The Behavioral Effects of Sustainability Reporting

by

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Abstract

This research aims to discover if the standards released by the Global Reporting Initiative (GRI) on sustainability reporting guidelines impact the behavior of companies to improve their sustainability performance on environmental, social, and economic impacts. Sustainability performance of companies that follow the GRI standards will be compared to the performance of companies that do not follow sustainability reporting standards. A sample of thirty companies within the same industry will be analyzed, fifteen of which produce sustainability statements in accordance with the GRI, and fifteen others that produce non-GRI sustainability reports. Because each company discloses on sustainability measures differently, the organizations will be measured on their own improvement of the indicator, and that percentage of change will be the key comparing factor. If the GRI publishing companies disclose greater improvement of sustainable performance to those of non-GRI reporters, it will be concluded that GRI sustainability statements do behaviorally effect the performance of organizations.

1. Introduction to Sustainability

a. Sustainability Defined

When most people think of the word "sustainability", they immediately associate it with environmental stewardship. While the environment is a large aspect of sustainability, the concept encompasses much more than that. Sustainability, according to Merriam-Webster, is defined as "of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged". According to the World Commission on Environment and Development, "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Sustainability is more easily defined as what it is not. It is not sustainable to "extract water from rivers, lakes, and aquifers at a faster rate than they can be naturally recharged by rain and snow. Eroding the land upon which crops grow faster than fertile soil is naturally regenerated is not sustainable agriculture. Running a corporation consistently in the red, with revenues that do not exceed expenses, is not sustainable business" (Thiele, 2017). Sustainability is about using resources in a responsible manner that does not deplete the source for future dependents; "To be sustainable is to avoid collapse" (Thiele, 2017). The topic includes environmental, social, and economic impacts.

Environmental impacts are perhaps the most easily understood because of the issue's popularity. Environmental sustainability is detailed as "a condition of balance, resilience, and interconnectedness that allows human society to satisfy its needs while neither exceeding the capacity of its supporting ecosystems to continue to regenerate the services necessary to meet those needs nor by our actions diminishing biological diversity" (Morelli, 2013). Again, the concept of sustainability for the environment is about using natural resources to meet current

needs while restraining over excessive use that would hurt future generations. Measures of environmental impacts include concentration of greenhouse gases like carbon dioxide and nitrogen, water use, recycling, fossil fuel consumption, and solid waste management.

Social sustainability is explained as "a quality of societies. It signifies the nature-society relationships, mediated by work, as well as relationships within the society. Social sustainability is given, if work within a society and the related institutional arrangements satisfy an extended set of human needs and are shaped in a way that nature and its reproductive capabilities are preserved over a long period of time and the normative claims of social justice, human dignity and participation are fulfilled" (Littig, 2005). Simply put, social sustainability is the focus on human well being in the current period and indefinitely. Common measures of social sustainability include a country's unemployment rate, the female labor force participation rate, health adjusted life expectancy, and relative poverty.

Economic sustainability for a country is quite complex with its wide scope of responsibility. For a country, economic sustainability is defined as "the process whereby the real per capita income of a country increase over a long period of time – subject to the stipulations that the number below an 'absolute poverty line' does not increase, and that the distribution of income does not become more unequal" (Barbier, 1987). Economic impacts can be measured by personal income, job growth, and revenue by sector contributing to gross state product. A company's economic sustainability is much more straightforward in that it represents businesses main purpose: keep revenues above expenses. A company's economic sustainability can be seen through its profits, net income, and return on investment.

