall. The second reason to pursue corporate social responsibility initiatives is because the corporation's leaders care about being socially responsible. Perhaps they have a particular cause that they want to support or just think that businesses should contribute to making the world a better place

in ways aside from profit-making. To many, it may seem like it is better for corporations to pursue corporate social responsibility for the second reason, but many corporations will do so for the first reason alone.

I will not argue that one of these approaches to corporate social responsibility is superior to the other. Instead, I want to focus on the fact that regardless of the reason for pursuing corporate social responsibility initiatives, some good is being done by corporations. When we consider how many corporations have corporate social responsibility campaigns, it seems undeniable that at least some of them have done some good for the world. However, there are a few major issues with corporate social responsibility.

First, there are certain types of corporations that may never truly be socially responsible because their core mission is socially irresponsible. Consider oil and gas companies, whose primary business is to sell an environmentally damaging product that is obtained through environmentally damaging means. Also consider the meat packing industry, which keeps animals in inhumane conditions and slaughters billions of them every year so that consumers have access to cheap meat.

Second, there are corporations that pursue corporate social responsibility campaigns that are highly removed from their core business and thus seem misaligned with corporate operations. This phenomenon has been noted in Dowling and Moran's 2012 paper, "Corporate Reputations: Built in or Bolted on?". Corporations with "built in" corporate social responsibility campaigns have initiatives that align with their core business operations. For example, Starbucks sources coffee in a way that respects its farmers. Since they must source coffee anyway, they are being socially responsible as a part of their core business. In contrast, "bolted on" corporate social responsibility campaigns have initiatives that seem further removed from their core business operations. For example, Ronald McDonald Charities help parents stay close to their sick children while the children are in the hospital. This charity conveniently distracts from the fact that McDonald's has been exposed for failing to pay their workers

a living wage. Dowling and Moran argue that "bolted on" campaigns are highly replicable and do not provide a distinct source of competitive advantage. They advocate instead for "built in" corporate social responsibility campaigns and argue that these are better for bolstering a corporation's reputation. This conclusion aligns neatly with the intuition that some corporations pursue the seemingly wrong kind of corporate social responsibility initiatives. Instead of being socially responsible as a business, they perform unrelated activities that they call corporate social responsibility but are often a distraction from the major harms that they do in the course of their operations.

Finally, there are corporations for whom corporate social responsibility is impossible because they do not have the resources to support such a program. Many mid-sized businesses, and certainly small businesses, fall into this category. This is not to say that mid-sized and small businesses do not pursue socially responsible missions, since many of them do, but it is more difficult for them because of their limited resources. An approach to social responsibility that requires fewer resources would be beneficial for those that do not currently have corporate social responsibility campaigns.

Harm reduction has the power to address all three of these gaps in corporate social responsibility. For corporations that can never truly be socially responsible, harm reduction offers a lower threshold for engagement. That is, the demands on the corporation to do good for the environment and society are lowered from having to do social good to simply reducing harms. For corporations who pursue corporate social responsibility activities that are unrelated to their business, harm reduction forces them to look at the harms done throughout the course of their normal operations and address those particular harms. This is to say that harm reduction frameworks push corporations toward "built in" behaviours by nature. Since a corporation under a harm reduction framework would be reducing harm that they do to the environment and/or society, they are forced to confront the harms that their operations lead to. Importantly, this is not to say that corporations who reduce harm in "bolted on" ways are not harm-reducing. Indeed, the pluralistic nature of a harm reduction framework would still

encourage "bolted on" harm reduction initiatives. However, harm reduction naturally leads corporations toward more "built in" initiatives that are better aligned with their operations. Finally, again, since harm reduction has a lower threshold for engagement, corporations who cannot or will not put the resources into corporate social responsibility initiatives can turn to harm reduction instead.

Further, taking a harm reduction view of corporations allows us to ask corporations to do less harm to the environment and society while continuing to pursue profits as aggressively as they like. This tension between doing good and maintaining profits is at the heart of many difficulties that executives are faced with when they implement corporate social responsibility campaigns. A framework that allows both reducing harm and seeking profits is surely welcome.

The above discussion is, I hope, enough to get the project off the ground. It motivates my project by identifying issues with the existing corporate social responsibility framework and aims to solve it with an alternative framework. Here, I want to add one more note before we begin. Some may question the viability of using the term "harm reduction" in the context of a corporation marketing its good deeds to consumers. It may seem imprudent or detrimental to include the word "harm" in the term. This may be true. However, I use the term "harm reduction" in this dissertation to identify a concept and framework off which I build my ideas. The actual term that is used by corporations to denote what I call "harm reduction" is a matter for further research. It is possible that another term would be more appropriate, or perhaps what I call "harm reduction" could be subsumed under the term "corporate social responsibility" for the purposes of marketing. Nonetheless, "harm reduction" denotes a specific concept and framework that I use in this dissertation and I will continue to use the term here for clarity. Further research and marketing prowess could determine the ultimate term that is used to describe what I call "harm reduction" in practice.

Now, my dissertation will proceed in five chapters. In the first chapter, I review existing harm reduction frameworks and develop a cluster concept to define harm reduction. In Chapter 2, I analyze

the cluster concept in the context of corporations and conclude that harm reduction frameworks can apply fruitfully to corporations. In the third and fourth chapter, I apply my harm reduction framework to the oil and gas and pharmaceutical industries. Here, I identify the specific harms that the industry does to the environment and society and offer suggestions on how to reduce that harm. In the fifth and final chapter, I explain how a harm reduction framework could be implemented in a corporation.

A final note is in order before I begin. While this dissertation is a project in ethics insofar as it discusses the way that corporations ought to behave, it is not a traditional project in normative ethics. I do not draw on any one moral theory or suite of moral theories and I do not develop any of them in any depth. Instead, this is a project in harm reduction where I develop a framework that is meant to be used as a tool for businesspeople while overseeing business operations. My focus is on the practical application of a harm reduction framework to corporations. At best, this dissertation develops a tool that businesspeople now have in their toolbox for overseeing business operations in a way that is more amenable to society and the environment.

Chapter 1

Existing Harm Reduction Frameworks

Harm reduction is a concept from the health policy and social services domains. Broadly speaking, it refers to a process by which the harms that are associated with a behaviour are reduced without requiring cessation of the behaviour itself. It has been applied in a variety of contexts, including injection drug use, tobacco use, and sex work, which I will discuss in this chapter. Other notable applications of harm reduction include alcohol use, cannabis use, and many forms of high-risk sexual behaviour.

The first step to applying harm reduction frameworks to corporations is to understand what harm reduction frameworks are. As I am hoping to import this framework into corporate operations, it is important that I stay true to the fundamental nature of harm reduction and respect the principles by which it operates. Thus, a review of this fundamental nature of harm reduction and its principles is in order. From this review, I extrapolate a definition of harm reduction that is more widely applicable than existing definitions of harm reduction, though it continues to respect the core of harm reduction frameworks.

I begin this chapter with an overview of the basics of harm reduction frameworks. I then provide a brief history of harm reduction. Next, I present eight key principles for harm reduction and show how they apply to the cases of injection drug use, tobacco use, and sex work. I then move on to define harm reduction. I start with an explanation of why a definition of harm reduction is important. This is followed by a definition of harm reduction as a cluster concept. I conclude the chapter with some thoughts on applying the cluster concept to corporations.

1.1 What is Harm Reduction?

Though many trace the origins of harm reduction back to the 1980s AIDS epidemic in America, harm reduction activities have actually been taking place since the early 1920s. At this time, a collaboration between Dr. John Rolleston and the British government made it legal for doctors to prescribe opiates and cocaine to drug users for maintenance therapy. Rolleston understood drug addiction as a medical disease that needed to be treated as opposed to a moral failure that needed to be shunned. This collaboration was important because it was the first step in understanding drug use as an activity that could be appropriately and effectively managed without requiring abstinence (Collins et al. 2012). However, the concept of harm reduction had little traction for five decades after this collaboration.

Next, in the 1970s in the Netherlands, many groups recognized cannabis use as importantly different from other illicit drug use. They differentiated between these classes of substances based on their harms, where cannabis was understood as being significantly less harmful than other illicit drugs. Pressure from these groups led to the 1976 Dutch Opium Act, which implicitly decriminalized cannabis. When the Netherlands saw an increase in cocaine and opiate use in the 1980s, the government recognized harm reduction as the official policy response to the issue. Additionally, an advocacy group named the Rotterdamse Junkiebond (Rotterdam Junkie Union) provided health education to the public, stood in favour of basic rights and health care for substance users, and provided clean syringes for injection drug users. This advocacy led to the world's first government-backed needle and syringe exchange program in 1984, which eventually expanded to 60 Dutch cities by the late 1980s (Collins et al. 2012).

The first real push for harm reduction in North America began in grassroots campaigns during the American AIDS epidemic in the 1980s. Injection drug use quickly became a target for reducing the spread of HIV and other diseases, mainly through grassroots movements that provided educational

resources to gay men. Needle and syringe exchanges were also made available by grassroots advocates who modelled their harm reduction after the Dutch needle and syringe exchanges (Collins et al. 2012).

In 2002, Vancouver, British Columbia, Canada was battling a public health emergency arising from a drastic increase in heroin overdoses in Vancouver's Downtown Eastside. Larry Campbell was elected mayor of Vancouver and support for a supervised injection site was key to his platform. Once he was elected, a coalition of health agencies and all levels of government worked together to tackle the emergency. In 2003, Vancouver became the first city with a safe injection site in Canada (Dooling and Rachlis 2010). The safe injection site is now known as Insite (Insite for Community Safety). It is a key pillar in the battle for Canadian harm reduction programs.

In January 2006, a new Conservative government was elected in Canada. The government, along with the Royal Canadian Mounted Police, challenged the evidence that leaned in favour of a safe injection site. However, even these reports stated that Insite led to increased detoxification treatment and increased the number of injection drug users seeking treatment. In 2008, the British Columbia Supreme Court ruled that Insite qualified as an operation that provided health care, which falls under provincial jurisdiction. Further, according to this ruling, the federal government's actions were inconsistent with Section 7 of the Canadian Charter for Rights and Freedoms that grants all Canadians the right to life, liberty, and the security of the person. Because of this ruling, Insite was permitted to continue its operations. In 2010, this ruling was appealed by the federal government. The appeal was defeated by the British Columbia Court of Appeal (Dooling and Rachlis 2010). The federal government appealed the decision yet again to the Supreme Court of Canada. In 2011, this court upheld the previous rulings in a unanimous vote (2011 SCC 44).

As we can see, harm reduction was largely started because of the harms from injection drug use. Further, harm reduction initiatives that target injection drug users are effective. The National Institute for Health and Care Excellence (NICE) is a body in the United Kingdom that provides

evidence-based recommendations to health, public health, and social care experts. Their guidance is used by the National Health Service for effective, cost-efficient health care options. According to NICE (2014a) research, needle and syringe exchange programs are effective on a variety of measures. For example, these programs have been shown to reduce HIV infection rates, decrease emergency room admissions, and almost a dozen analyses demonstrate that these programs are cost-effective in terms of reducing the risk of HIV. As of September 2019, NICE's (2014b) official position is that needle and syringe exchange programs reduce the risk of HIV and other viruses transferred by sharing needles. "Needle and syringe programs (NSPs) need to be considered as part of a comprehensive substance-misuse strategy that covers prevention, treatment, and harm reduction" (NICE, 2014b).

Today, harm reduction is described as "a set of compassionate and pragmatic approaches for reducing harm associated with high risk behaviors and improving quality of life" (Collins et al. 2012, p. 5). Harm reduction is **compassionate** because it respects, addresses, and includes individuals who perform high-risk behaviours. It allows individuals to give their input on their plans for harm-reducing activities. Further, harm reduction frameworks are **pragmatic** in that they use scientific evidence to determine the best ways to reduce harm. Even though some of these behaviours may fall into legal grey areas, such as the opening of Insite in Vancouver, harm reduction advocates continue to push for solutions that are empirically supported. As we have already seen, sometimes this scientific evidence is contrary to public opinion, but favour for harm reduction frameworks is gained by appeals to human rights and cultural competence. For example, the right to health care is often cited as a reason in favour of harm reduction initiatives (Harm Reduction Coalition, n.d.). If we understand harm reduction as a way of securing health care for many individuals, it is much more easily accepted. Finally, **quality of life** is addressed by customizing harm reduction initiatives according to each individual's needs. This customization is important to harm reduction initiatives and pursuing this customization is a core part of harm reduction frameworks.

Instead of taking a stance on whether high risk behaviours are right or wrong, harm reduction frameworks focus on the harms associated with a behaviour and seek to reduce that harm without requiring cessation of the behaviour itself. Unsurprisingly, harm reduction today focuses on high-risk behaviours. Collins et al. define "high-risk behaviours" as "fluid and dynamic social constructs" (2012, p. 18) as a way of allowing harm reduction practitioners and users the flexibility to define their harm reduction needs and reduce judgment surrounding the behaviours in question. With this in mind, Collins et al. identify eight key principles to harm reduction (p. 18-22):

1. High-risk behaviours are formed from cultural values, norms, and beliefs.
2. High-risk behaviours are tenacious. At least in the context of injection drug use, plentiful evidence has shown that abstinence-only campaigns have been unsuccessful.
3. There are benefits and drawbacks to performing high-risk behaviours.
4. Substance use should not be immediately labelled as addiction. In the context of injection drug use, there is a difference between use and addiction.
5. Harm and harm reduction operate on a scale from least to most harmful. There are ways to engage in risky behaviours that are less risky than others.
6. An individual's behaviour only makes sense in the context of their social, economic, and political environment.
7. Harm reduction is driven by pragmatic solutions instead of generalized theory. Those who provide harm reduction services should look at each individual case separately and identify an appropriate solution for each particular case.
8. Harm reduction is ethical. Harm reduction frameworks emphasize community engagement, social justice, and human rights.

These eight principles make the most sense in the context of injection drug use, which is not surprising given that this is where harm reduction started. Understanding injection drug use in terms of

these eight principles of harm reduction dramatically shifts that way that some may think about the issue. Consider that injection drug use is the result of cultural values, norms, and beliefs, instead of a moral failing on the part of the individual. Injection drug use is certainly tenacious and has benefits, such as immediate relief of negative feelings, and drawbacks, such as long-term addiction. Injection drug use shifts away from being a disease and is instead understood on a scale from use to addiction, which results in fewer or more harms to the individual. To understand injection drug use fully, we must understand the social, economic, and political environment that injection drug users face. Harm reduction for injection drug users, as we have seen in the case of Insite, are based on pragmatic solutions that are customized to each individual. Finally, harm reduction for injection drug users is argued to be ethical by engaging communities, upholding social justice, and protecting human rights.

In many ways, these eight principles represent a dramatic shift in the way that we think about harmful behaviours. Often, the response to a harmful behaviour is to try and get rid of it entirely. This response is evident in policies and laws surrounding paradigmatic applications of harm reduction like injection drug use and sex work that are described below. However, once evidence shows that we cannot, or will find it very difficult to, eliminate these harmful behaviours, some think that we ought to take a different, harm reductive approach. The typical reasoning is as follows: if the harmful behaviour is going to persist, we should make it as safe as possible to participate in that behaviour. Thus, harm reduction was designed to be pragmatic, address existing harms in ways that respect the autonomy of the people who choose to perform harmful behaviours, and address the context in which the harmful behaviour exists. Proponents of harm reduction often say that they "meet people where they are" (e.g. School of Population and Public Health, 2016; Canadian Mental Health Association, 2020) and help people in effective, compassionate, and respectful ways. The above eight principles, along with compassion, pragmatic behaviour, and increasing quality of life, are at the core of harm reduction frameworks and are incredibly important to keep in mind as we do harm reductive activities. With these

basic principles in place, we can look at three existing applications of harm reduction frameworks: injection drug use, tobacco use, and sex work.

1.1.1 Injection Drug Use

Today, injection drug use is the classic example of the fruitfulness of harm reduction efforts. Needle and syringe exchanges (Sander and Murphy 2017), opioid substitution therapy (Aceijas 2012), and support services such as housing support and counselling (Boucher et al. 2017) are just some examples of harm reduction services available to injection drug users. All these interventions are meant to reduce the harms associated with injection drug use without requiring cessation of the drug use itself. For example, needle and syringe exchanges ensure that users inject with clean needles, which helps to prevent the spread of HIV and other diseases.

Needle and syringe exchanges and, to a lesser extent, opioid substitution therapy have become so important that these programs have been implemented in prisons, most notably in Europe and Central Asia (Lines et al. 2009), to reduce the harm associated with drug use in prison (Resiak, Mpofu, and Athanasou 2016; Stoever 2002). Harm reduction programs have been found to be effective at reducing the risk of transmitting HIV in prisons (Moller et al. 2008; Sander and Murphy 2017). However, opposition to harm reduction programs remain, as many countries retain zero tolerance policies in prisons, perhaps for political reasons (Watson 2014). There remain risks associated with drug use in prison (Chakrapani et al. 2013; Qaramah and Parausanu 2005; Sawitri et al. 2016).

The core principles of harm reduction are most clearly operationalized in the case of injection drug use. In these cases, harm reduction providers tailor their services toward each individual user to give them personalized harm reduction plans that align with the user's motivations, goals, and values. These harm reduction services "[start] where the patient is" and "meet the client as an individual" (Tatarsky and Kellogg, 2012, p. 39). This means that the harm reduction provider recognizes the user's unique world. The goal of the harm reduction provider is to find the user's strengths and use those to

help the user make small steps toward their goals. Abstinence is not required of the user at any point and reducing the stigma around substance use is a priority (p. 40).

1.1.2 Tobacco Use

Over 90% of the harms that come from smoking cigarettes come from smoke inhalation (Phillips and Rodu 2013; Stimson 2016). Given this fact, many scholars, including those cited in this section, have argued that harm reduction frameworks should apply to smoking. Finding a way for tobacco users to use without inhaling smoke represents a huge benefit in their health outcomes. E-cigarettes are one popular alternative to cigarettes. E-cigarettes are tobacco-free devices that deliver nicotine to the user through vapour. Using an e-cigarette mimics the action of smoking and thus may be more satisfying than other nicotine replacement therapies like gum or the patch (Snowdon 2013). E-cigarettes have been shown to be much safer than cigarettes (Nitzkin 2014; Phillips and Rodu 2013) and are at least part of the solution to reducing cigarette use around the world (Moore, Mckee, and Daube 2016). Many advocate for e-cigarettes as a safer alternative to cigarette smoking (e.g. Cahn and Siegel 2011).

Despite the promise of e-cigarettes for tobacco users, other evidence might make us pause before supporting the introduction of e-cigarettes in society. The most recent Canadian data suggests that "vaping", the colloquial term for the use of e-cigarettes, has become incredibly popular among teenagers. Starting in May 2018, e-cigarettes were permitted to be sold in Canada. In the six months since then, Dr. David Hammond found that vaping rates have increased drastically and teenage cigarette smoking rates have also increased (Crowe 2018). Further, Juul, a major e-cigarette distributor, launched its Canadian operations and has seen dramatic growth with little competition (Herzog and Kanada 2018). All this data suggests that vaping is popular among teenagers, a relatively vulnerable population, and e-cigarettes are not purchased exclusively as a harm reductive approach to cigarette smoking. In fact, this data suggests that many teenagers are using e-cigarettes without having previously used traditional cigarettes, which exposes them to the risks of nicotine addiction. This data nicely illustrates

that mixed evidence and a range of potential harms can make it difficult to determine which options reduce the most harm. In the spirit of harm reduction, the use of e-cigarettes should be monitored and empirical data should be leveraged to help policy makers determine the best way to capture the benefits of e-cigarettes for tobacco users while minimizing its negative effects on teenagers.

Another smokeless tobacco alternative is snus or snuff. Snus is a tobacco product that is consumed by sucking on a teabag-like pouch under the upper lip. It is currently banned in the European Union with the exception of Sweden, which enjoys the lowest rate of tobacco-related mortality in all of Europe despite consuming the same amount of tobacco as other European countries (Snowdon 2013). There is no evidence that snus increases the risk of any cancers (Hall 2005; Ornberg 2013), which makes it safer than cigarettes. Like e-cigarettes, many advocate for the use of snus as a less harmful alternative to cigarettes (e.g. Gartner and Hall 2010; Gilmore et al. 2008; Lund 2013).

Tobacco use is not currently an arena where harm reduction is widely practiced. Tobacco harm reduction initiatives are currently underway in only Scandinavia and some areas of the United States. Despite the lack of momentum for harm reduction initiatives, the fruitfulness of harm reduction efforts for tobacco users is quite clear. There are existing nicotine alternatives that are much safer than cigarettes.

Unfortunately, there is misinformation about tobacco use, e-cigarettes, and snus among activists, the public, clinicians, policy makers, and health researchers. Anti-smoking campaigns have been highly successful at getting all stakeholders to believe biased and incorrect information about smokeless tobacco products (Phillips et al. 2012, p. 132). Instead of embracing tobacco harm reduction, many will only support abstinence for tobacco users. Health experts, international organizations, and university departments have launched a "prohibitionist crusade" (Phillips and Rodu 2013, pg. 76) against tobacco and nicotine as a whole, while other individuals and organizations are attached to a "utopian vision of a world where no one uses nicotine" (pg. 77). All this amounts to anti-tobacco harm

reduction sentiments in society despite the scientific evidence for the efficacy of tobacco harm reduction initiatives. According to Phillips and Rodu (2013), "We are aware of no organization or individual activist who acknowledges the basic scientific evidence about the benefits of [tobacco harm reduction] and then proceeds to present an argument against [tobacco harm reduction]" (pg. 77). They go on to explain that anti-tobacco harm reduction campaigns are fraught with deceptive information campaigns and ad hominem arguments. For tobacco harm reduction to be successful, harm reduction providers will have to combat this misinformation through pro-health campaigns and grassroots activism (Phillips et al. 2012, p. 136).

1.1.3 Sex Work

There are several harms that come with sex work, especially survival sex work. Sex workers are a group that has some of the highest HIV infection rates worldwide and are often forgotten when it comes to HIV prevention strategies (Andrasik and Lostutter, 2012). Sex workers are also vulnerable to violence from their clients. This violence includes beatings, rape, and threats with weapons (Surratt et al. 2004). Other harms to sex workers depend on the type of sex work they are engaging in. Indoor sex workers, such as those who work in strip clubs and massage parlours, are concerned about the safety of their working environment. Out-call workers, who go to a place of their clients' choosing, are worried about how many people they will encounter, whether there will be any weapons at the client's location, and whether they will encounter any violence. In-call workers, where clients go to a site of the sex worker's choosing, are worried about clients uttering threats and being violent. Finally, street-based workers are concerned with public interference and police sweeps (Shaver, Lewis, and Maticka-Tyndale 2011).

Harm reduction efforts with respect to sex work have been focused on increasing condom use (Barreto 2017; Chiao et al. 2009) and fostering a safe working environment (Shannon et al. 2008; Shaver, Lewis, and Maticka-Tyndale 2011; Weitzer 1999). Some have argued that larger structural and political changes must occur to help sex workers stay safe. For example, Weitzer (1999) argues against

blanket decriminalization and legalization. Blanket decriminalization has almost no public support while blanket legalization ignores the needs of many sex workers who fall outside of the scope of existing regulations. Instead, Weitzer puts forth a two-track model where resources are put toward helping street-based sex workers stay safe, since they face far greater risks than indoor sex workers.

While STI and HIV prevention through condom use and fostering a safer work environment to the best of the sex worker's ability are important, they do not address many of the other harms of indoor, out-call, in-call, and street-based sex workers listed above. More effective harm reduction strategies for sex workers involve addressing social factors such as poverty, gender inequality, discrimination, and social marginalization. We must also reduce the stigma associated with sex work, including the stigma against STI and HIV testing (Andrasik and Lostutter 2012).

Many think that addressing social factors such as poverty, gender inequality, discrimination, and social marginalization would eliminate sex work altogether. While these factors do contribute to individuals entering sex work, it is not true that all sex workers are forced or coerced into the industry. Many sex workers find the sex that they have with clients to be pleasurable (Kontula 2008). In fact, one sex worker says that she "decided to start using [men] just for sexual satisfaction" (p. 610). Others take pleasure in orgasms, reactions from their clients, and performing sexual acts (Kontula 2008). Further, research has shown that pornography actors can lead relatively "normal" lives with supportive family members and a college education. They can also live without valuing their lives as less fulfilling or important because of their career choice (Ryder and Monroe 2010). Thus, it is not the case that all sex workers are unwilling participants in the industry. However, it is still important to address the harms that the industry causes to both willing and unwilling participants.

1.1.4 Expanding Harm Reduction

When we review the existing applications of harm reduction frameworks, it is clear that the eight core principles of harm reduction apply very well. However, when we think about examples of harm

reduction outside of these three contexts, it becomes useful to think about harm reduction a little differently. While the core principles of harm reduction remain the same, the actual definition of harm reduction may shift slightly.

1.2 Harm Reduction as a Cluster Concept

There are many definitions of harm reduction that exist today. Collins et al. provide one description of harm reduction, which I reviewed at the beginning of this chapter. Another notable definition comes from the Centre for Addiction and Mental Health (n.d.), where harm reduction strategies "aim to provide a variety of options that reduce the harms the activity may have, both for the people involved and for the community around them". The Centre for Addiction and Mental Health views harm reduction largely from the lens of substance use. Yet another notable definition comes from Harm Reduction International (2020), where harm reduction "refers to policies, programmes and practices that aim to reduce the harms associated with the use of psychoactive drugs in people unable or unwilling to stop".

We can see that today's definitions of harm reduction largely centre around injection drug use. However, harm reduction must apply more broadly if legitimate applications of harm reduction frameworks include tobacco use and high-risk sexual behaviours as discussed above. Thus, the challenge is to provide a definition of harm reduction that is broad enough to capture the essence of harm reduction as a policy while excluding behaviours that merely reduce harm without a harm reduction framework.

It is useful here to think about what kinds of behaviours we wish to capture and which kinds of behaviours we wish to exclude. Obvious cases of behaviours that we want to include are injection drug use, tobacco use, sex work and other high-risk sexual behaviours, alcohol use, and cannabis use. These are areas where harm reduction frameworks have already been applied in the scholarly literature.

Further, these behaviours seem to share many traits that can be captured in a definition of harm reduction.

There are some behaviours to which we think that harm reduction should not apply. Consider murder, which many of us deem to be intolerable. Harm reduction for murder might involve ensuring that the victim suffers less during the murder itself or reducing the amount of times that a serial killer acts on their urges to kill. This application of harm reduction seems incorrect. When there is an intolerable behaviour, we ought to get rid of the behaviour altogether instead of only reducing the harms associated with that behaviour.

Given that the definition of harm reduction is complex, I argue that harm reduction is best described as a cluster concept. A cluster concept is a concept that is defined by a list of qualities that may or may not apply to each example of that concept. The more qualities on the list that apply to some example, the more likely it is that the example belongs to that concept. Typically, very few of the qualities on the list are necessary or sufficient. This flexibility allows us to apply harm reduction as a cluster concept to a variety of domains.

Cluster concepts were made popular by Wittgenstein in *Philosophical Investigations* (1968). Wittgenstein begins by discussing language-games, which he understands as the activity of using a language to convey meaning (p. 23). The difficulty with language-games is that there are innumerable ways of using the language's symbols, words, and sentences (p. 22). Further, the way that these symbols, words, and sentences are used is continually changing (p. 22). For example, the utterance "two!" could mean "bring me two blocks" or "there are two red objects" or a variety of other sentences depending on the context. Suppose that, in this instance, we utter "two!" and mean "bring me two blocks". To define this utterance, we would have to define "bring" and "block", then we would have to define the words that we used to define "bring" and "block" and so on. This chain will continue

endlessly (p. 29). This observation leads Wittgenstein to point out that it is very hard to come to a definition of a word that captures all its possible meanings.

Another complication in defining symbols, words, and sentences is that there are all sorts of language-games. There are questions, assertions, demands, and so on. Wittgenstein's claim is that there is no essential feature or form of language-games that encompass them all. So, when we say that we are "using a language", we really mean that we are taking part in an activity that resembles "using a language" to a certain extent (p. 65). To illustrate this point further, Wittgenstein gives the example of games. There are all sorts of games, including board games, card games, the Olympic games, and so on. According to Wittgenstein, these games share no one thing in common. Consider some candidates for a common quality among all games. Perhaps this common quality is that they are all fun. However, not all games are fun for all people, and yet we still call them games. Perhaps this common quality is that they all have rules. However, there exist rules for several things that are not games, including rules for traffic and rules for conducting a safe laboratory test. Perhaps this common quality is that they are all competitive. However, there are many cooperative games that exist.

Thus, Wittgenstein argues, instead of a singular common quality of all games, you will find "similarities, relationships, and a whole series of them at that" (p. 66). Wittgenstein calls these "family resemblances" (p. 67). This is to say that all games share similarities, but there is no one thing in common for all of them. So, instead of creating a strict definition for something like "games", we should list their family resemblances and understand a game as something that shares in some of these resemblances. Today, we understand these family resemblances as qualities that are a part of a cluster concept.

Wittgenstein explains that we *could* create a strict definition for a concept like "games", but that would involve drawing boundaries for the sake of creating a definition where no boundary used to exist. In other words, we would be artificially drawing a line between what does and does not count as

a game. Wittgenstein argues that we do not need to draw these boundaries for a concept to be functional (p. 69). This assertion means that we do not need a strict definition of a concept before we can use that concept fruitfully.

