An Opportunity for Scenario Planning in Corporate Sustainability Strategy

Roian Atwood

Deborah Gallagher, Ph.D., Adviser

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ABSTRACT

Corporate sustainability practitioners utilize a variety of different tools to engage a company's senior leadership and deliver value back to a business organization through reduced risk or cost, improved operational efficiency, or increased revenue generation. Strategy and planning professionals have used scenario planning to predict global oil crises, rebuild post-apartheid South Africa, and advance military maneuvers. This project evaluated the intersection of corporate sustainability and scenario planning through a literature review of core themes, personal interviews with scenario planners and sustainability professionals, and case study research on how companies were able to utilize scenario planning in corporate sustainability. The two case studies pertained to PepsiCo's use of scenarios to build their Performance with Purpose program, and a multi-company collaboration focused on the future of commerce called Retail Horizons. The results demonstrated that there is an opportunity to use scenario planning to better integrate corporate sustainability into business process, set meaningful goals and engage stakeholders by facilitating a trend-based exercise whereby participants are able to explore the uncertainty of future worlds in which their companies must operate. When the conditions are right for scenario planning, corporate sustainability practitioners potentially have an opportunity to use this strategy tool to embed good corporate citizenship while exploring futures where business thrive in tandem with a well-nourished population and sustain global resources.

EXECUTIVE SUMMARY

Corporate sustainability practitioners have an obligation to provide value to their company through a program that promotes greater material efficiency, increased supply chain resilience, and profitability with purpose-driven consumers (Winston, 2014). Value delivery of corporate sustainability programs can be hindered when the corporate sustainability practitioner is under-resourced, preoccupied with compliance measures, or working within a company unable to resist business inertia, a culture unfamiliar with global issues such as intersections between international governance, local community resources, supply chain resiliency, et cetera (Davies, 2016). This master's project proposes scenario planning as a potential tool to accelerate the maturity of a corporate sustainability program within both publicly traded corporations and privately-held companies as measured by leadership acceptance, brand health in the marketplace, and employee motivation and loyalty.

Scenario planning is a versatile tool used by planning and strategy professionals to reframe how leaders think about the future and mobilize their organization's ability to unlock new value, innovate, and change (Chermack, 2011). Scenario planning has historically been used to predict global oil crises, rebuild post-apartheid South Africa, and advance military maneuvers. Scenario planning can enable a company to progress towards good corporate citizenship while simultaneously improving organizational efficiency and financial performance. This master's project empowers the corporate sustainability practitioner with tools for successful use of scenario planning.

The Introduction provides an overview of corporate sustainability practitioners in companies with over $1B in annual sales, core competency areas in the field of corporate sustainability and the role of senior leadership involvement in the program. The rationale behind implementing corporate sustainability programs is addressed. This section provides definitions of terms used in this project.

The second section, Background, provides a comprehensive look at corporate sustainability core themes and basic methods: corporate social responsibility, corporate accountability, and common sustainability tools and methods. The organizational value, military history, use in corporate context, and methodology of scenario planning is introduced. A distinction is made between the more commonly used adaptive scenario planning method and the transformative scenario planning method, used predominantly in conflict resolution contexts.

The third section, Methodology, provides a synopsis of research methods used including a literature review, personal interviews, and a case study exploratory.

The fourth section, Case Studies, explores how a consultancy working with PepsiCo and Retail Horizons used scenario planning to advance each company's sustainability agenda. The case of PepsiCo demonstrates a thorough evaluation of outcomes of scenario planning and the case of Retail Horizons demonstrates a thorough evaluation of the process of conducting scenario exercises. The sixth section, Discussion, brings together the following key points from the previous sections:

- Scenario planning can disrupt business inertia by allowing for a revisioning process that results in new strategic business choices based on possible future trends.

- Scenario exercises can be used to envision future worlds to better understand consumers' evolving needs, purchasing preferences, and brand loyalty.

- Sustainability goals and the activation around achieving sustainability goals can be accelerated by committed leaders that were inspired by participating in scenario planning.

- While scenarios have the opportunity to be a powerful and transformative strategy planning tool, they do require resources to execute successfully for a group of senior leaders.

This Discussion section also explores key questions that a sustainability practitioner can consider to determine if scenario planning is an appropriate tool for their company. A decision matrix is presented to help guide the evaluation of internal conditions.

A complementary perspective on use and implementation of case scenario planning from a practicing corporate sustainability consultant is included in this section. This section concludes with a discussion of the limitations of this project and suggestions for further research.

The seventh and last section, Conclusion, summarizes the use of scenario planning within a corporate sustainability program and acknowledges the scale on which corporations could use scenario planning to unlock value and create positive change in the world.

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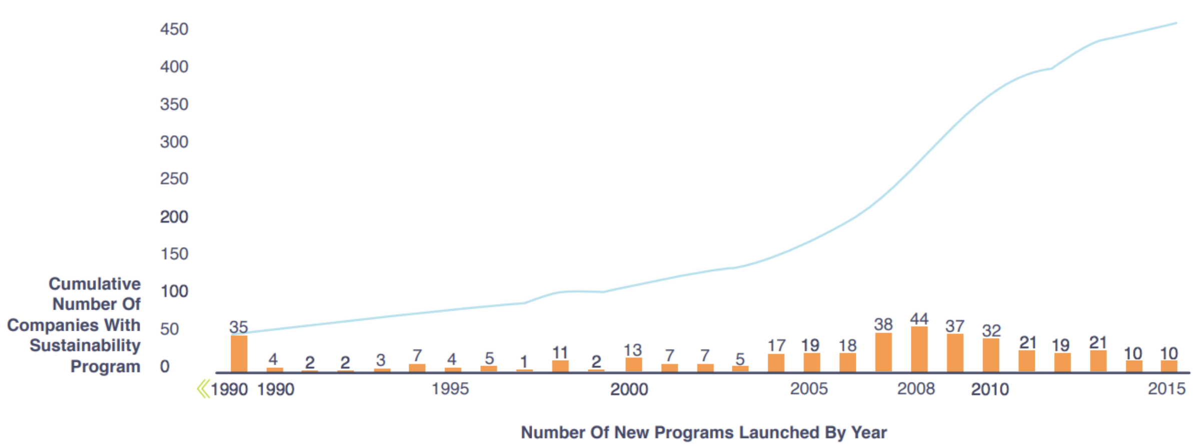
INTRODUCTION

A fundamental set of tensions exist in the practice of corporate sustainability: the imperative for a company to act responsibly, communicate responsible action to a wide variety of stakeholders, and for these acts of good corporate citizenship to be ones that delivers financial value to the organization (Williams, 2017).

It is the role of the sustainability practitioner acting within a company's sustainability platform to successfully guide company leadership through these tensions. Their task is to present and often to convince leadership, internal stakeholders, and others, that a purposeful corporate sustainability action can not only create positive, transformative impact in the world but also enhance a company's reputation with external stakeholders, profitability, and relationship with the consumer.

Corporate sustainability "peaked" in 2008 according to GreenBiz Group's *State of the Profession* report (GreenBiz Group, 2016). John Davies, Vice President of GreenBiz Group and Ellen Weinreb of Weinreb Recruiting came to this conclusion after conducting a 2016 study of 525 respondents from companies with revenues greater than $1 billion. Figure 1 is a graph of new sustainability programs by year, from 1990 through 2015 (See Figure 1). Davies and Weinreb observed that in 2008, 44 companies created their first sustainability position. In 2009 that number declined to 37, dropped again in 2010 to 32, and in 2014 and 2015, there were 10 companies that were creating their first sustainability position (Greenbiz, 2016). This peak indicates that the number of new corporate sustainability programs being created each year is becoming fewer, and in turn, the number of new corporate sustainability jobs is considerably less than it was in 2008 (J. Davies, personal communication, 2016).

Figure 1 - New sustainability programs launched by year

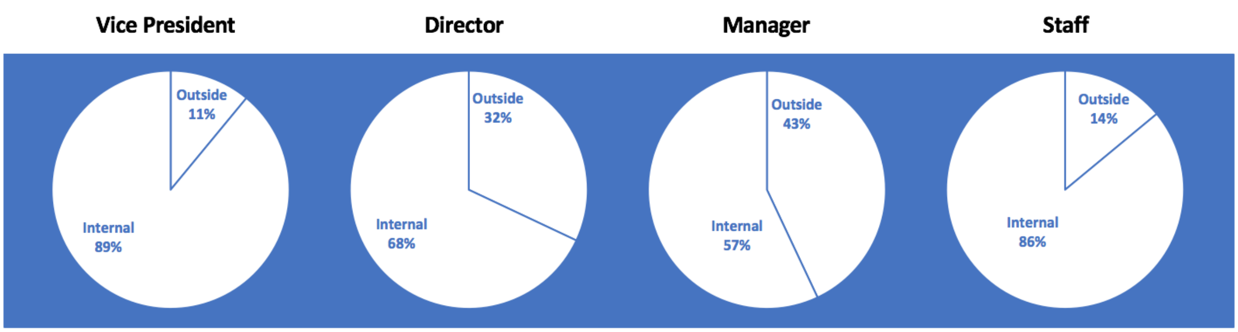


From Greenbiz, "State of the Profession" 2016

While GreenBiz's *State of the Profession* study does not track the number of practitioners being added to existing corporate sustainability programs or replaced because of turnover, it does ask whether existing corporate sustainability practitioners entered into their roles as an internal transfer from a different position or as an external hire (Greenbiz, 2016). Figure 2 shows how corporate sustainability practitioners entered their positions by their roles. (See Figure 2.) Results are grouped by the title of the practitioner, and the results show that there is a significant amount of internal hiring that happens for these roles. For example, 89% of vice presidents and 86% of staff entered their sustainability practitioner role through an internal hiring process. Staff includes the additional roles of analysts, coordinators or specialists (GreenBiz, 2016).

Although the number of internal hires entering these roles may be discouraging for an early career professional hoping to enter corporate sustainability as an external hire, there are two things to consider. Firstly, a high number of smaller disruptive companies are not represented in Figure 2. Second, the internal hiring trend is likely to change as novel talent with innovative ideas emerge (Davies, 2016). All practitioners should be delivering a sustainability program that is visible to leadership and engages employees while reducing risk and finding ways to support the broader needs of the organization in order to stay business-relevant (Davies, 2016).

Figure 2 - Corporate sustainability practitioners entering their position by title



From Greenbiz, "State of the Profession" 2016

Professional Standards

Cultivating a well-trained community of sustainability practitioners and ensuring a quality standard for employers looking to hire sustainability practitioners is a key focus of several professional associations. Established in 2008, The International Society of Sustainability Professionals (ISSP) was founded to develop and share widely the necessary knowledge, skills, and abilities of sustainability professionals (ISSP, 2016). In 2016, there were 229 participants attending classes by specialized ISSP instructors. ISSP also had 1,633 people register for their series of online trainings on specific sustainability topics (ISSP, 2016). Over the course of a year, the main skills trainings offered were primarily focused on the following core learning objectives:

1. Leadership skills and organizational management
2. Strategy engagement tools
3. Stakeholder engagement

4. UN Sustainable development goals
5. Carbon accounting and the use of science-based targets
6. Internal performance tracking and measurement

From ISSP, "Our Vision: A World Where Sustainability is a Standard practice" 2016

These six learning areas are not an exhaustive list but emerge as key subject themes and essential skills sustainability practitioner may need to successfully manage a corporate program (Winston, 2014). In addition to the ISSP, there are several professional associations with a similar shared vision of creating a high level of proficiency among sustainability practitioners. The Sustainability Management Association (SMA), has a membership of approximately 2,400 in the United States and 18 other countries (SMA, 2018). The European Association of Sustainability Professionals (EASP, 2018) has regional chapters in the United Kingdom, Spain, Germany and Italy with sizable memberships. The maturation of sustainability related professional associations demonstrates a move to systematize or professionalize corporate sustainability practice. The hope is that the standardization of methods, frameworks and tools of sustainability will lead to more stable sustainability platforms (Carroll, 2008).

This master's project was written to support the corporate sustainability practitioner in broadening the scope of tools available for use within the community of practice. The Background section will address the reason for companies to pursue corporate sustainability, present a brief history of corporate sustainability, an introduction to corporate social responsibility, corporate accountability, and methods commonly used in the field for engaging leadership, stakeholders, and the supply chain.

Defining Terms

For this master's project, any reference to a 'corporate sustainability practitioner' is inclusive of the titles and variations of Vice President, Director, Manager, and Staff as illustrated in Figure 2. The use of 'corporate sustainability practitioner' refers to someone that works for company and a part of a larger group of 'sustainability practitioners' that may include consultancies, and non-government organizations. The term 'corporate' is not meant to make a distinction in ownership structure between a privately-owned company and a publicly traded corporation. A publicly traded corporation has mandatory reporting requirements to satisfy the Security and Exchange Commission and other investor institutions, such as the 10k filing (Sustainability Accounting Standards Board [SASB], 2017). Privately-owned companies are not subject to these reporting requirements. This master's project does not delineate between those differences but uses the term 'company' to encompass both publicly-traded companies and privately-owned companies. Throughout this project, the term 'value' is used 28 times, often with a preceding verb of 'delivering, providing or creating.' Value is being defined as bringing benefit back to the companies through reduced risk or cost, improved operational efficiency, or increased revenue generation. Also included in this definition is increased cooperation amongst team members, a more inspired workforce, and a greater emotional connection to consumers. To describe a company's sustainability activity, the terms 'platform' and 'program' are used interchangeably, with no intended difference between the two.

BACKGROUND

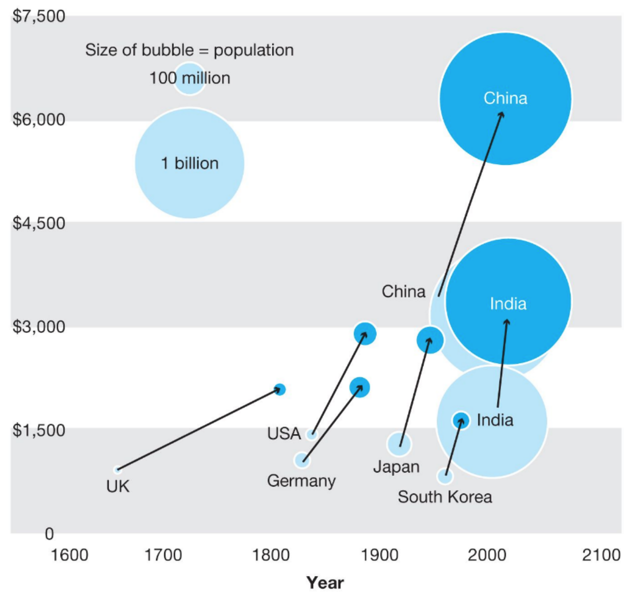
With the acknowledgement that corporate sustainability is inherently a community of practice with practitioners at varying levels of responsibility, differing approaches, and with a wide variety of previous experience, the background section will serve to identify the foundational premises of corporate sustainability for the purposes of this master's project.