b. Sustainable Business Development

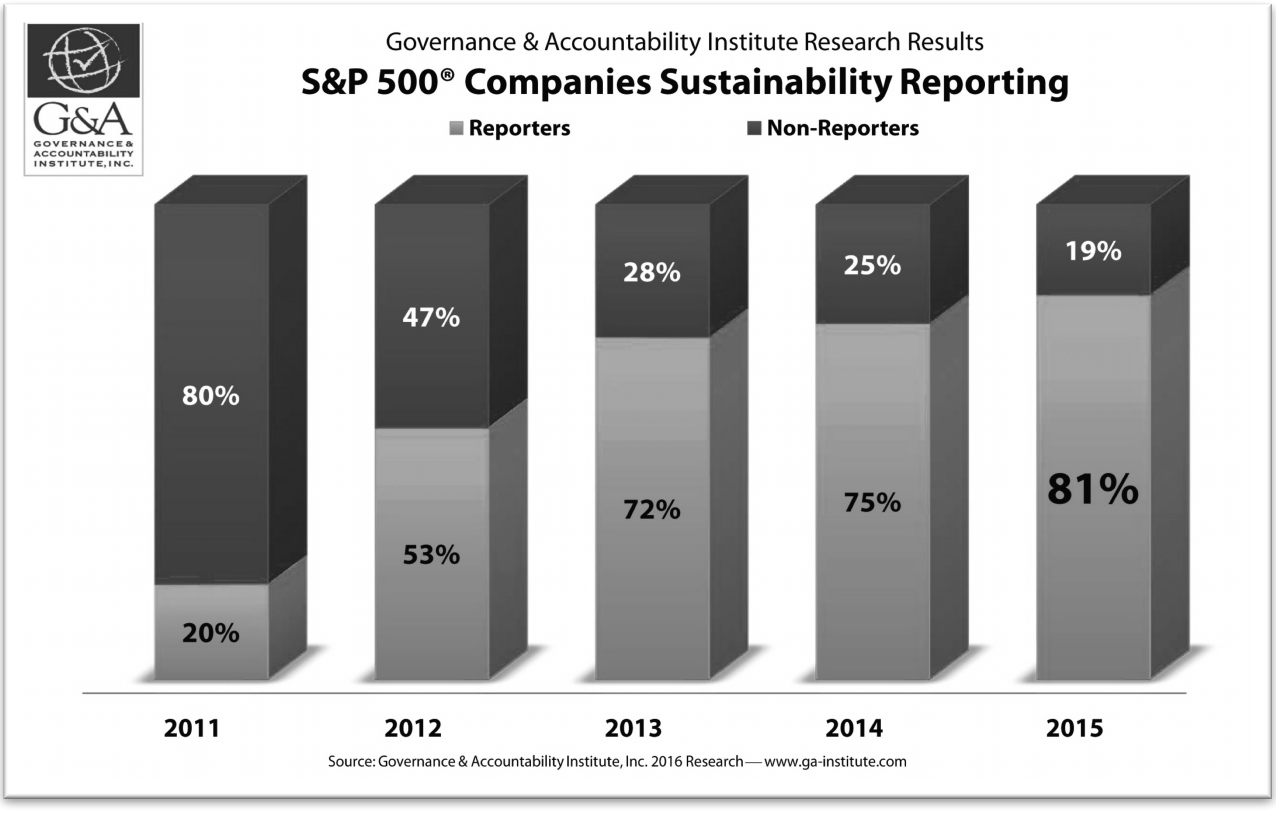
What does business have to do with sustainability? How can businesses be sustainable? Simply, "a sustainable corporation is one that creates profit for its shareholders while protecting the environment and improving the lives of those with whom it interacts" (Savitz, 2013). A business should assess its sustainability performance by measuring it's impacts on the three aspects of sustainability. This brings us to the "triple bottom line": the means for businesses to measure success not only on the traditional bottom line of financial performance, but on their impacts on the broader economy, the environment, and the society in which they operate, hence the "triple" in "triple bottom line" (Savitz, 2013). The concept of the triple bottom line is not in regards to each area of sustainability as separate entities, but on the three impact areas of sustainability as nested interdependencies. The three areas are interdependencies in that everything exists due to our environment, as all living things could not survive without the formation of Earth. It is because the Earth exists that society as we know it exists. Society is what created business, and business depends on that society to function. So businesses depend on society, and society depends on the environment, forming a linkage of interdependencies. It is on that line of thinking that business must consider their impacts on the triple bottom line.