So, to say that harm reduction can be described as a cluster concept is to say that there is no one strict definition of "harm reduction" in terms of a list of necessary and sufficient conditions. Instead, instances of harm reduction all share similar qualities and are related to each other in meaningful ways. Below are six qualities that I argue are related to the cluster concept of "harm reduction". I will go through each of these qualities in turn. Remember that understanding harm reduction as a cluster concept means that not all six qualities will apply to every case of harm reduction. However, approaches that display more of these qualities are more likely to be appropriate cases of harm reduction.

1. There is at least one identifiable harm associated with the behaviour.
2. The behaviour is tenacious at the population level.
3. The behaviour is, to some extent, tolerable.
4. The primary harms are to the self.
5. The harm is worth reducing even if it is not cost-efficient to do so.
6. Significant harms are due to stigma or criminalization of the behaviour.

1.2.1 There is at least one identifiable harm associated with the behaviour.

This is the only necessary condition for harm reduction. It seems quite straightforward that for there to be harm reduction, there first needs to be some harm that can be reduced. Of course, harms can vary in nature and I understand "harm" broadly. For example, harms vary in intensity, duration, and certainty, among other considerations. There can be harms to ourselves and harms to others. I will discuss these varieties of harm in a later chapter, but my conclusion will be that, in the context of corporations, any kind of harm and any amount of harm can be reduced for any reason and this will count as harm

reduction. However, for now, it is simply important to note that the nature of harms can vary across multiple dimensions.

1.2.2 The behaviour is tenacious at the population level.

Harm reduction tends to apply to cases where the behaviour is tenacious, at least at the population level. This is to say that certain individuals may stop the behaviour in question, but there will usually be instances of that behaviour when we step back and observe the population as a whole. Tenacity is important because it seems important to eliminate harmful behaviours entirely if it is easy to do so. For example, if a single and simple policy change would change the attitudes of all businesses and private individuals such that we would eliminate all future environmental pollution, it seems reasonable to suggest that the government should enact the policy. A good example is the ban on chlorofluorocarbons. These were used widely in the 1980s as coolants in refrigerators and air conditioners. They were banned in 1996 in Canada due to the fact that they deplete the ozone layer. Since the ban, the hole in the ozone layer has shrunk. Unfortunately, this example is not our reality with carbon emissions and it is very difficult to eliminate or even reduce pollution across corporations and private individuals. Thus, given that polluting behaviours are tenacious at the population level, harm reduction seems like an appropriate route to take.

What I mean by "tenacity" can be several different things. It might mean that a behaviour is repeated and will inevitably reoccur. It might mean that we cannot stop others from enacting the behaviour through rational persuasion. It might also be that, by nature, the behaviour is ineliminable. Still, we might mean inevitable repetition. To clarify, what I mean here by "tenacious" is that a behaviour will reoccur at the population level for any reason. Whether the reoccurrence is due to a lack of ability to rationally persuade people to stop the behaviour, whether the reoccurrence is inevitable, or whether the behaviour is, by nature, ineliminable, is not important. So long as the behaviour will persist at the population level, the behaviour exists, and is a potential site for harm reduction.

I choose this definition of "tenacious" for very practical reasons. Harm reduction, at its core, is about practical application and less about theory. Thus, I look at the practical outcomes of tenacious behaviours instead of providing a theoretical discussion of tenacity. In practice, any behaviour that will reoccur at the population level is tenacious in the sense that there will be instances of that behaviour in society. That is what is important to harm reduction. So long as the behaviour exists, there may be harm reduction to be done.

The reader will notice that I discuss two things that might be tenacious throughout this dissertation: the industry (and its corporations) and harms. These are distinct since tenacious corporations within a certain industry may not enact tenacious harms. Further, there are many harms that are enacted against society and the environment that corporations are in a unique position to enact. To show that the harmful behaviour will exist at the population level requires me to demonstrate that there are harms that will occur and that there will be corporations existing to enact those harms. For example, as we will see in Chapters 3 and 4, the oil and gas and pharmaceutical industries enact great harms that they are in a unique position to enact due to their business model. Thus, to demonstrate tenacity, I am required to show that both the harm is tenacious and the corporations that do the harms are tenacious as well.

Notably, demonstrating that both the industry and harms are tenacious is different from harm reduction as we understand it today. In needle and syringe exchanges, tobacco use, and sex work, the harms are distinct from the agent, or the person doing the harm. It makes sense to talk about the agent and the harm separately. Further, it makes sense to talk about the harm as tenacious but saying that the agent is tenacious is odd. However, with corporations, it is sometimes difficult to maintain this separation, since the harms that the corporation enacts is so closely tied to the business model of the corporation itself, such that the corporation being tenacious necessitates the harms being tenacious. For example, in the case of the injection drug user, the harm is not a necessary part of the agent. However,

as we will see in the oil and gas and pharmaceutical industry, the harm is often a necessary part of doing business. For example, it is impossible to extract oil and gas from the earth without causing severe environmental damage. This disanalogy is not enough, I think, to abandon the project of using harm reduction frameworks to discuss corporations. However, I am careful to identify the difference between tenacious corporations and tenacious harms where I can. This will hopefully clarify the theoretical nature of my discussion.

1.2.3 The behaviour is, to some extent, tolerable.

Here, it is important that I explain what I mean by "tolerable". While I cannot provide a strict definition of what counts as "tolerable", I will do my best to at least help us think through whether a behaviour is tolerable or not. It seems to me that behaviours can be classified into three categories: behaviours that everybody agrees is tolerable, behaviour that everybody agrees is intolerable, and behaviours where people disagree over whether it is tolerable. I will address each of these categories in turn.

First, consider a behaviour that everybody agrees is tolerable. Releasing small amounts of greenhouse gases into the environment to manufacture life-saving goods is one example. This is the kind of behaviour where we would have no trouble applying harm reduction, such as educating the company on how to reduce their greenhouse gas emissions even more. Now, consider a behaviour that most people agree is intolerable. With a few exceptions, hiring child labour would be an example of such a behaviour. In these cases, children are often purchased or taken from their families and put into factories to work extremely long hours for the sake of producing cheap goods for little or no pay. This practice deprives children of an education and play that is crucial for a children's development. It is also a form of abuse. Further, this practice perpetuates the cycle of poverty in developing nations. Many would be discontent if companies advertised that they used less child labour than they have in the past. Instead, many would want companies to stop using child labour altogether. Thus, harm reduction for child labour might be seen by many as an inappropriate application of the concept.

These two examples are not tricky cases, but non-tricky cases are rare. It is unlikely that everybody will either agree or disagree on whether a certain behaviour is tolerable or not. I suspect that this is because we have different beliefs about which behaviours are right and wrong. MacCoun (2012) has shown that disgust plays a significant role in whether somebody thinks that a behaviour ought to be eliminated or merely harm reduced. Other factors included whether a person thought the behaviour was immoral, dangerous, or irresponsible. MacCoun groups all these factors together and terms it "moral outrage". Further, MacCoun found that people on different ends of the political spectrum had different views on whether they preferred elimination of a behaviour or harm reduction, depending on the behaviour in question. For example, MacCoun found that liberal individuals preferred harm reduction for heroin, but elimination of ritual female circumcision. Needless to say, people are always going to disagree about what morally outrages them and we will likely always have considerable variation in political views. Thus, it seems to be a fruitless project to try and have everybody agree on which behaviours we should eliminate and which behaviours should be harm reduced.

So, if we hold these different beliefs about which behaviours should be eliminated and which should be harm reduced, I argue that we will disagree about which behaviours are tolerable and which are not. It is beyond the scope of this project to resolve this dilemma, but I can offer some factors that affect whether we think a behaviour is tolerable or not.

First, consider the physical context in which a behaviour occurs. For example, compare sampling snacks from your kitchen pantry and sampling snacks at a local bulk food store. In the former context, it is perfectly tolerable for you to take one bite of every snack that you have in the pantry and put the rest of the bitten snacks back, assuming that you do not share those snacks with others. In the latter situation, it is unacceptable to do the same. Thus, different contexts dictate whether some behaviours are tolerable or not. In the context of harm reduction, it might mean that injection drug use is tolerable in a safe injection site, but intolerable in public parks near children.

We can also consider the social context where a behaviour occurs. Previously, many thought it was intolerable for same sex couples to hold hands in public. Today, Canada has laws against discrimination based on sexual orientation, in part because of the recognition that there are almost no harms associated with non-heterosexual sexual orientation. Thus, the social context can change whether a behaviour is viewed as generally tolerable or not. The social context of a particular behaviour may be difficult to determine, but we can look to key Supreme Court rulings and legal sanctions as a guide for what a particular society accepts or rejects. We can also look at the way that the majority of a society's population responds to said behaviour. I want to emphasize here that these are simply guides to help us determine whether a behaviour is tolerable or not in a given population. The legal system and the majority of the population's opinion does not definitively determine whether a behaviour is overall tolerable, nor do they determine whether a behaviour is morally right or wrong.

Further, we can consider the epistemic position of those who have opinions on whether a behaviour is tolerable or not. For example, a person who has no knowledge of the history of Indigenous peoples in Canada should rightfully have very little say over whether certain treaties that the state has with Indigenous peoples should be broken. This is to say that those who are uninformed about an issue should have relatively little say over how the issue is resolved. Likewise, those who are uninformed about a behaviour and its resultant harms should have relatively little say over how that behaviour is managed in society. Note that considering one's epistemic position means that a behaviour might be overall tolerable even though a significant majority of a population believes that it is intolerable, provided that this majority is uninformed, misinformed, or significantly biased in some way.

So far, I have discussed whether a *behaviour* is tolerable, but since harm reduction focuses on the harms themselves, it is important to ask whether the actual *harms* are tolerable. In her work on evil, Card (2002) puts forth an influential definition of "intolerable harm". She defines "evil" as "harm that is (1) reasonably foreseeable (or appreciable) and (2) culpably inflicted (or tolerated, aggravated, or

maintained), and that (3) deprives, or seriously risks depriving, others of the basics that are necessary to make a life possible and tolerable or decent (or to make a death decent)" (p. 17). In this case, Card posits that "tolerable" means a life that is "at least minimally worth living for its own sake and from the standpoint of the being whose life it is, not just as a means to the ends of others" (p. 18). From these quotes, we can gather than an intolerable harm is one that makes a life not worth living for its own sake from the point of view of the sufferer. If we are to extrapolate from Card, then, a harm becomes intolerable when a person feels that the harm makes their life not worth living for its own sake.

Building on Card's work, Calder (2009) separates evils suffered from evils perpetrated. According to Calder, an evil can be suffered even if there is no corresponding perpetrator of that evil. He offers the example of Danielle, who buys discount shoes for the purpose of saving some money. However, in buying those shoes, Danielle knowingly promotes sweatshops. Kali is the sweatshop worker that made Danielle's shoes and she suffers intolerable harm in working at this sweatshop.

In this case, there is a clear intolerable harm suffered by Kali. However, it would be inappropriate to say that Danielle perpetrated evil in buying her discount shoes. Calder reasons that Danielle's will was to buy cheap shoes, not to harm Kali or any number of other sweatshop workers. In contrast, a person who pays a hitman extends their will through the hitman for the victim to die. Since Danielle's will does not extend in this way, she has not done evil. Instead, she has just done wrong.

Calder goes on to separate evils suffered from evils perpetrated in the case of institutions. While it is perfectly obvious that intolerable harms are suffered under several institutions, the institutions themselves are not evil unless the intolerable harm is an "essential component" of the institution's operations. For example, spousal abuse leads to intolerable harm, but the institution of marriage does not necessitate spousal abuse. "Spousal abuse is not an essential component of marriage" (p. 28). As a result, marriage as an institution is not evil, although it may facilitate bad – though not evil – behaviour.

"An institution, or practice, is evil only if intolerable harm is an essential component of the institution and there is no sufficient moral justification for the harm" (p. 30).

Calder's treatment of institutions is very interesting when it comes to asking whether corporations are evil. Uncontestably, businesses are always doing intolerable harms to people all over the world. However, there exist many businesses who do not do intolerable harms to anybody, which is enough to show that corporations are not, in fact, evil, since intolerable harm is not an essential component of doing business. Regardless, these intolerable harms should be addressed since they are still wrong. One way to do so is to reduce the harm such that it is no longer intolerable. Harm reduction allows us to pursue this course of action.

I have so far provided some ways for us to think through whether a behaviour or action is tolerable enough for harm reduction initiatives to apply, but I still cannot strictly delineate between tolerable and intolerable behaviours or actions. Even seemingly non-tricky cases like child labour may have some harm reduction proponents. I wish to remain completely open to definitions and classifications of tolerable harms and behaviours. Many may object to this, as my definition of what is tolerable is left extremely wide and catches seemingly almost any harmful behaviour. However, where many see this as an objection, I see this as a benefit to my view. The very places where harms are thought to be intolerable and should be gotten rid of may be the very tricky places that harm reduction may apply. After all, harm reduction can reduce intolerable harms to tolerable ones. One need only remember how harm reduction for injection drug use started to remember that a behaviour that is viewed as extremely intolerable may turn out to be a fruitful site for harm reduction. Thus, to prevent any potentially fruitful harm reduction initiatives from being excluded, I leave my definition of "tolerability" extremely wide.

What I can say for certain, then, is that if some individuals think that some harmful behaviour is tolerable, then that behaviour is at least a candidate for harm reduction initiatives. Perhaps it is only

that one group that tolerates the harm reduction initiatives, but they can apply harm reduction initiatives nonetheless.

Note here that whether a harm or behaviour does, in fact, turn out to be objectively tolerable or intolerable, if that is even a possible distinction to make, does not necessarily change whether harm reduction is appropriately applied. The benefit of a cluster concept is that it allows for disagreements over some of the qualities of the concept and not every instance of the concept needs to have all the qualities on the list. So, just because a behaviour is intolerable to some does not mean that harm reduction cannot apply. This point is very clear in the examples of paradigm harm reduction initiatives, such as injection drug use and sex work. In these cases, many individuals think that the behaviours are intolerable, but harm reduction still applies among the groups of individuals who think that those behaviours are, in fact, tolerable.

1.2.4 The primary harms are to the self.

In the cases of injection drug use, tobacco use, and sex work, the harms that are reduced are primarily harms to the very individuals who practice the risky behaviour. There is some consideration of harms to others, such as harms to the injection drug user's children and safety concerns around improperly discarded needles, but the harms are primarily to the user themselves. This quality seems to be important for harm reduction frameworks because part of harm reduction is respecting each individual's autonomy, which often means respecting an individual's choice to continue performing a harmful behaviour. At least in the context of harm reduction frameworks, respecting autonomy means allowing individuals the choice to perform a behaviour that is harmful to themselves. We may think that this is different from respecting somebody's autonomy when it comes to hurting other people. In other words, we might be more inclined to reduce the prevalence of the behaviour instead of merely reducing harms if the harms are done to other people.

Notice here that situations where the primary harms are to other people give us greater incentive to intervene. This is to say that many may have the intuition that we should do more to prevent harms done to other people than harms done to the self. Thus, I argue that there is no good reason for limiting harm reduction to situations where harm is done primarily to the individual practicing the behaviour. After all, harm to others is still harm and I see no good reason not to reduce the harm done to those individuals as well. Harm to others is still harm that is worth reducing. To go even further, harm to others may be even more important to reduce than harms to selves.

1.2.5 The harm is worth reducing even if it is not cost-efficient to do so.

Public health workers often use a cost-benefit analysis to convince policy makers that harm reduction efforts are worthwhile. For example, public health workers could save the government thousands of dollars by distributing clean needles instead of users sharing needles and increasing the need to treat Hepatitis C and HIV/AIDS in a public health care system. However, it seems that at least in the cases of injection drug use and sex work, we ought to show these individuals compassion and help them reduce the harms of their behaviour regardless of whether the cost-benefit analysis works out positively. Thus, it is important that there is a compassionate dimension of harm reduction above and beyond a simple cost-benefit analysis. This aligns with the core harm reduction principles and the many definitions of "harm reduction" explored earlier.

In practice, whether in a public or private health care system, there are limited resources for health care. Thus, while we ought to show compassion to individuals who experience harm, we may not have enough resources to fund harm reduction programs while continuing to fund all other facets of health care. Whether harm reduction programs are prioritized highly enough to get funded when the cost-benefit analysis does not work out in its favour is up to policy makers. The only point that I am making here is that we ought to show compassion for these individuals. Whether we do that through

funding harm reduction programs or in some other way is something that is decided by a myriad of considerations that policy makers take on when they address health care in their respective nations.

1.2.6 Significant harms are due to stigma or criminalization of the behaviour.

In all three cases of existing applications of harm reduction, stigma or criminalization of the behaviour is part of the harms associated with the behaviour itself. This is to say that the stigma toward or criminalization of a behaviour is part of what makes the behaviour harmful. For example, injection drug users and sex workers deal with police officers who charge them in the legal system instead of acting as a bridge toward social workers and therapists who are more effective at helping injection drug users and sex workers. Thus, part of the harm reductive efforts involve reducing the stigma against the behaviour and/or decriminalizing the behaviour altogether.

1.3 Conclusion

In this chapter, I presented a brief history of harm reduction practices and offered eight core principles of harm reduction frameworks from the existing literature. I reviewed three major behaviours where harm reduction has been applied: injection drug use, tobacco use, and sex work. I then presented the notion of a cluster concept, where a list of qualities that seem to be related to a concept is presented and an instance of the concept is adjudicated based on how well it fits those qualities. Finally, I generated a cluster concept definition of "harm reduction", which involved six qualities, only one of which was necessary.

With this foundation of knowledge in harm reduction and an understanding of harm reduction as a cluster concept, we can begin to see how harm reduction can be applied to arenas outside of public health and social policy. Indeed, Chapter 2 will apply this cluster concept to harm reduction for corporations to identify whether harm reduction for corporations is an appropriate application of the concept.

Chapter 2

The Corporate Angle

Now that we have a good grasp of what harm reduction is and how it is defined, we can move on to applying the concept of harm reduction to alternative contexts. The focus of this chapter is to apply the concept of harm reduction to the context of corporations. Before we do that, however, it is important to explain why a harm reduction framework is important for corporations. After all, corporations have had corporate social responsibility campaigns for years and have been making strides toward leaving the environment and society in a better place. Only once we establish why harm reduction is useful for corporations does it make sense to apply the framework to corporations.

This chapter starts with an overview of corporate social responsibility, followed by three reasons for using harm reduction frameworks instead of corporate social responsibility frameworks. Next, I apply the cluster concept of harm reduction to corporations and show that harm reduction frameworks do apply appropriately to corporations. After that, I explain two features of my harm reduction framework for corporations. First, the corporation's motivation for pursuing harm reduction initiatives is irrelevant. Second, any amount of harm reduction, however small, should be encouraged. These two features of my harm reduction framework are controversial, but I explain my reasoning for these two features in this chapter.

2.1 Corporate Social Responsibility[1]

One influential account of corporate social responsibility comes from Archie B. Carroll. He introduced his four-part definition of corporate social responsibility in 1979. Carroll listed four responsibilities of business: economic, legal, ethical, and discretionary. Economic responsibilities recognize that a

[1] This section is an adaptation of my previous work on Chapter 4 of *With a Clear Conscience* (2018).

business's first responsibility is to generate profit, otherwise all other areas of corporate social responsibility become moot. Legal responsibilities require businesses to generate profits within the bounds of the law. Ethical responsibilities are actions that are expected of a business but are not legally required. These responsibilities go beyond legal responsibilities. For example, eliminating unnecessary pollution could be argued to be expected but not legally required. Finally, discretionary responsibilities are social actions that a business can choose to perform, but these actions are not expected of a business nor legally required. Carroll admits that discretionary responsibilities are vague, but includes them in his framework nonetheless.

Though the four parts of corporate social responsibility are described separately in this characterization, they are dynamic and sometimes addressed simultaneously. For example, a pharmaceutical company that recalls a drug due to adverse side effects may be simultaneously fulfilling its economic, legal, and ethical responsibilities. It is interesting to note that economic and legal responsibilities are often fulfilled simultaneously. Further, ethical responsibilities push the boundaries of legal responsibilities, such that actions that we think are ethically required often become codified in regulations, as we will see with the example of stanchion barns below. Clearly, the four parts of corporate social responsibility are heavily intertwined.

Carroll (1991) later characterized the four parts of corporate social responsibility as a pyramid of corporate social responsibility. The pyramid depicts economic responsibilities as the foundation of the pyramid to show that these responsibilities are most important for the firm to fulfill. Next come legal responsibilities, then ethical responsibilities, and finally philanthropic responsibilities, as opposed to his previously-named discretionary responsibilities. In this later paper, Carroll argues that philanthropic actions are those that make a firm a good corporate citizen. Again, the four parts of corporate social responsibility are presented separately but are intertwined in reality.

Carroll's pyramid of corporate social responsibility has several shortcomings, which are listed in Schwartz and Carroll (2003). First, the use of a pyramid might lead one to think that philanthropic responsibilities are most important because they are at the top of the pyramid. In fact, this is the opposite of what Carroll intended, as he says that economic responsibilities are the most fundamental. Further, a pyramid does not depict the overlapping nature of these corporate social responsibility domains. Second, philanthropic responsibilities are ill-defined and often subsumed under ethical responsibilities. This is because it is difficult to differentiate between ethical and philanthropic activities and philanthropic actions could be purely based on economic interests. In other words, we often do not have access to a corporation's motivations for performing an ethical or philanthropic activity, so it is difficult to differentiate between the two. Finally, Schwartz and Carroll criticize the pyramid of corporate social responsibility for inadequately developing the economic, legal, and ethical responsibilities of business.

Building off Carroll's pyramid of corporate social responsibility, Schwartz and Carroll (2003) propose the Three-Domain Model of Corporate Social Responsibility. The model uses a Venn diagram to depict the economic, legal, and ethical responsibilities of business. The economic domain is defined as any direct or indirect activity meant to maximize profit or share value. Most of a business's actions are expected to fall under the economic domain.

The legal domain is split into three categories: compliance, avoidance of civil litigation, and anticipation of the law. Compliance is further subdivided into three categories: passive compliance, restrictive compliance, and opportunistic compliance. Passive compliance occurs when a business is doing what it wants to do and happens to be complying with the law. Restrictive compliance occurs when a business is performs an action that it would not perform if it were not for the legal requirement. Finally, opportunistic compliance occurs when a business finds a loophole in the law or operates in a certain area because of the particular legal requirements in that area.

Avoidance of civil litigation occurs when a business performs an action to avoid future litigation for negligence. Voluntary recalls or ceasing environmentally unfriendly activities fall under this category. Finally, anticipation of the law occurs when a business changes it practices due to upcoming or expected legislative changes.

Schwartz and Carroll divide the ethical domain into three groups: conventional, consequentialist, and deontological ethical standards. Conventional standards refer to the norms in a given organization, industry, profession, or society for ethical behaviour. Consequentialist standards encompass activities that promote the general good of society by creating the greatest net benefit or lowest net cost to society. Finally, deontological standards refer to duty-based ethical standards, including, but not limited to, those of moral rights and justice. Schwartz and Carroll explain that the three domains overlap and provide a myriad of possible combinations of the three domains to describe one particular behaviour.

Another influential theory of corporate social responsibility is Elkington's "Triple Bottom Line" (1998). The three components of the triple bottom line are economic prosperity, environmental quality, and social justice. These components are sometimes summarized as "people, planet, profit". The triple bottom line requires companies to balance their environmental and human impacts with profit generation by opting for net-triple-bottom-line profit instead of profit on its own. According to Elkington, the triple bottom line prepares corporations for a "global cultural revolution" (p. 3) and helps them make a "sustainability transition" (p. 4). This revolutionized way of doing business includes increased competition due to a higher demand for sustainability, a shift in values toward environmental and social issues, increased transparency, and increased attention to corporations' long-term impacts. One of the benefits of the Triple Bottom Line is that it considers sustainability and social justice to be just as important as profits. This perspective contrasts with the above-mentioned theories that see profits as being foundational with ethical demands coming only after profits are satisfactory.

The broad reach of corporate social responsibility is impressive. Every major business-related academic journal regularly publishes information on corporate social responsibility. Corporate social responsibility campaigns are often discussed in the media and consumers look to these initiatives to make purchasing decisions (Becker-Olsen et al. 2006). Corporate social responsibility is taught across many business schools and undergraduate business students are graduating with the expectation of getting a job within a responsible company.

Despite its broad reach, and the multiple explanations that Carroll, Schwartz and Carroll, Elkington, and others put forth for corporate social responsibility, its exact definition is up for debate. It is often confused with other related concepts, such as corporate citizenship and sustainability (Schwartz and Carroll 2008). Further, the definition of corporate social responsibility has itself been contested. Many definitions of corporate social responsibility have been suggested (e.g. Carroll 1979; Elkington 1998; Garriga and Melé 2004; Sarkar and Searcy 2016; Schwartz and Carroll 2008) and the literature has settled on none of them. In fact, Okoye (2009) argues that the definition of corporate social responsibility is impossible to nail down because the concept is the kind of thing that cannot be universally defined. He applies Gallie's (1956) concept of an "essentially contested concept" to the concept of corporate social responsibility and finds that corporate social responsibility indeed fits under Gallie's conception of such. However, all theories agree that corporations should continue to generate profits and should do some kind of good, broadly defined. Regardless of the difficulty with defining corporate social responsibility, the approach has been proven to offer corporations many benefits. It increases a corporation's ability to compete in the market (Burke and Logsdon 1996), protects a corporation's reputation (Minor and Morgan 2011), and attracts job applicants (Duarte et al. 2014).

In practice, corporations that wish to do social good, or wish to appear to do social good, usually do so under the banner of corporate social responsibility. Corporations have a wide variety of options when it comes to implementing corporate social responsibility initiatives in their organizations. Some,

like L'Oreal (2015), choose to focus on just one aspect of corporate social responsibility, like sustainability. Others, like Starbucks (2019), choose to deliver impactful change on a variety of causes, such as ethical sourcing, environmental health, and diversity. The efficacy of these initiatives varies and are often documented in annual corporate social responsibility reports put forth by the corporation itself. Some organizations, like Sustainalytics (2018), integrate and compare data on corporate social responsibility initiatives for investors who wish to support responsible corporations.

This section has characterized corporate social responsibility as a concept that many businesses, academics, and business students look to for guidance on how to act ethically while doing business. We have seen that there are several dimensions of corporate social responsibility and that its uptake is impressive. Despite conceptual issues of the exact definition of "corporate social responsibility", the term is still pragmatically useful. Given the wide reach of corporate social responsibility, it might seem as if there is no need for any other concept that attempts to help businesses act more ethically. The next section shows that this assertion is mistaken.

2.2 The Need for Harm Reduction

There are at least three major gaps in corporate social responsibility. First, there are certain types of corporations that may never seem socially responsible because their core mission is socially irresponsible. Consider oil and gas companies, whose primary business is to sell an environmentally damaging product that is obtained through environmentally damaging means, despite the industry's attempts at painting themselves as ethical. Also consider the meat packing industry, which keeps animals in inhumane conditions and slaughters thousands of them every year so that consumers have access to cheap meat.

Second, there are corporations that pursue corporate social responsibility campaigns that are highly removed from their core business and thus seem misaligned with corporate operations. This

particular gap in corporate social responsibility is a pragmatic worry for corporations. Consider Dowling and Moran's 2012 paper, "Corporate Reputations: Built in or Bolted on?". Corporations with "built in" corporate social responsibility campaigns have initiatives that align with their core business operations. For example, Starbucks sources coffee in a way that respects its farmers. Since they have to source coffee anyway, they are being socially responsible as a part of their core business. In contrast, "bolted on" corporate social responsibility campaigns have initiatives that seem further removed from their core business operations. For example, Ronald McDonald House Charities (2019) help parents stay close to their sick children while the children are in the hospital. This charity is beneficial to many families, but has very little to do with McDonald's core operations of serving fast food at low prices. Dowling and Moran argue that "bolted on" campaigns are highly replicable and do not provide a distinct source of competitive advantage. They advocate instead for "built in" corporate social responsibility campaigns and argue that these are better for bolstering a corporation's reputation. This conclusion aligns neatly with the intuition that some corporations pursue the seemingly wrong kind of corporate social responsibility initiatives. Instead of being socially responsible as a business, they perform unrelated activities that they call corporate social responsibility, but are often a distraction from the major harms that they do in the course of their operations.

Third, there are corporations for whom corporate social responsibility is impossible because they do not have the resources to support such a program. Many mid-sized businesses, and certainly small businesses, fall into this category. These types of businesses often need to invest as much capital as possible into the maintenance and growth of the business and thus cannot afford to spend money on corporate social responsibility campaigns. This is not to say that mid-sized and small businesses do not pursue socially responsible missions, since many of them do, but it is more difficult for them because of their limited resources. An approach to corporate responsibility that requires fewer resources would be beneficial for those that do not currently have corporate social responsibility campaigns. As we will

see, using my harm reduction framework will allow all companies, including those with strained resources to participate fully in harm reduction.

Harm reduction has the power to address all three of these gaps in corporate social responsibility. For corporations that can never truly be socially responsible, harm reduction offers a lower threshold for engagement. That is, the demands on the corporation to do good for the environment and society are lowered from going "above and beyond" to simply reducing harms. For corporations who pursue corporate social responsibility activities that are unrelated to their business, harm reduction forces them to look at the harms done throughout the course of their normal operations and address those particular harms. This is to say that harm reduction frameworks push corporations toward "built in" behaviours by nature. Since a corporation under a harm reduction framework would be reducing harm that they do to the environment and/or society, they are forced to confront the harms that their operations lead to. Importantly, this is not to say that corporations who reduce harm in "bolted on" ways are not harm reducing. Indeed, the pluralistic nature of a harm reduction framework would still encourage "bolted on" harm reduction initiatives. However, harm reduction naturally leads corporations toward more "built in" initiatives that are better aligned with their operations. Finally, again, since harm reduction has a lower threshold for engagement, corporations who cannot or will not put the resources into corporate social responsibility initiatives can turn to harm reduction instead.