Why Corporate Sustainability at All?

Companies inherently operate by focusing on maximizing short-term returns and catalyzing growth opportunities to make a profit. This classic U.S. capitalist viewpoint is being re-evaluated by companies that recognize the enormous resources and power they command to influence the world. Companies that see their purpose as inclusive of by financial success and bettering society are more profitable, have more loyal consumers and more resilient and enduring businesses (Kanter, 2011). The challenges and opportunities discussed in the sections below are likely to drive business sustainability in the next decade: increased demand, a Third Resource Revolution, and people demand purpose.

Increased demand. The current opportunity to profit from an increase in global demand is unprecedented, and as a result the demand for resources to accommodate emerging economies and global population growth is greater than it has ever been in the history of humankind (Heck & Rogers, 2014). By 2030, it is estimated that 2.5 billion new consumers, primarily from India and China, will move from poverty to urbanization, desiring all the conveniences of services, transportation, and consumer products that other industrialized countries enjoy. See Figure 4 for a representation of an acceleration, upwards movement, of growth in in a short amount of time and the size of the bubble represents the number of people experiencing this growth. By evaluating how the GDP per capita increases over time and country-by-country, it is possible to estimate the time required for any given country to double its GDP per capita varies. It took the United Kingdom 150 years to double its GDP per capita through the first industrial revolution. It took the United States of America 50 years to double the size of its GDP per capita. However, it only took China 15 years to double the size of its GDP per capita. Meeting this increased demand for resources will require the companies to reach unprecedented new levels of resource productivity and efficiency (Heck & Rogers, 2014).

Figure 3 - GDP per capita in 1990 US dollars purchasing power parity



From Heck & Rogers, "Resource Revolution" 2014

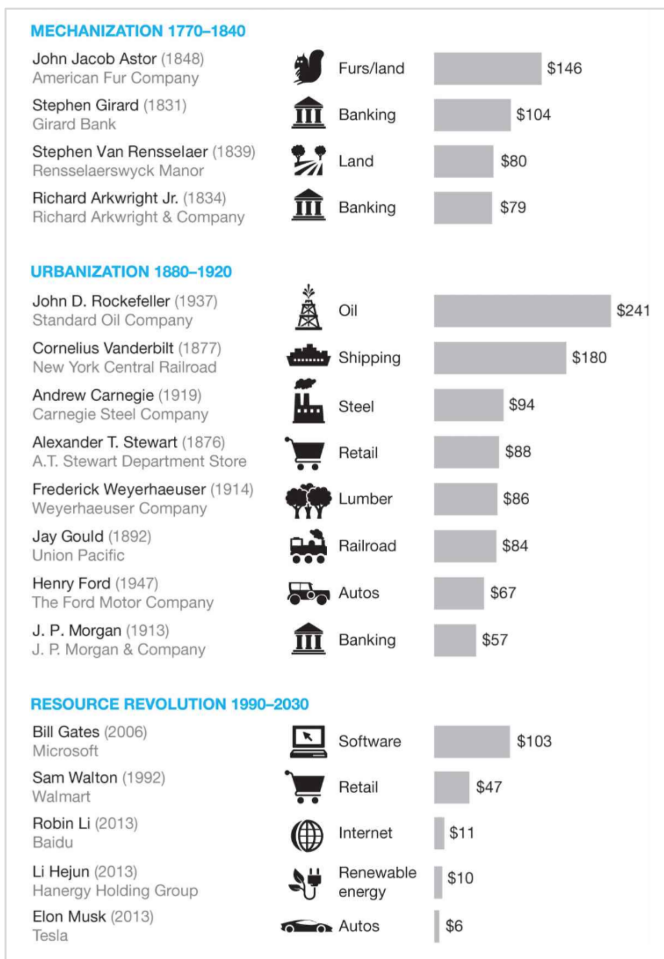
Sustainability initiatives which design products with less waste creation, utilize recycled content, and use efficient machinery are a few ways that sustainability can help achieve these needed states of productivity.

A Third Industrial Revolution - 'Resource Revolution'. Meeting a new level of resource productivity and material efficiency through significant business adaptation is indicative of a third industrial revolution - a resource revolution (Heck & Rogers, 2014). This revolution is based on a need for enhanced resource productivity and efficiency in manufacturing, information technology, nanoscale and materials science. According to Heck, et al., the third industrial revolution is underway now; it began in 1990 and is projected to continue until 2030 (Heck & Rogers., 2014). It will require a detailed understanding of biological and industrial systems to solve the challenges of future resource constraints.

Historically, industrial revolutions have been characterized by the amount of wealth generated over a certain time period. Figure 5 depicts the three industrial revolutions and the individuals who generated wealth over a given time frame. The first industrial revolution (1770-1840), mechanization, became possible through the improved steam engine. Reducing reliance on wood, animals and water wheels, the steam engine mobilized surge in technology and productivity for manufacturing, mining, transportation, and agriculture. Entrepreneurs John Astor, Stephen Girard, Stephen Van Rensselaer, and Richard Arkwright Jr. accumulated more than $409 billion US dollars during this time (Heck & Rogers, 2014). During the second industrial revolution (1880-1920) the use of electricity, oil and steel, combined with a series of novel innovations, allowed for greater urban density and increased quality of life. Over $897 of wealth was created from the top performing companies in a variety of industries: oil, shipping, steel, retail, lumber, railroad, automobiles, and banking. With urban environments booming in population, however, food production struggled to meet demand. Also, issues of sanitation and pollution became widespread during the second industrial revolution. Like the previous revolutions, innovations made in the first and second revolutions were radical for their time. The third industrial revolution, currently underway, will require radical new methods, technologies and retooling to create greater productivity and efficiency to satisfy increased global demand. The business models that succeed in the future will utilize new technology to find new business opportunities and deliver dramatically better performance (Williams, 2017).

People demand purpose. According to an Ernst and Young (EY) 2016 report, *Winning with Purpose*, "purpose galvanizes people to ignite long-lasting positive change, driving growth and innovation." Employees at a purpose-led company are 1.4 times more engaged, 1.7 times more satisfied and 3 times more likely to stay at their jobs (Schwartz, 2013). Companies with purpose inspire employees who believe that they are a part of something greater than just their job function.

Figure 4 - Total wealth in billions of 2013 US Dollars



From Heck & Rogers, "Resource Revolution" 2014

A company's purpose is essential to its existence (Mainwaring, 2011). Traditionally, companies were thought of as having the sole purpose of making money. As some legacy companies have experienced eroding market share or ceased operations because of disruptive competition and changing consumer beliefs, the essential nature of a business purpose is put into question (Kanter, 2011).

Consumers want to be responsible citizens and affect positive change in the world, while expecting the same behavior of the companies from which they buy their products. In 2015, 66% of consumers said they are willing to pay more for sustainable products, up from 55% in 2014 and 50% in 2013 (The Nielsen Company [Nielsen], 2015). Recent data also shows that 51% of millennial consumers, born sometime between 1980 and 2000, are researching their products by checking labels before buying. More than half of consumers (62%) value 'brand trust' as a top factor that influences their purchasing decisions (Nielsen, 2015).

The value proposition for companies to embrace a corporate sustainability platform is as much about financial gain as it is good responsible corporate citizenship. Focusing on growing interest from millennial consumers and creating a company that is guided by both purpose and affecting positive change in the world, creates an opportunity to integrate traditional business priorities and sustainability values.

The sustainability practitioner should be well versed in how changing consumer preferences will affect their business (Winston, 2014), but also must familiarize oneself with the history and origins of corporate sustainability and the core themes that are most central to this community of practice.

History of Corporate Sustainability

Corporate sustainability is a community of practice influenced by a wide variety of factors, including policy and regulation that governs how companies are able to operate, non-government organizations that collaborate with companies or condone their management practices, cultural events that shape public sentiment, and the responsibility of corporations (Williams, 2017). The following thought leaders and published works have been foundational in defining the practice of corporate sustainability.

The Business Council for Sustainable Development emphasized the role of corporations in sustainable development (Schmidheiny, 1992). With fifty international companies as part of the editorial team, the book *Changing Course* (1992) opened with a signed declaration from key leaders pledging their commitment to generational equity of access to natural resources and global economic prosperity.

Paul Hawken's (1993) book *The Ecology of Commerce,* was critical of insufficient progress made by companies to address global issues. It simultaneously acknowledged the role companies have to create solutions to global issues. *The End of Nature* (1989) by Bill McKibben and *Earth in the Balance* (1992*)* by Al Gore, were largely ignored by leading business journals due to fear of environmental literacy and responsibility (Hawken, 2013, p. 5). Despite Hawken, McKibben, and Gore's lack of recognition within traditional business discourse at the time, their books were best-sellers translated into multiple languages to be distributed around the world, demonstrating widespread appeal of the emerging field of corporate sustainability.

Inspired by these writings, the CEO of Interface carpet textiles, Ray Anderson, wrote a letter to his employees in 1994 outlining his vision of transforming the way Interface did business, with the goal to become zero waste and carbon neutral by 2020 (Hawken, 2013). After four years of implementing a sustainability platform, Ray Anderson authored *Mid-course Correction: Toward a Sustainable Enterprise: The Interface Model* (1998), a seminal text in the field (Hawken, 2013).

Addressing the sphere of product sustainability, McDonough and Braungart published *Cradle to Cradle* (2002), in which they outlined a new product design framework focusing on integrating science and nature, eliminating waste, and creating circular economies through closed-loop design and production.

Arguing that sustainable businesses can be profitable, E. Freya Williams' *Green Giants: How Smart Companies Turn Sustainability into Billion-Dollar Businesses* (2015) analyzed the success of environmentally and socially-responsible businesses leaders and their operational strengths.

Contemporary corporate sustainability platforms are derived from ideas presented in these seminal works, and necessarily shaped by the critique leveraged by individuals and advocacy groups concerned about a company's integrity and conduct.

Corporate Social Responsibility (CSR)

Corporate social responsibility (CSR) pertains to the moral obligations of companies to the communities and society in which they operate (Wilson, 2013). This includes an expectation that companies have an obligation to protect people's well-being, safeguard a community's natural resources, and address relevant social issues. When a company neglects this obligation, various stakeholders, often advocacy groups, hold a company accountable by attacking a company's reputation resulting in a loss of trust from consumers.

The following sections will discuss the emergence of CSR starting with the second industrial revolution, trace its evolution to the present day, as well as present the following examples of community and citizen stakeholder groups holding corporations accountable to fulfilling moral obligations: Nestle, McDonald's, and Coca-Cola.

The evolution of CSR. CSR during the second industrial revolution was characterized as 'profit maximizing management,' recognizing that labor conditions and workers' quality of life are factors in productivity levels (Carroll, 2008). Corporate management's narrow definition of responsibility was focused on how to maximize workers' productivity in order to maximize profits. (Heck & Rogers, 2014). In 1887, for example, the R.H. Macy Company started an employee mutual aid society, providing sick pay, death benefits, emergency loans, recreational, and social activities to improve workers' quality of life (Heald, 1970).

In the 1920's and 1930's, corporate responsibility shifted to 'trustee-ship management' with corporate managers assuming responsibility for maximizing stockholder wealth and considering other stakeholder concerns and needs, including those from customers, employees, and the community.

Publications influencing the evolution of CSR between 1930 and 1955 included Chester Barnard's *The Functions of the Executive* (1938), J. M. Clark's *Social Control of Business* (1939), Theodore Kreps's *Measurement of the Social Performance of Business* (1940), and R. Bowen's seminal publication, *Social Responsibilities of the Businessman* (1953).

In 1971, the Committee for Economic Development (CED), a Washington D.C. nonprofit promoting economic growth and responsible for establishing the World Bank and the International Monetary Fund, published *Social Responsibilities of Business Corporations,* highlighting CSR as a global imperative (Wilson, 2013). This CED report asserted that "businesses function by public consent and its basic purpose is to serve constructively the needs of society (Committee for Economic Development, 1971, p. 11)," implying that the future of a business depends on the quality of its response to changing public expectations (Wilson, 2013).

The previous section, evolution of CSR, chronicles key themes and seminal works, while the following section will demonstrate the implications of companies that are not fulfilling their moral obligations as good corporate citizens.

Nestlé's baby formula. Nestlé was publicly attacked by a British NGO, War on Want (1973), for their aggressive and exploitative marketing tactics in selling baby formula to impoverished women in third world countries (Krasny, 2012). *The New Internationalist* magazine released an expose, '*The Baby Killer,*' illustrating how Nestlé's financial success was predicated on mothers' decreasing the use of breast-feeding and, therefore, Nestlé was responsible for increased infant malnutrition and deaths. In Chile, 80% of infants were being bottle-fed with formula and powdered milk products, while in the suburbs of London, 87% of infants were being breastfed (War on Want, 1974). The issue gained widespread attention internationally with consumers across the globe boycotting Nestlé products in general, not just infant foods. The Chilean bottle-fed babies had a mortality rate that was three times that of their breast-fed counterparts. From 1973 to as recently as 2010, Nestlé has been boycotted by various organizations and health advocates because of their failure to fulfill a moral obligation to water stewardship, conservation, and to increased nutritional value in their products (Muller, 2013).

McDonald's waste and supply chain. In the 1990s, the fast-food restaurant corporation, McDonald's, was heavily criticized for ignoring its social responsibilities in issues ranging from labor practices, nutritional content, and environmental practices (Mattera, 2015). McDonald's faced pressure in the form of protests, boycott campaigns, workers strikes, and negative media campaigns from a coalition of environmental groups. After a combination of consumer backlash and pressure from The Environmental Defense Fund (1991), McDonald's switched their polystyrene foam sandwich packaging to paper wrappers in order to reduce landfill volume and the release of pollutants (Parrish, 1990). This negotiation with the Environmental Defense Fund was the beginning of a series of NGO successful partnerships that helped McDonald's further define and develop their sustainability platform over the next twenty-five years (Gunther, 2011).

The Coca-Cola Company's water supply. Coca-Cola experienced a forced plant closure in 2000 in Plachimada, India, after only six months of operation due to protests from local residents and community members. The protests were provoked by the expectation that Coca-Cola had an obligation to keep their local water supply safe and free of pollution (Hills, 2015). When local stakeholders observed that their ground water was no longer suitable for drinking and cooking, Coca-Cola's 'license to operate' was effectively revoked. Despite national intervention from the Indian government on behalf of Coca-Cola, the local community stood in solidarity with their beliefs that business has a moral obligation to their community by protecting the integrity of the water supply (Hills, 2015).

While the specifics of obligations expected from companies vary depending on geography, industry impact, or stakeholder concern, CSR represents an ethical and moral imperative for companies to act as good corporate citizens and will become increasingly relevant in a future world of increased resource constraints and rising consumer demand. CSR is a core theme and important consideration for any sustainability platform that is looking to preserve their company's reputation with consumers and in the marketplace.