2. Sustainability Accounting

a. Sustainability Reports

"A sustainability report is a report published by a company or organization about the economic, environmental, and social impacts caused by its everyday activities" (Global Reporting Initiative). These reports can help organizations to measure, understand, communicate, and then set goals toward economic, environmental, social, and governance performance. Sustainability

reports that adhere to some set of reporting standards usually follow the reporting guidance of the Global Reporting Initiative, The Organization for Economic Co-operation and Development, The United Nations Global Compact, and The International Organization for Standardization. However, unlike financial reports, sustainability reports are not required by the United States government and organizations can choose what to include (and what not to include) in the reports. Corporate disclosure of sustainability reports has increased significantly in the past few years, ranging from 20 percent of S&P 500 companies reporting on sustainability in 2011 to over 80 percent disclosure 4 years later (Governance & Accountability Institute, 2016). This increase is due to stakeholder and investor demand for measurements on corporation's performance as a whole, beyond that of financials.



b. Significance of Sustainability Reporting

Oxfam International analyzed the emissions from 10 companies, including Coca-Cola, General Mills, Kellogg, Mars, Nestlé, PepsiCo and Unilever, and found that their combined greenhouse gases, if thought of as a single country, would rank them as the 25th most emitting country in the world, with 263.7 million metric tons of greenhouse gases per year (West, 2014). Reporting on sustainability performance brings awareness and new understanding to the impacts of business. In a study comparing the environmental, social, and governance rankings of countries that mandated sustainability reporting against those that do not mandate the disclosure, it was concluded that when sustainability disclosure is required, corporations introduce more ethical practices, increase their investments in human capital, and have more credibility as well as less bribery and corruption (Ruvinsky, 2012). By recording sustainability metrics, organizations increase their understanding of potential opportunities and risks, recognize a link between financial and non-financial performance, influence long term management strategy with sustainability goals, and reduce costs while improving efficiency. Externally, organizations can expect to improve reputation and brand loyalty, enable stakeholders to understand the organization's true value (tangible and intangible assets) and demonstrate how the organization influences and is influenced by sustainable development. "Mandatory reporting regimes create better disclosure, which, when incorporating key sustainability performance indicators, can lead to better performance in those areas most crucial to stockholders, other stakeholders, and society" (Lydenberg, Rogers, & Wood).

3. American Sustainability

a. Culture

The United States is host to the largest and most diverse set of publicly traded organizations in the world. Due to the country's abounding wealth, technology, and resources, America is known around the world as over-excessive and wasteful. In fact, if everyone in the world continued on with the same lifestyle as Americans, the world would need 4 more planet Earths to supply the amount of resources to support all of us. The capitalistic consumer lifestyle of Americans is based on a linear product lifecycle instead of circularity. In this "take-make-waste" lifestyle, products are typically unsustainably made, used up by consumers, and then trashed and sent to landfills. America ranks 15th on the DOW Jones Sustainability Index's Country Sustainability Ranking after Germany and Austria. The country scores average marks for sustainability performance in key areas of governance, social, and environmental impacts. Since the country has a high level of success in business performance and mediocre to low levels in sustainable performance, businesses hold significant control over the country's level of sustainability performance.

b. American Sustainability Reporting

The United States has a progressive history of business transparency and sustainability reporting having published almost 4,000 sustainability reports since the year 1999, with 577 published in 2015 alone (GRI). America's top reporting industry sectors include food and beverage products, financial services, and energy utilities (GRI). America does have policies on sustainability disclosure, which refer to national government initiatives such as market regulations, policies, and legislation in which companies disclose or report on non-financial factors, but other than

that, sustainability reporting is voluntary. Though the country maintains a high level of voluntary sustainability disclosure, it has a reputation for "greenwashing" those statements. Greenwashing is defined by the Oxford dictionary as "the disinformation disseminated by an organization in order to present an environmentally responsible public image". Without any standards guiding or policing an organizations behavior and no authorities ensuring compliance of the truth, organizations will be free to greenwash their disclosures with no consequences. Since America holds a laissez-faire approach on sustainability reporting, the country presents a practical focus in addressing the research question.