My framework for harm reduction is even more distinct from corporate social responsibility. I argue that harm reduction for corporations has two explicit features that corporate social responsibility is silent on. First, my framework does not judge corporations for their motivations for pursuing harm reduction. Second, my framework celebrates any amount of harm reduction, however tiny. More will be said about these two features later on in this chapter, but it is important to note here that corporate social responsibility is silent on these two explicit features that I draw out in my framework.

At this point, I want to be clear that harm reduction fills these gaps in corporate social responsibility. However, harm reduction does not replace the need for corporate social responsibility. In fact, it is very much in the spirit of harm reduction to coexist with several other theories for doing environmental and social good. So, in some situations, theories of corporate social responsibility are sufficient, while in other cases, like the cases listed above, my harm reduction theory is more appropriate. A corporation could even conceivably use both concepts to ensure that they are doing good for the environment and society. Think of corporate social responsibility and harm reduction as two tools that corporations can use to do environmental and social good.

2.3 Applying Harm Reduction to Corporations

Let us return to the discussion of harm reduction as a cluster concept. This section will demonstrate that corporations are, indeed, an appropriate site for harm reduction applications. If we were to apply harm reduction to corporations, we would take the following stance: instead of judging corporate operations as right or wrong, we focus on reducing the harms related to corporate operations without ceasing corporate operations altogether. Let us address each of the qualities in the cluster concept in turn.

2.3.1 There is at least one identifiable harm associated with the behaviour.

Recall that this is the only necessary condition for harm reduction. It is abundantly clear that many corporations do massive harms to the environment and society. For example, corporations are massive polluters (Lober 1998). According to the United States Environmental Protection Agency, air pollution released by corporations continues to decrease year over year. However, over 5 billion tons of emissions continued to be released in 2017, which represents a significant amount of environmental harm.

Some corporations also hire child labour (Boje and Khan 2009) or fail to safeguard against contractors who use child labour. Child labour is harmful because it prevents children from going to

school and is positively correlated with poverty (Ray 2000). However, corporations continue to make use of child labour directly or quietly ignore the use of child labour among its contractors because it can be economically efficient (Baland and Robinson 2000). Corporations allow children in developing nations to perform work because the firm can pay low wages and thus minimize costs. It is important to note here that hiring child labour or failing to safeguard against it is a natural extension of other harmful business practices, such as offshoring and sub-contracting for the corporation's benefit of paying low wages. Lack of workplace protection and failure to uphold health and safety hazards, such as ensuring adequate fire evacuation protocols, are also part of the problem. So, while child labour is certainly horrible, other workplace practices that make child labour commonplace are also problematic.

Further, corporations in certain industries enact specific harms against consumers. For example, the pharmaceutical industry often raises prices on life-saving medication. In 2015, the price of Daraprim went from $13.50 per pill to $750 per pill overnight (Pollack 2015). Less dramatically, but notably, Pfizer raised the price of 148 drugs by an average of 8.8% at the beginning of 2018 (Crow 2018). Other companies followed suit. These behaviours have sparked criticism from consumers and policymakers alike. Price increases have driven governments to consider enacting legislation on pharmaceutical pricing (Abbott 1995; Puig-Junoy 2010; Vernon, Golec, and Hughen 2006).

These are just some of the harms that corporations do to society and the environment. The list can no doubt be expanded, but what I have included here is enough to make my point. Corporations do vast harms to society and the environment in the course of their operations. These are harms that should be reduced. However, corporations are simultaneously important for the proper functioning of society. Corporations bring us many goods and services that support survival and improve our quality of life. They also employ billions of people around the world and work with governments to bring essential goods and services, like vaccines, to the public. It would be a mistake to outlaw corporations and give

up these benefits. Given that corporations should be here to stay, harm reduction is even more appropriate because it allows us to preserve the benefits of corporations while reducing its harms.

Further, it is true that not every corporation enacts harms against the environment or society. I am perfectly happy to accept that harm reduction may be irrelevant for certain corporations who do not do any harm. To those who think that a particular corporation does not do any harm to the environment or society, I invite you to inspect its operations carefully before coming to this conclusion. It is my personal view that there are very few corporations that do no harm to the environment or society. Regardless, corporations that truly do no harms to the environment or society can be directed toward corporate social responsibility to encourage the corporation to go "above and beyond". Indeed, corporate social responsibility initiatives are compatible with harm reduction initiatives.

2.3.2 The behaviour is tenacious at the population level.

Corporate operations are clearly tenacious. We interact with corporations all the time, often without consciously realizing it. Consider, for example, all of the money that you spend in a month. Paying rent or a mortgage, buying groceries, filling your car up with gas, and heating your home are all transactions that involve interactions with corporations. It seems hard to imagine a world without corporations.

Another way that we can think about the tenacity of corporations is to imagine what would have to happen for corporations to be eliminated. Presumably, such a drastic change would have to happen through legislation, where governments and law enforcement prevent people from organizing into corporations and prevent corporations from buying, selling, trading, hiring labour, and so on. However, governments are unlikely to eliminate corporations in this way. First, corporations are significant financial contributors to political campaigns, which disincentivizes politicians to eliminate corporations. Further, corporations pay taxes that fill government coffers and allow the government to provide social services to the public. Second, as mentioned earlier, corporations do provide a lot of benefit to society through producing jobs and providing employees the means to live their conception

of a good life. Thus, politicians are friendly to corporations that benefit their country's economy. For example, Canadian Prime Minister Justin Trudeau was present at the opening of the Google Canada engineering headquarters in 2016 (Dingman 2016). Examples like these show us that corporations and governments can often work hand in hand. As a result, the elimination of corporations through legislation is unlikely.

A revolution may also lead us to away from capitalism and thus corporations. However, this is also unlikely given the tenacity of capitalism. Mark Fisher, author of *Capitalist Realism: Is there no alternative?* (2009) argues that "capitalism can only be resisted, never overcome" (p. 28). Even though we may believe deeply that capitalism is bad, we still behave as if money has intrinsic value. In fact, Fisher argues, we are only able to value money so much because we believe that it is so bad (p. 13). Further, we are so attached to capitalism that we fail to question it and would rather look for ways to mitigate its consequences rather than bring it to an end, given that we lack any kind of viable alternative (p. 14). Capitalism, and thus corporations, will persist.

Fisher's commentary is interesting because of the connection between capitalism and corporations. At its core, and at its best, capitalism is an economic and political system that empowers individuals to trade privately for their own benefit and minimizes state intervention. This system often gives rise to corporations, where individuals can buy and sell in an organized manner. Thus, in a capitalist society, corporations become incredibly important for the basic functioning of society. If capitalism is going to persist, then there will be demand for corporations and the goods and services that they provide.

This is not to say that capitalism is a good or an ideal way to organize society all the time. Vast harms to the environment and society are compatible with a capitalist society, and indeed many other types of societies, that involve corporations. Thus, it becomes important for us to think deeply about the harms that capitalism, and corporations, bring about, then try to reduce those harms accordingly.

Now that I have argued that corporations are tenacious, it becomes important to ask whether corporate *harms* are tenacious, as discussed in Chapter 1. After all, harm reduction for corporations would be useless if corporations were tenacious but enacted no harms against the environment or society. The way that I see corporate harms is as follows. Markets can operate either efficiently, which involves encouraging competition, or inefficiently, which involves de facto or actual monopolies in some industries. No matter which of these is the case, corporate harms will occur.

In a competitive market, corporations are constantly trying to outdo the other. This involves appeasing shareholders by increasing net profits while simultaneously appeasing the customer by charging lower prices. This is not to say that every corporation in every industry is going to charge a low price, but there will likely be a low-priced alternative for most goods, given that competition drives prices downward. Increasing net profits while charging low prices necessarily involves cutting costs. This behaviour involves cutting corners where the company can, perhaps by reducing the quality of their products, reducing labour costs, reducing sourcing costs, and so on. The business news constantly reminds us that cutting corners is where a lot of damage to the environment and society comes from. For example, the BP Deepwater Horizon explosion reminds us that cost-cutting can come at the expense of safety and environmental protection (Broder 2011). Thus, in a competitive market, corporations will at least be tempted to cause harm to the environment and society.

In a non-competitive market, monopolies or de facto monopolies tend to form. This arrangement usually drives prices upward, which harms consumers. In other words, monopolies make it difficult for free trade to occur between the firm and the consumer. This behaviour is clearly detrimental to our ideal of a free market where people are able to trade what they have for what they want at market value.

Therefore, in a capitalist system with a market, either competitive or non-competitive, harm is often done to the environment and society. Again, this is not to say that *every* corporation will be

harmful to the environment and society, but it is enough to make my point to say that *some* corporations will harm the environment and society. So long as these harms occur, and it is very likely that they will, there is a place for harm reduction for corporations.

2.3.3 The behaviour is, to some extent, tolerable.

It seems needless to say that we tolerate at least most corporations in our day to day lives. Many people willingly provide their personal information to technology giants like Google and Apple that track their every move. Our lives are constantly made easier by the myriad of products and services that we buy to solve our problems. Without a doubt, corporations are ubiquitous in our lives and they continue to flourish due to consumer participation.

Corporations may be even more tolerable than we think, as they are also flourishing in areas where we might expect them to fail. The Forbes Global 2000 lists the top 2000 publicly traded companies in the world. The 2018 list includes notable corporations in communist China like ICBC (#1), China Construction Bank (#2), and Alibaba (#82). Overall, Chinese corporations occupy over 10% of the Forbes Global 2000 2018 list with 18 companies in the top 100. This is clear evidence that corporations have managed to perform well in regions that have historically made active efforts to reduce capitalist values. Indeed, China's willingness to take on some capitalist values is more evidence of corporate tenacity.

Many also argue that businesses are overall good for our society. In theory, this is indeed the case. Corporations make jobs that trade labour for money that employees can then use to lead a fulfilling life. As a result, countries have flourishing economies and have satisfied citizens. Further, corporations provide important goods and services that help improve the quality of life for its customers. Thus, corporations can lead to fulfilling, high-quality livelihoods.

Note here that while a business may do all the good deeds listed in the above paragraph, they may still harm the environment or society in the process. For example, a corporation may continue to

pollute the environment or treat its contractors in faraway nations poorly while stimulating the economy in multiple countries and providing high-value products. To say that businesses are good *overall* is not to say that businesses are always good. All this assertion means is that businesses do more good than harm. This position is perfectly compatible with a harm reduction framework for corporations, where we reduce the harms that exist while corporations continue to do good. Simply put, the net good that corporations do to the environment and society may make them tolerable but this does not mean that they do not do any harms whatsoever.

There is a further question of whether corporate *harms* are tolerable. I have already touched on some of the harms that corporations enact that might be tolerable. However, I want to draw attention to the fact that there is a myriad of corporate harms that are being done, ranging from small, almost benign harms, to straightforward disasters. Clearly, at least some of these harms are tolerable, especially the small harms, and so this is enough to demonstrate that harm reduction is applicable to at least some harms that corporations enact on the environment and society.

2.3.4 The primary harm is to the self.

As explained in Chapter 1, all of the key examples of harm reduction involve harms that are primarily done to the very person who is practicing the high-risk behaviour. However, in the case of corporations, most of the harms that we discuss are harms done to other populations outside of the corporation. This difference between classic harm reduction and harm reduction for corporations is important.

As alluded to in Chapter 1, we might think that the harm being done to the self is important because of personal autonomy. Most people are thought to have autonomy over their own bodies, so they reserve the right to do almost whatever they want with their bodies. Thus, if a person understood the consequences of the harmful behaviour but wanted to risk the harm anyway, they should be allowed to do so, often with the caveat that the behaviour does not stop anybody else from also doing whatever they want with their own body. Respect for autonomy underlies much of the classic harm reduction

theory where we "meet people where they are" and do not force any harm reduction measures onto unwilling participants.

The caveat identified above is key. People are usually thought to be able to do whatever they want with their own bodies *so long as the behaviour does not prevent anybody else from doing whatever they want with their own body*. In the cases of injection drug use, tobacco use, and sex work, it is largely the case that the harms are done to the person performing the harmful behaviours and do not extend to other people. However, the case of corporations is very different. In these cases, few harms are done to the individual corporation, but several grievous harms are done to others either directly or indirectly through damaging the environment. These harms to others suggest, according to the above principle, that corporations should cease their harmful behaviours because they are reducing the ability of others to remain unharmed. Ceasing these harms is thought to be even more important than ceasing harms that individuals do to themselves. In other words, the mandate to reduce harms to others is stronger than the mandate to reduce harms to selves because of personal autonomy. Thus, the fact that corporations do harm to others and the environment gives us even greater reason to want to reduce those harms.

The harms that corporations do to others seem countless. The sheer scale of the harm to others should motivate us to apply harm reduction to corporations. Again, recall the harms that corporations do to people and the environment. Pollution, child labour, and specific harms to consumers are massive problems that have no easy solutions. Corporations impact people and the environment on a global scale, especially when we focus on multinational corporations. Corporate harms to the environment and society affect us all. This results in an incredible amount of harm that we ought to be motivated to reduce. Again, while some individual corporations may not harm the environment or society, many corporations do, and we should be motivated to reduce these harms.

Finally, recall that defining harm reduction as a cluster concept means that not every quality needs to be satisfied for an example to qualify as part of a concept. Though corporations do not exhibit

harms that are done primarily to themselves, they can still qualify as an appropriate site of harm reduction.

2.3.5 The harm is worth reducing even if it is not cost-efficient to do so.

This quality seems to apply to corporations in a relatively straightforward way. The vast harms done to the environment and society are worth reducing for the sake of our environment and society, even if it did not turn out to be profitable to reduce these harms. Massive pollution, child labour, and specific harms to consumers are not appropriate even if the cost-benefit calculation works out in favour of corporations operating under the status quo. Indeed, there ought to be a deep intuition that the environment is worth saving, children deserve an education and play, and consumers deserve fair treatment.

More recently, Nicholas King (2019) has argued that harm reduction is worthwhile even if the cost-benefit analysis does not work out in favour of harm reduction programs. King argues that harm reduction programs are fundamentally compassionate and not simply about increasing social utility. He points out that the need to help children with leukemia or helping trapped adventurers is not justified by the behaviours increasing social utility. Instead, these actions are justified because we should be compassionate toward others. Likewise, there is no need to justify helping injection drug users or sex workers on the grounds of social utility. Instead, we should justify helping these people because of compassion.

My assertion, then, is that it is worth reducing the harms that corporations do to the environment and society because corporations hold vast amounts of power over the environment and society. Following King's arguments, corporations need no pragmatic reason, like a cost-benefit analysis, to care for the environment and society. It is simply required of them to do so.

Importantly, a company ought to reduce harm for reasons other than cost-efficiency, but one might rely on cost-efficiency arguments to convince them to reduce the harm. We see this very clearly

in needle and syringe exchange programs when public health experts meet with governments to convince them to institute needle and syringe exchanges. They will often present the cost-benefit analysis to demonstrate that, for example, needle and syringe exchanges reduce the burden on hospitals to treat patients with HIV (T. Mercer, personal communication, Feb 1, 2019). This cost-benefit analysis may be very convincing to policy makers and is absolutely a tool in the harm reduction toolbox to convince others to adopt the project. However, this does not reduce the need for compassion when it comes to taking care of those who are harmed in ways that are applicable and respectful to the individual.

2.3.6 Significant harms are due to stigma or criminalization of the behaviour.

This last condition does not seem to apply to corporations. There is usually very little stigma against corporate operations or profit-seeking and while some corporations or industries are banned from operation in certain locations, corporations as a whole are far from being criminalized. In fact, as discussed earlier, many believe that corporations are beneficial to society overall by increasing economic prosperity and individual wealth. Thus, this last trait does not apply to corporations.

It seems that this feature of today's harm reduction programs arises because many of them relate to the healthcare field. Stigmatization and criminalization of many behaviours that are illegal or illicit do, indeed, affect many existing harm reduction programs and the people that they aim to help. However, when taking harm reduction out of the healthcare field, this stigma and criminalization largely falls away.

This is not to say that there is no stigma or criminalization related to corporate behaviours. Certain industries are stigmatized or dismissed as being harmful to consumers. For example, payday loan companies are heavily regulated to the point where there are few distinctions between competing firms. This regulation has come about due to severe harms that the industry was doing to consumers. Further, certain behaviours related to corporations, such as insider trading, are illegal. These regulations

have been enacted to help markets work efficiently. So, some behaviours within the corporate domain are frowned upon or illegal.

It is important to notice that the stigma and criminalization of some corporate behaviours is different from the stigma and criminalization of injection drug use, tobacco use, and sex work. In the classic cases of harm reduction, the stigma and criminalization occur at the level of the individual. For example, a sex worker would endure name-calling or demeaning behaviour themselves and would be taken to jail if found to be violating a law. In this case, the sex worker themselves suffers the consequences of performing sex work. In the case of corporations, the stigma and criminalization happen at the level of the firm. Certainly, some employees of these firms are targeted, but by and large, it is entire corporations that are called out in the media and not individual people. This distinction is important because faceless corporations enduring stigma and criminalization of certain behaviours does not affect any one person directly in the sense that it does not dramatically reduce or make difficult the firm's potential to work in the way that the stigma and criminalization does for the sex worker. In this way, the corporation offers protection to the employees and executives who make decisions within it. So, while stigma and criminalization attach to certain corporations or industries, it is not nearly as damaging as the stigma and criminalization that attaches to individuals in the cases of injection drug use, tobacco use, and sex work.

Despite these differences, a harm reduction framework can still apply to corporations. Recall that not every feature of this cluster concept needs to apply to a case for that case to count as harm reduction. This is simply one feature that does not apply to corporations.

2.3.7 Summary

The above analysis has shown that four out of the six major traits of appropriate applications of harm reduction apply to corporations. This, I argue, is sufficient for concluding that it is appropriate to apply harm reduction to corporations. Further, as alluded to above, the sheer scale of the harms that

corporations do to the environment and society should convince us that harm reduction is an important step to take in making our world a better place to live in.

2.4 Two Features of Harm Reduction for Corporations

There are two features of my conception of harm reduction for corporations that are important but will likely be objectionable. These features are explicitly stated in my framework, which makes my harm reduction framework importantly different from corporate social responsibility. As we will see in this section, both features of my harm reduction framework for corporations come from deeply respecting the core principles of harm reduction. Specifically, harm reduction is a pragmatic practice that seeks to reduce the harm associated with a behaviour instead of asking for abstinence or even a reduction in the behaviour itself. The focus is on reducing as much harm as possible given the individual's own motivations, beliefs, and desires.

In this section, I first argue that corporations can pursue harm reduction for any reason. Second, I argue that corporations can perform any amount of harm reduction, however, small, and that should count as a good thing.

2.5 Motivations for Pursuing Harm Reduction

Some of us have the intuition that doing harm reduction or corporate social responsibility for the purpose of making profits is the wrong motivation to have. We might recall the time that we rolled our eyes at Walmart for advertising their environmentally friendly initiative of turning off the lights in their stores at night. Since this was a way for the company to save money, it might have seemed like the worth of the initiative was diminished in some way. Instead, one might think, we should only support those companies who perform harm reduction or corporate social responsibility activities because they care about the cause that they are supporting, or because they care about making the world a better place.

Although I share this intuition, my reasoning leads me to a different conclusion. I argue that the motivation for pursuing harm reduction or corporate social responsibility does not matter. *We should not care about a corporation's motivations for action and should focus only on the outcomes of their actions.* My reasoning goes something like the following. Consider Corporation A, which has executives that really care about protecting the environment, and so take on Environmental Mission B. Unfortunately, Corporation A is horrible at the execution of this mission, and so fails to make any difference to the environment. Now consider Corporation C, which has done rigorous calculations and has come to the conclusion that Environmental Mission B could increase its profits. They have the resources and talent to execute Environmental Mission B properly, and they do so. They benefit the environment and so advertise their successes widely to attract consumers.

Now, would you rather have Corporation A or Corporation C in your city? Perhaps we would prefer to be friends with the executives in Corporation A, but in the end, they make no difference to the environment. It seems then, if we actually care about the environment, that we should prefer Corporation C. This example shows that if we care about changes being made to the environment and society, we should prefer corporations that are effective, regardless of their motivations. Further, it seems fairly obvious that most of us do care about actual changes being made to the environment and society, so most of us would prefer Corporation C. Besides, a corporation must care about its profits, otherwise it will not be a corporation for very long. Thus, requiring corporations to only pursue harm reduction or corporate social responsibility out of the goodness of its heart is untenable. Further, preferring effectiveness over motivation respects the harm reduction principle of acting in pragmatic ways. Since I am focused on effectiveness instead of motivation, I am prioritizing pragmatic interventions over internal motivations that may or may not result in an actual reduction in harms.

This is not to say that motivations are completely irrelevant. We might think that corporations that are both motivated by a need to improve the environment and society and are effective at making

those improvements are the most morally worthy. It is also possible that a corporation that is motivated by a need to improve the environment and society is more likely to do more to reduce harm. I do not contest these claims, but I also do not argue in favour of or against them. What I am saying is that corporations that are motivated by profits alone and are effective at making improvements to the environment and society should also be thought of as doing something good for the world.

This conclusion is key to opening harm reduction to the possibility of a corporate application. In the public health domain, the emphasis is placed on efficiency. Their goal is to spend as little as possible to heal the highest amount of injury or illness. Thus, in the public health domain, regulators and health care workers alike are motivated by efficiency. In contrast, many corporations seek only to increase profits and are strongly encouraged to do so. Thus, a harm reduction framework is only compatible with corporations if it allows, or even encourages, them to continue seeking profits as aggressively as they like. In the case of corporations, then, the motivation is often to increase profits. Despite this being a different motivation from the public health domain, it is just as legitimate. My harm reduction framework captures these two motivations nicely by allowing the harm reducer to be motivated by anything they choose. Notice too that this allows corporations to be motivated by protecting the environment and society as well, but this is not necessary for an effective harm reduction initiative to occur.

2.6 Amount of Harm to be Reduced

There is another intuition that corporations need to exceed some threshold of harm reduction before we want to count that harm reduction as a good thing. After all, corporations that reduce only a tiny amount of harm may seem like they are not really making a difference. However, this presents the question: what amount of harm reduction is enough for it to count? My answer to this question may be striking to many. I argue that any amount of harm reduction, however small, counts as good. *Actions count as harm reduction as long as the resulting situation is less harmful than the original situation.* Put another

way, we should focus less on how impactful the harm reduction initiative is, as long as there is some impact in the right direction.

This answer can be highly off-putting. After all, there seems to be some standard amount of harm that has to be reduced before we want to accept the action as harm reducing in a meaningful way. I share this thought, but my reasoning has again led me to a different conclusion. First, consider the fact that we, as individual consumers, have little control over how corporations act. Sure, they might respond to collective calls for boycotts and correct some of their most serious ethical failings if they are exposed, but this usually takes the form of a press release or formal statement that is quickly forgotten in our collective consciousness. Further, it seems that even if one corporation is called out for bad behaviour, another corporation will be called out the next day for doing something similar. Anybody who follows the business news knows to expect an ethical failing by a corporation on a regular basis. In this business environment, it seems like harm by corporations is incredibly tenacious. Thus, as I reason, it is better to live in a less horrible business environment than a more horrible one. Any change to make the business environment less horrible should be encouraged. They might not meet some intuitive standard for doing enough good, but at least they are doing less bad. We should encourage any movement toward being less bad because at least this less-bad situation is better than the situation before it. Holding a standard for how much harm reduction is enough does not seem to align with the above reasoning.

This kind of reasoning maps on nicely to the debate between what Valentini (2012) calls "end-state reasoning" and "transitional theory". Though Valentini discusses these theories in the context of justice, it makes sense to import the ideas here. Valentini's goal is to map out the differences between ideal and non-ideal theory. She argues that there are several ways to understand the difference between them. We might think that ideal theory involves full-compliance theory, idealistic theory, or end-state theory while non-ideal theory involves partial compliance theory, realistic theory, or transitional theory.

The political philosophy literature is rich with examples of each of these kinds of theory, and Valentini reviews them in her paper. For the purposes of this dissertation, the contrast between end-state theory and transitional theory is most important.

End-state reasoning occurs when you identify the kind of ideal that you would like to see realized and focus on what that ideal looks like. This, I argue, is what a lot of business ethicists these days are in the business of doing. They attempt to identify what a perfectly moral business environment would look like. For example, Sarkar and Searcy (2016) offer a definition of corporate social responsibility that incorporates six other socially responsible concepts and suggest that a corporation should only be considered socially responsible if they meet this high standard. In contrast, transitional theory, a form of non-ideal theory, focuses on the steps that need to be taken to get to, or closer to, some end-state. Harm reduction neatly falls into this category. Instead of imagining a world where businesses are perfectly ethical, we instead ask about what happens in our current world and identify steps that can be taken toward a more ideal, but not necessarily a perfectly ideal, world. My theorizing about harm reduction operates in the realm of non-ideal theory. It provides a way to move forward in identifying a step that can be taken toward a more ideal business environment.

Non-ideal theory is a powerful tool. Scholars have criticized ideal theory for allowing both individuals and institutions to ignore oppression (Mills 2005). By doing ideal theory, Mills argues, we are abstracting away from the very injustices that make human interactions and institutions so deeply wrong. Thus, by doing ideal theory, we will never address this oppression and injustice. According to Mills, "ideal theory, I would contend, is really an *ideology*, a distortional complex of ideas, values, norms, and beliefs that reflects the nonrepresentative interests and experiences of a small minority of the national population" (p. 172, original emphasis). In the context of harm reduction, doing ideal theory requires abstracting away from the very harms that are in question. Indeed, many of the harms listed in this dissertation disproportionately affect women, people of colour, and people in living in

poverty. None of these groups are part of the upper-to-middle-class white male scholars that have dominated ideal theory. Thus, to even get my project off the ground, we must work in the realm of non-ideal theory and pay attention to harms that affect those who are less advantaged in society.

Ideal theory has also been criticized by Farrelly (2007). He argues that the extreme end of ideal theory adopts "fact-insensitivity" (p. 846) where scholars abstract away from non-compliance and unflattering historical, social, and economic conditions, much like the ones identified by Mills above. On the other hand, the extreme end of non-ideal theory assumes that all existing historical, social, and economic conditions are necessary, which leaves no room for movement in the direction of justice. The better way to theorize about justice, according to Farrelly, is to take a stance in between the two. We must acknowledge that justice has costs and we must therefore make trade-offs when it comes to developing a theory of a more just society. We must try to strike "a reasonable balance between conflicting fundamental values" (p. 860).

An example of non-ideal theorizing may serve to demonstrate its connection to harm reduction. Consider the meat industry. In Europe, the EEC Regulation 1804/1999 bans stanchion barns for organic livestock. Stanchion barns are barns where livestock are kept separated and cannot walk around freely. The banning of stanchion barns represents a significant gain in animal welfare. However, the minimum standards that were put in place to replace stanchion barns are, indeed, minimal. According to Sundrum (2001), the EEC Regulation does not address many aspects of the livestock's well-being, including its relationship with its handler and various hygienic concerns (p. 212). Sundrum is careful to point out that this gain in animal welfare does not mean that animals are housed appropriately.

Now, the question becomes this: would you rather that livestock be kept out of stanchion barns or not? Banning stanchion barns does not mean that the livestock will have a high level of well-being and we may well think that the livestock's conditions remain morally abhorrent. However, according to Sundrum, the minimal standards were put in place as a compromise between various parties and the

regulation was very much political (p. 212). So, it seems reasonable to suggest that the EEC Regulation 1804/1999 represented the best conditions that animal welfare activists could get given the political situation. Our only options, then, are to accept the EEC regulation as a good thing or reject it as not good enough, though in either case, we may continue to push for more improvement in animal welfare.

It seems to me that the appropriate response to this case is to accept the ban on stanchion barns as a good thing. Though the animals may not experience much more subjective well-being, their well-being is improved at least a little bit. Given that the negotiators for the regulation came to this particular regulation as a compromise, it seems as if this is the best we can do for the animals for now. Further, it seems appropriate to admit that the banning of stanchion barns is at least a step in the right direction for animal welfare, albeit a small step. Finally, accepting the ban on stanchion barns in no way prevents us from continuing to push for better standards for animal welfare. So, looking at the entire situation, it seems best for us to accept the ban on stanchion barns as a good thing.

Examples where there are minimal benefits from harm reduction are important to consider because one prominent strategy for corporations to take in a competitive market is to keep prices low for the consumer. It is difficult to name a product that does not have a low-cost alternative. Indeed, I argue that there will always be demand for cheap alternatives for almost all products. In order to achieve low prices for consumers while making a profit, corners are cut and expensive investments, such as those into corporate social responsibility initiatives, are ignored. Further, these corporations market toward price-conscious consumers who care less about the ethicality of their products and more about the low price. Given that these types of corporations and their consumers will seemingly always exist, it makes sense to lower the threshold for them and acknowledge what little harm they do reduce. After all, they could have easily chosen to not reduce harm at all, except in the case of regulatory compliance.