Corporate Accountability

Companies commonly track and measure their financial performance; corporate accountability expands that expectation to include the tracking, measuring and public reporting of a company's social and environmental performance (Wilson, 2013). Investors, insurers, and accountants have a collective expectation that companies will demonstrate corporate accountability (Bendell, 2004) by using standardized social and environmental performance reporting frameworks, regularly issuing reports, and publicly disclose items that are material to business operations.

The following sections will present a historical discussion of corporate power as it relates to corporate accountability, introduce triple bottom line accounting, effectiveness of corporate sustainability goals, use of standardized reporting frameworks, and the use of shareholder resolutions.

Corporate power. Historically, corporate accountability has included concerns such as the extent to which companies should be given the same rights as individuals, and how companies use wealth to influence policy through lobbying efforts. The U.S. Supreme Court defined the power of corporations (1886) by ruling *(in Santa Clara County vs. Southern Pacific Railroad*

Company) that corporations were 'persons' as under the 14th Amendment of the U.S. Constitution. This decision set the precedent that corporations, as legally recognized 'persons,' were entitled to the same rights and protections as a human person (Rowe, 2001). Through the 20th century, "corporations acquire[d] significant power with limited liabilities" (Bendell, 2004, p. 8) by often having unrestricted rights to public resources or exercising the ability to pollute and passing the burden of cost onto society. Throughout recent history, efforts have been made to restrict corporate power, but the third industrial revolution has largely fueled by growth in retail and consumer products resulting in companies having fairly unrestricted power to influence regulation, diversify business interests, and influence pop-culture media. It has become more widely accepted that companies managing their social and environmental impacts can be allies in driving global change (Bendell, 2004).

Triple Bottom Line. In traditional business accounting, profits and losses balance out at the 'bottom line' of a ledger (Triple Bottom Line, 2009). John Elkington (1994) proposed analyzing performance on not just profit, but also the cost to the planet and people- the 'three P's' for short. Elkington's view was that a company's performance was not complete without full accounting representation and management methods that were inclusive to the costs to society (Triple Bottom Line, 2009). The Dow Jones Sustainability Indices, launched in 1999, attempts to provide a 'Total Sustainability Score' so that investors and shareholders can assess a company's sustainability performance on the principles of the triple bottom line (sustainability-indices.com, 2017).

Standardized reporting. Standardized reporting procedures help ensure that companies are using relevant metrics and scientifically agreed upon methods of calculation. Financial investors, insurers, and accountants want to have the ability to compare sustainability performance data from one company to the next.

Voluntary reporting initiatives, sometimes referred to as reporting 'frameworks,' look to standardize corporate accountability reporting methods by specifying what should be reported and how to organize and tally such a report, while also providing guidelines or a conduit for public disclosure. Organizations like the CDP (formerly known as Carbon Disclosure Project), Global Reporting Initiative (GRI), and SASB support company reporting of key impacts so that the entire value chain can understand the risks. CDP manages a global disclosure system and a database of environmental data of companies, cities, states, and regions. GRI has developed the Sustainability Reporting Standards, which provides corporations with a framework for reporting about their efforts. SASB is defining those social and environmental items that should be considered 'material' to a company's business and require disclosure, similar to other traditional fiduciary duties that executives already have with shareholders. For publicly traded companies, disclosure of material risks is mandatory, not voluntary. These 'material' disclosures must be reported to the U. S. Securities and Exchange Commission (SEC) in the annually required 10-K filing (SASB, 2017). SASB (2017) analyzed the 10-K filings of the largest 790 corporations and found that over 83 percent of the companies evaluated included at least one disclosure of a sustainability issues and its related materiality assessment (SASB, 2017).

Shareholder resolutions. The sustainability practitioner may play a critical role in negotiating a company's response to shareholder resolutions as related to environmental, social, or governance issues (Davies, 2017). Because of the corporate sustainability practitioner's expertise, they may be best positioned to understand shareholder concerns and may thus be called upon to clarify the shareholder viewpoint to leadership and colleagues. The practitioner may be collaborating with internal leaders to understand how a shareholder resolution impacts business operations and craft an appropriate response.

The table below illustrates recorded environmental and social shareholder resolutions filed between the years of 2011 and 2017, based on data from the nonprofit organization CERES (1989). Table 3 is a summation of the resolutions, by issue, of the most common investors filling resolutions as well as their outcomes. There was a total of 936 sustainability related shareholder resolutions (Ceres, 2017). Of those, 64% were related to climate change and greenhouse gas management. Of the resolutions that were filed over this seven-year period, approximately half were not ratified, while 38% of time, a company's board of directors agreed to take action against the resolution.

Table 1 - Sustainability related shareholder resolutions results from 2011 – 2017 as documented by CERES

Summary	2011		2012		2013		2014		2015		2016		2017		7-year total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No of Resolutions filed	102	-	98	-	109	-	132	-	165	-	175	-	155	-	936	na
Type of resolutions filed																
Climate and greenhouse gas management	64	63%	30	31%	62	57%	94	71%	138	84%	119	68%	95	61%	602	**64%**
Governance	15	15%	10	10%	10	9%	3	2%	4	2%	37	21%	33	21%	112	12%
Supply chain management	1	1%	6	6%	7	6%	4	3%	6	4%	4	2%	7	5%	35	4%
Transparency & reporting	8	8%	25	26%	20	18%	28	21%	11	7%	8	5%	16	10%	116	12%
Water risk	9	9%	27	28%	10	9%	3	2%	6	4%	7	4%	4	3%	66	7%
Worker safety	5	5%	0	0%	0	0%	0	0%	0	0%	0	0%	0	0%	5	1%
Overall outcome of filings																
Withdrawn, company will address or in discussion	46	45%	46	47%	42	39%	65	49%	38	23%	58	33%	57	37%	352	38%
Goes to vote, resolution passes (greater than 50%)	3	3%	0	0%	2	2%	0	0%	25	15%	10	6%	4	3%	44	5%
Goes to vote, resolution fails (less than 50%)	52	51%	46	47%	46	42%	45	34%	84	51%	99	57%	82	53%	454	**49%**
Other	1	1%	6	6%	19	17%	22	17%	18	11%	8	5%	12	8%	86	9%

From CERES, "Climate and Sustainability Shareholder Resolutions Database" 2017

During an annual meeting of a company's board of directors and its shareholders, there is an opportunity for shareholders to present concerns through the filing of a 'resolution.' The resolution becomes a topic of discussion and the board can agree to take action on the resolution, at which point the resolution is withdrawn (Ceres & US SIF: Forum for Sustainable & Responsible Investing [US SIF], 2017). Alternately, the board can reject the resolution, at which time the resolution is put to a broader vote to the shareholders to force the board to take action.

The previous sections reviewed reasons for corporate sustainability, the history of corporate sustainability, corporate social responsibility, and corporate accountability. The next section will examine the methods used by the corporate sustainability practitioner.

Methods

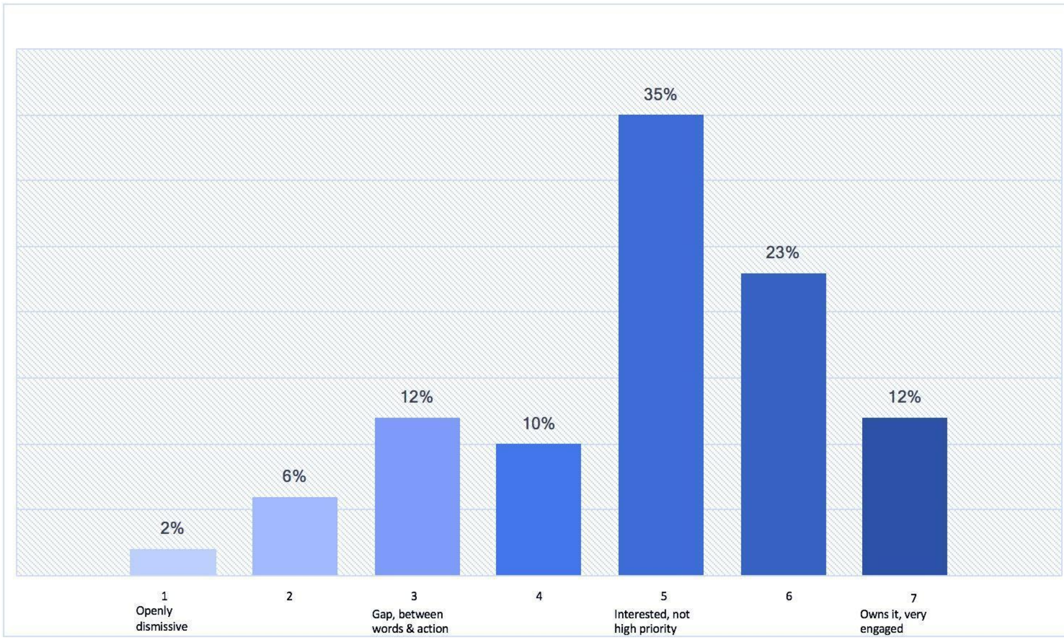
The field of corporate sustainability employs a variety of tools, approaches, and professional methods for advancing a corporate sustainability platform. The following sections will address the core elements of the field: the importance of leadership engagement, goal setting and targets, stakeholder analysis, and supply chain engagement.

Leadership engagement. Engaging senior leaders is critical for the overall success of a corporate sustainability program (Davis-Peccoud et al, 2016). A 2016 study by Bain Consulting indicated that senior leadership support is the greatest factor contributing to the success of a corporate sustainability program (Davis-Peccoud, Stone, & Tovey, 2016). Corporate strategic visioning engages senior leadership at regular intervals; for a corporate sustainability platform to be successful, senior leadership must be integrating sustainability into day-to-day operations. Unsurprisingly, GreenBiz's *State of the Profession 2016* (GreenBiz, 2016) revealed that a majority of leadership at the CEO level is engaged in guiding the direction of sustainability programs. Figure 3 displays CEOs self-evaluation of participation in their company's sustainability program. Approximately 70 percent of CEO's who responded to the survey ranked their company's involvement in corporate responsibility on a 7-point scale (with 1 being least involved and 7 being most involved).

Goal setting and targets. Sustainability goals have the opportunity to motivate employees, strengthen a company's reputation, and drive innovation (O'Neill & McElroy, 2017). However, not all corporate sustainability goals are making a meaningful impact in society and addressing global issues.

A 2017 analysis shows that only 12% of corporate sustainability goals are 'high-impact,' defined as goals that "drive positive environmental, social or economic impact and business value (O'Neill & McElroy, 2017, page 25)." Currently, fifty percent of corporate sustainability programs report an inability to set a 'high-impact' goal because the leadership is afraid of failing and they don't know how to achieve it (O'Neill & McElroy 2017).

Figure 5 - Level of CEO involvement in corporate sustainability



From Green Business Executive Network, "State of the Profession" 2016

Once 'high-impact' sustainability goals have been set, the next challenge is a company's ability to achieve or exceed those goals. Highlighting a contrast between corporate goals and corporate sustainability goals, the 2016 Bain Consulting study shows that 12% of corporate goals are achieved or exceeded, while only 2% of corporate sustainability goals are achieved or exceeded (Davis-Peccoud et al, 2016). Table 2 shows these results. The study goes on to attribute competing priorities, cultural challenges, and organizational obstacles as being the primary barrier to achieving sustainability goals. These obstacles are commonplace and considered part of business inertia, an "organization's tendency to follow established patterns of behavior (Snull, 1999, pg. 1).

One such example of inadequate sustainability goals and business inertia were the carbon reduction goals independently set by each of the seventy highest global greenhouse gas (GHGs) emitting companies as assessed by CDP in 2015.

Science Based Targets initiative (SBTi) - SBTi is a collaborative organization coordinated by CDP, the United Nations Global Compact, World Resources Institute (WRI), World Wildlife Fund (WWF), and We Mean Business that manages a voluntary reporting framework for GHG emissions. The SBTi was created after NGOs observed that of the seventy highest greenhouse gas (GHGs) emitting companies, 62% have irrelevant or no targets to "reduce GHG emissions...with the level of de-carbonization required to keep global temperature increase well below 2°C." (SBTi, 2017a, pg. 14).

Table 2 – Corporate goals versus corporate sustainability goals success rates

	All change efforts	Sustainability Programs
Achieved or exceeded the expectations that were set	12%	2%
Settled for dilution of value and mediocre performance	50%	81%
Failed to deliver, producing less than 50% of expected results	38%	16%

From Davis-Peccoud et al, "Achieving breakthrough results in sustainability," 2016

SBTi helps companies determine how they can move their operations towards a low-carbon economy in accordance with the 2015 Paris Climate Agreements. They offer guidance on emissions reduction strategies and on tracking and measuring GHG emissions with the most relevant accounting metrics. With 337 companies voluntarily reporting into the SBTi framework, thirteen have published case studies on their use of internal GHG goals and benefits realized from implementing energy efficiency measures and renewable energy as part of SBTi participation.

Stakeholder analysis. A corporate sustainability platform that addresses stakeholder concerns can improve a company's competitiveness in the marketplace (Mitchell, Agle, & Wood, 1997). The sustainability practitioner can assess stakeholders by utilizing the stakeholder salience model, a tool that groups stakeholders according to their explicit characteristics/needs and needs and ranks the order with which stakeholder needs should be addressed. The stakeholder salience tool is derived from stakeholder theory (Freeman, 1984) which advocated for companies to create as much value as possible for stakeholders without resorting to trade-offs, thereby strengthening relationships (Wilson, 2013). This tool sorts stakeholders according to their power and capacity to negatively affect a company's reputation, the legitimacy of their claims, and urgency with which those claims need to be addressed. With a complete stakeholder analysis, the practitioner can develop a tactical work plan that makes strategic choices to mitigate potential issues, communicate with appropriate stakeholders, and monitor the changing perspectives of stakeholder's overtime (Mitchell et al., 1997).

Supply chain engagement. Supply chains can suffer significant financial consequences through climate amplified weather events, labor strikes, or manufacturing plant fires or explosions. In 2014 alone, Typhoon Halong (Japan), Typhoon Rammasun (southeast Asia) and flooding in Long Island, New York created a total disruption of more than $15 billion dollars' worth of damage and over two years of cumulative rebuild efforts (Snell, 2015). Also, in 2014, gas explosions in Kaohsiung, Taiwan and a hazardous chemical spill at an Intel plant in Arizona cost $1.8 billion and a cumulative three quarters of a year to make repairs (Snell, 2015).

The corporate sustainability tools, approaches, and methods described in this section - leadership engagement, goal setting and targets, stakeholder analysis, and supply chain engagement - deliver on the CSR imperative for ethical conduct and the corporate accounting expectation of tracking and measuring a company's impacts. Scenario planning, an infrequently used tool in corporate sustainability, will be discussed in the following sections, with the intention of this project being to evaluate its potential use by the corporate sustainability practitioner.