4. Sustainability Accounting Standards

a. History of Sustainability Accounting Standards

The Securities and Exchange Commission (SEC) was created by Congress to oversee corporate disclosure. Several years later the Financial Accounting Standards Board (FASB) was established to create financial reporting standards and disclosure requirements aimed at protecting investors and the public. In recent years, the Sustainability Accounting Standards Board was established to continue the tradition of high-quality disclosure of material sustainability factors. Sustainability standards are intended to complement the financial standards to provide stakeholders the means to understand the complete financial, social, and environmental performance of an organization.

b. Global Reporting Initiative

The Global Reporting Initiative (GRI) is an independent organization that has pioneered corporate sustainability with trusted and widely used standards on sustainability reporting since

1997. GRI's standards represent global best practice for reporting publicly on a range of economic, environmental, and social impacts. "With thousands of reporters in over 90 countries, GRI provides the world's most widely used standards on sustainability reporting and disclosure, enabling businesses, governments, civil society and citizens to make better decisions based on information that matters". Of the world's largest 250 corporations, 92% report on their sustainability performance and 74% of these use GRI's standards to do so. GRI standards are designed to help businesses, governments and other organizations to understand communicate their impact on critical sustainability issues. The GRI defines materiality as "materiality for a sustainability report includes considering economic, environmental, and social impacts that cross a threshold in affecting the ability to meet the needs of the present without compromising the needs of future generations. These often have financial impacts that are relevant to consider." (GRI). The GRI standards allow for the selective reporting of material topics depending on which topics hold the most significant impact and influence on stakeholders. Topic specific standards are then selected by the reporting organization depending on the material topics originally selected. The GRI standards act more as a set of guidelines in reporting material sustainability issues than a set of rigid principles.

c. Sustainability Accounting Standards Board

The Sustainability Accounting Standards Board (SASB) is a U.S. based organization incorporated in 2011 for the purpose of establishing industry-based sustainability standards for the recognition and disclosure of material environment, social, and governance impacts by companies. SASB was created in 2011 in response to a need to develop and test a methodology for determining industry-specific material issues and their associated performance indicators.

The study tailored key performance indicators (KPIs) developed for the material factors in each industry, derived from evaluating indicators already in use by companies and analysts to describe those particular issues. The analysis determined that in order for organizations to report on material sustainability matters, the indicators reported had to be industry-specific. Tailored KPIs that varied from industry to industry would play an important role in sustainability disclosure. The report also concluded that these KPIs needed to be flexible, as indicators not only vary between industries, but also between countries, regions, and times. Another important result from the study was the obvious need for "mandatory reporting in order to assure that comparable sustainability data is available to investors and other stakeholders who might want to form judgment of the materiality of this data on their own". Comparability is a key issue in sustainability reporting since companies report on different material issues with various metrics. Comparing sustainability performance among corporations is unmanageable as sustainability standards currently operate.

Today, SASB is focused on the decision useful information related to material aspects of corporate sustainability performance and provides a basis for concerted action by companies in addressing environmental, social, and governance issues. SASB sets industry-specific standards for corporate sustainability with a view towards ensuring that disclosure is material, comparable and decision-useful for investors. The organization is focused on creating a standardized language to articulate material, non-financial risks and opportunities that face companies. The organization is now an accredited standards developer not affiliated with FASB, the Government Accounting Standards Board, International Accounting Standards Board, or any other accounting standards-setting board.

5. Measuring Accountability

With GRI standards guiding organizations to report on their triple bottom line performance, does following the standards cause the reporting companies to improve on their sustainability performance? Since sustainability is defined as environmental, social, and economic performance, this research will evaluate sustainability performance on those factors. Though key sustainability performance indicators should generally be specified to industry specific measures, there are universally sound indicators that companies should be managing. These factors include the amount of water usage, greenhouse gas emissions, energy consumption, waste management, social issues, and economic growth. To understand if and how GRI standards influence the behavior of companies, this research must compare companies within the same industry on their sustainability performance. Specifically, the companies within the same industry cannot be direct competitors, or in other words, too similar in business strategy, due to the limitation of industry scope. Also, in order for fair comparison, the organizations that are directly compared must be of similar size as to not favor nor discredit larger organizations with appreciably more resources.

Due to a lack of mandatory standards on sustainable reports, companies are not upheld to the same level of disclosure for sustainable measurement as they are for financial reporting purposes. Therefore, organizations (even those in the same industry and direct competitors) report on various indicators with different metrics. This causes a huge problem in terms of performance comparability among organizations. Those organizations within similar industries have completely different areas of materiality and measure on indicators in drastically incomparable metrics, such as hectoliters, which measure volume, to tonnes, which measure

weight. Even companies within the same market report different metrics and disclose on different measures. These companies might all report on the amount of water used for production, but one company will report 6 liters of water per every barrel of production produced, while a competitor might disclose 300 million gallons of water in total for the period. These metrics are extremely difficult to compare, unlike financial reports. To compare sustainable performance in a non-arbitrary fashion based on the reports voluntarily disclosed by organizations, performance will have to be measured, to address the research question, in terms of the company's own improvement of performance.