Here, I want to remind the reader that just because the threshold for harm reduction is very low, it does not mean that any amount of harm reduction, in any context, is permissible. Recall that one of

the qualities of harm reduction frameworks is that the behaviour and harms are, to some extent, tolerable. So, consider a corporation that employs children to mine conflict diamonds. This behaviour is seemingly intolerable to many of us for a variety of reasons. Thus, according to the cluster concept of harm reduction, it seems like we have strong reason to reject children mining conflict diamonds as an appropriate site for harm reduction frameworks. For example, it would not be appropriate to simply provide these children with better food or more comfortable beds to sleep in at night. Thus, this low threshold for harm does not apply. Instead, we should seek to eliminate the behaviour altogether.

There remains a worry that allowing such low thresholds for harm reduction may make consumers and corporations feel as if they are doing good, or at least feel less guilty for their behaviours, which discourages them from doing more to reduce harm. For example, a consumer might purchase chicken from a factory farm after the EEC regulation and feel less guilty for eating chickens that were raised in inhumane conditions. Thus, they may be discouraged from paying more for free-range chicken or they might decide not to become vegetarian. My response to this challenge is that consumers choose what they buy based on a variety of factors, including quality, cost, and convenience. For many, their purchasing decisions are based primarily on alignment with their values, which might bring them to purchase meat from the free-range farm. Others make their purchasing decisions based primarily on cost, which brings them to purchase the less expensive factory farmed meat. Still others make their purchasing decisions based on a variety of factors, and might compromise between the product cost and the product aligning with their values. Regardless of what consumer group you fall into for any given product, there will always be a range of consumer preferences. So long as this range exists, there will be companies to fulfill those preferences. This means that there will likely always be demand for cheap meat, and thus, factory farms. Many companies will tailor their meat toward this type of consumer and follow only the bare minimum regulations. It makes sense then, for us to celebrate any kind of harm reduction in these companies as a good thing.

For those who are still wary, it may bring some comfort to know that tiny amounts of harm reduction will probably not be pursued very often. Instead, larger contributions to harm reduction should be expected. Recall again that corporations may pursue corporate social responsibility, and as I argue, harm reduction, for at least one of two reasons. First, it makes profits. Second, the corporation's leaders care. If it is the first case, corporations would want to reduce enough harm that its consumers see the harm reduction as appropriate and impactful. Thus, they will be inclined toward harm reduction initiatives that reduce more harms. If corporations are acting for the second reason, it seems likely that they would not be satisfied with a tiny amount of harm reduction. They would want to do more than the minimum for their cause. Thus, they will likely take on substantial harm reduction initiatives. In both of these cases, the market pressures work in the favour of those who want more harm reduction.

2.7 Why Harm Reduction?

According to my harm reduction framework, the motivation behind enacting harm reduction initiatives does not matter. However, it might be useful to think about some reasons why a corporation would want to take on a harm reduction framework. This is especially the case for corporations that have already implemented corporate social responsibility initiatives. What reason do they have for switching to my harm reduction framework?

First, a corporation need not switch from corporate social responsibility to harm reduction. The two are compatible with each other and can exist simultaneously within a corporation's overall strategy. Implementing a harm reduction framework may involve additional initiatives that reduce harm to the environment and society. Corporate social responsibility can encompass all the "above and beyond" actions that a corporation may want to take, which we encountered earlier in this chapter as ethical and discretionary or philanthropic activities.

Second, a harm reduction framework may allow a corporation to be proud of its accomplishments instead of chasing the higher bar of corporate social responsibility. Sometimes, harm reduction is all that a corporation can justify doing given its various commitments to stakeholders and their strong, and sometimes legal, mandate to maximize profits. In these cases, we applaud corporations for improving the state of the environment and society. This applause is well-deserved and legitimate, as the corporation has truly made strides to bettering our world. Praising corporations for harm reduction initiatives may also convince other corporations to implement harm reduction initiatives where before, they did not have the resources or motivation to reach the high bar of corporate social responsibility.

Third, my harm reduction framework allows for considerable flexibility in the way that executives choose to implement it. As we will see in Chapter 4, even extremely complex industries can make use of my harm reduction framework so long as the appropriate experts are available to implement it. The two features of my harm reduction framework allow a lot of flexibility that cannot matched by corporate social responsibility frameworks.

Finally, we come to the fourth and largest benefit of my harm reduction framework. Corporations who implement my harm reduction framework can do good for the environment and/or society without sacrificing their drive to maximize profits. My harm reduction framework is perfectly compatible with a corporation that aggressively pursues additional profit. Thus, I defend my low threshold approach to harm reduction, as it encourages all corporations to contribute even a tiny amount to the environment and society where they otherwise would contribute nothing due to the pressure to put all resources into increasing profits. As we will see in Chapter 3, miniscule changes that benefit the environment and society are worthwhile. Unlike a corporate social responsibility framework, using my harm reduction framework encourages more of these miniscule changes that add up to great progress for the environment and society.

2.8 Conclusion

The reader can now see that harm reduction frameworks can be implemented in corporate settings. Corporate social responsibility has several gaps that can be filled by a harm reduction framework and filling those gaps would help corporations do less harm to the environment and society. I have shown that harm reduction frameworks apply neatly to the case of corporations, as four out of the six qualities of the harm reduction cluster concept apply to corporations. However, to apply harm reduction frameworks to corporations appropriately, we must not judge a corporation's motivations for pursuing harm reduction and only emphasize their effectiveness at reducing harm. Further, we must accept any amount of harm reduction as a step in the right direction.

Now that we have worked through the theoretical issues with applying harm reduction frameworks to corporations, I will move on to apply harm reduction to two different industries: oil and gas (Chapter 3) and pharmaceuticals (Chapter 4). These applications will show how harm reduction frameworks can apply to different industries with varying types of harms.

Chapter 3

Harm Reduction for the Oil and Gas Industry

The previous chapters in this dissertation claimed that harm reduction frameworks can be beneficially applied to various industries. This chapter will be the first of two that help to demonstrate that this claim is true. This chapter surveys the oil and gas industry while Chapter 4 surveys the pharmaceutical industry. Both chapters aim to describe how my harm reduction framework can help oil and gas and pharmaceutical companies reduce the harms that they do to the environment and society.

Canada is the third largest producer of oil and gas in the world. This oil and gas production is concentrated in the Alberta oil sands, which contain 67% of all Canadian oil. While this industry activity is huge boon to the Canadian economy, several severe harms arise from oil and gas production.

This chapter will identify these environmental and social harms and provide an in-depth examination of the environmental harms and how they can be reduced. I start this chapter by describing the processes of locating, extracting, and refining crude oil. I then evaluate the oil and gas industry against the cluster concept of "harm reduction" that I developed in Chapter 1 of this dissertation. This evaluation will show that my harm reduction framework applies very well to the oil and gas industry. Next, I review the environmental harms of exploratory drilling and analyze ways that these harms can be reduced. This analysis will give the reader an example of how harm reduction frameworks can be applied to specific companies and "meet people where they are". This chapter will also demonstrate the benefits of my low threshold approach to harm reduction.

3.1 Processes for Crude Oil

There are several processes involved in extracting and refining crude oil into a product that can be used in automobiles and airplanes. This section will review these processes. This review is important

because we must first understand the processes of oil and gas production before we can identify its harms and offer solutions for mitigating said harms.

3.1.1 Oil and Natural Gas Formation

Millions of years ago, marine life died and fell to the ocean floor. Over these millions of years, layers upon layers of silt, sand, and rock covered them and created intense heat and pressure on the ocean floor. This heat and pressure formed what we know today as oil and natural gas. Given the way that oil and natural gas is created, we must drill deep into the Earth and filter out large amounts of residue in order to extract oil and gas for human use (U.S. Energy Information Administration 2018a). Further, since oil and natural gas take millions of years to form on the ocean floor, they are non-renewable resources. Once our reserves of oil and gas are depleted, we will need to rely on alternative energy sources.

3.1.2 Locating Bitumen (Leach 2017)

In the Alberta oil sands, specialists in the oil and gas field services industry perform research on areas that might contain deposits of bitumen, which contain crude oil. Upon finding an area that seems likely to have bitumen deposits, they perform exploratory drilling. This exploratory drilling is used to test the area to confirm the existence of a bitumen deposit. If a substantial enough deposit of bitumen is confirmed, companies move on to perform development drilling. Compared to exploratory drilling, development drilling is far more expensive and uses much larger equipment. Development drilling involves drilling deep wells and then strengthening them with cement to make sure that the well remains stable. Pressure pumping is then used to increase the amount of extractable resources from the well.

3.1.3 Extracting Bitumen

For shallow deposits of bitumen, mining is the standard form of extracting bitumen from the earth. Once the bitumen deposits are extracted from the ground, they are mixed with hot water to create a slurry. This slurry is then transported by pipelines into a processing plant, where a gravity process separates the debris, such as sand and rock, from the ore. This creates a bitumen froth. The froth is then treated with chemicals and solvents to allow operators to remove any remaining water and fine particles. After this process, the product is either greater than 99.8% bitumen, in which case it is sent to a refinery, or up to 98% bitumen, which needs to be upgraded before being sent to refineries (Oil Sands Magazine 2017).

The waste product of this mining process is called "tailings". These are a mixture of water, debris, unrecovered bitumen, and remaining hydrocarbons. Tailings are stored in a tailings pond or a large facility until the solids settle to the bottom of the mixture. The remaining water is recycled for use in the processing plant while the solids are used to reclaim the land after the mining process is complete (Oil Sands Magazine 2017).

For deeper deposits, which include 80% of Alberta's oil sands deposits, extraction is done through in-situ methods. In-situ extraction starts with water being converted into hot steam, which is then pumped into the bitumen well and mixed. The heat causes the bitumen to liquefy. This mixture of water and liquefied bitumen is pumped to the earth's surface and then separated from each other. The bitumen is then upgraded and the water is treated so that it can be reused (Oil Sands Magazine 2020a).

In-situ extraction requires smaller wells compared to mining extraction. It uses and reuses water efficiently and does not create a tailings pond. In-situ mining is also less expensive than mining and easier to maintain. However, in-situ extraction has lower recovery rates of bitumen compared to mining, releases more greenhouse gases, and the process cannot be easily stopped and started in case of emergency (Oil Sands Magazine 2020a).

3.1.4 Refining Crude Oil

Refineries purchase their crude oil from extractors. At this point, the product is at least 99.8% bitumen. Some refineries are able to process crude oil that is called “light” or “sweet”, which means that it has a low sulphur content. Other refineries can process crude oil that is relatively “heavy” or “sour”, which means that the oil has a higher sulphur content. Generally, light or sweet crude oil is more valuable than heavy or sour crude oil. Alberta’s oil sands mostly produce heavy, sour crude oil (Oil Sands Magazine 2020b).

The refining process involves three steps: separation, conversion, and treatment. During separation, crude oil is pumped through heated furnaces. This removes liquids and vapours from the crude oil and separates the crude oil into fractions based on a product’s boiling point. Light fractions have low boiling points and thus rise to the top. These create butane and gasoline. Medium fractions create naphtha, kerosene, jet fuel, diesel, and heating oil. The heavier fractions create heavy gas oil and residual gas oil (U.S. Energy Information Administration 2018b).

During conversion, heavy gas oil and residual gas oil is treated to become lighter and thus more valuable. This is usually done through “cracking”, where heat, pressure, and catalysts are used to reduce the weight of heavy hydrocarbons. Other methods of conversion include alkylation, which adds high octane hydrocarbons to motor or jet fuel to convert it into gasoline (U.S. Energy Information Administration 2013), and reforming, which uses heat, pressure, and catalysts to convert naphtha into high octane gasoline components (U.S. Energy Information Administration 2018b).

Finally, treatment involves testing and quality control to ensure that the refined crude oil meets all standards. Once treatment is finished, the final products are stored in tanks until the product can be transported through pipelines, trains, and trucks (U.S. Energy Information Administration 2018b).

3.2 Oil and Gas Industries

Now that we are familiar with the processes of locating, extracting, and refining crude oil, we can look at the companies that support these processes. The oil and gas industry in Canada is serviced by at least three groups of service providers: oil drilling and gas extraction, oil and gas field services, and petroleum refining. Other related companies include ones related to gas pipeline construction, gas machinery manufacturing, and gas machinery wholesaling.

3.2.1 Oil Drilling and Gas Extraction (Leach 2018a)

The oil drilling and gas extraction industry in Canada develops oil and gas fields and extracts crude oil and natural gas. For 2018, the industry is expected to generate revenues of $102.4 billion and is projected to grow at an annualized rate of 4% for the years 2018-2023. It is a highly capital intensive and risky industry. Low profit margins, 3.5% in 2018, that depend on highly volatile global prices of crude oil and natural gas and incredibly expensive exploration of oil and gas fields are to blame. The industry experienced a downturn in 2014-2016 due to low global prices of crude oil and natural gas, but has since recovered, albeit not to its 2013 position. Despite this setback, the industry is expected to grow due to increasing production and global prices.

The largest oil and gas field in Canada is the Athabasca Oil Sands in Alberta. These oil sands produce approximately 67% of all domestic oil. Increased use of hydraulic fracturing and horizontal drilling has increased the output of the oil sands and has attracted additional global investment. These new technologies allow the extraction of more crude oil and natural gas compared to traditional methods. Despite this technological change, the oil drilling and gas extraction industry in Canada is mature and expected to grow slowly due to increasing crude oil and natural gas prices.

Approximately 60% of the oil drilling and gas extraction industry's products are crude oil and the other 40% are natural gas. 96.2% of the crude oil extracted in Canada is exported to refineries in

the United States. Overall, this industry exports 84.7% of its products, with the remainder being sold to domestic oil refineries or natural gas distributors.

The companies with the largest market share in the oil drilling and gas extraction industry include Canadian Natural Resources Ltd. with 17.2% market share, Suncor Energy Inc. with 15.2% market share, and Imperial Oil Ltd. with 10% market share. All three companies operate in the Alberta oil sands and have been growing steadily.

These companies are subject to significant regulation at both the federal and provincial level. Federal regulations include the Canada Petroleum Resources Act and the Canada Oil and Gas Operations Act. Provincial regulations include the Canada-Newfoundland Atlantic Accord Implementation Act and the Canada-Nova Scotia Offshore Petroleum Resources Accord Implementation Act, which both regulate offshore petroleum. In Alberta, the Energy Resources Conservation Board regulates energy resources for the province. Success in this industry depends on the company's ability to follow these regulatory requirements while cutting costs and maintaining production.

3.2.2 Oil and Gas Field Services (Leach 2017)

The oil and gas field services industry supports the oil drilling and gas extracting industry. It provides research, exploratory and development drilling, and other related services to the companies that extract crude oil and natural gas. These companies also support mining companies, such as those that mine coal and potash. It is interesting to note that over 67% of the industry work is in providing development drilling services while the remainder of the work is in predrilling research (15.6%), oil and gas exploration drilling (9.2%), and appraisal (7.9%). Industry revenues in 2017 were projected at $28 billion with 2.1% projected annual growth for 2017-2022. Like the oil drilling and gas extracting industry, this industry is subject to heavy federal and provincial regulation.

This industry also suffered from the dramatically decreased prices of crude oil and natural gas from 2014-2016 but was recovering in 2017. These price pressures have forced the oil and gas field services industry to offer lower rates for their services, thus decreasing profits. However, with the recovery in 2017, profit margins were around 6% and are expected to remain stable through 2022.

One major industry issue is that there is not enough pipeline capacity to transport oil and gas. This lack of infrastructure puts a limit on how much oil and gas can be produced in Canada, which in turn puts a limit on the need for oil and gas field services. This phenomenon puts a cap on industry revenues.

Despite being a mature industry, the oil and gas field services industry is highly segmented. Companies bid on contracts for oil extractors, natural gas extractors, and mining companies. Contractors are chosen based primarily on price, but also on quality of service, safety, equipment, location, and reputation. Thus, experienced companies have an advantage over newer ones.

According to leaders in market research at IBISWorld, there is only one major player in the oil and gas field services industry in Canada: Schlumberger. However, its market share is only 7%, which reinforces the conclusion that the rest of the industry is incredibly fragmented. Schlumberger is a highly respected company that provides drilling and well support services to oil, natural gas, and mineral extractors. It operates in 85 countries around the world.

3.2.3 Petroleum Refining (Leach 2018b)

Once crude oil and natural gas are extracted, they are sent to refineries to refine the crude oil and natural gas into gasoline, diesel fuel, aviation fuel, fuel oils, and other petroleum products. This $63.6 billion industry is projected to grow at an annual rate of 2.9% from 2018-2023 due to new car sales and an improving economy. The industry is heavily affected by crude oil prices, since crude oil is the primary input for refining companies. When the price of crude oil is high, refining companies increase their prices to compensate. When the price of crude oil is low, heavy competition forces refining companies

to reduce their prices. Profit margins have fluctuated heavily. The industry had a 7.1% profit margin in 2018 compared with a 14% profit margin in 2013.

Approximately 30% of refined petroleum is exported to the United States and other countries. Manufacturing and heavy industry companies consume approximately 27% of the refined petroleum, while consumers purchase 20% and commercial companies, such as transportation companies, purchase 18%. The remaining 4% is consumed by aviation companies.

It is important to note that Canada lacks pipelines that connect Western Canada with Eastern Canada. As a result, refineries in Western Canada have access to cheaper West Texas Intermediate crude oil while Eastern Canada pays a premium for crude oil imported from international regions. Since purchasing crude oil accounts for over 73% of the industry's costs, Western Canada distributors have a competitive advantage over Eastern Canada distributors.

Growth has largely been focused on increasing the efficiency of existing equipment as opposed to building new refineries, since a new refinery can cost billions of dollars. Refining capacity has largely stabilized. This is in line with the petroleum refining industry being mature. Also in line with a mature industry, market share is largely concentrated between five companies: Imperial Oil Ltd. (35.1%), Suncor Energy Inc. (15.1%), Shell Canada Ltd. (11.2%), Federated Co-operatives Limited (8.6%), and Irving Oil (8.4%). Many of these refining companies distribute gasoline and diesel across Canada through brands such as Esso and Mobil (Imperial Oil Ltd.), Petro-Canada (Suncor Energy Inc.), Shell (Shell Canada Ltd.), and FCL (Federated Co-operatives Limited).

Like the previous two industries, the petroleum refining industry is risky and involves heavy capital investment. Combined with the concentrated market share, the industry is unlikely to see new entrants. The risk is due to volatile prices of crude oil which heavily affect costs, and thus profit margins, and the heavy capital investment is due to the equipment needed to refine petroleum.

The petroleum refining industry is subject to a number of federal and provincial regulations. Air and water quality is regulated by Environment Canada and environmental and human health protections are governed by the Canadian Environmental Protection Act of 1999. The petroleum refining industry is also accountable to the National Energy Board, which regulates exports of crude oil and other petroleum products. Emission and public health concerns are addressed by the National Framework for Petroleum Refinery Emission Reductions. Finally, provincial regulations involve pricing regulations.

3.3 Applying Harm Reduction to the Oil and Gas Industry

Though I have already shown that the cluster concept of harm reduction applies to corporations, it is important to ask if the cluster concept applies to the oil and gas industry in particular. As alluded to in previous chapters, there might be certain industries that we find intolerable and might therefore render harm reduction frameworks inappropriate. This section will show that harm reduction frameworks do, in fact, apply to the oil and gas industry. Each heading below corresponds with one of the qualities of the cluster concept of harm reduction reviewed in Chapter 1.

3.3.1 There is at least one identifiable harm associated with the behaviour.

There are at least two identifiable harms that the oil and gas industry does to the environment and society. The first is harm to communities that are near oil and gas industry operations. The second, related to the first, is harm to the environment.

Indigenous peoples are the traditional habitants of much of the land and water where oil and gas activities take place. In theory, oil and gas activity on traditional Indigenous land could be beneficial for both Indigenous peoples and the oil and gas companies. An oil and gas project brings jobs and spending money to Indigenous communities while the oil and gas companies extract resources for a profit. Because of these benefits, Indigenous communities can side with oil and gas companies and

campaign in favour of oil and gas activity (Tasker 2018a). However, in many cases, Indigenous peoples are left without these benefits. For example, non-Indigenous individuals usually occupy the highest paying jobs on oil and gas projects (Manley-Casimir 2011). Even when concerns of Indigenous peoples are heard, they can be ignored or otherwise not appropriately accounted for (Chalifour 2010). An example of this latter harm comes from the 2018 Federal Court of Appeal rejection of the Trans Mountain pipeline due to insufficient consultation with First Nations communities (Kane 2018). Further, harm is done to Indigenous peoples through decreased air quality, threats to marine populations, public health issues, and threats to spiritual and sacred lands (Dana et al. 2009). Indigenous peoples disproportionately bear these harms because they rely more on the land and waters for spiritual and relational purposes compared with non-Indigenous individuals. When oil and gas companies are finished extracting resources, they leave the Indigenous lands spoiled, since land reclamation efforts are often piecemeal and inadequate (Allred et al. 2015). The remaining communities are socially, environmentally, and culturally damaged (Manley-Casimir 2011). Lack of hospitals and health care practitioners exacerbate these harms (Dana et al. 2009). Indigenous communities continue to fight for royalties, taxing power, and environmental protection of their lands (Chipello 2006). Thus, some Indigenous groups lobby against oil and gas activity (Tasker 2018b).

Non-Indigenous communities that live on or near oil and gas operations are also harmed. In a semi-structured interview conducted by Evans and Garvin (2009), rural Albertans expressed their appreciation of their remote, natural, clean, and independent communities. Oil and gas companies were seen as infringing on these community values, which threatened the interviewee's identities. The interviewees were also concerned with a failure on the part of oil and gas companies to act in accordance with community standards to be good neighbours, follow rules, and keep public spaces clean. Finally, interviewees were concerned about being stigmatized as activists and blacklisted.

Let us now discuss the environmental harms from oil and gas industry operations. Shiell and Loney (2007) estimate the cost of environmental damage from greenhouse gas emissions in the oil sands by quantifying greenhouse gas emissions from the oil sands and then assigning a dollar amount to those emissions based on the economic literature. They concluded that the damage from greenhouse gas emissions range from $15 to $64 per tonne of carbon, or $2 to $8 per barrel of oil. Given that Alberta's crude bitumen production was approximately 2.8 million barrels per day in 2017 (Government of Alberta 2020), this totals $2 billion to $8.1 billion of damage per year. These figures do not account for environmental damage due to land use, water use, or other types of emissions, which means that the real cost of environmental damage is much higher than the amounts quoted here. Further, as alluded to above, land is permanently destroyed due to extraction efforts and oil and gas companies have yet to make good on their promise, and regulatory requirement, to reclaim 100% of the land used to extract oil and gas (Natural Resources Canada 2020).

Oil and gas transportation safety has also been under fire. Pipeline spills occur frequently and spills in America are documented in great detail by the US Department of the Interior (2020b). Spills also happen when tanker trucks transporting oil and gas are overturned (U.S. Department of the Interior 2020a). Finally, most will recall the BP Deepwater Horizon Oil Spill of 2010, which occurred after the offshore Deepwater Horizon oil rig exploded due to pressure from natural gas. It should be noted that this explosion occurred after a similar incident of an explosion of a BP offshore oil rig in 2008 (Pallardy 2019). These spills reduce the safety of the land and water for the surrounding communities and wildlife.

Finally, it is important to understand the contribution of the oil and gas industry to global climate change. Industry spokespeople, including the Canadian Association of Petroleum Producers and the International Energy Agency forecast an increase in demand for oil. Unfortunately, the production and use of oil and gas increases the release of greenhouse gases into the environment, which

is a form of pollution that leads to climate change, including higher risk for natural disasters and drought in many areas of the world. It is important to recognize that, according to the Canadian Association of Petroleum Producers, burning oil and gas is a significant contributor to climate change. Of course, this is a difficulty with the industry, since they produce the very substance that significantly contributes to global climate change. This climate change is a threat to the stability of human, animal, and plant life. It is no exaggeration to say that climate change threatens the life of every living thing on Earth. The issue is so important and threatening that the United Nations Framework Convention on Climate Change (UNFCCC) takes climate action seriously and has made repeated attempts to convince countries around the world to participate in slowing and adapting to climate change. These attempts have led to the Kyoto Protocol and The Paris Agreement, where countries pledged to reduce global greenhouse gas and other harmful emissions. The UNFCCC remains active and committed to working with countries to slow and reduce the impacts of climate change.

Some have argued that the negative effects of the oil and gas industry on the environment is much lower than we might think. For example, Steven Poruban (2008), then Senior Editor of the *Oil & Gas Journal*, points out that the Alberta oil sands account for less than 0.1% of the world's greenhouse gas emissions. Note here, however, that the Alberta Oil Sands represent only one group of oil producers and does not encompass the entire oil and gas industry in Canada. Poruban then heavily quotes Len Webber, then the parliamentary assistant for Alberta Energy. Webber emphasizes Alberta's commitment to the environment by supporting carbon capture and storage projects as well as support for public transit in Alberta. Webber also points out that less than 1% of the total oil sands region has been affected by oil and gas activity. He emphasizes robust land reclamation regulations and limits on water use by oil and gas companies. Further, oil and gas companies have recognized the need for environmental protection and have taken action to realize that goal. In March 2012, 13 oil and gas companies, representing 90% of the crude oil activity in the Alberta oil sands, formed the Canada's Oil

Sands Innovation Alliance (COSIA). The goal was to share technological innovations to reduce the environmental impact of oil and gas industry activity on land, water, tailings, and greenhouse gas emissions. In its first year, COSIA spoke to over 350 influential public leaders and shared $900 million worth of technological innovation with each other (Jajuee 2014).

I suggest that it would be prudent for us to take the above claims and activities with a grain of salt. Du and Vieira Jr. (2012) study the corporate social responsibility communications of six oil and gas companies. They emphasize the framing practices that these corporations use in order to make their company activities seem legitimate. For example, they offer carefully phrased factual arguments, two-sided arguments where they acknowledge the harms that they have done as well as their efforts at reducing those harms, and cite the legitimacy of the industry organizations that they belong to. These tactics have been shown to increase the firm's credibility on their corporate social responsibility reports and help to convince the consumer that the firm is doing good for the environment and society. According to Du and Vieira Jr., these kinds of communication are pursued with the mindset that corporate social responsibility is a public relations tool. Du and Vieira Jr. argue that oil and gas companies should focus on actually reducing the harms that they do to the environment through substantial investment in long-term renewable energy strategies as opposed to focusing on communication strategies that allow them to appear as if they are reducing harms.

3.3.2 The behaviour is tenacious at the population level.

As discussed above, all three groups of service providers associated with the oil and gas industry are projected to grow in the next five years. In fact, global growth in oil demand outpaces the world's existing and projected capability to supply it. While both advanced and developing economies are expected to increase their use of low-carbon energy sources, developing economies are expected to increase their oil, gas, and coal use. Further, oil and gas use is increasing due to the transportation industry needing an additional 10 million barrels of oil per day by 2025. Coal is expected to remain the

largest source of power with gas remaining the second-largest (International Energy Agency 2018). Canada is expected to play a large role in this reliance on oil and gas. The oil sands are projected to provide an additional 2.5 million barrels of oil per day by 2044 (Natural Resources Canada 2020). This data implies that, regardless of the climate consequences, people will continue to use oil and gas to power their lives.

This analysis suggests that the harms that come along with the oil and gas industry will likely persist. Environmental damage is necessary for oil and gas extraction to occur. Further, the use of oil and gas necessarily produces pollution in the form of harmful carbon dioxide. As a result, so long as the oil and gas industry exists, so too will many of its environmental harms. In the case of the oil and gas industry, it seems as though the industry will persist, and so will its harms.

3.3.3 The behaviour is, to some extent, tolerable.

The oil and gas industry seems to be intolerable to some individuals, at least in certain ways. For example, massive protests have occurred across Canada over the Trans Mountain Pipeline Expansion construction. These protesters believe that they have a moral duty to protest against the pipeline (Pawson 2018). Notice here that the intolerability is not to the point of Card's definition of "intolerable harm" where people are reduced to a life that they do not subjectively feel is worth living. Despite this, as we will see below, the effects of pipelines might be intolerable to many. As a result, we can interpret these protesters as fighting for prevention of future intolerable harms.

Many others believe that pipeline construction and other oil and gas industry activities are necessary for Canada's economic growth. For example, the Trans Mountain Pipeline Expansion will bring $7.4 billion into the Canadian economy at all levels of government and employ 15,000 individuals during pipeline construction with further employment of 37,000 for pipeline operations (Trans Mountain, n.d.). In May 2016, Canada's National Energy Board concluded that the Trans Mountain Pipeline Expansion project was in the public interest and recommended approval, albeit with 157

conditions to, among other things, protect the interests of Indigenous peoples and the environment. This approval suggests that oil and gas operations are, at least to some extent, tolerable given their economic benefits.

Further, vast numbers of people in Canada and around the world are expected to continue relying on oil and gas to power their lives. From this data, we can reasonably conclude that the use of oil and gas is tolerable to a significant portion of the global population, especially since there are increasing amounts of energy alternatives to coal and oil and gas. The fact that significant portions of the global population are choosing to use oil and gas to power their lives indicates that they tolerate the industry.

However, a salient point arises when we think about the effects of climate change on the world. According to NASA, the effects of climate change include an increase in droughts, heat waves, and hurricanes, sea levels will rise and flood today's lands, and temperatures will continue to rise to dangerous levels. Climate change has already affected our daily lives through intense heat waves and melting sea ice. According to the Intergovernmental Panel on Climate Change, "Taken as a whole, the range of published evidence indicates that the net damage costs of climate change are likely to be significant and increase over time". Given that climate change threatens our very existence on Earth, it is no exaggeration to say that climate change will become intolerable in the sense that it will claim the lives of millions of people around the world. Thus, in one sense, the oil and gas industry is obviously tolerable but in another sense, the industry is obviously not. This difficulty arises due to the nature of the term "tolerable" that I discussed in Chapter 1. As concluded in that chapter, the fact that at least some people think that the oil and gas industry is tolerable makes harm reduction for the oil and gas industry applicable for that group.