Scenario Planning

Scenario planning is a process that explores and evaluates an array of potential future outcomes in order to create organizational awareness, evolve a vision for the future, or create stronger readiness for action (Chermack, 2011). Simply put, it is a tool used in group exercise and developed to create organizational change. Strategy planners' definition of scenario planning varies as they all have views on what the tool is intended to do, the process by which the exercise is conducted, and the benefits that such an exercise can offer. Thomas Chermack (2011) attributes this variability in definition to a lack of rigorous study amongst practitioners, with result being that "scenario planning means different things to different people." (p. xvi).

The following sections will discuss how practitioners define scenario planning and its origins in military applications. Next, Royal Dutch Shell Oil Company's use of adaptive scenario planning to guide company decisions will be explored, adaptive scenario planning will be discussed, and transformative scenario planning will be presented as a method reserved for unique situations.

Defining scenario planning. An analysis of the top 21 published scenario planning authors from 1985-2001 revealed universal agreement that scenario planning deals with 'uncertainty' (Chermack, 2011). These authors are listed in Appendix 12. This analysis also revealed four major outcomes that can be gained from scenario planning exercises. Firstly, scenario exercises have the ability to change thinking. With an environment where it is acceptable to think about alternative futures without having to solve uncertainty leaves decision makers equal in their unknowing. This prevents one leader from having an undue advantage over the other.

Scenarios are not asking participants to share what they believe should happen, nor to make a prediction. They are asking people to talk about what they think could happen and what the outcomes might be if these scenarios come to fruition. The flexibility of this approach has the ability to change thinking (Kahane, 2012). Secondly, informed narratives about possible or plausible futures familiarize scenario participants with comparative benchmarks that relate to their key challenge, as well as with emerging trends that participants might have observed from their own experience, either consciously or unknowingly (Chermack, 2011). Thirdly, scenario exercises have the ability to improve decision making about the future events and challenges. By navigating possible future scenarios, groups are challenged to determine how they can achieve goals amidst undefinable conditions (Chermack, 2011). Lastly, scenarios exercises can enhance human and organizational learning and imagination by teaching people to learn how to ‘re-interpret’ and ‘re-perceive.’ Using scenario planning as a learning exercise increases dialogue among participants, which improves an organization’s decision-making capability that can be applied widely to situations beyond the scenario exercises (Chermack, 2011).

Military history. Scenario planning has its earliest roots in military strategy and continues to be used in the military today. Scenario planning to strategize battle positioning during warfare was practiced by 6th century Chinese general Sun Tzu, 6th century Japanese swordsman and philosopher Miyamoto Musashi, and 5th century Italian diplomat and Niccolò Machiavelli (Chermack, 2011).

In an example of recent use, the United States Coast Guard (USCG) initiated a series of long range planning sessions (2000), designed to address ‘shock-event’ situations, called the ‘Long View Project.’ USCG’s scenarios examined different operating environments ranging from a stable status quo United States society to a threatened, weakened USA. The use of scenarios lead to a conclusion that acquisition of “full maritime domain awareness,” that is the ability to track in real-time any vessels or aircraft entering the US maritime domain (Charles & Perrottet, 2003, p. 11-12), should be a priority for the USCG. Because USCG leadership adopted new protocols in response to scenario results, the USCG was able to react unexpectedly quickly and mobilize a vessel verification process against immediate terrorist threat in the days following the September 11, 2001 attacks.

Scenario planning in military applications evolved independently of scenario planning in corporate strategy departments (Frentzel, Bryson, & Crosby, 2000). Herman Kahn, a researcher with Research and Development (RAND) Corporation (Chermack, 2011), a non-profit think tank primarily serving the US Military, developed ‘future-now thinking.’ This allowed participants to experience situations without real world implications, resulting in a tool for refining strategies to deal with societal changes (Kahn & Weiner, 1967). Along with colleagues Singer and Ruebhausen, Kahn created the Hudson Institute (1961) and developed hypothetical military situations that later become known as ‘war games’ (Ringland, 2006). The Hudson Institute adapted this approach for corporate applications, working directly with General Mills, International Business Machines (IBM) Corporation, and the Royal Dutch Shell Oil Company (Chermack, 2011).

Royal Dutch Shell Oil Company. Shell Oil enlisted (1972) Kahn’s support to begin what Shell Oil later celebrated as “thirty years of corporate scenario planning” (Kleiner, 2003, para. 6). The Shell Oil London office became the global epicenter of scenario planning, evolving the practice and designing scenarios beyond a typical six-year planning horizon.

Shell’s planning department, and the scenario planning practice as a whole, received considerable credibility when the planning department was able to predict and alert the managing directors of a sharp increase in oil prices from what was $2 per barrel in 1972 to a possible $10 per barrel. Changes in the Arab world had created instability for the oil industry, and Shell Oil was able to implement cost containment and reduction measures prior to the price spiking at $13 in 1975. Shell’s scenario planning also envisioned price hikes prior to the

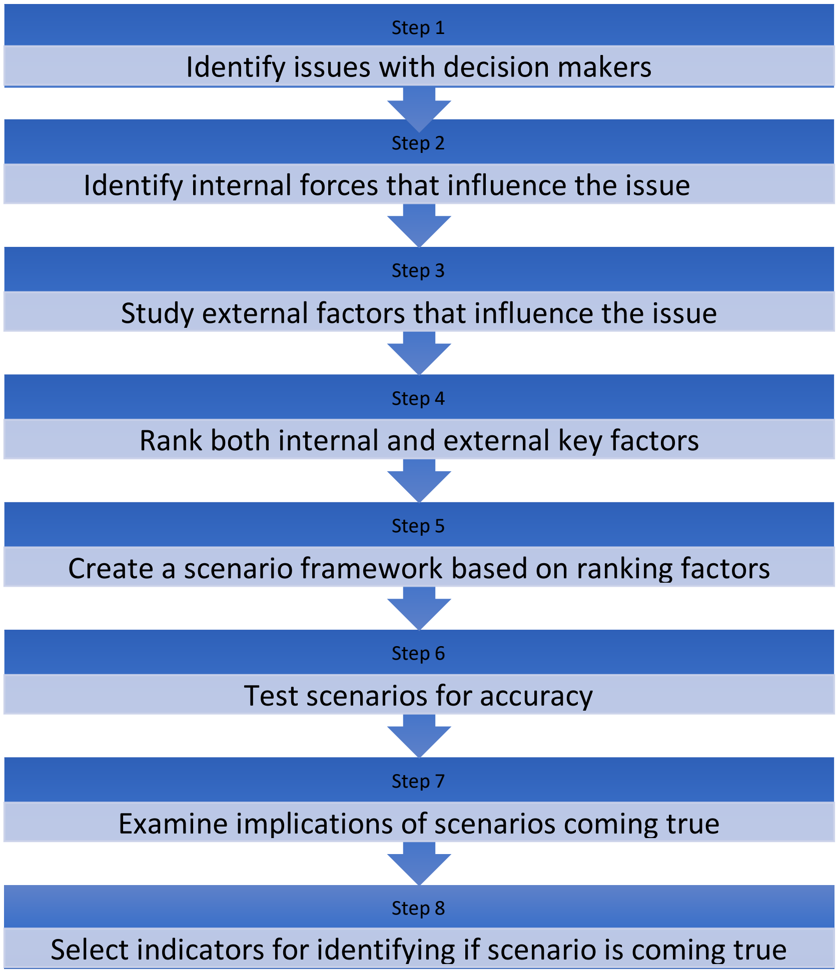
1979 Iranian revolution, when the oil price soared to $37 per barrel. While oil traders assumed the price would keep increasing, and they continued to bid for oil futures while driving up the price, the strategy team suggested a counterintuitive possibility- that the market bubble would collapse- and it did (Kleiner, 2003).

Scenario planning gained major recognition as a planning tool because Shell Oil strategy team's ability to envision volatile oil prices, the fall of the Soviet Union, the rise of Muslim radicalism, and the increasing pressure on companies to address environmental and social problems (Chermack, 2011). By the late 1970s, a majority of Fortune 100 companies had adopted some form of scenario planning into their strategy work (Ringland, 2006).

Adaptive scenario planning. Shell Oil used an eight-step process, formalized by in-house strategist Peter Schwartz, for conducting adaptive scenario exercises (Chermack, 2011). This eight-step process (see figure 6) is considered the foundational methodology for scenario planning. Variations and adaptations of adaptive scenario planning also derive their methodology from this 8-step process. Step 1 begins by engaging key decision makers in conversation to uncover a specific issue or a decision central to the organization (Chermack, 2011). This step elicits current assumptions and concerns about the issue and how it relates to the external environment. Step 2 considers a variety of internal factors which could influence how the issue is evaluated and asks the question, "what are the internal dynamics that would influence this study during the course of its exploration?" Step 3 considers a wide variety of influencing factors from the external macro environment. Potential factors could include environmental, social, economic and technological issues. In Step 4, both internal and external factors are ranked and prioritized using two key criteria: the importance for success and the level of uncertainty. Step 5 is comprised of creating a model by building a 2x2 matrix and then selecting the most relevant topics for the axes until a coherent scenario, or story, emerges (Chermack, 2011). Step 6 tests the model by considering the internal and external factors (Step 2 and Step 3) for plausibility and believability to real world conditions. Step 7 examines the implications of the developed scenarios. It considers which scenarios would be favorable and/or the vulnerabilities which have been revealed. The last step in the process, Step 8, is to identify real world indicators signaling that a future scenario is coming out of uncertainty and materializing into a real-world event (Chermack, 2011).

The Shell Oil strategy team is credited with advancing scenario planning practice and influencing its greater adoption. Adam Kahane, a former scenario planning practitioner at Shell Oil, radically modified scenario planning for applications to conflict resolution in South Africa, differentiating between the adaptive process in use at Shell Oil and his own scenario planning approach which he termed 'transformative.'

Figure 6 - Eight steps for conducting scenario exercises



From Peter Schwartz, “Art of the Long View” 1991

Transformative scenario planning. Kahane wanted to use scenarios to “overcome in a world experiencing an increasing number of big and growing problem situations to which as yet we lack a suitable response” (Kahane, 2012, p. 107). The first transformative scenarios, known as the Mont Fleur Scenario Exercise (1991-1992), were created for the South African government, when South African president F. W. de Klerk contracted a series of scenario exercises to envision an end to apartheid. Navigating the challenges of racial segregation and oppression, Adam Kahane worked with a government subcommittee and a group of twenty-two diverse stakeholders to envision an original 30 possible futures for South Africa, later distilled down to four futures as agreed upon by all members. Senior leaders of the succeeding government, the African National Congress, credit the Mont Fleur Scenario Exercise for informing a strategic vision that resulted in a relatively successful transition to democracy and tripled economic growth over the next ten years (Kahane, 2012).

According to Kahane (2012) Transformative Scenarios are appropriate for circumstances where groups of people are experiencing three distinct characteristics:

1) When a situation is perceived to be unstable – Whether it was a recent upset or a historical challenge, when a situation is considered unacceptable by its participants, they need an exercise that goes beyond exploring adaptation to possible futures and looks to solve for a new, previously unforeseen future that can be immediately articulated.
2) When a situation is unable to be changed by individual groups – This can occur when efforts to transform a situation are unable to advance because the complexity of the social-political-economic system and the significant presence of unpredictability.
3) When a situation requires polarized groups working together. This is often the case when the advancement of one group will create tension and resistance from another group, and yet the solution requires collaboration.

From Adam Kahane, “Transformative Scenarios” 2012

Although Kahane’s transformative scenario planning process enabled considerable cultural change in South Africa, Kahane was also transparent about several of his failed attempts at transformative scenario planning (Kahane, 2012). No additional examples or practitioners utilizing the transformative scenario planning process were discovered in the literature review process.

Whether circumstances have called for a Shell Oil adaptive approach or the more radical transformative approach, strategy professionals have harnessed meaningful results with both approaches.

METHODOLOGY

This project was informed by three research methods: a literature review, interviews, and case study research. The literature reviewed corporate sustainability, the tools and methods of sustainability practitioners, and ways scenarios have been used to further meaningful organizational change. Interviews were conducted to collect industry expert perspective on corporate sustainability and inform the case studies. Case study research utilized an exploratory multiple case approach to examine the use of scenario exercises in corporate sustainability strategy.

Literature Review

A comprehensive literature review began with searching keywords correlating core themes of corporate sustainability in the EBSCO database. Terms included but were not limited to: sustainability strategy, corporate social responsibility, sustainability frameworks, and sustainability tools. The scenario planning subsection is largely influenced by the detailed work on scenario planning of Thomas Chermack, professor and founding director of the Scenario Planning Institute at Colorado State University.

To supplement data sourced from academic studies, several national and international syndicated surveys and research projects are used throughout this master's project to incorporate data emerging from corporate sustainability work: GreenBiz Group's "State of the Profession 2016"*; "*What Is Your Quality of Life at Work?" (2013); "Advancing the Sustainable Development Goals: Business action and Millennials' views" (2017); "Targeting Value: Setting, Tracking & Integrating High-Impact Sustainability Goals" (2017).

Contemporary corporate sustainability writing is used as supplementary material: *Green to Gold* published in 2009, Andrew Winston's *The Big Pivot: Radically Practical Strategies for a Hotter, Scarcer, and More Open World* published in 2014, and E. Freya Williams's 2015 book, *Green Giants: How Smart Companies Turn Sustainability into Billion-Dollar Business*.

Shareholder resolution research. Sustainability related shareholder resolutions serve as concrete indicators of challenge areas of a corporate sustainability program. Data from Climate and Sustainability Shareholder Resolutions Database maintained by CERES (2017) was aggregated into Table 3. The aggregated data table is used to present themes of sustainability related shareholder resolutions from 2011-2017 as a visual overview of general challenge areas of corporate sustainability programs within publicly traded companies in the U.S. The individual shareholder resolutions were sorted by year; into single or multiple attribute resolutions; resolution type, with multiple attribute resolutions prioritized into a single most relevant attribute with a prioritization ranking of 1) Climate and GHG emissions, 2) Transparency and reporting 3) Water risk, 4) Governance, 5) Worker safety, 6) supply chain management; resolution outcome, and then compiled in a seven year cumulative history by resolution type and resolution outcome.

Select Interviews

Three interview candidates were selected from Forum for the Future's staff to offer perspectives on designing and/or deploying the scenario exercises on projects that are the selected case studies in this paper: PepsiCo and the Retail Horizons.