6. Comparative survey: GRI vs. Non-GRI disclosure

To attempt to compare GRI adhering reports to non-GRI sustainability reports, this research will focus on one industry, the food and beverage industry, in one country, the United States. The company information disclosed in this research has been exclusively extracted from GRI's Sustainability Disclosure Database, that accumulates sustainability reports for both adhering standards and those that do not adhere to the GRI guidelines. In the collection of company information, 15 companies are reported here that met GRI standards, and another 15 non-GRI companies are reported. To capture any effects of reporting, the companies are of varying sizes throughout the industry and include public and private companies. The GRI reporting entities include MillerCoors, Coca-Cola, PepsiCo, Campbell Soup, Chicken of the Sea, Smithfield, Nestle USA, Fieldale Farms, General Mills, McCormick, Tyson Foods, Hershey's, Aurora, ConAgra Foods, and Hormel Foods. This range of companies includes breweries, beverage manufactures, general food producers. The non-GRI reporting companies include Constellation Brands, Craft Brew Alliance, Hero, Keystone Foods, Ben & Jerry's, Archer

Daniels Midland, Darden Restaurants, GNP, Heinz, Land O' Lakes, Sunny Delight, Omega Protein, Organically Grown Company, Smucker's, and UNFI. Like the GRI companies included in this research, the non-GRI range of reporting companies includes breweries, soft drink beverage producers, and general food manufacturers. The period disclosed in this research for the current measurement is the 2014-2015 period. Prior years reported on depend on the company's reporting history and how long they have been reporting on the metrics and how much they have disclosed over that period of time, but most companies in this study started reporting on sustainability issues between 2008 to 2012. To measure sustainable performance, five metrics will be compared between the companies. These metrics will assess the environmental and social aspects of the triple bottom line. The environmental measures include energy consumption, water consumption, greenhouse gas (GHG) or similar air quality emissions, and the amount of waste produced and sent to landfill. These measures are fairly universal and material to all stakeholders. To measure the social impact of the triple bottom line, the dollar amount of social contributions that is reported will be used. This social giving amount includes any contributions or donations to charities and general communities. For those companies that do not disclose the total dollar amount contributed to society should not imply that company is not contributing to their community, instead, total donations are the only universally fair way to measure the general performance of philanthropy in this study.

To address the question on the effect of sustainability reporting standards on company performance, the comparable measure that will be used in this study will not be the actual metric reported by the company, but the averaged percentage of increase or decrease in sustainability performance year after year as the company discloses. Overall performance will be the calculated as the percentage change over the company's history of sustainable reporting. These percentages

will be calculated as the current year metric divided by the starting year's metric, and then subtracted from 1 to get the difference in performance. For example, in MillerCoors' 2014 sustainability report, the company reported 123 Megajoules of energy consumed for each hectoliter of beer produced in 2013. In 2008, that same energy measurement for MillerCoors was 161 MJ/hl. To get the percentage change over the year, 123 MJ will be divided by 161 MJ to get 0.7639. This number represents the similarity of the two numbers. To get the difference, 1 is subtracted from 0.7639 to get the percentage change of -0.236. Since this represents a reduction in energy use, it is reported as a positive number since sustainability performance has positively improved. This represents the overall percentage change from starting year to the current year. To get a measure of yearly performance, the average of each indicator is calculated as the percentage change divided by the number of years the percentage change covers. This figure represents the average incline or decline per year. Since some companies in this study have been disclosing on information for much longer than others, reporting on yearly performance allows for fair comparison between companies. The average percent changes are the key indicator in this study. All average percent changes are totaled and then averaged per years covered to reflect the average performance of the company over the years of sustainability disclosure. This figure will be compared to those other the other companies in this sample to attempt to understand if the standards improve performance. In the tables below, the percent changes and average percent changes are reported as percentages towards positive sustainable performance. When a company reports performance that has worsened since the starting measurement, that percentage will be represented as a negative metric. The negative numbers do not mean reduction in the metric, in other words, for PepsiCo, their percentage change for energy consumed shows as a -0.5 percent. This does not mean PepsiCo decreased energy consumption by 0.5 percent over the years,

instead it represents negative performance and should be understood as the company increasing energy consumption by 0.5 percent over the composite years. Another metric that should be understood is that for each metric that a company does not report on will be represented not with a "0" but with a "ND" for "No Disclosure" or "—" for that measured number not being disclosed by the company. Any "0" under percentage changes simply represent the stagnation of performance with no incline or decline to report.