Here, one might be convinced that the oil and gas industry produces intolerable harms overall. Since unwanted death is clearly a harm that is intolerable to everybody, the harms from climate change

are intolerable as per Card (see section 1.2.3). Indeed, for many parts of the world, the harms from climate change are already intolerable. According to my framework as I have developed it to this point, the fact that climate change is intolerable for many suggests that we should seek harm elimination for these people. Unfortunately, in this case, harm elimination is not possible, as climate change will continue threatening the entire planet, even if everybody on Earth ceased to pollute immediately. It seems that harm reduction is the only option left for responding to climate change. Indeed, human activity has permanently destroyed the environment to the point of no return. Thus, in this particular case, while harm reduction may not be the ideal response, it is one of the only responses that we have left.

3.3.4 The primary harms are to the self.

Interestingly, the oil and gas industry harms itself in a roundabout way. Since oil and gas is a non-renewable resource, the more oil and gas the industry sells, the less oil and gas it will have to sell in the future. Eventually, we will deplete all the world's oil and gas reserves and the oil and gas industry will go out of business. Alternatively, we will all have been tormented by the effects of climate change to the point where many of us, including those who work for oil and gas companies, are dead or struggling. Yet another outcome could be that the effects of climate change start becoming salient to more people and actions are taken against oil and gas companies to reduce or slow the effects of climate change, quite probably in the form of regulation that requires dramatically reducing oil and gas operations. No matter how we analyze the situation, it seems that the oil and gas industry will eventually fall away.

However, the ways that the oil and gas industry harm themselves are not in the same ways that injection drug users, tobacco users, and sex workers harm themselves. This difference is because oil and gas companies do not have personal autonomy in the same way that individuals have personal autonomy. However, it is interesting to note that, unlike corporations as a whole as discussed in Chapter

2, the oil and gas industry is more susceptible to harming itself in other ways compared to the average corporation.

Further, the oil and gas industry does massive harms to the environment and society that we ought to want to reduce for the reasons argued in Chapter 2. As explored above, the industry clearly harms Indigenous peoples, who have been disproportionately affected by oil and gas industry activities and have suffered serious harms to their ways of being. The oil and gas industry also harms communities that live in or close to their extraction activities. Further, though these harms do not directly affect individuals, the oil and gas industry damages marine and land ecosystems in the areas surrounding their activities. This, in turn, harms individuals through issues like poor water quality. It is important to note that these harms occur on a wide scale, with entire communities of individuals and ecosystems of animals being affected each time the oil and gas industry fails to maintain safe operations.

Further, the oil and gas industry's contribution to global climate change gives us a strong mandate to reduce the harms that the industry does to the environment and society. Global climate change has already started to affect populations around the world and it is no exaggeration to say that it is a threat to humanity's survival on this planet. The oil and gas industry may not be harming itself directly in the same way that an injection drug user harms themselves when they use, but the sheer scale of harm that the oil and gas industry does to the world should be incentive enough for us to want to dramatically reduce its harms. Again, harm to others gives us a strong mandate to intervene.

3.3.5 The harm is worth reducing even if it is not cost-efficient.

Harms to Indigenous peoples, individuals living in nearby communities, and marine and land ecosystems are worth reducing even if it is not cost-efficient to do so. The industry must consider each group's concerns and take seriously the difference in concerns within each group. For example, some Indigenous peoples may want oil and gas operations on their land so that they can profit from the activities while others may be opposed to such operations because it would harm the environment that

they rely on for survival. Reducing the harms of oil and gas operations to both groups by addressing their individual concerns is important.

Further, it seems obvious that the harms of climate change are worth reducing even if it is not cost-efficient to do so. Again, climate change threatens humanity's existence on this planet and avoiding such catastrophic events is valuable because of the lives that are saved. Importantly, reducing the harms due to climate change may involve cessation of the oil and gas industry's activities altogether, either through government regulation or consumer pressure. For example, governments may limit the amount of oil and gas that can be extracted while transportation companies and everyday consumers may demand and eventually switch to transportation methods that do not require oil and gas. As mentioned above, the oil and gas industry may be tolerable for now but it may not be tolerable in the future.

3.3.6 Significant harms are due to stigma or criminalization of the behaviour.

Like corporations as a whole, there are few harms to individuals due to stigma or criminalization of oil and gas industry operations. Granted, there are social stigmas among some circles against those who are less environmentally-friendly. Further, oil and gas companies are frequently targeted in the media for behaving in ways that are detrimental to the environment (e.g. Sharp 2019). However, this attention might be understood not as harmful to the industry but as the reality of doing business. After all, many corporations have to respond to their detractors and make careful use of their public relations departments. Thus, dealing with industry critics might just be part of the cost of doing business. Further, as discussed in Chapter 2, this stigma and regulatory environment occurs at the level of the firm, which protects the individuals who work for the company in ways that sex workers are not protected.

Regardless, if these stigmas are not deemed to be substantial enough to harm oil and gas corporations, this does not preclude harm reduction frameworks from applying to the oil and gas industry, as not all qualities in a cluster concept need to apply in order for the concept to apply overall.

I argue that, like corporations as a whole, harm reduction frameworks apply to the oil and gas industry despite there being no significant harms due to stigma or criminalization of its operations.

3.4 A Deeper Dive: Exploratory Drilling

Several harms arise from each of the processes of locating, extracting, and refining crude oil. As a result, harm reduction can happen at a variety of levels throughout. A closer look at exploratory drilling in particular can help to illustrate the kinds of harms that oil and gas companies do to the environment and can provide insight into the creative ways that these harms can be reduced.

3.4.1 Environmental Harms of Exploratory Drilling

Rates of success for exploratory drilling grew rapidly in the 1970s and early 1980s and have stabilized since then, despite technologies that were meant to improve exploratory drilling rates in the latter half of the 1980s. Interestingly, many wells that are labelled "dry", which means that there is no significant bitumen deposit, are not actually dry. In fact, a well is deemed to be dry so long as it is unprofitable to retrieve the bitumen from that well. This profitability is determined by the price of oil and gas, the amount of oil available compared to natural gas and at what depth this oil is available at, and the size of the bitumen deposit (Forbes and Zanpelli 2000). This finding means that the environment is disturbed for the sake of exploratory drilling, but many of these wells are abandoned because they are considered unprofitable. Unfortunately, these wells leave a lasting impact on the environment.

Exploratory drilling, especially offshore exploratory drilling, has been found to harm the environment in significant ways. Currie and Isaacs (2004) found that exploratory drilling in the Minerva gas field in Victoria, Australia, resulted in significant changes to the seafloor community up to 200 metres away from the well-head. These changes lasted for up to 11 months. The seafloor community remained significantly changed at the location of the well-head after 11 months, albeit with some recovery. These results suggest a threat to biodiversity in the marine ecosystem near drilling sites. Other

research has found that seafloor communities can remain disturbed over a year after drilling, up to 500 metres from the drilling site (Santos et al. 2009).

Further, Dore et al. (2017) found significantly increased rates of barium, copper, and petroleum hydrocarbons in the Campos Basin, southeast of Brazil. These increased rates were detected up to 500 metres away from the drilling site. These increases are significant, as barium is toxic to marine life (Lira et al. 2011). Barium can also impair the growth of and cause developmental defects in marine life (Choudhury and Cary 2001). Copper is damaging to marine macroalgae, which greatly affects the marine ecosystem (Babu et al. 2014). Finally, petroleum hydrocarbons impair ecological growth, reduce biodiversity, and are considered a "significant pollutant" in bodies of water (Pettigrove and Hoffmann 2005).

3.4.2 Reducing the Harms of Exploratory Drilling

Market research suggests that firms will be punished in the stock market when they get caught doing harms, especially when those harms result in stiff penalties from regulators and thus reduce profits. For example, after the BP Deepwater Horizon oil spill, firms that were directly related to the spill were punished in the stock markets the most. Further, firms in the oil and gas industry that were impacted by threats of increased regulation and higher costs were also punished in the stock market (Humphrey et al. 2015). This data suggests that stockholders distinguish between firms in the oil and gas industry and selectively punish those that do harms to the environment. Further, investors have been successful at influencing oil and gas companies to reduce their environmental damage (Gatehouse 2018). As a result, oil and gas companies have a financial incentive to make sure that their firm is not related to any environmental damage or disaster.

Further, exploratory drilling requires vast amounts of resources, including a lot of time and money. Thus, oil and gas companies have a prudential incentive to increase the success rates of their

exploratory drilling efforts. This incentive can lead firms to find creative ways to increase their exploratory drilling success rates, thus leading to less damage to the environment.

There are several creative ways that oil and gas companies can reduce their harms to the environment during exploratory drilling. One solution is to use water-based fluids instead of synthetic fluids during the drilling process. Marine communities within a 500-metre radius of the drilling site affected by water-based fluids recover fully after 22 months, while those communities affected by synthetic fluids do not (Netto et al. 2010).

Another option is to ensure that all drilling equipment is up to date. Better equipment drills more precisely, which means that less earth needs to be disturbed to mine bitumen. As a result, this drilling method does less harm to the environment. Better equipment also lasts longer, allows operators to more effectively maintain the equipment, and is more efficient, which gives companies additional prudential reasons to invest in updated drilling equipment (Anonymous, 2008).

The drilling method is also important to consider when choosing less environmentally-harmful bitumen extraction. Water-powered drilling has been shown to bring cuttings to the top of the drill hole without reducing the structural integrity of the drill hole itself. This process reduces leaks in the drill hole, which maintains the structure of the earth and requires less rehabilitation at the end of the project. Further, clean water can be used so that oil and other contaminants are not introduced to the drilling process or the environment (Anonymous, 2014).

These are some basic ways that an exploratory drilling company could reduce its environmental damage. Other methods of reducing environmental damage could come from creative experts in the oil and gas industry who are able to think "outside the box" for additional solutions. Other ways to reduce harm in the process of exploratory drilling involve reducing harms to Indigenous peoples (e.g. Young 2012) and reducing harms to those who live on land that is to be mined. However, this harm reduction may seem paltry to many who are concerned about the rising costs and eventual catastrophe of global

climate change. My harm reduction framework does not deny that humanity is headed toward environmental disaster, but it does recognize that there are small reductions in harm to society and the environment that companies can perform to lessen their contribution to global catastrophe.

3.5 Reducing Harm in the Oil and Gas Industry

As shown by the example of exploratory drilling, there is much that can be done to reduce the harms in the oil and gas industry. Each step in the process of locating, extracting, refining, and transporting bitumen or crude oil is an opportunity to reduce environmental and social harms. A detailed analysis of each of these processes is outside the scope of this dissertation, but the example of exploratory drilling should be enough to illustrate the process that a harm reduction expert would take to identify harms and implement procedures to reduce them.

One important item to note is that this chapter reviews exploratory drilling as a whole. With the key harm reduction principle of "meeting people where they are at", a deeper analysis into each exploratory drilling company would be the best way to perform a harm reduction analysis. As captured in the two features of my harm reduction framework, each individual company has their own priorities for which harms they want to or are willing to reduce and harm reduction takes these differences between companies seriously. Thus, each individual company should be encouraged to perform an analysis of the harms that they do to the environment and society in the process of their operations and decide which of those harms they want to reduce. Remember that, under my harm reduction framework, companies can choose to reduce these harms for any reason and to any extent. We still celebrate their harm reduction as a good thing.

One additional item to note is that the oil and gas industry is one that attracts heavy government regulation. Regulations can, for example, incentivize corporations to release less carbon dioxide into the atmosphere by making it more expensive to pollute. Thus, taking advantage of regulations becomes

a form of harm reduction. Notably, taking advantage of these regulations may attract less praise for corporations, since they are obviously incentivized by the government to act in certain ways. Regardless, the regulations incentivize corporations to reduce harms and that is the primary goal.

3.6 The Oil and Gas Industry and Corporate Social Responsibility

By now, the reader might be wondering why the harm reduction described above is any different from corporate social responsibility. After all, it seems as if corporations would be able to perform any of the above behaviours and classify them as corporate social responsibility both in theory and in their marketing efforts. Recall, however, that there are significant differentiators between corporate social responsibility and my harm reduction framework.

First, due to their significant contribution to global climate change, oil and gas companies may never be truly considered socially responsible by some individuals. Since these companies produce a product that so fundamentally damages the livelihood of humans, non-human animals, and plants around the world, one might argue that no amount of oil and gas activity is environmentally or socially responsible. If this is true, then oil and gas companies cannot be socially responsible unless they cease operations. However, this raises a contradiction, since a fundamental principle of corporate social responsibility is to fulfill economic responsibilities, which means that the company must generate profit, but corporate social responsibility also demands that corporations operate sustainably, which is impossible in this case. So, proponents of corporate social responsibility may find it difficult to say that oil and gas companies can be socially responsible while continuing their operations. In contrast, the lens of harm reduction allows oil and gas companies to avoid admitting defeat because it gives them a way to better the world without necessarily doing good. Using my harm reduction framework, corporations can claim proudly that they are acting to reduce social and environmental harm without sacrificing profits.

Second, recall that my harm reduction encourages corporations to reduce harms *for any reason* and *to any extent*. As a result, oil and gas corporations can choose to reduce whichever environmental and social harms they deem important to any extent that they deem important. This low threshold approach lowers the bar for corporations who currently operate under the banner of corporate social responsibility because corporations are no longer pressured to exclusively reduce harms that are impactful enough to highlight on a corporate social responsibility report. Instead, corporations are encouraged to make alterations that reduce even a tiny amount of harm. This encouragement may convince corporations to take several small steps to reduce harm, even if the outcome does not involve heavily marketed statements on how much money was contributed or how much impact was made. In this way, it is possible for more harms to be reduced overall.

Finally, remember that harm reduction "meets people where they are". Each individual corporation is encouraged to look at their unique operations and reduce environmental and social harms that they themselves deem appropriate. There is no one initiative, such as joining an industry organization or contributing to research on alternative energy sources, that every corporation is expected to partake in. Instead, each corporation analyzes their existing situation and chooses the harm reduction strategies that are right for them. In this way, corporations are able to reduce harms that they are most willing, and potentially most able, to tackle. This arrangement allows corporations more freedom while participating in harm reduction, which may encourage them to take some action over none, or more action over less.

3.7 Key Takeaways from the Oil and Gas Industry

This analysis of the oil and gas industry shows us at least two things. First, not all corporations match up alongside my harm reduction framework in the same way. Second, it highlights the feature of my harm reduction framework that says that any amount of harm reduced should be counted as good.

Above, we saw that, in some ways, the oil and gas industry and its workers harm themselves in the same ways that they harm the rest of society. People who work in the oil and gas industry are just as susceptible to the effects of climate change as anybody else. Thus, they are indeed harming themselves, albeit in a different way compared to injection drug users, tobacco users, and sex workers. Thus, not all corporations align with my harm reduction framework in exactly the same way that I laid out in Chapter 2. Due to the nature of a cluster concept, however, this misalignment does not create so much difference that my harm reduction framework cannot apply. This flexibility is a benefit of using a cluster concept to define harm reduction for corporations.

Additionally, the reader may have noticed that my suggestions for how the oil and gas industry could reduce harm to the environment and society seem rather feeble compared to the massive disaster that is global climate change. This observation would be correct. Indeed, even if every oil and gas company took on the harm reduction initiatives suggested in this chapter, Indigenous peoples will still have their lands improperly used, residents will still be uprooted, and climate change will most definitely still occur on a horrific scale. In a way, it may be argued that the harm reduction initiatives in this chapter do so little harm reducing that they may as well not be mentioned. This line of thinking, however, is misguided. While the harm reduction initiatives suggested here may be miniscule, they still make a difference. The difference is perhaps tiny, but there is a difference nonetheless. Now, it is overall better to have a situation be a tiny bit less harmful compared to the status quo. Further, tiny steps forward add up to great steps forward. For example, many of us think that it is important to turn off the tap while we brush our teeth or turn off the lights when we leave a room because small actions can make a big difference. Thus, I defend the feature of my harm reduction framework that says that any amount of harm reduction, however small, should be counted as a good thing. The oil and gas industry does an excellent job of highlighting why this feature of my harm reduction framework is important.

3.8 Conclusion

In this chapter, I reviewed the processes involved with the oil and gas industry and identified three types of companies that service the industry. I then demonstrated that the oil and gas industry is an appropriate site to apply harm reduction frameworks while simultaneously highlighting the harms that the industry does to the environment and society. I provided an example of exploratory drilling and showed how the exploratory drilling companies might choose to reduce their harms to the environment. This process can be repeated for locating, extracting, and refining crude oil products to identify other harms that can be reduced in the oil and gas industry. Finally, I explained how my harm reduction framework was importantly different from corporate social responsibility.

The next chapter in this dissertation will demonstrate how my framework of harm reduction for corporations applies to the pharmaceutical industry. This industry will be yet another example of an industry that could benefit the environment and society through harm reduction.

Chapter 4

Harm Reduction for the Pharmaceutical Industry

The pharmaceutical industry continues to be heavily criticized in today's media for a variety of reasons. Just recently, John Kapoor, founder of Insys Therapeutics that manufactured fentanyl, was convicted of bribing doctors with money and exotic dancers to prescribe more of the drug (The Associated Press 2019). Fentanyl is an opioid that is at the centre of the opioid crisis across Canada that has sparked a national response due to the high number of overdoses and deaths in 2018 and 2019 (Government of Canada 2019).

Mirroring Chapter 3, this chapter analyzes harm reduction for the pharmaceutical industry. The pharmaceutical industry is especially interesting because of the complex network of relationships involved in the processes of researching, developing, manufacturing, marketing, and selling pharmaceutical products. In this chapter, I show that this network of relationships leads to several harms that are worth reducing.

This chapter opens with an overview of the brand-name, generic, and drug store industries in Canada. I then analyze the pharmaceutical industry with respect to the harm reduction cluster concept developed in Chapter 2. My analysis shows that the harm reduction framework set out in this dissertation applies well to the pharmaceutical industry. After that, I launch into a case study of Merck & Co. Inc. to demonstrate how a company in the Canadian brand-name pharmaceutical industry can reduce its harms even further.

4.1 Pharmaceutical Industries

There are at least three industries that make up the pharmaceutical industry network in Canada: brand-name pharmaceutical manufacturing, generic pharmaceutical manufacturing, and drug stores in Canada. This section will review each of these industries in turn.

4.1.1 Brand-Name Pharmaceutical Manufacturing in Canada (Ozelkan 2018a)

Brand-name pharmaceutical manufacturing includes all companies that research, develop, manufacture, and sell brand-name pharmaceuticals for use in humans and animals. The major companies in this industry are Pfizer Inc. (29.3% market share), Gilead Services (25.5% market share), Sanofi (17.8% market share), and Merck & Co. Inc. (10.4% market share). The pharmaceuticals manufactured by these companies are protected by patents, which give the manufacturer an effective monopoly on selling a drug for 20 years from the time that the drug is discovered. Once these 20 years have elapsed, information about the drug is released and generic drug manufacturers can make generic versions of the drug. The justification for these patents is that they stimulate research and development by offering some assurance that the manufacturer will recoup their expensive research and development costs in future sales. Nutritional supplements and cosmetics are excluded from this industry.

By all accounts, brand-name pharmaceutical manufacturing in Canada is a large and profitable industry with room to grow. With revenues of $7.1 billion and a 24.5% profit margin in 2018, brand-name pharmaceutical manufacturing is big business. Increasing health expenditures and an aging population are two key drivers that lead to the success of the brand-name pharmaceutical manufacturing industry. Further, a weakened Canadian dollar and the newly inked Comprehensive Economic and Trade Agreement with the European Union means greater opportunity for exports. In fact, exports were expected to represent $5 billion of the industry's revenue in 2018. Exports to the United States continue to be especially important. Finally, brand-name pharmaceutical manufacturers benefit from

partnerships between universities and third-party contractors who shoulder some of the high research and development costs. Importantly, though it seems as if universities and contractors are paying the high research and development costs, it is ultimately the taxpayer that shoulders these burdens through funding public university salaries and government grants.

The brand-name pharmaceutical manufacturing industry is under price pressure. The industry has three main groups of purchasers: federal, provincial, and territorial governments represent 42.6% of industry sales, private insurers represent 35.2% of industry sales, and private households shoulder the remaining 22.2% of sales out of pocket. Recently, all levels of government have shifted their focus toward lower cost generic drugs, which saves them billions of dollars every year. For example, Alberta sets a price ceiling of 18% of the brand-name drug price for all generic drugs and British Columbia has a ceiling of 20% of brand-name drug prices. The highest of these ceilings is 35% in Nova Scotia, Prince Edward Island, and Saskatchewan. With such low generic drug prices, it becomes difficult for governments to justify funding for brand-name drugs. Private insurers have also shifted in favour of generic drugs, again due to lower prices, although they remain more likely than governments to insure brand-name pharmaceuticals. In line with this trend, private households also often favour generic drugs due to their low costs. However, brand name prices are still paid for the various drugs that are under their 20-year patent protection.

Research and development is important to brand-name pharmaceutical companies. This research generates drugs that can be patented and sold exclusively by the manufacturer for 20 years. Thus, it is beneficial for brand-name pharmaceutical manufacturing companies to constantly have drugs working their way through the research and development process. Companies do this by sponsoring academic research into drugs, contracting out research to other organizations, acquiring smaller companies that manufacturer drugs under patent, and doing in-house research. Unfortunately, research and development has not been keeping pace with patent expiries. The brand-name pharmaceutical

manufacturing industry has recently suffered from a "patent cliff", where many important patents have expired between 2013 and 2018. As a result, generic substitutes are available for many of these drugs, which reduces revenue for brand-name manufacturers. Brand-name pharmaceutical manufacturers have responded by investing resources into research and development, specifically in biologics, which are pharmaceuticals that are made from biological substances such as cells and tissue. These drugs are more expensive to develop and manufacture, but also enjoy greater protection in the form of patents, as many biologics can use different mechanisms to achieve the same result in the patient. These differences in mechanisms allow brand-name pharmaceutical manufacturers to file multiple patents for similarly effective drugs, which provides greater protection for the brand-name manufacturer.

4.1.2 Generic Pharmaceutical Manufacturing in Canada (Ozelkan 2018b)

The generic pharmaceutical manufacturing industry develops, manufactures, and sells generic drugs. These drugs are not protected by patents and research and development for new drugs is left mostly to brand-name pharmaceutical manufacturers. The generic manufacturing industry is smaller than the brand-name manufacturing industry, but sells a significantly higher volume of product. Revenues are strong at $5.4 billion with a 17.9% profit margin in 2018. Major players include Apotex Inc. (10% market share), Pharmascience Inc. (10% market share), Teva Pharmaceutical Industries Ltd. (8.2% market share), and Novartis AG (6.5% market share). The industry continues to grow while mergers and acquisitions strengthen profit margins.

In many ways, the generic pharmaceutical manufacturing industry benefits where the brand-name pharmaceutical manufacturing industry struggles. Governments, private insurers, and private households seek out generic drugs due to their huge cost savings compared with brand-name drugs. Though the pressure to keep these costs low is significant, generic pharmaceutical manufacturers make their money through volume of sales. In fact, they sold 70.6% of total prescription volumes in 2017.

Further, exports, especially to the United States, remain important to the industry. Total exports made up 77.8% of total revenue in 2018.

4.1.3 Pharmacies and Drug Stores in Canada (Ozelkan 2018c)

Pharmacies and drug stores are retail locations that sell prescriptions and over-the-counter drugs alongside a variety of consumer-packaged goods. They are the main distributor of brand-name and generic drugs and serve as the link between the manufacturer and end consumer. Revenues in 2018 reached $44 billion with a profit margin of about 7%. Key players in this industry include Shoppers Drug Mart (28.8% market share), Metro Inc. (9.9% market share), McKesson Canada (7.2% market share), and Pharmasave Drugs National Ltd. (5.5% market share).

The high volume of generic drugs being sold to consumers acts as a boon to this industry. In fact, the industry thrives on a low price, high volume business model. Industry revenues and profits are expected to continue growing, especially since manufacturers compete to have their products carried at pharmacies and drug stores.

Many of the drivers that affect brand-name and generic drug manufacturers also apply to pharmacies and drug stores in Canada, including an increase in total health care expenditures and an aging population. Increasing competition from grocery stores and online pharmacies have driven the major players to offer higher convenience and better services, such as increasing hours of operation and offering diabetes monitoring and flu shots. Consolidation is also increasing and allows the industry to cut costs, which counteracts the fact that rebates for generic drugs have trended downward. Despite competition, the industry is expected to grow over the next five years through offerings of preventative health services. The patent cliff experienced by drug manufacturers also leads to growth, as cheaper generic drugs increase consumers' rate of adherence to their medications, resulting in a higher volume of drugs being purchased from pharmacies and drug stores.

Pharmacies are heavily regulated by federal, provincial, and municipal governments. For example, price restrictions on generic drugs strongly impact profit margins and pharmacists must be licensed. Despite this regulation, pharmacies have recently been able to increase their range of services. For example, some provinces now permit pharmacies to renew and prescribe medications. These additional services lead to higher revenues for pharmacies and drug stores in Canada. These revenues are also more profitable, which is important for this industry because 63% of their expenses come from drug purchases.

4.2 Applying Harm Reduction to the Pharmaceutical Industry

As we saw with the oil and gas industry, it is important to determine whether harm reduction frameworks are applicable to the pharmaceutical industry specifically, even though we have already determined that the frameworks apply to corporations overall. After all, there might be some feature of pharmaceutical industries that misaligns with the cluster concept of harm reduction that leads us to exclude it from harm reduction frameworks. This section will show that harm reduction frameworks do apply to the pharmaceutical industry.

4.2.1 There is at least one identifiable harm associated with the behaviour.

Here, I highlight three areas of concern within the pharmaceutical industry: influencing prescriptions, inaccessibility of drugs, and industry sponsorship of clinical trials. These are areas of concern because they all compromise the safety of people who consume these drugs. This harm is important because doctors are meant to prescribe medications that improve health outcomes with the least amount of risk. When pharmaceutical companies influence physicians to prescribe their drugs more frequently, when people cannot access existing drugs, and when pharmaceutical companies influence the outcomes of clinical trials, physicians' ability to prescribe drugs that are maximally effective with minimal risk is

called into question. The risk to patient (or potential patient) safety is serious and when these risks are realized, it constitutes one major harm that the pharmaceutical industry does to consumers.

4.2.1.1 Influencing Prescriptions Through Gifts

One of the most heavily-researched harms from the pharmaceutical industry is the relationship between pharmaceutical companies and physicians. Pharmaceutical companies are in an uncommon situation when it comes to marketing their products because physicians act as gatekeepers to prescription medication. Thus, a pharmaceutical company's sales often depend on how many and how frequently doctors prescribe their drugs. The obvious result is that it is in the pharmaceutical company's best interest to convince as many physicians as possible to prescribe their drugs and to convince each physician to prescribe their drug often. This relationship leads to many ways that consumers are ultimately harmed. Here, I will focus on just one of these issues: gift giving.

The pharmaceutical industry courts medical students and physicians in the form of gifts. These gifts range from low-value, such as pens and notepads, to high-value, such as all-expenses-paid trips to conferences and significant amounts of research funding for the physician. According to the literature, gifts are powerful tools for pharmaceutical companies because giving a gift activates a reciprocity norm in medical students and physicians (Katz et al. 2003; Stokamer 2003). This reciprocity norm compels medical students and physicians to return the favour of the gift through their behaviour. Katz et al. (2003) point out that this reciprocity norm is so strong that those who accept gifts without providing anything in return are stigmatized as "moochers" or "free loaders". Further, it is important to note that the size of the gift does not seem to matter in terms of changing physician behaviour. Cheap gifts are just as effective as expensive gifts at changing physician prescribing behaviour (Katz et al. 2003). Katz et al. assert that the primary reason for pharmaceutical companies to provide gifts to physicians is to interfere with their judgment and encourage them to prescribe brand-name drugs more frequently, often without the patient's best interest in mind. Katz et al. also rightly point out that, even if the patient was

wary of the physician receiving gifts and being influenced by these gifts, the patient has little choice but to accept their physician's recommendation. For Katz et al., pharmaceutical companies are not simply providing information. If they were, physicians would willingly trade their time for this valuable information and would not expect or need material gifts in return. Recall the case of John Kapoor and fentanyl described at the beginning of the chapter. Clearly, Insys Therapeutics was trying to influence prescriptions, as it cannot be argued that the financial bribe and exotic dancers were merely in the interest of providing information.

There is research that demonstrates that medical students' and physicians' prescriptions are impacted by pharmaceutical gift-giving (Blackmer 2020; Green 2008; Katz et al. 2003; Komesaroff 2010; Komesaroff and Kerridge 2002). In her landmark review, Wazana (2000) identified that pharmaceutical gift-giving improved residents' and physicians' knowledge of treating complex illnesses. However, it also led to an inability to identify incorrect claims about a medication, led to a positive attitude toward pharmaceutical representatives, led to increased awareness, preference, and rapid prescription of new drugs, increased requests for new drugs that had little additional benefit, increased prescription rates for the drugs, and led to fewer prescriptions of generics in favour of new drugs that showed no increased benefits. Clearly, pharmaceutical gift-giving interferes with medical professionals' ability to prescribe drugs or other courses of treatment in the patient's best interest. This is the major harm that comes from influencing prescriptions.