Case Study Experts	Current position	Worked on specific Forum projects	Referenced as
Rodrigo Bautista	Design, Foresight and Sustainability Innovation, Forum for the Future	Retail Horizons	(Bautista, 2017)
James Goodman	Director of Futures, Forum for the Future	Retail Horizons & PepsiCo	(Goodman, 2016)
Jacob Park	Director of Business Futures, Businesses for Social Responsibility	Retail Horizons	(Park, 2017)

Organized alphabetically by last name

Interviews with sustainability practitioners and senior leaders representing the client perspective from PepsiCo, Target, and RILA, were requested but unable to be scheduled. Two additional interviews were conducted with industry experts to explore an external to Forum for the Future perspective on the potential use and value of scenario planning for corporate sustainability strategy. Freya Williams, CEO of Futerra North America, regularly facilitates scenario-like engagements in consultation with corporate clients but does not use the term scenario planning to describe her work.

Industry Experts	**Current position**	**Referenced as**
John Davies	VP, Senior Analyst, GreenBiz Executive Network	(Davies, 2017)
E. Freya Williams	CEO, North America, Futerra	(Williams, 2017)

Organized alphabetically by last name

Interviews with John Davies and Freya Williams were used to test major concepts and themes around corporate sustainability. The interviews with Williams and Davies informed content presented in the Background and Discussion sections of this master's project.

Case Study Selection

More than a dozen corporate and government-based consultants using scenario planning in strategic visioning were considered as candidates for case study examination. Four consulting firms using scenario planning in the domain of corporate sustainability were identified. See Table 1 for a list of the four consulting firms with geographic location, principal leadership, client roster, number of publicly viewable sample studies using scenario planning, and differentiating factor of approach.

Table 1 - Consulting firms with experience applying scenario planning to Corporate Sustainability

Consulting Firms	Geographic Presence	Principals	Clients	No. of studies	Differentiating Factor of Approach
The Futures Laboratory	UK based, international	Trevor Hardy, CEO Chris Sanderson, Co-founder	Google, Airbnb, Unilever, American Express, Marks & Spencer, Coca-Cola, H&M	24	Staff wears lab coats during events to demonstrate strong connection to factual trends followed by visually stimulating imagery.
Forum for the Future	Global offices, international	Paul Ekins, Co-founder Sara Parkin, Co-founder Jonathon Porritt, Co-founder James Good, Director of Futures	Goodyear, Heineken, PepsiCo, Kingfisher, Penguin Random House	161	Utilizes a series of scenario planning toolkits for DIY workshops and an open sour.
Futerra	Global offices, international	Solitaire Townsend, Co-founder Ed Gillespie, Co-founder Freya Williams, CEO North America	Unilever, pwc, Danone, FSC, Kering, L'Oréal	11	A simplified version of utilizing trend to influence strategy through: visioning, maps, symbols, and stories.

The Futures Company (AKA Kantar Futures)	Global offices, international	Mark Inskip, Global CEO Don Abraham, President of Consulting Services Sarah Catlett, SVP	Toyota, Smuckers, Whirlpool, Nissan, DirecTV, Hallmark, GM, Unilever	6	A strong focus on the idea of unlocking change- understanding, anticipating and shaping change.

Forum for the Future client cases were reviewed for ability to meet the initial key criteria: relevance/applicability to a company, addresses one or more major sustainability concerns, and focus on delivering a clear benefit to the business. Four client cases were selected because their approach most closely followed the eight steps of adaptive scenario planning process and robust documentation allowed for insights in their decision focused client work. Of the four that met the selection criteria, two were selected to pursue in case study research based on availability of documentation from use of scenarios and direct access to practitioners:

1. “PepsiCo: Performance with Purpose” (2006-present)
2. “Retail Horizons: Envisioning the future of the retail industry” (2014)

CASE STUDIES

This master’s project uses case study research to present two examples of scenario planning as utilized within corporate sustainability. A fundamental distinction between the two case studies is that PepsiCo is an individual company using scenario planning to accelerate its sustainability platform and Retail Horizons was a collaborating group of companies using scenario planning to solve a broader social dilemma. The most important similarity between these two case studies is that they fundamentally evaluate a company’s connection to its consumers and explore the strategic choices a company can make to increase their relevance to consumers.

In the case of PepsiCo, scenario planning was used to empower a strategic change in company direction - redesigning PepsiCo’s product offering and increasing the sustainability of their global sourcing footprint. In the case of Retail Horizons, scenario planning was used as a catalyst for company leaders to envision the vulnerability of their company in a future world of unpredictable brand relationships to the consumer.

Both cases utilize the adaptive approach to scenarios described in Figure 7, above. A strength of the PepsiCo case study is its documentation of outcomes, while a strength of the Retail Horizons case study is its documentations of process used.

Each case study begins with a high-level overview followed by the process used to create and/or deploy the scenarios. The most critical actors involved, and deliverables generated are documented. Lastly, the outcomes of each case study are described.

PepsiCo: Performance with Purpose

Overview. PepsiCo was challenged in 2006 with new regulatory pressures for soda drinks while having only a few healthier product alternatives in their portfolio (Ignatius, 2015). PepsiCo contracted Forum for the Future (Forum) to facilitate a change management process (2008-2009) through the use of scenario planning. The scenario exercises were designed to guide senior leaders in a re-evaluation of the mission, vision, and values of the company. Use of scenario planning led to the creation of more nutritional product goals and an increase of sustainable product ingredients.

Process. PepsiCo began their corporate sustainability platform, 'Performance with Purpose,' in 2006 under then CEO Steve Reinemund. After enlisting the support of 25 senior leaders during the platform's inception, Reinemund was succeeded by Indra Nooyi who saw the need to catalyze the platform for broader organizational change (Savitz, 2013). In a Harvard Business Review interview, Nooyi shares:

> [We] were well aware that consumers cared about health and wellness. We realized we needed to engage our people's heads, hearts, and hands. We had to produce more products that are good for you. We had to embrace sustainability. Purpose is not about giving money away for social responsibility. It's about fundamentally changing how to make money in order to deliver performance—to help ensure that PepsiCo is a "good" company where young people want to work.

From Ignatius, "How Indra Nooyi Turned Design Thinking into Strategy" 2015

Nooyi's change management process included contracting Forum in 2008 and 2009 to develop global scenarios that would best represent the major social and environmental challenges that PepsiCo would encounter in the future (Bent, Goodman, & Draper, 2009). Using extensive desk research and several small group workshops with employees and stakeholders in five countries, more than 100 interviews were conducted, including Gro Harlem Brundtland, the chair of the Brundtland Commission responsible for the 1987 publication of *Our Common Future* (Bent et al., 2009). These scenarios influenced PepsiCo's 2020 sustainability goals, an approach to strategic investment approach, and migration to more healthy and sustainable snack foods.

Key actors. *PepsiCo* – Since its formation in 1961, PepsiCo has become a global company with a diverse range of food and beverage products across 22 brands that each generate over $1 billion dollars in annual retail sales (PepsiCo website, 2018). Coming off of several years of steady financial growth (2005), there was incredible pressure for the newly named CEO, Indra Nooyi to guide a change management process to meet regulation, evolving consumer demand, financial expectations, and an increased commitment to sustainable sourcing practices (Ignatius, 2015). PepsiCo reports over $63 billion in net revenue (2017) with a global workforce that exceeds 250,000 employees.

Today, PepsiCo products, such as Pepsi-Cola, Gatorade sports drinks, and Quaker oats are available in more than 200 countries around the world. In 2015 alone, PepsiCo generated over $63 billion in net revenue, of which 53% was derived from snack food products, and the remaining 47% from beverages (PepsiCo, 2016).

Forum for the Future (Forum). - Forum is a non-profit organization, founded in 1996, employing more than eighty people across four offices in London, New York City, India, and Singapore. Over 950 individual researchers and over 130-member organizations collaborate with Forum on research and projects. Forum seeks ways to create a sustainable future by working with businesses and government to create new tools and practices to drive system innovation and change (Forum for the Future [Forum], 2016).

Key deliverables. Forum used a fairly routine scenario engagement process as outlined by Schwartz in Figure 7. While the core logic to their scenario exercises are unknown, we do know that the mega-trends that fed into their future scenario exercises included increasing socioeconomic inequality, exponential population growth, intensifying urbanization, increased obesity and malnutrition, and a changing social contract with consumers (Park, personal communication, 2017).

Outcome. When Performance with Purpose was initiated in 2006, PepsiCo's North American market was retracting and their international business was small: consumer views were changing and regulatory pressure was looming (Ignatius, 2015). Indra Nooyi decided she had to lead a change-management process by reducing redundancies in their decentralized global network, investing in R&D for healthier products, developing new advertising and marketing for new products, and investing in new capabilities to transform PepsiCo's relationship to sourcing agricultural products more sustainability. While PepsiCo used a variety of strategy methods to create the Performance with Purpose platform, Nooyi herself credited scenarios with unlocking new opportunities:

> "PepsiCo's commitment to sustainability is about an idea of the company which focuses on the long-term, as our Scenarios 2030 project has shown us. We cannot contribute properly to finding an end to the climate crisis until we bring environmental and social governance into our long-term business strategies or decisions. It's not all about the risks, but also about the opportunities."

From Bent et al., "PepsiCo Global Scenarios and Strategy 2030" 2015

Investment priorities - Approximately 24 months after the 2009 scenario exercises, PepsiCo announced plans in 2012 to increase spending $500-600 million to support new marketing and advertising of its global brands including those in the 'good for you' category (PepsiCo, 2012). Additionally, the implementation of energy and water efficient practices were coupled with an optimization of operating practices and reorganization plan that would reduce the global workforce by 8,700 employees, or 3% of their global workforce. Only six months after the reinvestment announcement, PepsiCo was acknowledged for their work in water conservation with a prestigious award from the Stockholm International Water Institute (PepsiCo, 2012). In 2011 PepsiCo conserved 16 billion liters of water from a 2006 baseline through the use of water-saving equipment and technologies, creative recycling and re-use, and by deploying a water management system throughout its manufacturing facilities. These waste conservation and added energy efficiency measures reduced annual global operating costs by $45 million (PepsiCo, 2012).

Performance with Purpose program goals - PepsiCo's sustainability efforts are focused on three key areas: its products, its environmental impact, and people. The company established 10 programmatic goals spread across those three areas of concern. For its products, PepsiCo set targets that would improve the nutritional value of its food and expand its offerings of nutritious foods and beverages. To minimize its environmental impact, PepsiCo aimed to reduce water use and energy use, to improve access to clean water, and to reduce waste from its operations and packaging. In terms of PepsiCo's impact on people, they committed to practices that support diversity, inclusion, and engagement from throughout the supply chain to the corporate offices (PepsiCo, 2015). These ten goals were created partially as a result of future scenario exercises that addressed mega-trends such as intensifying urbanization, growing socioeconomic inequality, exponential population growth, increased obesity and malnutrition, and a changing social contract (PepsiCo, 2016).

Foundation and program activity - Since PepsiCo launched the sustainability program Performance with Purpose in 2006, the company along with its charitable foundation has generated a stream of projects to support its sustainability program goals. In 2007, PepsiCo acquired the Naked Juice beverage company to expand its offerings of healthier beverages. The PepsiCo Foundation partnered with Water.org in 2008 to support its projects that improve water access and sanitation in developing countries. To empower its employees to engage in their own actions, PepsiCo launched the PepsiCorps program, a global volunteer network sending employees across the PepsiCo footprint to engage in various sustainability-related projects, similar to the United States Peace Corps. To assist its network of farmers, PepsiCo launched the Sustainable Farming Initiative in 2013 to increase environmentally responsible farming practices and improve human rights. Within the PepsiCo product portfolio, the Drinkfinity beverage system and line, which uses innovative technology and packaging to reduce PET use and GHG emissions, was launched in 2014 (PepsiCo, 2018).

Consistent sustainability reporting - To demonstrate its commitment, PepsiCo developed a consistent annual reporting mechanism. Since 2006, PepsiCo has provided regular reporting of its sustainability-related activities and performance. The table below is list of this reporting effort, and while this is not indicative of driving impact, it is a continued commitment to holding themselves accountable to the progress towards fulfilling their sustainability goals (Davies, 2017).

Table 3 - PepsiCo corporate sustainability reporting cadence

Year	Report Name	URL Location:
2006	Annual Report: *Performance with Purpose (PwP)*	http://www.pepsico.com/docs/album/annual-reports/2006-Annual-English.pdf
2007-2008	CSR Report: *Our Sustainable Journey*	http://www.pepsico.com/Assets/Download/PEPSICO_2007_Sustainability_Report.pdf
2009	CSR Report: *Investing in Sustainable Growth*	http://www.pepsico.com/docs/album/sustainability-reporting/past-sustainability-and-gri-reports/pepsico_2009_sustainability_report_overview.pdf?sfvrsn=2
2010	Annual Report: *(PwP)*	https://www.pepsico.com/docs/album/annual-reports/PepsiCo_Annual_Report_2010_Full_Annual_Report.pdf
2011-2012	CSR Report: *(PwP)*	https://www.pepsico.com/Assets/Download/PEP_CSR12_2011-2012_Sustainability_Report.pdf
2013	Annual Report: *(PwP)*	https://www.pepsico.com/Assets/Download/PEP_Annual_Report_2013.pdf
2014	CSR Report: *(PwP)*	http://www.pepsico.com/docs/album/sustainability-reporting/pep_csr14_sus_overview.pdf
2015	CSR Report: *2025 Agenda (PwP)*	https://www.pepsico.com/docs/album/sustainability-reporting/pepsico_sustainability_report_2015_and_-2025_agenda.pdf
2016	CSR Report: *2025 Agenda (PwP)*	http://www.pepsico.com/docs/album/sustainability-reporting/pep_csr16_091317.pdf

PepsiCo Case Conclusion. PepsiCo's use of scenario exercises (2007-2008) informed their company's leadership on global issues which resulted in leadership being able to guide their respective departments and teams to support a new strategic direction which resulted in:

1. An increased focus on adding healthier products to the product portfolio and reducing the sugar, cholesterol and fat content of their existing products through new corporate-wide goals.
2. Engaging agricultural supply chain actors and manufacturing partners to increasing operational efficiency and sustainability performance through new corporate-wide goals.
3. A decade of consistent and comprehensive corporate sustainability reporting to communicate their progress to stakeholders and shareholders.

As PepsiCo found themselves rapidly progressing toward their goals, and three years later, they reconvened Forum (2013) to support PepsiCo's environmental sustainability council to look beyond a 2020 goal horizon to evaluate a longer-term business resiliency strategy (Brouder et al., 2013). Over the course of a two-day workshop, PepsiCo leaders reviewed a variety of future trends, considered risks and opportunities, and began to craft what they were calling the '2030 Agenda.' (Park, 2017).

By the start of 2015, PepsiCo's sustainability initiatives had delivered more than $375 million in estimated cost savings and PepsiCo experienced improved net revenue and operating profit growth compared to the first year (2010) of implementation.