The companies will be compared on their averaged percentage change per year since the earliest disclosure of their sustainability measurement. Because this is such an important factor for this case study, for those companies that do not provide the information to calculate the percentage change averages of performance for 3 or more of the key performance indicators, shall be concluded as providing insufficient disclosure towards sustainability disclosure. The full analysis of each of the thirty companies compared are disclosed in the following tables.

US FOOD AND BEVERAGE INDUSTRY
GRI REPORTING ENTITIES

GRI	***Miller Coors 2014***	*Percent Change 2008*	***AVG % Change***	***Coca-Cola*** 2014	*Percent Change 2004*	***AVG % Change***	***PepsiCo*** 2014	*Percent Change 2008*	*AVG % Change*
Energy	123 MJ/hl	24	**4**	63.3 bil MJ/L	8.7	**0.87**	15,378,193 mill MWh	-0.5	**-0.08**
Water	3.48 bbl/bbl	15	**2.5**	2.03 L/L	22.5	**2.25**	N/A	19.5	**3.25**
GHG	1,290,498 mT CO2e	28	**4.6**	5.55 mil CO2 MT	8.9	**.89**	4.15 mil CO2mT	1.0	**.16**
Waste	2,000 T	79	**13.16**	ND	--	**--**	104,000 mT	25.7	**8.56**
Social	$1.7 million	6	**1**	$126 million	--	**--**	$110.5 million	--	**--**
AVERAGE		24.3	**4.21**		2.16	**.401**		4.43	**1.98**

GRI	*Campbell Soup 2015*	**Percent change 2008**	*AVG % Change*	*Chicken of the Sea 2014*	**Percent change 2012**	*AVG % Change*	*Smithfield 2015*	**Percent change 2009**	**AVG % Change**
Energy	3.36 mmbtu/T	5.8	**.828**	15,751 mWh	6.51	**3.25**	.121 GJ/cwt	4.7	**.783**
Water	8.24 m3/T	20.2	**2.53**	136 M Mill gal	11.6	**5.8**	71.1 gal/cwt	9.5	**1.583**
GHG	0.28 mmtCO2 /T	10.5	**1.5**	80,580 tCO2	-6.9	**-3.45**	.0138 mT CO2e/cwt	14.3	**2.383**
Waste	.015T/T	34.8	**4.97**	751 mT	35.8	**17.9**	1.58 lbs/cwt	45.7	**7.62**
Social	$70.4 mil	53.7	**7.67**	$1 mil	--	**--**	$27 mil	37	**6.16**
AVERAGE		22.31	**2.49**		23.5	**11.75**		28.2	**3.08**

GRI	***Nestle USA 2014***	*Percent Change 2010*	***AVG % Change***	***Fieldale Farms 2014***	*Percent Change 2010*	***AVG % Change***	***General Mills 2014***	*Percent Change 2008*	*AVG % Change*
Energy	1.11 GJ/mT	**4**	1	1,926,168 GJ	**--**	--	532 kWh/mT	**4.5**	**.75**
Water	1.85 m3/T	**9**	2.25	3,052,920 m3	**28.6**	7.15	2.076 m3/mT	**6.6**	**1.1**
GHG	2.04 10^6 mT CO2	**11**	2.75	442,579 CO2e T	**--**	--	928 mT CO2e	**12.7**	**2.12**
Waste	4.33 kg/mT	**51**	12.75	597 T	**-40.9**	-10.23	.032 mT/mT	**37.2**	**6.2**
Social	ND	**--**	--	ND	**--**	--	$151 mil	**42.4**	**7.06**
AVERAGE		15.9	**4.68**		-3.07	**-0.768**		11.55	**2.87**