Recent research shows that, despite laws making it illegal for pharmaceutical companies to give gifts to physicians, the practice continues to persist (Makowska 2017). Thus, while gift-giving by pharmaceutical companies may have been reduced by legal changes, it has not been eradicated and remains a source of a harm to consumers.

4.2.1.2 Inaccessibility

The second major harm that I will discuss is making medication inaccessible to those who cannot afford them. In this dissertation, I use the term "potential patients" to denote those who would use medications if they were able to procure them but cannot due to various barriers. These barriers include price, distribution, and manufacturing of the needed drugs.

High prices of drugs for potential patients is common in developed nations. Many drugs, especially brand-name drugs, are very expensive and a potential patient is forced to choose between dying of a disease or themselves and/or their family becoming financially bankrupt. For example, one patient was prescribed a cancer treatment that would cost $45,000 per treatment. Even after their family took out a second mortgage, they were unable to afford the treatment. Luckily, this patient was eligible for financial assistance from the pharmaceutical company themselves, but others are not so lucky (Smith 2016). The fact that these financial assistance programs from the pharmaceutical companies themselves even exist (e.g. Genentech USA Inc. 2020) is evidence that many potential patients are unable to afford the cost of treatment.

Further, there are many diseases that require pharmaceuticals for effective treatment, but these drugs are not manufactured because they are unprofitable, either because the disease is too rare for the drug to be profitable or the disease occurs in a developing nation where potential patients cannot afford the drugs. These types of drugs are called "orphan drugs" (Gericke et al. 2005) although they are sometimes divided into two categories, where the former diseases are treated using "orphan drugs" and the latter are drugs for "tropical diseases" (Villa et al. 2009). For the purposes of this dissertation, I will divide these drugs into the two categories of "orphan drugs" and drugs for "tropical diseases".

The main tension in the debate over whether orphan drugs should be produced is between the principle of non-abandonment and the principle of utility. The principle of non-abandonment states that "there are no valid reasons in principle to preclude any patient with a rare disease from having a rightful

claim to the resources available" (Pinxten et al. 2012, p. 151). In other words, every individual, regardless of the diseases that they have, has a rightful claim over health care resources to treat their diseases. This principle clearly applies to the case of orphan drugs. No matter how rare the disease the patient has, they have a rightful claim to medical resources to treat their rare disease. On the other hand, the principle of utility points out the opportunity cost of treating rare diseases. The large amount of resources put into research, development, and marketing of drugs for rare diseases could be put toward treating diseases that affect much larger populations, thus increasing social utility more efficiently (Pinxten et al. 2012).

The United States, Japan, Australia, Taiwan, and Europe all have orphan drug legislation. This legislation is aimed at incentivizing pharmaceutical companies to develop and market drugs for rare diseases. In Europe, this means incentives for treating up to 8000 diseases in over 250,000 patients (Pinxten et al. 2012). In the United States, these are incentives for treating over 6500 diseases in 25-30 million patients (Genetic and Rare Diseases Information Center n.d.). Orphan drug legislation was enacted in the United States in 1983 and has since been used to encourage the development and marketing of over 600 drugs and biologics (U.S. Food & Drug Administration 2018), which has been deemed to have a "modest impact" on the rates of drugs being produced to treat rare diseases (Seoane-Vazquez et al. 2008).

As of September 2019, there was no orphan drug legislation in Canada. In 2012, the Canadian government announced that they would investigate orphan drug legislation, but it was clear that this legislation was not a priority. In October 2017, all traces of an orphan drug legislative framework were deleted from government websites (Forrest 2017). As of September 2019, the Government of Canada states that they approved 16 drugs that were classified as orphan drugs in Europe or the United States in 2017 alone. The page on rare diseases lists incentives for drug production, but these are incentives that are available to all pharmaceutical companies regardless of orphan status and may or may not apply

to orphan drugs. Generic messaging about using data gathered from trusted foreign regulators and decreasing review time is also included on this website (Health Canada 2018).

McMillan and Campbell (2017) argue that Canada needs an orphan drug regulatory framework that is tailored specifically to the existing Canadian policy framework and individual patients' needs. They emphasize that there are up to 8000 rare diseases that, when aggregated, affect 1 in 12 Canadians. Most of these diseases are genetic and appear in children. McMillan and Campbell acknowledge that there may be little momentum for an orphan drug policy framework in Canada because of the existence of Health Canada's Special Access Programme, which allows Canadians to use unapproved drugs to treat clinical conditions. However, McMillan and Campbell point out that while this is useful for low cost generic drugs, it is inaccessible to patients with rare diseases that often have steep medication costs, since drugs acquired through the Special Access Programme cannot have their costs covered by insurance companies. McMillan and Campbell suggest that the government support academic research into orphan drugs instead of mirroring the United States and offering tax credits, since most orphan drug research in Canada is done through academic networks.

As for tropical diseases, it is true that pharmaceutical corporations often fail to provide medication in developing nations because these potential patients cannot afford the medications. Consider the case of eflornithine, which cured even the late stages of African trypanosomiasis, a lethal sickness that was common in sub-Saharan Africa. Aventis, after acquiring the rights to the drug, decided that the drug was not profitable and stopped producing it altogether. The preventable death of thousands followed. The drug only came back into production when it was found that it could temporarily remove women's unwanted facial hair. Only after a strong international campaign by Doctors Without Borders and a mass media exposure of Aventis's production of eflornithine did Aventis start to donate the drug to clinics in central Africa (Clare 2017). The case of eflornithine is a clear case of harm that a pharmaceutical company did to society. Despite Aventis's reaction to the international campaign, the

livelihood of thousands of people in sub-Saharan Africa continue to rest on the goodwill of a pharmaceutical company.

Eflornithine is not the only drug that has been inaccessible to those in developing nations. Eden et al. (2019) surveyed ten pediatricians in nine different countries and found that costs were a major factor in low-middle income countries accessing medications on the World Health Organization Essential Medicines list. Many families refused medication solely based on cost. Eden et al. call for an organized effort between countries, the World Health Organization, pharmaceutical companies, physicians, and nurses to ensure access, affordability, and quality of generic drugs. Echoing this sentiment, Villa et al. (2009) describes how worldwide orphan drug legislation could be altered to better include treatments for tropical diseases under its umbrella. For example, they suggest that orphan status could be extended to all treatments for diseases that are endemic in developing nations. Research grants could encourage the development of these treatments and international or national organizations could sign advance purchase commitments to guarantee revenue for the pharmaceutical company that produces these treatments. These suggestions could improve accessibility of drugs throughout Canada, where many do not have private health insurance and public health insurance does not cover all costs.

4.2.1.3 Industry Biasing Clinical Trials

Pharmaceutical companies are spending billions of dollars on clinical research every year. In the United States alone, industry-sponsored clinical research trials jumped from $4 billion in 1994 to $14.2 billion in 2003 (Moses III et al. 2005). In 2003, industry-sponsored research represented 57% of biomedical research funding in the United States while the National Institutes for Health represented 28% of biomedical research funding. The most recent Canadian data shows that brand-name pharmaceutical companies spend over $900 million on research and development per year. This spending is expected to grow to over $1 billion in 2023 (Ozelkan 2018a).

These data should give us pause. In the United States, pharmaceutical companies spent more on research and development than the National Institutes for Health. In Canada, over 14% of revenues are being spent on research and development. Why are companies spending all this money? The answer seems to be that spending on clinical research trials brings favourable results to the pharmaceutical company, regardless of whether this is the pharmaceutical manufacturer's intent. These results allow pharmaceutical companies' drugs to gain approval from Health Canada. In fact, three meta-analyses surveying over 1100 clinicals trials found that industry-sponsored research leads to more favourable results for pharmaceutical companies (Bekelman et al. 2006; Lexchin et al. 2003; Sismondo 2008).

These data should concern us because regulators rely on the data from pharmaceutical manufacturing companies to determine whether those drugs are safe and/or risky to prescribe. Further, medical practitioners rely on data from clinical trials to determine whether it is safe, or worth the risk, to prescribe drugs to patients in their specific circumstances. Without accurate data from clinical trials, medical practitioners could be prescribing drugs inappropriately and unsafely. They may also be over-prescribing drugs in situations where it is ineffective. In these cases, the drug may be prescribed instead of another more appropriate and effective drug, which harms patients directly. Thus, a bias toward positive outcomes in clinical trials should be concerning for governments, medical practitioners, and patients around the world.

Angell (2008), former Editor of the *New England Journal of Medicine*, writes that pharmaceutical companies used to fund clinical trials but gave full latitude to the academic researchers to design, test, analyze, write, and publish their findings. These days, pharmaceutical companies are closely involved in each of these processes, often designing, testing, analyzing, writing, and publishing findings themselves. Sometimes, they use academic researchers as a front to demonstrate legitimacy of doctored results. In fact, some academic researchers do not even have access to the data from the clinical trial that they ran.

According to Angell, there are several ways that bias works its way into the clinical research process. First, test drugs are compared to low doses of existing drugs so that the test drug looks more effective, or the test drug is compared to high doses of existing drugs so that the test drug looks like it has fewer adverse effects. Oftentimes, test drugs are compared against placebos, which is a common tactic that was also mentioned in Bekelman et al.'s (2006) meta-analysis. Sometimes, pharmaceutical companies choose to only publish the favourable data and reduce the emphasis on adverse effects. According to Angell, bias "permeates the entire system. Physicians can no longer rely on the medical literature for valid and reliable information" (p. 1070-1).

Angell is not the only scholar to have noticed bias in clinical research. In a Cochrane Systematic Review, Lundh et al. (2017) find that industry-sponsored published research papers report higher levels of effective drugs and have more favourable conclusions compared to non-industry-sponsored studies. Spielmans and Parry (2010) report that pharmaceutical companies often have drastically different conclusions on the efficacy of their medications in their internal data compared to their published data. Negative results are often suppressed while positive results are published. Pharmaceutical companies also often engage the services of ghostwriters, where a journal article is written in a manner that is favourable to the pharmaceutical company. An academic or other authority figure that appears detached from the pharmaceutical company then allows the pharmaceutical company to use their name as the author of the article. The internal company documents that Spielmans and Parry review can be shocking to those who are not familiar with the conflict of interest literature in the pharmaceutical company. Ultimately, Spielmans and Parry conclude that pharmaceutical companies selectively use their scientific data to market their drugs through journal articles and sales representatives. "Until such issues are resolved […] any great enthusiasm for so-called evidence-based medicine should be viewed with scepticism" (p. 26).

Other scholars echo this concern for bias in publications (Amsterdam et al. 2017; Devaiah and Merchison 2016; Muckart 2013; Steinbrook and Kassirer 2010) and conflicts of interest (Mecca et al. 2015; Steinbrook and Lo 2012). To address these concerns, Mansi et al. (2012) list ten recommendations on improving credibility in industry-sponsored clinical research. These recommendations include publishing all results, both negative and positive, improving understanding and disclosure of conflicts of interest, transparently reporting statistical research methods used in each study, and ensuring that authors have access to, and know that they have access to, complete study data. These recommendations address many of the concerns listed in this section, but there is no guarantee that pharmaceutical companies will heed these recommendations.

One way to operationalize Mansi et al.'s suggestions is to register clinical trials. Currently, Health Canada does not require registration of clinical trials. Instead, it hosts a database of clinical trials that identifies whether the trial meets regulatory standards. However, it does not require researchers to disclose the outcome of the clinical trial. Unfortunately, without this information, medical practitioners are unable to judge whether a drug's clinical trials warrant its prescription in certain populations.

In contrast, clinical trials performed in America are required by law to be registered on ClinicalTrials.gov. The registry is maintained by the National Library of Medicine and the National Institutes of Health. When registering a clinical trial, researchers must publish basic results that cover the study's outcomes of the efficacy of the drug and adverse effects on trial participants. Since September 2008, this information has been made public for physicians, patients, medical researchers, and the general public to access. As a result, medical practitioners and patients can view the outcomes of all of the clinical trials associated with a drug and decide whether the risks are appropriate for their particular situation before using a drug. While registries do not prevent all of the bias in the research and development process, they certainly go a long way to reducing it, since results of *all* clinical trials

must be published. As many of the concerns listed above surround publication bias, mandatory clinical trial registration can be an effective tool to help reduce bias.

4.2.2 The behaviour is tenacious at the population level.

Pharmaceuticals are a core part of our healthcare system. Both brand name and generic drugs are multibillion-dollar industries that are not expected to slow down. These companies are so important that governments have repeatedly worked with them to balance the industry's financial interests with the health of the population at large, both within their respective countries and around the world. Governments around the world continue to work with pharmaceutical companies to balance their financial interests with the global need for pharmaceutical products.

As discussed throughout this dissertation, I posit that there are two parts to tenacity of the pharmaceutical industry: the industry itself is tenacious and the harms that the industry perpetuates are also tenacious. First, the pharmaceutical industry *needs* to be tenacious. Imagining life without pharmaceuticals results in a world that is significantly less healthy, less happy, and less prosperous. The global pharmaceutical industry provides an indispensable service to people around the world. We all need the pharmaceutical industry to help us prevent health disasters, improve quality of life, and save lives.

Second, the harms that the pharmaceutical companies do to consumers and potential patients are also, unfortunately, tenacious. The pharmaceutical industry will continue to be driven by profits since they are, at their core, a business. They will make decisions based on price, analyze their ability to recuperate costs, and price their pharmaceuticals in profitable ways. As a result, pharmaceutical companies will likely continue marketing their drugs to physicians, they will price their drugs profitably, which means that there will be some populations in the world that cannot afford to access medications, orphan drugs and drugs for tropical diseases will continue to be rare, and the

pharmaceutical industry will continue doing their best to ensure that their investment into clinical trials work out in their favour.

The quick answer to these harms is to ask governments to regulate the pharmaceutical industry more closely. However, it is important to note that we have known about these issues with the pharmaceutical industry for at least two decades and governments have failed to regulate or otherwise resolve the harms that the pharmaceutical industry does to patients and potential patients. There are likely a myriad of reasons why the government has not stepped in or has not stepped in to a large enough extent. I will not go into those possible reasons here. The point is that governments sometimes do not regulate away the harms from industries and in the case of the pharmaceutical industry in Canada, the government has not regulated away the harms at all. As a result, we must turn to other tools, like my harm reduction framework, to encourage corporations to change on their own. Of course, in the spirit of harm reduction, multiple solutions to this problem are welcome and it is certainly consistent with harm reduction to continue to pressure governments to regulate the pharmaceutical industry more closely. However, actions other than regulation are possible and could be effective as well.

4.2.3 The behaviour is, to some extent, tolerable.

Despite all the harms that come with pharmaceutical companies, they should be tolerated by almost everybody. Pharmaceutical companies have the knowledge and resources to develop important new drugs, and improve existing drugs, that treat a variety of ailments, which range from preventative measures, such as manufacturing vaccines, to mere inconveniences, such as reducing gas from a bean-filled meal, to curing or prolonging the prognosis of a person with a life-threatening illness, like AIDS. There is a sense that we should be at least somewhat grateful to pharmaceutical companies for providing us with such important resources.

Remember that tolerating an industry is different from condoning or supporting an industry. I acknowledge that there are many people around the world that have been wronged by pharmaceutical

companies in various ways, including issues accessing medications due to price or distribution, having horrible side effects from medications, and taking medications that lead to long-lasting health issues and death. These are all harms that the pharmaceutical industry does to individual consumers and saying that we should tolerate the industry does not mean that we must simultaneously support all these outcomes of the industry's actions. We can tolerate pharmaceutical companies for all the good that they do while acknowledging their harms and demanding that they do better. Indeed, doing just that deeply aligns with my harm reduction framework.

Let us now turn to whether the pharmaceutical industry's harms are tolerable. One interesting piece to note is that the pharmaceutical industry does, in fact, enact several intolerable harms as defined by Card. Pharmaceutical companies make treatments that bring death to many and the withholding of treatments for various reasons also causes death to many. These are clearly intolerable harms. However, other harms that may not be intolerable include giving gifts to physicians to influence their prescriptions. In many of these cases, patients may not be provided the fastest or cheapest solution to their medical problems, but they are not harmed to a point where they subjectively view their lives as not worth living. Staying with the pluralistic view of harm reduction and the theory in my framework, we can simultaneously praise pharmaceutical companies for all of the good that they do for people around the world while simultaneously condemning their intolerable harms and asking them to reduce those harms to tolerable ones, and also going further to reduce other harms. We may think that the pharmaceutical *industry* itself is tolerable while recognizing that some of the *harms* that they do are intolerable. This is consistent with my discussion of tolerability in Chapter 1.

4.2.4 The primary harms are to the self.

The primary harms that the pharmaceutical industry does are to others. This is to say that the pharmaceutical industry does not do harms against itself in ways that an injection drug user harms themselves when they use. However, as we saw in the oil and gas industry, I continue to argue that the

harms that the pharmaceutical industry does to others is at such a magnitude that it cannot be ignored. Again, the fact that corporations do harm to others instead of harm to themselves gives us an even stronger mandate to intervene. Leading physicians to over-prescribe and selectively prescribe more expensive medications, withholding pharmaceuticals from those who cannot afford them, and being irresponsible in the process of drug testing are all major harms that are worth reducing.

Recall that my harm reduction framework holds that companies get to choose which harms they reduce and how much they reduce those harms. Thus, my harm reduction framework would not go as far as the ethics of care might demand. As discussed above, the ethics of care might require or strongly prefer that corporations *eliminate* the harms that they do to consumers and potential patients. While I recognize the intuitive draw of this position, using my harm reduction framework requires only that pharmaceutical companies reduce whichever harms they choose to whichever extent they choose, so long as they are reducing some harm. Again, this is a feature of my harm reduction framework because I want to encourage companies to reduce harm in areas where they would otherwise do nothing.

4.2.5 The harm is worth reducing even if it is not cost-efficient.

The United Nations Declaration of Human Rights Article 25 states, "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age, or other lack of livelihood in circumstances beyond his control". This Article suggests a strong international stance toward the right to health care. As a crucial part of health care and security in the event of sickness, pharmaceutical drugs, and the companies that make them, are essential. Whether or not it is cost-efficient to provide health care to all, it is each person's individual right to receive it.

If we want pharmaceutical companies to continue operating, it is without a doubt that it is worthwhile to reduce the harms that they do to individuals in the process of providing, or withholding,

treatments for a variety of diseases. Appropriate prescriptions, access to treatment regardless of disease or ability to pay, and safe and accurate clinical trials are all part of ensuring our right to health care. The harm involved in these processes should be reduced to promote our right to health care without unnecessarily harming patients or potential patients in other ways.

4.2.6 Significant harms are due to stigma or criminalization of the behaviour.

Like other analyses in this dissertation, this criteria of the cluster concept of harm reduction does not apply to the pharmaceutical industry. Though many people may not like pharmaceutical companies or their executives, there is no significant stigma or criminalization of the pharmaceutical industry in the way that there is toward injection drug users and sex workers. However, as argued in Chapters 2 and 3, failing this criterion does not preclude the entire harm reduction framework from applying to pharmaceutical companies. Like corporations in general and the oil and gas industry, harm reduction frameworks apply to pharmaceutical companies despite there being no significant harms due to stigma or criminalization of the industry.

4.3 Case Study: Merck & Co. Inc.

Now that we know that my harm reduction framework applies well to companies in the pharmaceutical industry, it is worthwhile to do a case study on one of them to demonstrate how my framework can lead a company to do less harm. All the major brand-name pharmaceutical companies in Canada post information about their corporate social responsibility efforts online. Many of them publish annual corporate social responsibility reports, either as interactive links on their website or in a document that is available for the public to download. Of all the major brand-name pharmaceutical companies in Canada, Merck & Co. Inc. (Merck), known as MSD outside of the United States and Canada, seems to have the most comprehensive corporate social responsibility report. Thus, it seems prudent to analyze their report and identify areas where my harm reduction framework would ask Merck to act differently.

Merck's 386-paged 2017/2018 Corporate Responsibility Report details four main areas of focus: access to health, employees, environmental sustainability, and ethics and transparency. It is interesting to note that page 4 justifies Merck's corporate responsibility approach to investors. "In exercising our fiduciary duty to our shareholders, we take a long-term perspective on shareholder value that takes into account both our company's relationship with society as a whole and the interests of our many diverse stakeholders." This statement implies that Merck is cognizant of the fact that many of its shareholders may think that corporate social responsibility is an activity that needs justification. This statement also reminds us that pharmaceutical companies are indeed companies first and have a duty to generate profits. Any framework applied to the pharmaceutical industry must be consistent with that duty and my harm reduction framework does just that.

Before launching into a discussion about their four areas of focus, Merck's report discusses their contribution to the United Nations Sustainable Development Goals. Progress includes reducing the mortality rate of mothers, implementing differential pricing to convert potential patients into patients, increasing the number of women who work for Merck, reducing water consumption, increasing sustainable energy consumption, reducing pollution, and hiring members of underrepresented groups. This progress is grouped into eight of the Sustainable Development Goals:

1. Good Health and Well-Being
2. Gender Equality
3. Clean Water and Sanitation
4. Affordable and Clean Energy
5. Decent Work and Economic Growth
6. Responsible Consumption and Production
7. Climate Action
8. Partnerships for the Goals

The report then discusses materiality of corporate responsibility initiatives. The company is focused on corporate responsibility initiatives that are both important to stakeholders and important for business success. The matrix presented in their report shows that the most important issues are pricing and commercialization, research and development, intellectual property, and privacy of patient data. The first three relate to the main area of "access to health" while the latter relates to the main area of "ethics and transparency". Clearly, Merck views its key responsibility as providing access to health.

Merck acknowledges its lobbying in its corporate responsibility report. While industry lobbying is often seen as unethical, Merck seems to think that its lobbying efforts are laudable. For example, in the United States, they lobbied for "market-based solutions for access to innovative pharmaceutical, vaccine and biologic products" and "maintaining a strong business environment for U.S. operations in the states". In Europe, the company lobbied for "fostering a framework for a sound pricing and procurement regime in and across diverse EU member state economies" and "science-based policies for biologic medicines".

The report also discloses contributions to political parties "where permitted by law in the U.S., Canada and Australia" (p. 51). In 2017, the company gave $657,250 in political contributions to politicians in the United States, $61,255 to politicians in Australia, and $875 to politicians in Canada.

The remainder of Merck's corporate responsibility report discusses its four areas of corporate responsibility in excruciating detail. I will draw out Merck's position on the three areas of harm that I have identified in section 4.2.1: influencing prescriptions, inaccessibility, and industry sponsorship of clinical trials.

4.3.1 Influencing Prescriptions

Merck's corporate responsibility report details a Global Scientific Education Initiative. The company's scientists and medical professionals developed a course that details the clinical trials process, regulatory review process, and post-approval monitoring. This course was developed in conjunction with Yale

University and is taught in 85 schools across 20 countries. A second course developed by Merck aims to "foster new collaborations between academia and industry" (p. 138). Both courses are provided for free to medical students. The corporate responsibility report emphasizes that these and other educational materials are meant to inform and not promote Merck's pharmaceuticals. Their position is that they simply keep medical professionals up to date about the latest advances in medical science.

The report includes information about Merck's relationship with medical professionals. The report says that the company wants medical professionals to have "balanced and accurate information" (p. 336) about its pharmaceuticals. They point to guidelines that align with the International Federation of Pharmaceutical Manufacturers & Associations Code of Practice and the World Health Organization's Ethical Criteria for Medicinal Drug Promotion. Merck employees are expected to follow these guidelines, adhere to laws and regulations, and adhere to its internal Code of Conduct.

Merck employees discuss their products with health care professionals, sponsor promotional and/or educational meetings, offer scientific presentations at conferences, and publish in peer-reviewed journals. The report cites heavy regulation that surrounds its relationship with medical professionals. It mentions a "robust anti-bribery/anticorruption program" and "prohibits the offer, promise, or giving of any payment or benefit at any time to an individual or entity for the purpose of improperly influencing decisions or actions with respect to our business" (p. 336). Where legal, the company provides product samples to physicians.

4.3.2 Inaccessibility

For potential patients in the United States, Merck has developed a State AIDS Drug Assistance Program. This program provides low-cost HIV medication to about one-third of patients living with the disease in the United States. Merck has also developed a U.S. Patient Assistant Program that provides free medication for potential patients who need CRIXIVAN or ISENTRESS, both of which are drugs used to treat HIV. Much like the Genentech financial assistance program mentioned above, this

program benefits patients who apply through Merck's processes and are accepted as eligible patients. Some patients may also be eligible for a coupon for ISENTRESS or ISENTRESS HD.

For access to pharmaceuticals in developing nations, Merck highlights its efforts to provide low-cost pharmaceuticals to sub-Saharan Africa and low-income countries as defined by the World Bank. To provide these pharmaceuticals, Merck cuts costs in its manufacturing and supply chain and licenses their formulas to generic drug manufacturers. Merck offers their lowest prices to governments in these developing nations. Further, the company prices differently depending on a country's ability to pay, specifically with drug therapy for HIV. However, the report falls short of taking on responsibility for making medications accessible.

> "To truly enhance access to treatment in low- and middle-income countries, the international community must collaborate to strengthen health care infrastructure, to ensure adequate financing for health, and to help build local health care capacity through training and support. Pharmaceutical companies alone cannot solve these immense public-health problems. Sustainable solutions will come from comprehensive approaches that draw on the expertise of all stakeholders." (p. 196)

Merck has also acted with respect to tropical diseases. They have a history of donating MECTIZAN, which cures river blindness (onchocerciasis), to affected nations. Collaborations with academia, the United States Army, and research institutes around the world allow Merck to continue research into pharmaceuticals for tropical diseases.

4.3.3 Industry Sponsorship of Clinical Trials

Merck does not disclose how much money they spend on clinical trials in either their annual report or corporate responsibility report. However, their corporate responsibility report emphasizes that Merck registers clinical trials in accordance with the laws and regulations of where they operate. By registering

clinical trials, companies are forced to report the outcomes of the clinical trial regardless of whether they are favourable to the pharmaceutical company or not. Note that this does not prevent the pharmaceutical company from altering the design of the clinical trial or ending clinical trials early to generate favourable results. Further, nations that do not require pharmaceutical companies to register their clinical trials miss out on crucial information on drugs that are being tested. As discussed earlier, this void of information ultimately harms consumers.

To mitigate these concerns, Merck requires that all authors of their research papers make "substantial contributions" to the study design, analysis, or interpretation, draft the article or "revise it critically", give final approval for publication, and are accountable for the results (p. 129). These criteria seem to prevent authors from being merely agents that give credibility to a research study and report that was crafted, analyzed, and written by the pharmaceutical company in ways that are favourable to its profits. However, this does not prevent Merck from doing all of its research internally, without authors from academia, and continuing to design, analyze, and report its findings in a way that is favourable to the company. Further, as discussed earlier, even academic researchers can unintentionally bias a study's results.

The corporate responsibility report then takes great pains to list all the laws, regulations, and industry bodies that it adheres to. They discuss the International Conference on Harmonisation Good Clinical Practice standards, cite an internal data-monitoring committee, gain the approval of Institutional Review Boards or Ethical Review Committees, comply with General Data Protection Regulation, and train clinical research associates and contract research organizations according to the company's standards. They are a member of the International Pharmaceutical Privacy Consortium to protect patient confidentiality. Note that many of these organizations or processes are required by law. Thus, Merck is not always going above and beyond to be an industry leader in corporate responsibility.

Instead, they sometimes merely comply with laws and regulations set forth by the governments in the countries in which they operate.

4.4 Harm Reduction for Merck Co. Inc.

There are several areas where my harm reduction framework would suggest that Merck take additional actions. First, I want to clarify that my harm reduction framework would not recommend that Merck stop any of their existing corporate responsibility initiatives, as the company sees good reasons to pursue them. However, my harm reduction framework would suggest a shift in focus from corporate social responsibility to reducing harm.

4.4.1 Influencing Prescriptions

My first concern is with the balanced and accurate information that Merck's sales associates provide to physicians and medical students. While the information that they provide may be accurate, the data may be drawn from clinical trials that are developed, analyzed, and reported on by Merck employees. As discussed in section 4.2.1, clinical trials where pharmaceutical companies are involved are often misleading. Thus, Merck would be in a better position to reduce their influence in prescriptions by reducing or eliminating their involvement in clinical trials. They could also reform the way that their sales representatives and marketers connect with physicians and medical students. Further, they could target the root of the problem by publishing all their clinical trial results even in countries, like Canada, where doing so is not required by law.

Second, Merck openly admits to sponsoring educational events, presenting at conferences, and publishing in peer-reviewed journals. The literature shows that these events lead to increases in physicians' tendency to prescribe the company's brand-name medications despite there being little or no additional benefit over generic drugs. Again, over-prescription means that patients are receiving

drugs when they should be receiving a different course of treatment that would be more beneficial to them. Thus, reducing harm involves reducing or eliminating these behaviours.

Here, I want to make a distinction between actions that Merck would be willing to take on voluntarily and actions that Merck would take in response to external factors. For reasons of profit, it seems unlikely that Merck, or any other brand-name manufacturing company, would voluntary cease the promotional activities listed above. If this is indeed the case, reducing harm in these areas would require external factors, most likely in the form of additional regulation. Thus, while it is perfectly acceptable to pressure Merck, and other brand-name manufacturers, to voluntarily reduce their influence on prescriptions through the above means, it is by no means that only way to achieve harm reduction. What is important is that Merck considers reducing harms in the above areas. Whether they choose to do so is up to them. This outcome is consistent with the two main features of my harm reduction framework.