While PepsiCo's process for implementing scenario exercises was not well documented because the process content was considered confidential business information, the results that scenarios were able to help achieve for PepsiCo's sustainability platform are well documented because of public CSR reports and subsequent articles.

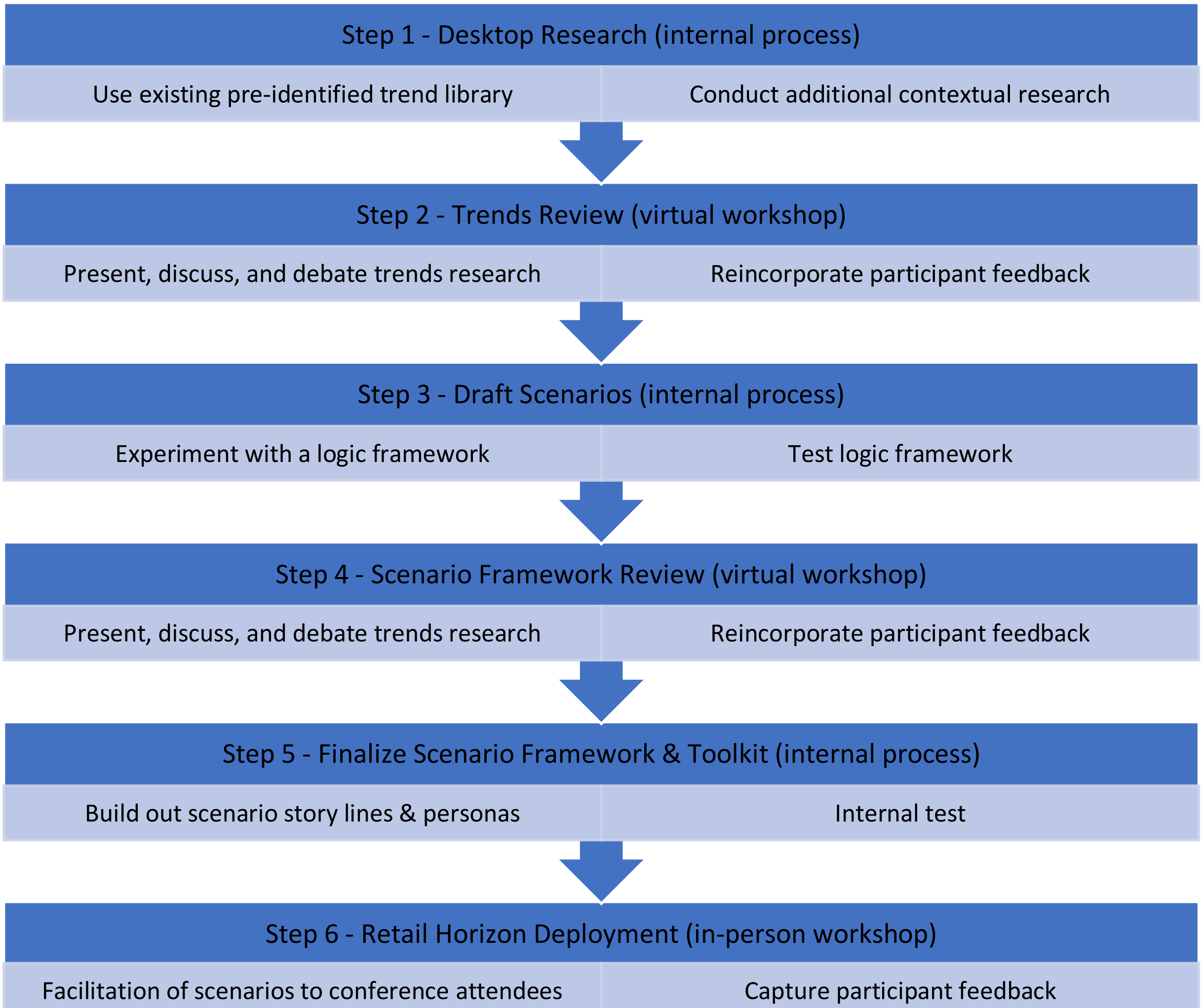
Forum for the Future's Retail Horizons: Envisioning the Future of Retail

Overview. Over the course of a year (2013), Forum for the Future (Forum) developed scenario exercises known as Retail Horizons (Forum for the Future, 2017). Intended for use as an in-person visioning tool, Retail Horizons continues to exist as an online discovery toolkit. Forum used the Retail Horizons scenario exercises at a three-day industry conference for participants to explore a fifteen-year trajectory of marketplace changes determining the overall competitiveness and success of one's company. The key findings of this case determine the value of scenario exercises for participants: an increased ability to think more creatively to address trends affecting their company, active co-participation in a creative environment of problem solving, greater empathetic connection to possible future business challenges, as well as the effect of company choices within future scenarios on stakeholders within a broader cultural context.

Process. The Retail Industry Leaders Association (RILA), a US-based trade association, convened a working group (2013) with fifty of its members (2013) to explore brand and retailer challenges. After these early discussions, RILA commissioned Forum to lead the working group in a discovery process followed by a pre-competitive collaboration utilizing scenario planning exercise and the accompanying online toolkit.

Similar to many scenario planning exercises, Forum began with desktop research to identify which key trends have the potential to shape the future of the retail industry and also broader societal trends (i.e. economic, geo-political, cultural forces) in which companies operate (Park, 2017). See Appendix 9, Dimension. Forum maintains a list of no less than thirty-eight trends that they monitor regularly (Forum, The Futures Center, 2018). Pre-existing trends were supplemented by internet research and over one hundred expert interviews, including academics, engineers, and employees from both inside and outside the industry. The team wanted a diverse range of perspectives before completing Step 1 and then sharing with a core working group. In Step 2, approximately fifty RILA members collaborated by discussing and debating the trends for their overall plausibility. In Step 3, Forum staff used the identified trends to develop core logic for possible futures. They began to construct draft scenarios, and additional research and interviews were conducted to internally pressure-test the scenario framework. During step 4, Forum researchers took the scenarios to the larger group not only testing for additional plausibility testing. They also wanted to understand, based on group feedback, what the actual strategic responses to the scenarios would be and the intentions behind business responses.

Figure 7 - Forum for the Future's process to build and deliver Retail Horizons



From Jacob Park, personal interview, 2017

In Step 5, each scenario received a storyline that included a series of global events, the changing of societal demographics, and hypothetical statistics, all of which was used to create a rich future into which participants could more easily immerse themselves. Also, seven personas were created to depict archetypal consumers. With a hypothetical name and photo of each ‘person’ along with their basic autobiographical data, the personas are what make the scenario experience feel more real and meaningful to participants. Step 6 was conducting the scenario exercises in small group environment, whereby Forum staff would provide instructions, guidance, and answer questions as they progressed through the briefing material discussion questions and persona exercises.

Key actors. *RILA and their membership* – Retailers, product manufacturers, and service suppliers constitute a majority of RILA's membership. The 200 members represent more than a total of $1.5 trillion in annual sales and represent more than 100,000 storefronts. The retail industry at large is a major sector of the US economy, contributing heavily to economic growth and employment (Retail Industry Leaders Association [RILA], 2017). Retail is responsible for at least one third of the US GDP with over $4.5 trillion in annual sales. In addition, the retail industry is the country's second largest private sector employer with over 28 million people employed, it is often looked to as a barometer for the overall health of the economy (RILA, 2017).

Sponsors - RILA credits the creation of the Retail Horizons toolkit as only being possible with the generous support of sponsors, Target and Unilever. These two companies sponsored Retail Horizons to provide retailers and brands with the tools they need to take action in an increasingly disruptive world of uncertainty (Goodman, personal communication, 2015).

Forum for the Future (Forum) - Forum is a non-profit organization, founded in 1996, and employs more than eighty people across four offices in London, New York City, India, and Singapore. Over 950 individual researchers and over 130-member organizations collaborate with Forum on research and projects. Forum seeks ways to create a sustainable future by working with businesses and government to create new tools and practices to drive system innovation and change (Forum, 2017).

The key deliverable. The Retail Horizons' scenarios were officially deployed to attendees at the annual RILA sustainability conference in Minneapolis, Minnesota from September 29 to October 2, 2014. Forum staff facilitated the scenario exercises over three days to a group of 200 corporate sustainability practitioners and other business leaders. In small working groups, attendees familiarized themselves with the scenario framework, the possible futures and embodied the personas to conclude by discussing and reflecting on the experience.

During post-conference exercises, the Retail Horizons scenarios were put into a toolkit that contained all of the materials used during the workshop. Additional background and information was also used to help guide a facilitator to perform their own scenario exercises (Goodman, 2015). A toolkit can be used by a wide audience from different regions, departments or industries. The toolkit gives smaller to medium companies access to scenario planning when cost for developing scenarios on one's own might prohibit their use.

Outcomes. Retail Horizon examined whether or not retail businesses and brands were likely to continue to be relevant and desired by consumers in a future state of resource constraints, unpredictable energy prices, and radical technology promoting self-reliance (Park, 2017) Forum identified two key themes that shape the four future scenarios in which companies will have to operate. The themes are also the axis in Figure 8, below.

1. Energy is more or less expensive to obtain – Access to affordable clean or dirty energy influences the operating expense and societal conditions that businesses and communities will be subject to.
2. Consumers are more or less dependent on business for their needs and wants – Goods and services provided by companies may continue to be relevant, or not, depending on the degree to which local-makers and communities become more resourceful with emerging technologies like 3D printing.

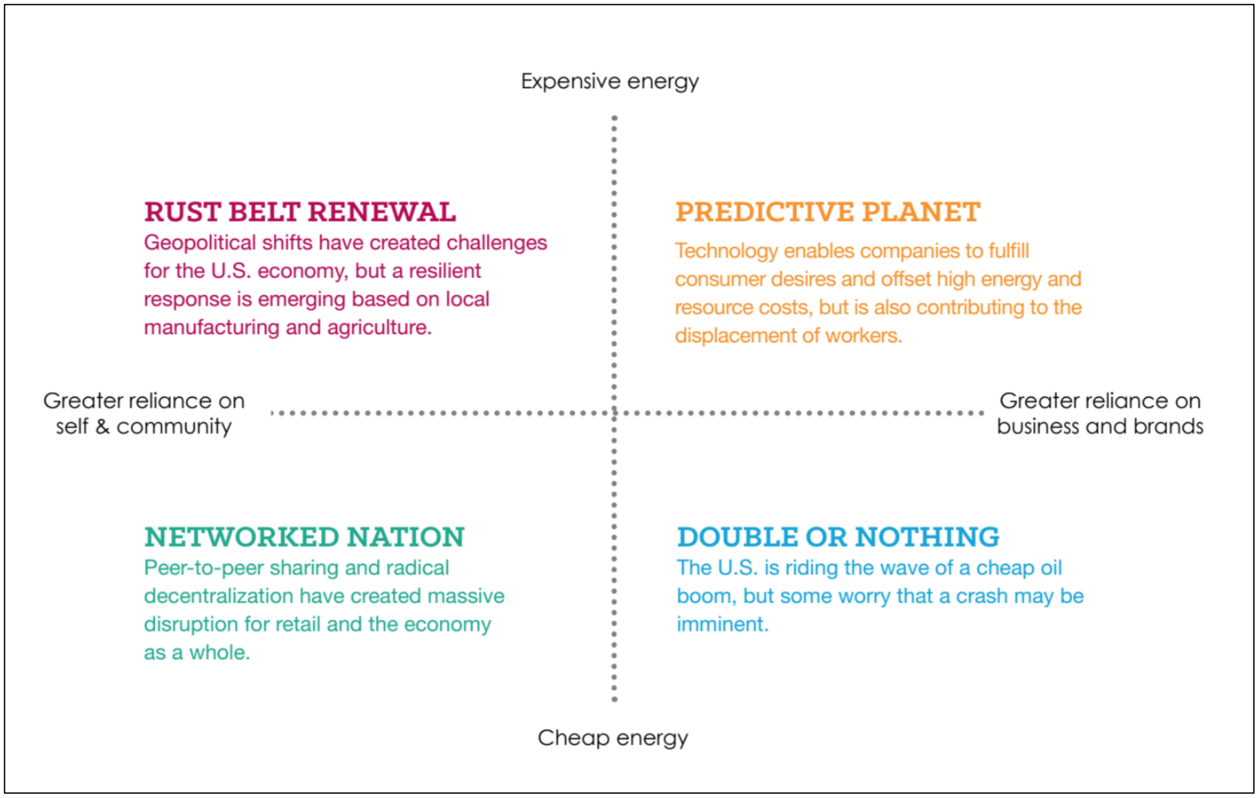
From Forum for the Future, "Retail Horizons Toolkit," 2014

The range of possibility across these two themes is how the four future scenarios, demonstrated in Figure 8, come to life through differentiated futures with varying implications for our society and the viability of company survival.

The four worlds - Each world has its own hypothetical future timeline, a world narrative built on key trends and fictional statistics to make each future world more believable and relatable. The four worlds envisioned are – 'Rust Belt Renewal,' 'Predictive Planet,' 'Networked Nation,' and 'Double or Nothing' (Forum, 2014). Figure 8 is a representation of these four worlds as devised by Forum.

The world of 'Rust Belt Renewal' springs from a future where resource constraints and geopolitical tension lead to years of turmoil and stagnation that eventually result in the resurgence of local manufacturing and agriculture. The twelve global trends that are most relevant to retailers and brands that help shape each particular future's story are: global affairs, energy availability, resource challenges, key technologies, state of the U.S. economy, regulatory issues, urbanization patterns, retail industry characteristics, physical retail environment, consumer attitudes, demographics, and product demands. In 'Rust Belt Renewal,' the 'resource challenges' trend is described as rising costs of basic necessities as drought-prone states continue to suffer losses. In addition, new businesses emerge to support a circular economy that mines waste streams and landfills. All twelve trends are applied to our four worlds in Appendix 9.

Figure 8 - Proposed futures based on energy cost and brand/community connectivity



From Forum for the Future, “Retail Horizons Toolkit” 2014

To further add to the realism, each of the four scenarios provides toolkit users with fictional statistics regarding the price of oil, average household credit card debt, unemployment rates, and other data pertinent to the retail industry. For example, the average price of oil in the ‘Predictive Planet’ future is $200 per barrel in the year 2030 (in 2014 dollars), compared to the average price of $103 per barrel in 2014 (Forum, 2014).

Each of the scenarios had its own timeline of supposed key events that describe major economic, social, environmental, technological, and political turning points in the future. As an example, the key events for the ‘Networked Nation’ world can be found in Table 4.

This ‘Networked Nation’ timeline chronicles future key events of massive disruption to retail and the economy as a result of technology advancing and enabling radical decentralization, increased self-reliance and peer-to-peer commerce. Technology has allowed for reduced energy costs and provided consumers with the means to produce the majority of needed goods themselves (Forum, 2014).