GRI	***McCormick 2015***	*Percent change 2010*	*AVG % change*	***Tyson Foods 2015***	*Percent Change 2013*	*AVG % change*	***Hershey's 2015***	*TL 2012*	*AVG % change*
Energy	270,994 mWh	**--**	--	1,214 kWh/lb	**-2.7**	-1.35	ND	**--**	**--**
Water	1,342,239 m3	**-45**	-9	.92 gal/lb	**3.1**	1.55	1.3 bil gal	**-7.1**	**-2.36**
GHG	103,297 mT	**-27.5**	-5.5	.1963 mT CO2e/1000 lb	**-7.7**	3.85	200,000 mTCO2e	**23**	**7.6**
Waste	13,039 mT	**38**	7.6	ND	**--**	--	39,920 mT	**1.6**	**0.53**
Social	$ 7 mill	**57.1**	11.42	$8 mil	**--**	--	$20.7 mil	**40**	**13.3**
AVERAGE		6.06	**0.904**		22.5	**2.025**		6.67	**6.36**

GRI	***Aurora 2014***	*Percent Change 2012*	*AVG % Change*	***ConAgra Foods 2015***	*Percent Change 2008*	*AVG % Change*	***Hormel Foods 2015***	*Percent Change 2011*	*AVG % Change*
Energy	4.08 MJ/half gal	12	**6**	250 kWh/T	-4.4	**-.628**	1.68 MMBtu /sales T	3.4	**0.85**
Water	.18 gal/half gal	18	**9**	.86 gal/lb	3.89	**.556**	7.4 m3/sale s T	3.8	**.95**
GHG	1.51 kgCO2 e/half gal	8.4	**4.2**	2.1 mil mT	-3.5	**-0.5**	.33 mT CO2e/T	29.7	**7.43**
Waste	658 T	0	**0**	5.8% landfill	34.8	**4.97**	25 lb/sales T	8.7	**2.17**
Social	$415,0 00	--	**--**	$55,204,075	39.8	**5.68**	$5.2 mil	-31.5	**-7.88**
AVERAGE		19.2	**9.6**		11.05	**1.44**		3.53	**0.88**

US FOOD AND BEVERAGE INDUSTRY
NON-GRI REPORTING ENTITIES

Non-GRI	***Constellation Brands 2014***	*Percent Change 2010*	***AVG % Change***	***Craft Brew Alliance 2015***	*Percent Change 2013*	***AVG % Change***	***Hero ('16)***	*Percent Change 2010*	*AVG % Change*
Energy	ND	--	--	ND	--	**--**	273.8 CO2e/ml	28	**4.6**
Water	4.06 L/L	--	--	4.29 bbl/BBL	10.4	**5.2**	5.8 cbm/mt	44	**7.3**
GHG	123 mT CO2e/L	73	**18.25**	28.94 CO2/BBL	--	**--**	Reduced by 1,199TCO2	25	**4.16**
Waste	13, 135 mT	--	--	1.3% landfill	--	**--**	ND	--	--
Social	$1.5 million	--	--	$57,000	--	**--**	ND	--	--
AVERAGE		28.7	**4.56**		5.2	**2.6**		16.16	**2.67**

Non-GRI	***Archer Daniels Midland 2015***	*Percent Change 2010*	***AVG % Change***	***Darden Restaurants 2014***	*Percent Change (2008)*	***AVG % Change***	***GNP 2014***	*Percent Change 2011*	*AVG % Change*
Energy	--	17.3	**3.46**	1544 mWh/rest	12.5	**2.08**	--	--	**--**
Water	--	19.1	**3.82**	2549 kgal/rest	23.7	**3.95**	5.14 gal/bird	20.9	**6.96**
GHG	--	8.6	**1.72**	512 mTCO2e per rest.	16.4	**2.73**	104,435, 883 kg CO2e	1.53	**.51**
Waste	ND	--	**--**	71.7% sent to lndfl	3.8	**.63**	ND	--	**--**
Social	$ 4 mil	--	**--**	$2.2 mln	43.1	**7.18**	$1.6 mil	--	**--**
AVERAGE		15.8	**1.8**		6.8	**2.76**		7.47	**2.49**