4.4.2 Inaccessibility

Merck's strategy for making drugs more accessible largely centres around its HIV medications in the United States and developing countries. While this is an important contribution to worldwide access to HIV medication, Merck produces 110 pharmaceutical drugs, the vast majority of which are not mentioned in their corporate responsibility report (Merck 2020). Merck could take the next step and identify other pharmaceuticals that are difficult for potential patients to access and put plans in place to increase accessibility. However, to protect profits, Merck likely cannot do this for all its drugs. Decision-makers at Merck would have to prioritize certain pharmaceuticals over others using a variety of factors, including profitability, global disease burden, and public relations.

4.4.3 Industry Biasing Clinical Trials

Merck postures itself as having taken a great stride in preventing bias in clinical trials by implementing stricter requirements for authors' involvement in research, analysis, and article-writing. However, as mentioned above, these requirements do not prevent Merck from doing research with its own employees and continuing to bias clinical trial results in the ways described by Angell and other scholars above. They can also continue to make use of academic researchers who have financial ties to the company and are thus motivated to bias the clinical trial results.

Without more information about the processes that Merck uses to engage in clinical trials, it is difficult to determine what a harm reduction framework would recommend. Clearly, reducing bias in clinical trials is important, but the extent to which Merck can act to do so is unclear. After all, the clinical trials registry in America mentioned above was pushed through regulation and not through the companies themselves. Thus, experts and decision-makers at Merck would have to look into their sponsorship finances and procedures more carefully to come to a decision about how to best reduce harm. However, there are a number of suggestions in the literature for reducing sponsorship bias. First, financial disclosure or disclosure of conflicts of interest as suggested by Mansi et al. may encourage pharmaceutical employees to remain at arms-length from the research and development process. After all, a study by Merck's researchers on Merck's drugs may be weighed less strongly than a third-party study. However, financial disclosure merely suggests that it would be best for companies to hire third-party researchers and does not guarantee that they will do so. Thus, sponsorship bias will persist. Second, public trial registries, like ClinicalTrials.gov mentioned above, reduces the tendency for corporations to only publish positive results. The ability to look at all the data collected about a particular drug allows patients, physicians, other medical practitioners, and anybody else who is interested to evaluate the benefits and risks of a drug. While these suggestions make some strides toward eliminating bias in the research and development process, they are not all-encompassing. "[A]s long as

the pharmaceutical industry controls the production of knowledge, the interests of the industry will influence the knowledge that is produced" (Doucet and Sismondo 2008).

4.4.4 Two Features of My Harm Reduction Framework

It is important for me to remind the reader that there are two distinct features of my harm reduction framework. First, the company's motivations for pursuing harm reduction do not matter. Second, the company can reduce as much or as little harm as it likes and we will still call their efforts "harm reduction".

The first feature is important to point out because many of Merck's corporate responsibility efforts might be seen as insufficient and addressing the trends in public relations without attention to larger issues. For example, Merck's commitment to making HIV medication more affordable for potential patients around the world might seem like an attempt to distract the public from the fact that its other 108 pharmaceuticals command high prices. This might be the case because HIV is a disease that has garnered a lot of attention for decades while other diseases that Merck's products treat are less well-known. Contrary to this view, my harm reduction framework says that it does not matter whether Merck is reducing the prices of HIV medication for the purposes of distracting the public, for improved public relations, or out of the goodness of their hearts. What matters is that their price reduction programs effectively make HIV medications affordable for potential patients. Thus, my harm reduction framework asks Merck to produce evidence that their price reduction strategies have been increasing access to HIV medications.

The second feature is important when we consider the difference between my harm reduction framework and corporate social responsibility. Many might read over Merck's corporate responsibility report and be dissatisfied with their response to the three issues that I identified in this chapter. After all, Merck does continue to perform activities that influence physicians to prescribe their brand-name, more expensive medications over cheaper generic options without there being a significant difference

in efficacy. The vast majority of Merck's drugs are still sold at a large margin given their $6.2 billion profit on $42.2 billion in sales in 2018 (Securities and Exchange Commission 2019) so it can be argued that Merck has a lot more room to provide cheaper medications around the world. Finally, their lack of transparency surrounding their funding of clinical trials is concerning. Merck might simply not be doing enough for many to consider them socially responsible. However, their actions still reduce harm.

My harm reduction approach applauds the work that Merck has done so far and celebrates the progress that they have made. After all, Merck could have chosen to continue selling its HIV medications without a discount for anybody. While my harm reduction framework encourages Merck to continue its discount programs and seek out new ones, it does not require them to do so for their actions to count as harm-reducing. The same reasoning applies to all of Merck's other corporate responsibility efforts.

My harm reduction framework might be seen as being too lenient on Merck. They clearly have the capacity to do more for society and being socially responsible might require that they do more. Here, I want to point out that my harm reduction framework still requires Merck to evaluate its programs and decide whether they are reducing enough harm according to their motivations. They must then act on the outcome of their analysis. If their corporate responsibility report identifies all the harms that they are willing to reduce to the greatest amount that they are willing to reduce said harms, then using my framework means that we simply applaud the changes that Merck has made up to this point. If there are additional harms that Merck wants to reduce or existing harm reduction programs that Merck wants to be more effective, then they should make those changes.

4.4.5 Corporate Social Responsibility

As with Chapter 3, the reader may still be wondering why my harm reduction framework is importantly different from corporate social responsibility with respect to Merck's case. After all, Merck's extensive

corporate responsibility report gives the appearance that they have addressed every possible ethical failing that they could be criticized for, including the criticisms included in this chapter.

Again, Merck's existing corporate social responsibility efforts should be maintained. However, my harm reduction framework shifts the focus of these corporate social responsibility efforts onto the initiatives that reduce the most harm. So, we can applaud Merck's partnership with other pharmaceutical companies to share information, but we can ask them to focus on reducing harm by analyzing their participation in, for example, funding research and development projects.

Whether Merck responds to these calls for action rests with their decision-makers. Using my harm reduction framework would mean that Merck asks all its decision-makers about the kinds of harms that they think they should reduce. Reducing these harms can be motivated by anything, including public relations, protecting reputation, and personal interest. Decision-makers must agree on which harms to reduce. Next, these decision-makers must agree on how much harm they want to reduce. Which harms do they prioritize and why? How much do they want to reduce those harms? How much harm is acceptable?

I do not know Merck's answers to these questions, but my framework would require all decision-makers to come to an agreement over which harms they will reduce and how much they will reduce those harms. In this way, Merck sets their own standard for harm reduction that is "good enough" according to the plan that they came up with in the introspection process. It is possible that Merck's strategy would vary greatly after this process, but it is possible that it remains largely the same. What is important is that Merck looks strictly at harm-reducing behaviours and determines which of those behaviours they are willing to perform and the extent to which they are willing to perform them. This focus will likely lead a company like Merck to alter the balance of their social responsibility efforts toward initiatives that reduce more harm that stems from their operations.

4.5 Key Takeaways from the Pharmaceutical Industry

The pharmaceutical industry is interesting to study because it is so complex. A transaction at a pharmacy requires much more complicated processes than typical transactions. For example, a consumer must first see a doctor, who provides a prescription for a product that the consumer has little knowledge of or input in receiving. That prescription is then taken to a pharmacy, who often contacts an insurance company to pay for some or all the costs of the drug. Finally, the prescription is given to the consumer, who then uses the drug.

Throughout this complex process, many parties are involved in reducing harm to consumers. Thus, many of the suggestions to reduce harm in this chapter have a trickle-down effect to consumers. For example, registering all clinical trials informs doctors, who can prescribe drugs using more accurate and balanced information compared to relying on pharmaceutical salespeople and manufacturer-sponsored educational talks. The better-informed doctor then offers a more appropriate treatment for the end consumer.

The pharmaceutical industry is also an interesting case study when we take the perspective of a business. Companies are often looking for ways to increase their market share and increase the size of their market overall. These are standard business practices that companies use to increase sales. However, the pharmaceutical industry often ends up harming consumers when it tries to do this. Increasing their market share involves convincing physicians to prescribe their medication to more patients, which would artificially increase market share, as all else being equal, those patients would have been more appropriately treated with another drug or no drug at all. Increasing the size of the market is no better, as that would involve injuring or ailing more people so that the manufacturer's drug can be prescribed. Thus, standard business practices are actually detrimental to public health and some may think that these actions are wholly unacceptable. Thus, this chapter shows us that going about everyday business can be the very thing that is harming people. This tension is important, because we

can neither tell pharmaceutical corporations not to go about their everyday business nor can we accept that people are being harmed unnecessarily. This tension may lead to complicated and nuanced harm reduction initiatives, many of which would require deep industry expertise to devise and execute. Alternatively, only very superficial harm reduction may be possible due to the complexity of the industry. Regardless, I encourage leaders in the pharmaceutical industry to create and execute harm reduction initiatives while balancing the needs of every stakeholder involved in the complicated process of selling a drug.

The fact that harm reduction in the pharmaceutical industry requires deep industry expertise is supported by classic harm reduction as described in Chapter 1. Harm reduction looks to the harm-doer for guidance on how to best meet their needs. It allows the harm-doer to be the expert on what will and will not work for them and allows them to accept or reject any suggestion for a harm reduction initiative. The pharmaceutical industry benefits greatly from this perspective because it gives them the freedom to be creative with their harm reduction initiatives while simultaneously rejecting suggestions that do not work for them. Again, an entire industry may not respond well to any one harm reduction initiative, but my harm reduction framework gives us the flexibility to customize harm reduction initiatives for each individual corporation. This flexibility may well be useful for complex industries like the pharmaceutical industry. Thus, the core harm reduction principle to "meet people where they are" is vividly demonstrated by the pharmaceutical industry.

4.6 Conclusion

The pharmaceutical industry in Canada, and especially the brand-name pharmaceutical industry in Canada, does serious harm to patients and potential patients around the world. They influence physicians to prescribe more of their expensive brand-name medications, produce many drugs that are inaccessible to those in need, and bias the published results of clinical trials in their favour. These harms

are tenacious and worth reducing even if it is not cost-effective to do so. The case study of Merck Co. Inc. shows how my harm reduction framework could be implemented in a brand-name pharmaceutical company. However, we should keep in mind that, in the spirit of harm reduction, the actual harms to be reduced vary greatly depending on the corporation at hand based on their own motivations and amount of harm they want to reduce. I cannot offer blanket recommendations for which harms the pharmaceutical industry should reduce, nor can I offer specific recommendations for any one pharmaceutical company without being involved directly with its decision-makers. Thus, there is more work to be done when it comes to implementing my harm reduction framework in corporations. This will be the topic of Chapter 5.

Chapter 5

Changing Toward Harm Reduction

So far, I have developed a harm reduction framework and showed its applicability to the oil and gas industry and the pharmaceutical industry. This chapter will demonstrate how a harm reduction framework can be implemented in a company, even if it has already taken corporate social responsibility measures.

Anybody looking to implement harm reduction in their corporation will find themselves in a period of change. Company leaders will have to envision, plan, implement, and solidify changes within the corporation to orient the company toward harm reduction. Managing effective change in a corporation has been the subject of much work in scholarly literature and by practitioners in industry. The first part of this chapter reviews the scholarly and practitioner perspectives on managing effective change and suggests that they should be combined to form an effective change management plan. Next, I apply these insights to harm reduction approaches within corporations. I then suggest two models for implementing harm reduction in corporations: internal and external.

In the second part of this chapter, I demonstrate the usefulness of my harm reduction framework in practice. To do so, I present the case of Walmart. The company has endured harsh criticism for its actions but simultaneously boasts a robust sustainability campaign. I analyze its corporate social responsibility campaign using my harm reduction framework to provide a new way to understand these behaviours. Ultimately, I show that harm reduction is a useful framework from which to view social responsibility.

In the third part of this chapter, I describe reasons why a corporation might want to adopt a harm reduction framework. At the end of this section, I provide a conclusion for this dissertation that highlights its main contributions.

5.1 Change Management Literature

As discussed throughout this dissertation, and consistent with harm reduction's dedication to a plurality of solutions, harm reduction may not be effective or appropriate for every single corporation. Thus, the first step for company leaders is to decide whether harm reduction is a framework that they want to adopt to help the company achieve its goals, whatever those goals may be. If the company leaders think that harm reduction would be effective and appropriate, perhaps by reviewing my harm reduction framework, then they will need to think about how to effectively implement harm reduction throughout their organization.

The change management literature is frequently divided into two groups in the literature. The first group is the scholarly literature, which can be found in peer-reviewed journals and textbooks. The second group is the practitioner literature, which can be found in popular management books, blogs, and the occasional brief contribution to a peer-reviewed journal article. In turn, the scholarly change management literature is divided into three groups: change characterized by rate of occurrence (e.g. discontinuous change), change characterized by how it comes about (e.g. planned change, emergent change), and change characterized by scale (e.g. Dunphy and Stace 1993) (By 2005). In section 5.1.1., I review each of these scholarly theories of change management. Next, in section 5.1.2., I review two change management strategies from practitioners. One strategy comes from Jones (2015) and the other comes from Vora (2013). I chose these two perspectives to review because they are direct and prescriptive.

The distinction between scholarly and practitioner literature is clear in Bartunek (2007), where she encourages scholars and practitioners to straddle the divide between both the scholarly and practitioner arenas so that the two groups can collaborate more effectively. Bartunek also encourages opportunities for scholars and practitioners to share their perspectives in formal settings where both groups are welcome to participate. These opportunities can also allow scholars and practitioners to

share information about common interests, such as success metrics. In line with Bartunek's suggestions, this section will briefly review both literatures so that the reader has a basic understanding of change management in business.

5.1.1 Change Management: The Scholarly Perspective

By (2005) characterizes change as continuous and necessary for survival. In her critical review, she reports on three groups of academic literature on change management that attempt to explain how to successfully manage change. The first group is "Change Characterized by Rate of Occurrence" (p. 371). This is an early approach to change that argues that effective change is impossible if it is constantly occurring. Instead, companies need to set routines for people to be comfortable at work. This early idea gave way to discontinuous change, in which change happens quickly and all at once. According to Birkinshaw et al. (2016), discontinuous change requires companies to change internal processes and pivot their strategy to achieve ongoing success. This change occurs suddenly and without precedent. If successful, discontinuous change can leave competitors scrambling to compete with a new product or service. For example, the launch of ebooks and ereaders threatened the foundation of the entire book publishing industry.

Unfortunately, discontinuous change is risky and has uncertain outcomes (Pullen 1993). It has been correlated with a high rate of change failures in corporations (Birkinshaw et al. 2016). Two suggestions have been put forth to help mitigate these failures. The first is "dynamic capabilities", where companies continuously change to keep up with the market. This addition to discontinuous change is supported by Holder (1995), who argues that that discontinuous change must be followed by continuous change for the firm to succeed. The second is "ambidexterity", which is when firms cope well with conflicting needs. Birkinshaw et al. (2016) argue that combining dynamic capabilities with ambidexterity allows firms to succeed more often using a discontinuous change approach.

Discontinuous change has the power to be market-changing but carries a high risk for failure. Even if successful, it must be coupled with continuous change for a firm to maintain its position in the market. Much like "dynamic capabilities" and Holder's argument that discontinuous change must be followed by continuous change, scholars have looked into continuous change, also known as "incremental change", in which companies constantly adjust to smaller internal and external influences (By 2005). Consistent with today's thinking on change management, the consensus in the literature is that change is a continuous and necessary process for companies to remain competitive. Thus, survival depends on a company being able to effectively manage ongoing change.

The importance of continuous change has led many scholars to study it and determine how best to manage it. Lawrence et al. (2006) present four phases to continuous change. First, there must be *influence*, whereby somebody has an idea and impetus for change and influences people to support that idea. In this stage, carefully presenting the idea to stakeholders by framing the idea in ways that they would support is important. Persuading stakeholders to accept and support the idea is key in this phase. The second phase is *authority*. In this stage, a person with "formal, legitimate power" (p. 61) makes themselves responsible and accountable for implementing the new idea. This process removes the fear that many stakeholders have over whether the change will be successful. The authority figure also helps to demonstrate exactly how the change should be implemented and can use their power to strike down any resistance from stakeholders. The third phase is *technology*. To solidify the change in the organization, technology is usually involved so that stakeholders are not relied on to carry out the change on their own. In other words, technology helps the authority figure institutionalize change. In the technology stage, the original idea is translated into repeatable processes that are aided by technology. The fourth and final phase is *culture*. According to Lawrence et al., this phase is the most important but also the most overlooked stage of change. In the culture phase, stakeholders become confident in the change and use that confidence to extend or elaborate on the change. They look for

related and novel ways to improve upon or develop the initial idea in ways that are strategic to the company.

Another theory of continuous change management is put forth by Gould (1996). Gould presents a Change Wheel with four phases: fine-tuning, building, crisis, and transformation. These phases operate simultaneously, not in sequence. *Fine-tuning* occurs when a company makes small changes that improve a company's ability to operate successfully. Procedures and standards are maintained while deviations from them are minimized. *Building* solidifies a company's core competencies and makes them routine. This phase creates a formal change program that is delivered and monitored throughout the firm. *Crisis* occurs when all routines and structures are put on pause, usually due to new company leadership or a power shift among influential members of the firm. Routines and structures are dramatically disturbed or ignored altogether and existing standards are set aside. Finally, *transformation* occurs when leadership tests out new ways of operating and acts as a catalyst to new behaviours. Existing structures are set aside in favour of trying out new ways of doing things.

Continuous change is a careful balance between flexibility and efficiency. The key is to allow the firm to be flexible and adaptive to change while maintaining peak efficiency. Hakonsson et al. (2012) find that continuous change leads to better long-term organizational performance and reliability compared to discontinuous change, which means that a firm can be both highly efficient and changing at the same time. So, as long as a company has a long-term strategic focus, it is possible for it to be both efficient and continuously changing. This is key for organizational change theory, as it was previously thought that being highly efficient and continuously changing were opposed to one another. Hakonsson et al. conclude that stable firms can also be continuously changing ones.

From this first group of change theories, we can conclude that discontinuous change is best reserved for circumstances where a major innovation or disruption occurs. In these cases, change is major and it must happen quickly so that a company adapts to the newness. However, discontinuous

change must be coupled with continuous change to be successful. After all, a company experiencing constant discontinuous change loses its identity while employees struggle to keep up. Continuous change is needed to fine-tune the outcome of the discontinuous change and solidify the change within the firm.

The second group of change theories is "Change Characterized By How It Comes About" (By 2005, p. 373). The two main areas in the literature under this category is planned change and emergent change. "Planned change" typically refers to Lewin's Theory of Planned Change, although some scholars argue that the famed three-step model that we attribute to Lewin was developed after his death (Cummings et al. 2016). Regardless, the typical understanding is that Lewin's theory progresses in three steps (Shirey 2013). The first step is "unfreezing". This stage occurs when a person with authority in the firm recognizes a need for change, perhaps due to the latest consumer survey or in response to diminishing sales. The authority creates a sense of urgency for others to support the change. The second step is "moving" or "transitioning". In this stage, employees react to changes and shift from their old behaviours to new behaviours. Managers must keep employees focused on the outcome of the change and reduce their fear of the unknown. Finally, the third step is "refreezing". In this stage, change is institutionalized in the firm and creates a new normal. Successful refreezing leads to stable firms.

Lewin's Theory of Planned Change is used extensively in the nursing and healthcare field because it is versatile, simple, and easy to understand. However, it has been criticized for being too simple and artificially linear (Bartunek and Woodman 2015). In today's dynamic and ever-shifting world, a more flexible and iterative approach to change seems necessary, at least for some circumstances. Regardless, Lewin's Theory of Planned Change remains highly influential in the organizational change literature and many see this theory as the keystone approach to change management.

The criticisms of Lewin's Theory of Planned Change gave way to emergent change. Emergent change was developed in response to work environments that were chaotic or uncertain (Bamford and Forrester 2003). In emergent change, changes occur quickly and are complex, which often means that change in an organization starts from the bottom and works its way up the hierarchy of the organization. In fact, emergent change theorists hold that change occurs so quickly that upper management cannot keep up with it all, which radically changes the way that upper management should behave in response to bottom-up change. Instead of dictating using a top-down approach, upper management becomes a facilitator for change. As Bamford and Forrester note, scholars working in emergent change have different views on what it involves and there is no singular agreed-upon theory of emergent change. Nonetheless, they all share the features listed here.

Emergent change is poorly defined and has little empirical evidence for its efficacy. In fact, emergent change is so poorly defined that some even use the terms "emergent change" and "continuous change" interchangeably (Maimone and Sinclair 2014). A scan of the literature, however, suggests that emergent change is a response to an organization's environment that can be spontaneous, complex, and driven by employees, while continuous change is a more deliberate and structured form of change that is championed by upper management.

The final group of change theories is "Change Characterized by Scale" (By 2005, p. 377). The most prominent theory in this group is Dunphy and Stace's (1993) model for change, which they simply call the Dunphy/Stace model. The model forms a matrix with two axes: one with the scale of the change and the other with the type of leadership involved in the change. There are four scales of change: fine tuning, incremental adjustment, modular transformation, and corporate transformation. There are also four leadership styles: collaborative, consultative, directive, and coercive. Depending on the combination of scale of change and leadership style, four types of change are possible: participative evolution, charismatic transformation, forced evolution, and dictatorial transformation. Through

empirical research, Dunphy and Stace (1993) find that high performance is the result of incremental adjustment or modular transformation coupled with a consultative or directive leadership style. The worst performers are ones that focus on fine tuning with consultative or directive leadership styles.

Despite the variety of change management strategies discussed in the literature, most scholars agree that change management is a continuous process that must be flexible enough to respond to crises but stable enough to ensure that the changes are maintained over an extended period. It is also clear that no one model of change management will fit every company in every situation. Thus, the job of company leaders is to identify which change management strategy, or which combination of change management strategies, is best suited to the corporation's situation and to use those strategies to effectively lead the company change.

5.1.2 Change Management: The Practitioner Perspective

The practitioner research on change management is varied and dispersed across multiple mediums. Some practitioners publish books on their own theories of change management, but many others share their insights on blogs. After scouring over a dozen change management blogs, it is clear that practitioners are focused on the finer details of how to go about change in a company rather than theories about how to act. For example, instead of publishing a blog post on why it is important for a leader within the company to have a vision, they write on how to communicate that vision effectively to a specific stakeholder group. Other change management practitioners promote their own views on what makes change successful, such as Céline Schillinger's "Engagement Leadership" (2019) or Lena Ross's "Agile Change" (2019).

After looking through key texts in the practitioner change management literature, I have found that the most direct resource on the practitioner perspective of change is in *Leading Sustainable Change* (2015). The book itself focuses on change toward environmental sustainability, but the foreword is important for anybody interested in changing today's organizations to be more socially responsible.

The foreword is written by David Jones, Founder of One Young World, a platform for youth to engage in conversations about the world's most pressing issues, and CEO of You & Mr Jones, a marketing technology company.

Jones's first piece of advice is to let other leaders in the corporation and employees know that the shift toward being socially responsible is about driving performance and competing in the market, not about doing good or saving the world. For Jones, the motivation is clear: the shift toward social responsibility is about increasing profits. Second, Jones asks leaders to get all levels of the organization on board with the social responsibility shift. They must be informed of the vision and plan for the company to make this shift. Leaders should frequently check to make sure that employees understand the vision and the plan. Further, rewards should be given for behaviour that aligns with the company's broader goals. Finally, Jones calls for leaders to focus on today's young adults, also known as millennials. They are one of the big groups of people that are driving the shift to sustainable business. Millennials are informed, responsible, and powerful through their ability to use technology to bring about change. They will not buy from or work for companies that do not meet their standards for sustainability. Millennials understand best that businesses should make money, but in the right way, and they know how a business needs to change to meet their individual expectations.

A framework for implementing sustainable change from a blended perspective is provided by Manu K. Vora (2013), Chairman and President of Business Excellence Inc., a global consulting company, and Adjunct Faculty at the School of Professional Studies at Northwestern University. According to Vora, the first step is for companies to understand their abilities, motivation, and attitude. A company's ability is what they can accomplish, their motivation determines the process by which they bring about the change, and their attitude determines how well the change is solidified. The second step is for companies to engage the 3 Hs: heart, head, and hands. Engaging people's hearts allows them to be emotionally invested in the project. Their heads activate creativity and logic. Finally, their hands

help with the implementation of the change. The third step is for the organization's leaders to lead. They must influence and inspire employees and be a catalyst for the change. The best leaders can bring about extraordinary performance in their employees in the direction of the change. The fourth and final step is to develop leadership ability. In this step, the leader's vision and plan is realized and further change in the direction of sustainability is envisioned.

Hughes (2007) offers at least two major critiques of the practitioner perspective of change management. First, he criticizes the practitioner perspective for being too broad. Different companies and situations require different tools and techniques for successful change, and the practitioner perspective often does not capture this nuance. Second, Hughes argues that the practitioner perspective lacks objectivity, as the claims about effective change management strategies lack the rigourous testing of academic change management theory and evidence.

5.1.3 Bringing Together the Scholarly and Practitioner Perspectives

Scholarly theories of change management have had impact amongst scholars but have not made their way into practice. Pollack (2015) studies the differences between scholars' and practitioners' emphasis on topics in change management. He finds that scholars are more focused on theories, models, and frameworks while practitioners are more focused on empirical evidence. Scholars also tend to talk about whole organizations while practitioners emphasize different strategies of change management for individuals and project groups that are in particular situations. Further, scholars emphasize change management as it relates to performance, strategy, and responses to the environment while practitioners emphasize culture, values, and identity. Overall, scholarship focuses on abstract theories of organizational change while practitioners focus on specific change situations and are concerned about culture, value, and social identity. Pollack's findings are in line with my review of the scholarly and practitioner literatures.

While Pollack's research may suggest a sharp division between scholars and practitioners, his description of the differences between them may lead us to think that they are complementary instead of oppositional. Bringing together the scholarship and practitioner knowledge, we end up with robust theories that can be supported by empirical evidence and models and frameworks that can be flexible depending on the change leaders' needs. Additionally, the areas of performance, strategy, responses to the environment, culture, values, and identity are all important to consider when undergoing change within a company. Thus, bringing both the scholarship and practitioner expertise together might yield superior, more effective, or at least more thorough implementation of change. Below are the key takeaways from the academic and practitioner literature that are important for this dissertation.

5.1.3.1 Change is constantly occurring in corporations.

Change is not something that happens in distinct blocks of time. We cannot cleanly delineate times of change and times of stability for a corporation. Instead, big and small changes happen all the time in corporations due to both internal and external forces. Internal forces for change can be top-down or bottom-up while external forces through events like regulation or competition force the company to adapt. Since change is occurring all the time, executives may find it difficult to keep up and need to use all the resources at their disposal to support change efforts in their organization.

5.1.3.2 Change is necessary for survival and is thus a good thing.

Change is not something to be feared. Change allows a corporation to remain competitive and flexible in a dynamic market. Thus, executives would be much better off embracing change than resisting change in the hopes of running a stable company. In today's dynamic market, companies that do not change do not survive.

5.1.3.3 Constant change must be balanced by stability.

Though change is constantly occurring, company leaders must find a way to balance change with corporate stability. The final stage of change is often said to be integration with company culture where the change becomes the new normal in a corporation. A careful balance between continuous change and stable processes is important for any corporation to survive.

5.1.3.4 Change must be institutionalized.

The final step in any change management process is to institutionalize the change within the company. The change must no longer be new and different. Instead, it becomes ingrained in the company culture to the point where it is just natural for processes to be done in that way. Institutionalization is often forgotten to the detriment of companies, as it helps to provide stability and consistent behaviour from employees.

5.1.3.5 Good leaders are key to a successful change.

For change to be successful in a company, the change needs to be headed by a dedicated and effective leader. The leader must champion the change and act as the face of the change to inspire employees and other executives to buy in. Their vision must be compelling. They must recruit allies within the firm to help them manage the change and ultimately see it through to its success. The leader is ultimately responsible for whether the change is a success or a failure.

5.1.3.6 Change is different for each company.

No change management strategy is going to work for every corporation. Company leaders must pick and choose the strategies that they think will work for each particular change effort. Strategies may be different from one change to the next even within the same company. Much like the core principle of

harm reduction to "meet people where they are" and thus customize solutions for each individual, corporate leaders must also customize change plans for each situation.

5.2 Change Management and Harm Reduction

Here, I want to go into more detail about what the leader must do to manage a successful change. Both the scholarly and practitioner literatures lend support to my below characterization of a change leader, who I call a "change champion" or more specifically, a "harm reduction champion".

First, as seen in the scholarly and practitioner literatures, the shift to harm reduction needs a change champion, or in this case, a harm reduction champion, within the corporation. The champion must be individually motivated to bring about change toward harm reduction within the company and should understand their own ability for, motivation behind, and attitude toward change. The champion must be willing and able to be accountable for the change and get others on board. The champion must also be willing to be flexible and act quickly when required but know when to slow down and pay careful attention to certain aspects of the change when necessary. It is clear from both scholars and practitioners that change without a competent leader will fail.

Second, the harm reduction champion must be able to engage a variety of stakeholders at all levels inside and outside the corporation and convince them all that a shift toward harm reduction is a good idea. Different stakeholders have different motivations and the champion must be able to connect to them all. As a result, champions must be able to articulate why a change toward harm reduction is good for the bottom line and for the environment and society. Importantly, the actual motivation of the champion does not have to be either or both options. They simply must be able to make a case for pursuing harm reduction from the perspective of both options.

Finally, the champion must identify the influencers in the company. They must know who is on board with their change plan and who is not and actively work to bring more people on board.

Perhaps certain generations, like millennials, are more familiar with the change that the organization wishes to bring about, and so those groups of people are engaged more frequently. If an organization finds that millennials are not the right group to help champion the change and provide advice to the leader, then perhaps there is another group that could perform these actions in their place. Regardless, the champion must identify groups of individuals who will act as allies throughout the company.