Table 4 - Networked Nation timeline of events

Year	Event
2015	“Blockchain” type app makes it possible to access almost all digital content for free
2016	Bitcoin’s daily transaction volume exceeds $1 billion
2017	National feed-in tariff is passed
2018	Cost of electric vehicle batteries is 30% lower than in 2014
2019	Handheld 3D scanners become commonplace
2020	Real-time language translation software reaches 99.9% accuracy
2021	Majority of new cars produced are fully electric
2022	Average price to replicate a cotton shirt drops below $10
2023	Fast Company names Nairobi as the “startup city of the decade”
2024	Solar accounts for 40% of U.S. electricity production
2025	More than half of all designer clothing now contains “smart” materials that are more difficult to replicate
2026	U.S. tax revenues have dropped 30% since 2014
2027	Teenager in Tokyo makes $10 million from the sale of one dress design that is a slightly modified vintage Chanel design
2028	U.S. Congress passes sweeping anti-replication law to little effect
2029	Solar energy meets 60% of U.S. electricity needs
2030	U.S. Department of Commerce announces it is no longer able to provide accurate GDP figures due to prevalence of unreported economic activity

From Forum for the Future, “Retail Horizons Toolkit” 2014

Well-detailed scenarios based on tested trends make the futures more believable by participants and increase the level of confidence in the final findings of the exercise: otherwise it is merely a discussion of trends and business practices (Park, 2017). Additionally, the use of role play within these constructed futures encourages creative thinking and help participants immerse themselves into the future world (Bautista, personal communication, 2016). Using personas helps to create an empathetic connection to circumstances in each of the future worlds.

Personas **-** The personas help scenario exercise participants and toolkit users understand the scenarios at a human, micro-economic, individual level (Bautista, 2016). The personas depict the lives of several consumer archetypes in order to challenge brands and retailers to understand how consumers are feeling and what challenges or behaviors they are experiencing in their respective world. The toolkit provides seven personas with an assigned name, photograph and details regarding the person's age, gender, occupation, marital and familial status, location, hobbies, and habits. The detailed personal information encourages scenario participants to get into the head of these consumer archetypes allowing them to more quickly empathize with the people of the future scenario. When scenario facilitation time is limited, personas are an expedient way to get participants quickly immersed (Bautista, 2016). As an example of the level of detail, Table 5 provides a snapshot of each of the seven personas.

Table 5 - Consumer archetypes or 'personas' used in Retail Horizons across all four future scenarios

Name & Age	Location	Occupation	Marriage/Familial Status	Activities	Lifestyle Detail
Michael, 38	Boise, ID	Runs grocery store that features local specialty foods	Married, no kids but planning to	Volunteers at soup kitchen	weekend getaways few times per year
Amira, 53	Pasadena, CA	Agricultural technology laboratory worker	Divorced, split custody, two children, ages 9 & 13	Meets friends for coffee & bike ride every Saturday	Saving for retirement via duplex she rents out
Roger, 75	Miami, FL	Retired from financial industry	Married, no kids	Takes his sailboat out for day trips or long weekends	Hosts large dinner & cocktail parties
Lily, 28	Chicago, IL	Fashion entrepreneur & consultant	Single, no kids	Wishes she had more time for exercise	Often works long hours & picks up take-out dinners
Grace, 15	Austin, TX	Home-schooled minor	Lives with parents & two siblings, ages 17 & 19	Enjoys reading, music & learning	Experiments with fashion & visits second-hand stores
Victor, 64	Phoenix, AZ	Retired government worker, also doing part-time consulting	Divorced with two college-age children living on their own	Sedentary lifestyle; has health concerns	Watches sports with friends at local bar
Jasmine, 44	Boston, MA	Stay-at-home mom	Married, four kids, ages 6-14	Regularly goes to morning yoga before kids awake	Keeping her family healthy is top priority

From Forum for the Future, "Retail Horizons Toolkit" 2014

To help scenario participants enter the mindset of the personas, a facilitator would utilize the exercise in the included in the toolkit called 'Day in the life of…' which asks participants to imagine what each persona does in the morning, noon, and night and what goods or services they might need along the course of their day.

Conclusion. The Retail Horizons workshop was illustrative of how a similar engagement could be deployed within a company, and some companies did utilize the Retail Horizons exercise in their own company according to anecdotal accounts of conversations with facilitators (Goodman, 2015, Park, 2017). The Retail Horizons scenarios are available online as a virtual tool for any sustainability practitioner to access, which inherently democratizes scenario planning as a strategy tool by allowing small and medium size companies to participate in scenario exercises. Adam Siegel, Vice President of Sustainability and Compliance at RILA had this to say,

> "The world is changing rapidly in ways that have already had profound implications on the retail industry. Technologies like the internet and mobile devices will enable retailers to exist everywhere; consumers' expectations around transparency, service, speed, and experience will continue to expand; resources, such as water and raw materials, are likely to become scarcer and more expensive; and data will be ubiquitous. To adapt and grow, retailers can use sustainability as a framework for innovation. I am proud that the RILA sustainability community… …came together to learn from one another, identify opportunities to grow and innovate together, and promote sustainability,"
>
> From Zachary Taylor, "Tomorrow, RILA and Forum for the Future Will Launch the Retail Horizons Project" 2014

While it would have been beneficial to have included a summary of the participant feedback from the RILA Conference by tabulating post scenario exercise session evaluation forms, that data was not made available for this paper. More importantly is the suggestion that is being made inherent in the future scenarios themselves. In two of the four futures, Forum researchers conceived of a world in which consumers have rejected brands and the traditional relationship between retailers and consumers. This radical self-reliance and empowerment through technology and purchasing from hyper local makers is a potential cultural shift that challenges the very nature of a company's existence.

DISCUSSION

The following sections will examine the results gleaned from case studies where scenario planning was utilized for the purpose of clarifying and advancing values driving corporate sustainability platforms.

Use of scenario planning to disrupt business inertia. The PepsiCo case study shows that scenario planning was the key tool used in the company's revisioning process and to disrupt business inertia. Scenario planning was the experiential platform prompting the company to consider new strategic choices based on projected future trends. Following Forum to the Future's facilitation of scenario planning in the visioning process, PepsiCo pivoted dramatically to rethink their product portfolio, establish new nutritional product goals, create new water efficiency goals, and improve their agricultural practices within the supply chain.

Indra Nooyi, CEO of PepsiCo at the time made a strategic and deliberate choice to disrupt the company's business inertia, focusing on long term revisioning and ultimately amplifying the corporate sustainability platform. Business inertia or tendency to follow established patterns of business operation and behavior (Snull, 1999), is an inherent and sometimes damaging side effect of efficient business operations for companies the size and scale of PepsiCo. Noori is quoted as saying, "I had a choice. I could have gone pedal to the metal, stripped out costs, delivered strong profit for a few years, and then said adios. But that wouldn't have yielded long-term success (Ignatius, 2015, para. 29)."

The Retail Horizons case study similarly demonstrated the use of scenario planning to disrupt business inertia of primary focus being quarterly earnings by inviting leaders from disparate companies to engage in an experiential future visioning process. The results of the Retail Horizons case study showed that scenario planning successfully accomplished RILA's stated goal for business leaders to collaborate and envision future business resiliency, business adaptability to changing technologies, and co-create relevant competition strategies.

Through use of scenario planning, participants were able to more deeply connect with the meaning/implications built into future scenarios. Use of personas and scenarios was the most fundamental unlock for the success of RILA's goal: participants were actively engaged and deeply invested in scenarios and futures which revealed both the vulnerabilities and the possible strengths of their business. Business leaders focused their attention on asking questions about the future longevity of the company, the types of impact the company might have on consumers, the environment, and the choices and changes they could make.

This result corroborates previous literature predicating corporate sustainability platform success as predicated on business leader involvement and inertia disruption (GreenBiz's*,* 2016; Williams, 2017). These results augment previous findings to include scenario planning as a viable tool for actively engaging business leadership to disrupt business inertia.

Use of scenario planning to ensure a company's future relevance with consumers. Results from the PepsiCo and Retail Horizons case studies demonstrate use of scenario planning to ensure and expand a company's future relevance with consumers. Both PepsiCo and the group of business leaders involved in Retail Horizons scenario exercise were envisioning future worlds for a primary purpose of better understanding their consumers' evolving needs, purchasing preferences, and brand loyalty.

The scenarios enabled an internal recognition of missing factors both from product portfolios and company governance that consumers are projected to expect in the future: sustainable agricultural systems, water efficiency efforts, supply chain, healthy nutritional products.

As demonstrated in the literature, brand relevance with consumers inherently implies profitability (Williams, 2015). Results of the case studies show that use of scenario planning allows for a deeper, experiential, and empathetic understanding of and investment in consumer needs. In both the PepsiCo and Retail Horizons examples, a collaborative exercise of envisioning future worlds lead to an increased incentive to anticipate and respond to new patterns of commerce, value exchange, and consumer access to goods and services as impacted by developing technologies. Specifically, case scenario planning addressed company fears of eventually losing access to consumers (Rigby, 2011) from competing retail environments and interfaces (Rigby, 2011).

By creating an opportunity for a more personal, empathetic connection between company decision makers and consumer lived experience and values, a company is more accurately able to anticipate purchasing patterns, thereby staying relevant to the consumers (Nielsen, 2015).

Scenario planning as key tool for determining high impact sustainability goals. Creation of high impact sustainability goals was a direct result of engaging with scenario planning for PepsiCo. As a direct result of engaging in scenario planning in 2008-2009 with future scenarios addressing mega-trends such as intensifying urbanization, growing socioeconomic inequality, exponential population growth, increased obesity and malnutrition, and a changing social contract, PepsiCo was able to identify, set, and put into practice ten specific high impact sustainability goals that commenced with the 2010 fiscal year (PepsiCo, 2016) and targeted 2020 for completion.

This initial goal setting and rapid organizational progress towards these goals proved so successful, resulting in $375 million in cost savings through efficiency measures, that PepsiCo invited Forum for the Future in 2013 to support PepsiCo's environmental sustainability council to look beyond a 2020 horizon for sustainability goals and evaluate a longer-term business resiliency strategy including setting new internal performance targets for 2030 (Brouder et al., 2013).

More importantly, scenario planning was so influential in determining high impact sustainability goals, that PepsiCo made a strategic choice to use scenario planning to create new goals prior to reaching the original 2020 deadline. While PepsiCo could have spent the remaining 4-5 years idle with some goals complete and incremental progress towards other goals, they instead created a set of new, longer range, aspirational goals. The results of the PepsiCo case study demonstrate that scenario planning yields a more coherent and thus more successful process for achievable high impact sustainability goal setting than predominant methods for goal setting (Goodman, 2016).

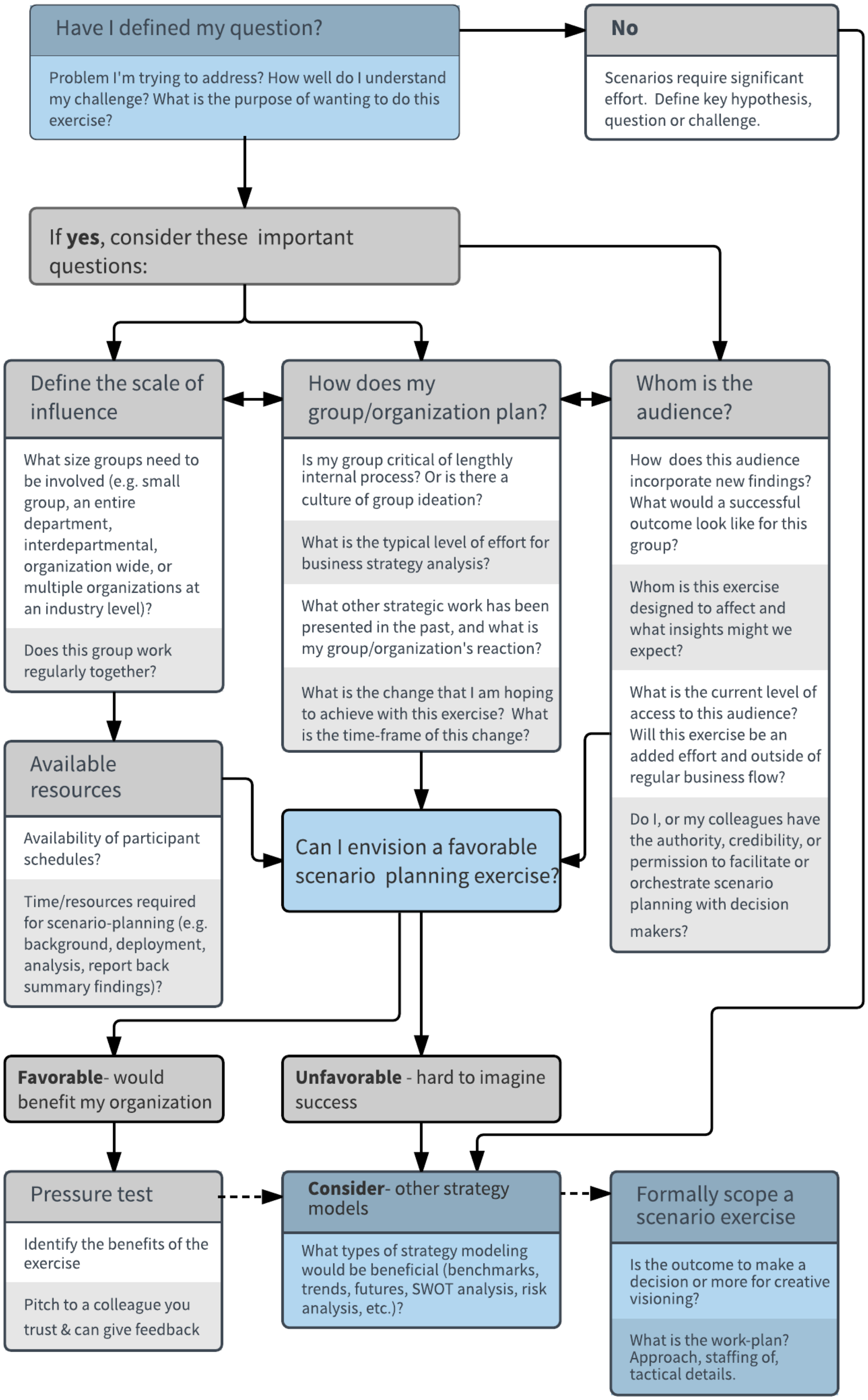
No sustainability goals were set as part of the Retail Horizons implementation of scenario planning. The Retails Horizons case study resulted in a toolkit with Forum for the Future explicitly outlining that scenario planning can support the goal setting process "by understanding future risks and opportunities you can explore both how future uncertainties will impact your company and your company's role in creating a sustainable future" (Forum, 2014, p. 19)," corroborating previous assertions (Wells, 2013a).