5.2.1 The Harm Reduction Champion

As we have seen, scholars and practitioners have both emphasized the importance of a corporate leader, or what I am calling a "change champion", when it comes to change management. Somebody within the organization must be willing to champion the shift to harm reduction. There are at least two ways that this champion could operate. These two options are no different from the usual options for leaders looking for corporate change. They can either use the company's internal resources and/or hire an external consultant for help. For the sake of brevity, I will refer to these options as operating "internally" or "externally". Thus, if operating internally, the harm reduction champion relies on internal company resources to plan and execute the change. Alternatively, the harm reduction champion could rely more on external support, through a harm reduction consultant, to plan and execute the change. Regardless, the harm reduction champion must have influence within the company and the ability to communicate with decision-makers who will listen to them.

5.2.1.1 Champions Working Internally

This option requires the harm reduction champion to work with other leaders within the company, usually executives, who have the power to make decisions that pivot the company in meaningful ways. Together, these leaders would be responsible for initiating, leading, and solidifying the change toward harm reduction within the company, although the harm reduction champion may be ultimately accountable for successful change. The main benefit of this approach is that the company can act on

the desires of the decision-makers without outside influence. Most importantly, the corporate decision-makers can control their research processes to ensure that the harms they are most interested in, for whatever reason, are made salient to the rest of the firm. Thus, harms that decision-makers want to reduce out of the goodness of their hearts or because they value a certain cause are guaranteed consideration. Further, harms that the firm feels strongly about reducing, again for whatever reason, will be made salient as well. Since the decision-makers are operating amongst themselves, they will be able to have all their voices heard and be able to come to an agreement about which harms to reduce, and how much to reduce them by, based on how much the group prioritizes said harms.

There is a worry with executives working only amongst themselves. Though harm reduction does not judge whether high-risk behaviours are ethical or not, ethics is involved insofar as it describes the way that people ought to behave. So long as there is behaviour that affects other people, ethics usually has something to say about it. Thus, in a broad sense, harm reduction is involved in ethics. That being said, research has shown that it is difficult to convince businesspeople to act more ethically, even after teaching them how to do so in the workplace. As a result, the internal leaders and other decision-makers may have no reason to choose to reduce harms to the environment and society because it is ethical to do so. Instead, they may all choose to only focus on the bottom line. If this phenomenon spreads to multiple corporations or industries, we will be left with entire categories of harms that corporations do the environment and society that are left unaddressed.

Teaching business ethics initially seemed like a promising route to developing more ethically-minded students (Park 1998). Studies have found that business ethics education can improve students' ability to recognize ethical issues (Gautschi and Jones 1998) and increase the likelihood of students making ethical decisions when faced with an ethical dilemma (Wang and Calvano 2015). Additionally, May et al. (2014) found that a business ethics course could enhance students' perceived ability to

manage ethical issues, increase the perceived importance of ethical issues, and encourage students to raise ethical issues at work.

However, the effectiveness of business ethics education has been challenged by several scholars. In their meta-analysis, Waples et al. (2009) found that business ethics education had little effect on changing students' ethical judgment, ethical awareness, and perception of themselves and others as ethical. They also found the least amount of support for business ethics education actually impacting students' behaviour. Overall, they concluded that business ethics education was minimally effective.

Several other studies confirm that women in business are more likely than men to make ethical decisions (Ritter 2006), act ethically (Wang and Calvano 2015), and have attitudes toward business ethics that are more ethical (Albaum and Peterson 2006). Since high-ranking employees of large companies are overwhelmingly male, these results are troubling. However, there is some evidence that business ethics education is more effective in men than women (Luthar and Karri 2005; Wang and Calvano 2015), which offers men the opportunity to progress to women's level of ethical decision making and behaviour.

This research suggests that businesspeople may not be the best at acting in ethical ways. As a result, the internal leaders and other decision-makers may focus disproportionately on harms that affect the corporation's bottom line and completely ignore the wide variety of harms that are unethical in their own ways. For example, questions of justice, virtue, and utility in the utilitarian sense may not arise. Even with formal training in ethics, businesspeople may not change their decision-making in the workplace. Thus, entire categories of harms will be ignored.

This is not to say that focusing on harms that impact the corporation's bottom line is wrong or unethical. Again, according to my harm reduction framework, corporations can reduce any of the harms that they want, to whatever extent that they want. However, research suggests that internal leaders may

be unlikely to reduce harms that do not impact the bottom line, even if they are aware that these harms exist. As a result, entire categories of harms will persist. Thus, if harm reduction becomes commonplace, we should be prepared to reduce harms that do not impact the bottom line in ways other than asking corporations to internally decide to do so.

5.2.1.2 Champions Working Externally

Given the above analysis, there are at least two ways that a change champion could benefit from hiring a harm reduction consultant. First, a harm reduction consultant can help the company become aware of all the harms that the corporation does to the environment and society, regardless of whether they impact the bottom line. Second, the harm reduction consultant can explain the importance of reducing harms that do not impact the bottom line and potentially convince decision-makers to reduce those harms when they otherwise would not.

First, harm reduction consultants will have training in the varieties of harms that corporations do to the environment and society. Many of them might be ethicists that work with corporations. Thus, they will have a deep knowledge of ethics and the variety of ways that a corporation may act unethically and do harm to the environment and/or society as a result. Due to this knowledge, harm reduction consultants may be able to expose all the harms that a corporation does to the environment and society, potentially highlighting some of the harms that the internal leaders were unaware of previously. This process might alert decision-makers to harms that they otherwise would have overlooked.

As a reminder, it is still perfectly consistent for a harm reduction consultant to bring attention to all the harms that a corporation does to the environment and society, then have decision-makers decide to only reduce the harms that impact the bottom line. However, the point is that decision-makers would first *consider* all the harms that their corporation does, regardless of whether those harms impact the bottom line, which might encourage decision-makers to reduce additional harms. If the decision-makers are not attuned to the all of harms that their corporation does, then they fail this process. As a

result, there will be no chance that the company reduces a variety of harms to the environment and society. In turn, the maximal amount of harm may not be reduced. After all, a company may have decided to reduce additional harms that did not impact the bottom line had they been aware that these harms existed. A harm reduction consultant would go a long way to help mitigate this issue.

Second, if taken seriously, a harm reduction consultant could convince decision-makers to act on harms that the decision-makers would have otherwise ignored. The harm reduction consultant could do this by explaining the importance of reducing harms that do not impact the bottom line. For example, an appeal to autonomy might convince a company leader to provide native-language oral or written contracts to contractors who cannot read or write in English. Though this process does not impact the bottom line, it has serious implications for the way that people are treated around the world. A harm reduction consultant exposing a harm like this and providing reasons for why the harm is important to reduce may convince decision-makers to reduce more harms than they otherwise would have.

Unfortunately, a harm reduction consultant that identifies several harms that the corporation is not interested in runs the risk of alienating the decision-makers in exchange for being thorough. As a result of this process, corporate decision-makers might view harm reduction as just another obstacle that they have to overcome to make profits, just like many corporations today perform corporate social responsibility solely for the sake of profits. On a more charitable view, however, decision-makers could see harm reduction as the newest challenge that they can exploit to gain a competitive advantage. This is merely speculation, however, so suffice it to say that some corporations may not appreciate a third party telling them that they do a variety of harms, especially harms that they have never considered, to the environment and society and that they should reduce said harms.

5.2.1.3 Choosing an Option

In alignment with harm reduction's core principles, the implementation option that is used depends on the individual company's choice. However, I do know that different corporations need different options

for implementation. Some corporations may prefer to keep their harm reduction processes internal, while others prefer to seek outside expertise to help them in an area where they may not be as strong. Other factors, such as cost and time, may affect whether a corporation decides to implement harm reduction internally or externally. Staying true to harm reduction frameworks, then, means allowing a plurality of options on how to implement my framework.

Ultimately, the best option is to accept the combination of the implementation options that reduces the most amount of harm. Given that the harms being reduced are only and all the harms that corporations are willing to reduce, to the extent that they are willing to reduce them, I support the combination of implementation options that convinces corporations to reduce the most amount of harm to the greatest extent that they are willing. For example, suppose that corporations that hired harm reduction consultants were able to reduce a lot of harm in the agricultural sector because of the experts' creative solutions to existing problems. In this case, it may be best for the agricultural sector to follow a model of implementation that involves hiring a harm reduction consultant. Suppose, however, that the banking sector requires a high level of confidentiality and thus prefers to implement harm reduction internally. Since they are unwilling to use a third party, supporting their internal implementation seems like the best way to reduce harm. Thus, the implementation method comes down to whatever combination of them reduces the most harm for each industry, and often each individual company.

5.3 Ranking Harms

Now that a corporation has a grasp on which harms it wants to reduce, it might be useful to identify the harms are more urgent than others. It is likely that any single company would do more than one harm to the environment and society. However, given limited resources, it becomes important for a company to be able to rank their harms to help decide which harms to address and which to leave constant.

This fact generates a theoretical question for the implementation of harm reduction frameworks in corporations: how do we prioritize harms such that the most important harm is reduced first, followed by the second most important harm, and so on? An intuitive answer to this question is to suggest that the worst harms get reduced first and the least harmful behaviours get targeted last. However, ranking harms is not as simple as this intuition suggests. First, there are multiple dimensions of harms, including the intensity of the harm, how long the harm is going to last, and so on. Corporations may value these dimensions of harm differently. Second, there is the question of buy-in within a corporation. Perhaps upper management is only concerned with reducing harms that will improve their public relations efforts. Alternatively, upper management may only have the resources for harms that are cheaply reduced. These considerations make it difficult for us to theoretically identify which harms are most important to reduce first. Further, suggesting that all corporations should reduce harm according to a theoretically ranked list of priorities goes against the core harm reduction principle to "meet people where they are" and customizing solutions to each individual. Thus, the best I can do is to provide some ways that we can think about resolving this issue of ranking harms in order from most to least important.

5.3.1 Multiple Dimensions of Harm

In *An Introduction to the Principles of Morals and Legislation* (1970), Bentham famously offers seven dimensions of pleasure and pain. These dimensions can help us identify how pressing it is to reduce a particular harm. The seven dimensions are as follows:

1. *Intensity*: how deeply felt the pleasure or pain will be
2. *Duration*: the length of time that the pleasure or pain will be felt
3. *Certainty or Uncertainty*: how likely it is that the pleasure or pain will come about
4. *Propinquity or Remoteness*: how soon one will feel the pleasure or pain
5. *Fecundity*: the likelihood that the pleasure or pain will be followed by similar feelings
6. *Purity*: the likelihood that the pleasure or pain will not be followed by opposite feelings

7. *Extent*: how many people will feel the pleasure or pain

As a utilitarian, Bentham's focus is on maximizing pleasure and minimizing pain. However, harm reduction is more focused on minimizing pain and does not say much about maximizing pleasure. This thinking aligns with a view called "negative utilitarianism". Those who argue for negative utilitarianism claim that, all other things equal, reducing suffering or pain is more important than increasing happiness or pleasure. Acton and Watkins (1963) provide some reasons for thinking this way. First, we tend to think that those who are in pain deserve sympathy in a way that those who are experiencing pleasure do not. In fact, Acton argues, offering sympathy already implies that you are offering it to somebody in pain. Further, Acton argues, this sympathy comes from the fact that we feel compelled to help those who are suffering when we do not feel the same toward those who are happy.

Other reasons for reducing suffering or pain over producing happiness or pleasure are put forth by Walker (1974). He argues that failing to relieve pain is morally worse than failing to produce pleasure. In other words, we think that we ought to avoid causing pain and to relieve it as much as possible whereas we do not feel the same way about producing pleasure. Further, when resolving moral dilemmas, we always consider the amount of pain that a behaviour will cause and there is less emphasis on producing pleasure. Where we do talk about producing pleasure, we often mean it in the sense that it will relieve pain.

Thus, it might make sense to interpret Bentham's dimensions of pleasure and pain differently from the traditional utilitarian framework. We could do this by emphasizing the pains of harms rather than emphasizing the joy from pleasure. Accordingly, we can evaluate harms according to an altered version of Bentham's seven dimensions as follows:

1. *Intensity:* how deeply felt the harm will be
2. *Duration:* the length of time that the harm will be felt
3. *Certainty or Uncertainty:* how likely it is that the harm will come about

4. *Propinquity or Remoteness:* how soon the harm will be felt
5. *Fecundity:* the likelihood that the harm will be followed by more harm
6. *Purity:* the likelihood that the harm will not be followed by non-harm
7. *Extent:* how many people are affected by the harm

Given these seven dimensions of harm, we might think that intense, long-lasting, certain, nearby harms that are likely followed by more harm that affect a lot of people are the most pressing to address. On the other hand, harms that are weak, short-term, uncertain, remote, that are not likely to be followed by additional harm and affect very few people are the least pressing. Perhaps this is true in a theoretical context, but it would be unrealistic for me to say that ranking harms in these ways reflect the way that corporations should actually reduce the harms that they do to the environment and society.

These multiple dimensions of harms make it very difficult for us to even theoretically determine which harms are worse than others. For example, what kind of harm is worse: one that is intense and uncertain or one that is long-lasting for a very small group of individuals? We would need some kind of measurement for what kinds of harms are worse than others. This process might require a way of weighing the multiple dimensions differently or ranking the dimensions of harms from most to least important. This task is complex and difficult to accomplish in a way that everybody agrees with.

I argue that such a task would not even be useful in the context of corporate harm reduction. Corporations will value these dimensions of harm differently. For example, an environmentally-focused corporation may worry more about the duration of their harms, while those who employ child labour may worry more about the intensity of their harms. This reasoning suggests that there is a strong need for corporate buy-in before any kind of harm reduction initiative takes place. Thus, I argue that the best way to rank harms from most to least important is to allow each individual corporation to consider these multiple dimensions of harms alongside corporate buy-in.

5.3.2 Corporate Buy-In

Recall that one of harm reduction's core principles is to "meet people where they are" by customizing solutions to each individual and respecting their decisions on which harms to address and which to leave constant. Abiding by this core principle to corporations means that I, as a harm reduction consultant, must consult companies individually to create a customized plan for harm reduction. Thus, there is no one way to rank harms for all corporations, or even for all corporations within a particular industry. Whether working internally or externally, corporate decision-makers and harm reduction consultants must rank harms for companies individually by fully respecting the company's wishes to reduce some harms and to leave other harms alone.

Further, when implementing a new concept like a harm reduction framework, it is prudent to expect at least some resistance from corporations. After all, corporations are responsible for driving profits and many have a legal or moral obligation to do so. Since corporations all drive profits in different ways, applying harm reduction to corporations will likely take place in different ways. For example, a corporation with a socially responsible mission embedded into the core of its operations will likely reduce harms differently from a corporation that only reduces harms to improve its reputation. In line with the spirit of my harm reduction framework as described earlier in this chapter, it is not necessary to judge which one of these motivations are better. The important fact is that corporations want to reduce at least some harm and as stated above, their reason for wanting to do so does not matter.

Since corporations are all unique and will reduce harms for different reasons in different ways, it is prudent to allow corporations to identify which harms they are willing to reduce, however much they wish to reduce it. Again, any harm reduced is better than no harm reduced, and we ought to encourage any amount of harm reduction. So, a corporation may decide that it wants to only reduce environmental harms because of its reputation for protecting the planet. Another corporation may only

be able to choose harms that are very cheap to reduce. Yet another corporation may only choose to reduce harms that impact its bottom line. All of these options are aligned and consistent with my harm reduction framework.

So, given the uniqueness of each individual corporation, it is meaningless to suggest a ranking of harms in order from most to least important for all corporations to reduce. Instead, individual corporations should reduce whichever harms to whatever extent that allows them to reach their individual harm reduction goals. A general, theoretical ranking of harms from most to least important to reduce is imprudent. Instead, we should focus on which harms a corporation thinks is important to reduce and help them reduce those harms to the best of their ability within the constraints of their resources and willingness to act. This reasoning aligns deeply with the core principles of harm reduction frameworks, specifically the core principles of looking at each individual case separately and "meeting people where they are".

5.4 Harm Reduction in Practice: The Case of Walmart

So far, we have identified a harm reduction champion who will work either internally or externally to generate a list of harms that the corporation does to the environment and society in the course of its operations. The champion may have prioritized these harms based on what is most important to the corporation. Here, we will see how this process looks like once it has been operationalized in the corporation.

Walmart has done its fair share of harms around the world but works to reduce their harms to their environment. Walmart is known internationally and is often discussed as a role model for implementing sustainability in its business practices. This section shows that my harm reduction framework is an excellent lens through which to view Walmart's actions.

5.4.1 Bad Press

Walmart is an international conglomerate of subsidiaries that are known for their affordable goods, summarized in Walmart's slogan, "Save money. Live better.". The company is enjoying its 13th year as the largest company in the world with 2018 being its fifth consecutive year at the top (Fortune 2019). With over $500 billion in annual revenues and 2.3 million employees, Walmart provides economic growth and jobs all over the world.

The company has had its fair share of ethical issues. Walmart has been the subject of unflattering news articles and events that change the way that consumers think about shopping. For example, in November 2012, there was huge fire in a factory that made clothes supplied to Walmart, among other fashion retailers. At least 112 people died in the incident and investigations showed that the high death toll was due to there being no emergency exits in the building. Walmart had previously audited the building in May 2011 and gave it a "high risk" categorization, followed by a "medium risk" categorization in August 2011. Walmart continued to do business with this factory (The Associated Press 2012).

5.4.2 Sustainability Efforts

At the same time, Walmart has been investing in its sustainability efforts. Many of its vehicles run on alternative energy and the company is on track to reach zero waste from their operations in 2025. To tackle food waste, the company keeps prices low for all food and discounts non-optimal foods for quick sale. Walmart donates extra food to local food banks as well. Walmart also aims to reduce plastic waste by minimizing the amount of plastic packaging used for its products and removing plastic bags from circulation, while making all remaining plastic packaging recyclable. As of 2019, Walmart stores are well on their way to reaching the company's sustainability goals, as they will have reduced greenhouse gas emissions by 28,000 tonnes of carbon dioxide due to investments in energy

infrastructure. 87% of all waste is being diverted, including 11 million pounds of food being donated to local food banks.

Dauvergne and Lister (2011) applaud several multinational companies, including Walmart, for tackling global sustainability issues through their business. They especially applaud Walmart's high-reaching, measurable goals. According to Dauvergne and Lister, multinational companies have been making sustainability part of their core operations, much like Dowling and Moran's (2012) suggestion for "built in" corporate social responsibility campaigns, as discussed in Chapter 2. With these "built in" strategies, multinational corporations are making legitimate efforts at sustainable change and gaining recognition for their actions.

However, Walmart's sustainability efforts have not gone without comment. Baue (2009) describes two groups of people who weigh in on Walmart's sustainability claims. The first group is "the oxymoron camp", which sees Walmart's promises of sustainability to be at odds with its long supply chains, disposable products, and underpaid contractors. The other group, "the salvation camp", argues that Walmart's sustainability program should be used as a tool to pressure other large companies to take on sustainable missions quickly so that they can compete. Ultimately, Baue argues that sustainability at Walmart is complex and difficult to communicate in concise, public-relations-approved tag lines for the public.

5.4.3 Walmart and Harm Reduction

At this point, it is tempting to ask a variety of questions. Should we shop at Walmart and support it as a company? Is Walmart a morally good or morally bad company? Is Walmart evil? These are all interesting questions and can be taken up by other business ethicists. I am not interested in these questions. The question that I am interested in is: does Walmart reduce harm according its own standards for doing so?

Again, according to my harm reduction framework, the company's motivations for reducing harm do not matter and the amount of harm that is reduced does not matter. Instead, using my framework means that executives will perform an analysis of the harms that they do to the environment and society, *determine the harms that they want to reduce* and *the extent to which they want to reduce those harms*, and then hold themselves accountable to those plans. So, whether we should shop at Walmart or whether the company is morally good, bad, or evil is not relevant to my harm reduction framework.

From a harm reduction perspective, we know that Walmart is focused on reducing harms to the environment. The company wants to reduce harms to the environment by reducing carbon emissions and reaching zero waste by 2025. This is the extent to which Walmart wants to reduce environmental harm. So, according to my harm reduction framework, Walmart should take their goals seriously and be encouraged to reach those goals. It seems as if Walmart has done so.

What we can learn from the Walmart example is that a company that faces ethical issues can simultaneously implement harm reduction to do less harm to the environment and society. Walmart does many harms around the world, such as contracting companies that do not ensure the safety of its workers, but they reduce harm when it comes to environmental issues. This is a better situation than Walmart both failing to ensure the safety of contracted workers while polluting indiscriminately and generating excessive amounts of waste. Thus, while Walmart may not be a perfectly responsible company, they are at least doing less harm than they otherwise could. Walmart's harm reduction is very much aligned with the spirit of harm reduction and demonstrates the usefulness of my harm reduction framework.

5.4.4 Walmart and Corporate Social Responsibility

Walmart's sustainability efforts are currently understood as being part of their corporate social responsibility platform. Here, I will elaborate on why a harm reduction lens is importantly different

from a corporate social responsibility lens. Simply put, if viewed from the perspective of corporate social responsibility, Walmart is arguably not doing enough. Recall that corporate social responsibility is thought to have at least four parts: economic, legal, ethical, and discretionary or philanthropic. The trouble here is that Walmart is potentially not fulfilling its ethical duties. While sustainability is certainly a worthwhile cause, Walmart's failure to ensure safety among its contracted workers, among several other criticisms of Walmart's behaviour, should make us question whether the company is truly ethical. Further, Walmart's record of philanthropy can be called into question. While their website boasts $250 million in charitable donations from 1994 to 2019, the amount pales in comparison to their profits of over $126 billion in 2018 alone. It can be argued that a giant international conglomerate with a 24.5% profit margin can afford to give more to charity.

Using my harm reduction framework, we can push these criticisms aside. Instead of asking if Walmart is acting ethically, we instead ask what harms they are reducing and applaud the contributions that the company has made to improving the environment and society. After all, harm reduction is crucial to companies who want to be socially responsible. Additionally, instead of asking whether Walmart is philanthropic enough, we ask if Walmart is donating the amount of money that its decision makers deem important to the causes that they choose for whatever reason. Again, we applaud what work they choose to do in bettering the environment and society. Further, we can encourage Walmart to reach its sustainability and other harm reduction goals. What is important is that Walmart is taking actions in the right direction to improve the state of the environment and society. Questions of whether they are ethical or philanthropic come second to that. In this way, we focus on what is really important: actively removing the harms done to our environment and society. This removal of harm should be encouraged and part of being encouraging is validating the work that has already been done and supporting the corporation in doing more of the same kind of work.

The reader may be worried here that my low threshold approach sets the bar too low. If we are to applaud *any* harm reduction that Walmart does to the environment and society, how can we push them to do more when we think that they should be reducing more or different harms? My response is to recall again that Walmart's existing harm reduction programs do not preclude it from pursuing other harm reduction programs. Consumers and government agencies can continue to ask Walmart to do more and be specific about what they want Walmart to do, which may convince the company to act. In fact, this kind of criticism should be welcome so that we avoid the potential situation where corporations see themselves as socially responsible and thus find it unnecessary to change their practices. For example, some suggest that Walmart is a socially responsible company and can use that to improve profits (Patrick 2018). If Walmart is to accept this interpretation of their sustainability campaign, there is a risk that executives will think that their social responsibility initiatives are sufficient and need no change when in reality, the company continues to perform harmful actions. Simultaneously applauding the good but pointing out additional harms shows corporations that, while they may be successful in some aspects of being socially responsible, there is still more work to be done.

5.5 Conclusion

This dissertation started with a review of the literature on harm reduction, which is a concept from the health policy and social services domains. Harm reduction is the concept that we can, and in some cases we ought to, reduce the harms associated with a behaviour without requiring cessation of the behaviour itself. Harm reduction gained momentum in the wake of drug and HIV challenges in various parts of the world. Harm reduction is both compassionate and pragmatic in respecting individuals' choice about how they want to live their lives and focuses on scientific evidence to determine the best ways to reduce harm accordingly. Harm reduction frameworks have been applied to injection drug use, tobacco use,

and sex work to successfully reduce the harms associated with those behaviours without requiring cessation of the behaviour itself.

From these examples of harm reduction, I generated a cluster concept to define "harm reduction". My cluster concept has six qualities. The first quality is mandatory while the other five can be present or not depending on how closely a harm reduction framework applies to the behaviour at hand. The six qualities are as follows:

1. There is at least one identifiable harm associated with the behaviour.
2. The behaviour is tenacious at the population level.
3. The behaviour is, to some extent, tolerable.
4. The primary harms are to the self.
5. The harm is worth reducing even if it is not cost-efficient to do so.
6. Significant harms are due to stigma or criminalization of the behaviour.

Next, I surveyed the business literature, where I discussed the rise of corporate social responsibility. Though the concept is popular and has been taken up by seemingly every corporation, there are some gaps in corporate social responsibility. First, there are certain types of corporations that may never be considered socially responsible because their core mission is socially irresponsible. Second, some corporations have corporate social responsibility campaigns that are far removed from their core business and thus seem disingenuous. Finally, some corporations find corporate social responsibility impossible because they cannot afford the resources to run such initiatives.

Harm reduction addresses each of these gaps. For corporations that can never truly be socially responsible, harm reduction offers a lower threshold for engagement. For corporations who pursue corporate social responsibility activities that are unrelated to their business, harm reduction forces them to look at the harms done throughout the course of their normal operations and address those particular harms. Finally, since harm reduction has a lower threshold for engagement, corporations who cannot

or will not put the resources into corporate social responsibility initiatives can turn to harm reduction instead.

I then demonstrated that harm reduction applies well to corporations by meeting four of the six qualities listed above. I then specified two features of my harm reduction framework. First, the motivation for pursuing harm reduction does not matter, so long as a corporation is seeking to reduce harm. Second, the amount of harm reduced does not matter, so long as the amount of harm reduced is at least as much as the amount that the corporation themselves has committed to reducing.

After that, I applied my harm reduction framework to the oil and gas industry to demonstrate its applicability in an industry. The oil and gas industry is responsible for doing severe harm to Indigenous communities and damaging the environment. The process of extracting oil from the Earth is time- and resource-intensive, thus offering several possibilities for harm reduction in ways that both benefit the company financially and reduce harm for the environment. Examples of behaviours to reduce environmental harm during exploratory drilling include using water-based fluids instead of synthetic fluids while drilling, upgrading to modern equipment, and using water-powered drilling.

I also applied my harm reduction framework to the pharmaceutical industry to demonstrate its applicability in another industry. The pharmaceutical industry, especially the brand name pharmaceutical industry, is responsible for several harms including influencing doctors to over-prescribe their medications, making their drugs inaccessible to many populations that need them, and failing to develop orphan drugs and drugs to treat tropical diseases. The case study of Merck Co. Inc. showed that even pharmaceutical companies with extensive corporate social responsibility commitments can reduce more harm. Depending on the internal decisions made by Merck's decision-makers, a greater commitment to harm reduction may be required by the company.

Finally, my dissertation took a practical perspective to determine how my harm reduction framework can be implemented. My research revealed a need for a strong company leader, either

working internally or externally. The option, or combination of options, that reduces the most harm is the one that I endorse. The case of Walmart then demonstrated that my harm reduction framework can capture the complexity of a company that does both harm and good. This interpretation of Walmart differs from the interpretation of corporate social responsibility. Where corporate social responsibility would arguably ask Walmart to do more, a harm reduction approach encourages the company to continue along its path of reducing harm to the environment.

Here, I will remind the reader that using the term "harm reduction" may seem off-putting to some corporations. They may not want to use the word "harm" in their marketing materials. I recognize this difficulty. However, what my framework is called in practice is something that requires further research. My harm reduction framework may be given a new name, or perhaps it might be subsumed under "corporate social responsibility" with a particular lens or focus. Whatever the case may be in practice, the harm reduction framework for corporations that I have developed here remains true to the harm reduction frameworks that have come before it and so I use the name "harm reduction" in this dissertation to indicate that alliance.

I expect that this dissertation captures an intuition that is expressed when the public is outraged by a corporation that claims to be socially responsible by going above and beyond without addressing the harms that they do first: corporations should reduce the harms that they do throughout their operations before looking to do good by going above and beyond, especially if going beyond means taking a "bolted on" approach to corporate social responsibility. This outrage is important for corporations to respond to because it is at the core of much discontent from the public over their corporate social responsibility strategies. Frustrations have mounted over corporate greenwashing, executives making empty statements about change, and distracting the public with promises of going above and beyond while continuing to treat their own contractors or employees horribly. For many, this is a situation that needs to change, and harm reduction offers a tool to realize that change.

It is due to the above sentiment that I hope this dissertation provides a groundwork for corporations to enact change among their own operations. Harm done to the environment and society is sometimes grave and irreversible, so it is important that action is taken sooner rather than later. I strongly encourage those who work in business consulting, especially those who advise on corporate social responsibility, to take on harm reduction as another tool to offer to decision-makers who are not taking ownership of the harms that their own businesses cause throughout their operations. For example, my two features of allowing corporations to choose which harms they want to reduce to whatever extent they wish to reduce them makes it easier to get an executive's approval. My hope is that this low threshold approach entices executives to sign on.

Overall, in this dissertation, I have developed a harm reduction framework based on existing harm reduction literature that applies well to corporations. I have demonstrated that my framework is both robust and practical. A shift from corporate social responsibility to my harm reduction framework has the potential to reduce the overall harm that corporations do to the environment and society.

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