Contraindications for use of scenario planning. Results from the Retail Horizons case study revealed a project timeline of a year of development with experienced Forum researchers and facilitators leading a coalition of collaborators (Park, 2017). Both the PepsiCo and Retail Horizons scenario exercise required three weeks of a full-time researcher building preparatory materials to inform the trends that would eventually become the model for future scenarios (Park, 2017). Additionally, the researcher had at their disposal access to a variety of pre-identified trends and a familiarity with a trends research process that made for an efficient and accurate delivery. Collaborating with a strategy planner or using an external service provider who specializes in scenario planning would most likely save time, and most likely enhance the delivery and experience of the scenario exercise in front of senior leaders (Goodman, 2016).

The literature provided counter arguments for use of scenario planning in corporate strategy as some leaders do not see value in emphasizing uncertainty of the future rather than making bold predictions (Roxburgh, 2009). Unless facilitated properly, there is a potential trap for participants to gravitate towards the 'good' future versus a 'bad' future because participants are more comfortable with a positive future despite key learnings are only gleaned from a willingness to explore all possible outcomes (Roxburgh, 2009). Despite the long-standing tradition of using scenario planning at Royal Dutch Shell Oil Company, there were several occasions which company leaders struggled to see its value and considered discontinuing the program at least three times over 45 years (Wilkinson & Kupers, 2013).

Decision matrix for scenario planning. The conditions at an individual company may or may not be conducive for engaging scenario exercises. See Figure 9 for a decision matrix designed to evaluate the conditions, primarily internal, that would bring a corporate sustainability practitioner closer to answering the question, "are scenario exercises appropriate to advance the sustainability program at my company?" The decision-making matrix positions the first step in the process as one that clearly defines a business-relevant issue, question, or challenge. The more business-relevant the main question, issues, or challenge, the more engaged and accepting leaders will be of the use of and results of scenario exercise (Chermack, 2011). The second step interrogates the scale of influence, how does my organization plan, and who is the audience. The first key question considers which decision makers need to be part of the conversation, and what is the scale of influence that these scenarios are hoping to reach. (Kahane, 2012). For example, is it company directors and managers trying to solve for a managerial issue, or is it senior leaders who guide the overall strategic direction of the company? The second key question of this step calls for assessing conditions within my company's culture by considering what is the typical level of effort for strategy analysis? Does my organization typically entertain critical thought and lengthy internal process? What strategic work has been presented in the past and what has leadership's reaction been? What is the company and participant level of business inertia? The third key question aims to support the

Figure 9 - Decision Matrix for Proceeding with a Sustainability Scenario Exercise



practitioner in selecting an audience with necessary and targeted skills and expertise to ensure high quality engagement. In step three, the fundamental evaluation point of the decision matrix, a practitioner asks, “do I have the right company culture and conditions, and can I envision a favorable scenario planning exercise in my company?” If the resulting conclusion to these questions reveal scenario planning could potentially be successful, Step 4 suggests the practitioner test the proposed scenario exercise with peers, determine if there is an alternative strategy tool, and choose whether or not to use scenario planning.

Correlation with findings by industry experts. Results obtained in PepsiCo’s use scenario planning corroborate the sustainability competitiveness expectation posited by Wells, a practitioner from Lexington Group using scenario exercises with corporate clients. Wells asserted that scenarios are essentially about reaching ‘sustainability competitiveness’ and that a company’s competitiveness is contingent on one’s ability to anticipate environmental and social long-term challenges and on converting those challenges into profitable opportunities (Wells, 2013a). Describing a process similar to the one engaged by PepsiCo, Wells emphasizes the importance of identifying those items that would need to be discontinued or non-existent in a future scenario (Wells, 2013a). Wells asserts that the identification of what is not available in any given future, adds a level of detail that deepens participant’s experience as they envision the scenario (Wells, 2013b).

Limitations of research. Despite attempts to incorporate data from multiple consultancies using scenario planning, a limitation of this project is that both of the cases studies were conducted by the same consultancy: Forum for the Future.

The most notable limitation of this master’s project research is that data was gathered solely from strategy planners and practitioners facilitating the scenario exercises. Data from clients and participants of the scenario exercises was unavailable. The lack of diversity in viewpoints could obscure a practitioner’s bias, or misinterpret the benefits and impact realized from deployment of scenario exercises.

Suggestions for further research. One direction for further research would be to examine scenario planning within a larger context of compiled strategic and tactical tools used by the corporate sustainability practitioner. The purpose of this research might be to examine how scenario planning matches up with, enhances, augments, or possibly replaces an existing tool that is already in use.

Another direction for further research could examine the use of scenario exercises deployed in the event of a company’s board of directors responding to a shareholder resolution. Further research could explore use of scenario planning to shift a board of directors’ normative responses to shareholder resolutions.

It may also be relevant for additional research to explore efforts made to document client feedback after completion of scenario exercises. Documentation might include not only individual participant reactions directly after the exercise is complete, but also a six-month follow-up survey to elicit feedback from participants or company leaders to determine if changes were made as a result of scenario exercises. Further research might consider evaluating the effectiveness of scenarios by assembling documentation into a performance-based scorecard that is flexible enough to accommodate a variety of methodologies.

CONCLUSION

There is great responsibility placed on the sustainability practitioner to navigate the myriad of tensions within one's company in a way that inspires leadership to operationalize sustainability as part of the company's culture and identity. A challenge to corporate sustainability platforms has been the predilection of companies toward business inertia, leaving the practitioner struggling to convince leaders of the importance of responding to changing stakeholder concern. Corporate sustainability platforms have a challenging responsibility to deliver value back to the business organization while aiming to ethically operate in a world of increased resource constraints, dynamic socioeconomic changes, and emerging consumers who are radically redefining the terms of commerce through changing values and greater independent access to goods and services. The vision of corporate sustainability platforms is to radically collaborate for alternative futures where business thrives in tandem with a well-nourished population while sustaining global resources.

Appealing to new consumer preferences for good corporate citizenship and appealing to consumer purchasing decisions has the ability to catalyze a company's future growth. Failing to meet the expectations of consumers and stakeholders with regard to corporate responsibility has the inverse effect of possibly leading to the demise of one's company in an era where death of legacy brands and retailers is common. Even as some companies make a considerable amount of effort, corporate sustainability platforms can fail to be effective, squandering time and money on haphazard goals and targets because they lack necessary tools to effectively envision a positive future state.

Accelerating the decarbonization of operations, offering products that nourish people and replenish natural resources are tasks that requires skilled corporate sustainability practitioners armed with transformative tools and unprecedented methods. This paper contends that scenario planning proves to be one such method. Given an opportunity to use scenario planning within a company context to accelerate organizational change, could the practitioner be prepared to act with their colleagues to be as strategically responsive as the US Coast Guard was post the September 11th attack due to their well-rehearsed future shock event trainings? Is it possible that a corporate sustainability platform can bring together a diverse group of stakeholders with as much potential for positive change as when scenario planning exercises supported a room full of hopeful, fearful, and pained participants in post-Apartheid reconstruction in South Africa?

This paper offered the sustainability practitioner an overview of the corporate sustainability platform, its core themes, critical tools and methods, and an introduction to traditional uses and process employed in scenario planning. By evaluating two case studies in which scenario planning was used to advance corporate sustainability, this master's project has provided a discussion of the results and most salient considerations for further adoption of scenario planning in corporate sustainability contexts.

It is the conclusion of this paper that not every circumstance will allow for a sustainability practitioner to utilize scenario planning. However, if the conditions allow for a change management tool like scenario planning to be used, then the opportunity to embed good corporate citizenship in a room full of one's colleagues exists. And therein lies the opportunity for a corporate sustainability practitioner to steward considerable positive change.

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APPENDIX

Appendix 1 - Various definitions of Scenario Planning by practitioner 1985-2001

Year	Author	Definition	Dependent Variables
1985	Porter	"An internally consistent view of what the future might turn out to be- not a forecast, but one possible future outcome."	A view of one possible future outcome
1991	Schwartz	"A tool for ordering one's perceptions about alternative future environments in which one's decisions might be played out."	Ordered perceptions about alternative future decision making environments
1992	Simpson	"The process of constructing alternative futures of a businesses' external environment."	Constructed alternative futures
1994	Bloom and Menefee	"A description of a possible or probable future."	A described possible or probable future
1994	Collyns	"An imaginative leap into the future."	An imagined future
1994	Thomas	"Scenario Planning is inherently a learning process that challenges the comfortable conventional wisdoms of the organization by focusing attention on how the future may be different from the present."	Challenged comfortable conventional wisdoms about the future
1995	Schoemaker	"A disciplined methodology for imagining possible futures in which organizational decisions may be played out."	Imagined possible decision making futures
1997	Van der Heijden	"External scenarios are internally consistent and challenging descriptions of possible futures; and internal scenarios is a causal line of argument, linking an action option with a goal or one path through a person's cognitive map."	Description of possible futures; explicit cognitive maps
1997	De Geus	"Tools for the foresight-discussions and documents whose purpose is not a prediction or a plan, but a change in the mind-set of the people who use them."	Changed mind sets
1998	Ringland	"That part of strategic planning which relates to the tools and technologies for managing the uncertainties of the future."	Managed future uncertainties
1998	Bawden	"Scenario planning is one of a number of foresighting techniques used in the strategic development of organizations, which exploit the remarkable capacity of humans to both imagine and to learn from what is imagined."	Human imagination and learning made explicit
1998	Fahey and Randall	"Scenarios are descriptive narratives of plausible alternative projections of a specific part of the future."	Plausible alternative projections of a specific part of the future

1998	Alexander and Serfass	"Scenario planning is an effective futuring tool that enables planners to examine what is likely and what is unlikely to happen, knowing well that unlikely elements in an organization are those that can determine its relative success."	Examined future likelihoods and un-likelihoods
1999	Tucker	"Creating stories of equally plausible futures and planning as though anyone could move forward."	Stories of equally plausible futures inform planning
1999	Kahane	"A series of imaginative but plausible and well-focused stories of the future."	Plausible stories of the future
1999	Kloss	"Scenarios are literally stories about the future that are plausible and based on analysis of the interaction of a number of environmental variables."	Informed, plausible stories about the future
2000	Wilson	"Scenarios are a management tool used to improve the quality of executive decision making and help executives make better, more resilient strategic decisions."	Improved executive strategic decision making
2001	Godet	"A scenario is simply a means to represent a future reality in order to shed light on current action in view of possible and desirable futures"	A represented future reality

Appendix 2 - Retail Horizons Future Scenarios Framework

Dimension	Scenario #1 Rust-belt Renewal	Scenario #2 Predictive Planet	Scenarios #3 Networked Nation	Scenario #4 Double or nothing
The global context	Isolationist trade policy causes international disruption, US manufacturing & agriculture rebound.	A global race for digital technology & efficiency. Transparency is the new norm.	Decline in government power as new technologies allow citizens to self-organize.	Tension between fossil fuel based countries & those using renewable energy
Energy	Global competition for energy supply makes energy & transportation expensive.	Renewable energy policy slows while & slowing fossil fuels results in expensive energy costs.	Federal policy & energy storage tech allows for growth of renewables	Energy in USA is cheap via fossil fuel innovations.
Resource challenges	Price of basic necessities increase. Drought prone states hit hard. Circular economy emerges to mine landfills & waste streams.	Smarter materials science, localized supply chains, and enhanced consumer insights.	Consumers making their own products via distributed manufacturing exacerbates resource scarcity.	Global race for supplies and fierce competition to develop alternatives. Extraction begins in new places such Antarctica and outer space.
Key technologies	Technology enables small scale manufacturing, local agriculture, and waste reclamation.	Wearable technology analyzes all aspects of a user's experience & emotions, enabling product customization & recommendations.	The coordination and verification of transactions is decentralized allowing peer-to-peer, secure, anonymous transactions.	Technology like water desalinization, geoengineering, and genetic modification combat resource scarcity and climate change.

The US economy	Downturn due to loss of low-cost goods and rising costs of food and fuel. Recovery stimulated by Increased local manufacturing and agriculture.	Tech industry performing well. People in traditional job sectors struggle to compete & to stay relevant.	Appears to be struggling according to traditional metrics like GDP. However, “off the books” economic activity is increasing.	Strong decade of growth has fueled by cheap oil and easy credit. However, speculation is that growth rate cannot continue.
Key regulatory issues	Focus on conserving critical resources, such as water, and with encouraging the reshoring of production.	Concern over use of consumer data grows. Regulation focuses on data security, privacy, and trust.	Efforts to regulate new peer-to peer economy to the same regulatory and taxation standards as traditional business.	Regulations take shape on food/product safety, synthetic biology, genetic modification, and geoengineering.
Cities & mobility	Manufacturing returns to legacy cities as facilities are restored, causing growth. Ride sharing + living close to work becomes popular	Tech advancements make driverless electric cars common and people desire living in “smart cities” where new services are available.	People desire freedom to be to live and operate anywhere. Global networks become more important than geographical boundaries.	Air & auto travel is cheap again. Most US population growth taking place on outskirts of low-density metropolitan areas.
The retail industry	Shorter supply chains, localized production, and a focus on resilience.	Retail massively integrated as companies share consumer data to provide seamless, customized solutions.	Profoundly disaggregated. Outsourcing every function is the norm, from design to manufacturing to sales.	Supply chains are increasingly complex as access to raw materials is more uncertain and disrupted.
The retail environment	Retracts in size. Retailers begin to offer used items, rentals, and DIY classes.	Mostly invisible, as shopping can take place with the blink of an eye and stores transform into lifestyle spaces.	Shopping declines with consumer ability to DIY. Stores turn to selling services and difficult to commoditize items.	Format is often small shops and boutiques that are actually chains and franchises owned by big companies.
People’s attitudes about business	After perceptions turn negative due to price hikes in 2010s, they have become more positive as businesses have re-shored and created new jobs.	People are ambivalent as they now value highly customized solutions and worry that business may be too powerful.	People are skeptical prefer to independent producers, which are seen as cheaper, faster, and less controlling.	Consumers have positive feelings about big business, which is seen as working with the government to keep them safe from the many challenges facing the world.
Consumers	Wary of depending on business, consumers become self-reliant and embrace thrift, sharing, and making to save money.	People rely on "mega-brands" to anticipate their needs and offer integrated solutions. They have high expectations for service and security.	Fads turn over as quickly as internet memes. Consumer taste increasingly diverse, fickle & frenzied in attempt to keep up with trends.	Rapid pace of change leaves many anxious and nostalgic for simpler times.
Products & services	Consumers demand products that last a long time, are repairable, upgradeable, and recyclable.	Products are less often sold as individual entities. Instead are often bundled as part of a solution to meet a particular need, like health or education.	Products are quickly pirated and replicated. Businesses compete by providing items difficult to replicate or by providing low-cost goods.	Consumers favor natural authentic design, reliability and safety.