Non-GRI	***Organically Grown Company 2015***	Percent change 2006	*AVG % Change*	***Smucker's 2014***	Percent change 2009	*AVG % Change*	***UNFI 2015***	Percent change 2011	*AVG % Change*
Energy	8,430 BTU/case	**19.8**	2.475	32% Electricity	**--**	--	9.04 kWh/$1000 sales	**32.3**	**8.075**
Water	ND	**--**	--	3.59 gal/EU	**22.4**	4.48	ND	**--**	**--**
GHG	2,973 mT CO2e	**--**	--	1.28 T CO2e/1000EU	**-0.7**	-0.14	-1783 mt CO2e	**-34.1**	**-8.525**
Waste	75 T	**--**	--	14.4% landfill	**7.1**	1.42	33% landfill	**--**	**--**
Social	2.5% profit	**--**	--	ND	**--**	--	$623,200	**--**	**--**
AVERAGE		2.2	0.275		-1.56	0.96		**-0.45**	**-0.113**

Non-GRI	***Keystone Foods 2014***	*Percent Change 2008*	*AVG % Change*	***Ben & Jerry's*** *2015*	*Percent Change 2012*	***AVG % Change***	***Heinz 2015***	*Percent Change 2005*	*AVG % Change*
Energy	1301	-5	**-0.83**	N/A	10.94	**3.65**	735.8	19.3	**1.93**
Water	3,720	3	**.5**	N/A	16.9	**5.63**	6.76	23	**2.3**
GHG	423,452 mT	14.9	**2.48**	N/A	-0.7	**-0.23**	.180 CO2/mT	23.8	**2.38**
Waste	.005	46	**7.6**	Zero waste	--	**--**	1.60mT	51.2	**5.12**
Social	N/A	**--**	**--**	$2,870,505	22.3	**7.43**	ND	**--**	**--**
AVERAGE		8.4	**1.636**		16.48	**5.49**		5.61	**1.173**

Non-GRI	***Sunny Delight 2015***	*Percent change (Year not disclosed)*	***Omega Protein 2014***	*Percent change 2011*	*AVG % Change*	***Land O' Lakes 2014***	*Percent change 2012*	*AVG % Change*
Energy	--	**35**	2,250,000 gal of fuel	**26**	8.6	2299 btu/lb	**6.9**	**3.45**
Water	--	**40**	Reuse 18 mil gal	**--**	--	--	**10.5**	**5.25**
GHG	--	**31**	--	**85**	28.3	--	**13**	**6.5**
Waste	8% landfill	**--**	ND	**--**	--	ND	**--**	**--**
Social	$624,000	**--**	$50,000	**--**	--	$1.8 mil	**--**	**--**
AVERAGE		**--**		29.86	**12.3**		27.5	**7.6**

7. Evaluating the Results

a. Discussion

As demonstrated in the tables above, it is apparent that sustainability performance must be compared in terms of percentage improvements due to each company's disclosure on the measures with differing metrics. Since there are not rigid guidelines by any reporting standards or organizations, companies are free to report on the measures they believe to be material to their stakeholders in any fashion they desire. This is the reason why there are companies in this sample that report measures for the actual metric recorded but not the prior year numbers or percentage change among the years and vice versa. The GRI does not even limit the reporting companies to one method of reporting the measures, instead allowing them the freedom to report their metrics as percentage changes only, as some actual metric of the measurement, or both. This makes sustainability performance among companies difficult to compare. Unlike financial statements that are comparable between any company in any industry because the measurements

are typically the same and if nothing else the metrics used are standardized in terms of local reporting currency, sustainability disclosure varies among each company, even within the same market. For example, take rival organizations, Tyson Foods and Smithfield. Both major meat producing companies that both follow GRI standards. Both companies disclose on the amount of energy consumed in their production, however Tyson Foods reports .118 kWh of energy per pound or production, while Smithfield reports on the same measure of energy as .121 GJ per cwt. Unlike comparing dollars to dollars, as their financial statements measure, these measurements are hardly comparable without a conversion of units to fully understand the more sustainable performer. Of course these sustainability measures further in similarity as likeness between companies' decrease, making sustainability measures most comparable within the same industry.

To further understand the performance of the companies reported above by overarching segment, GRI or Non-GRI, the companies are sorted below by improved overall performance, decreased performance, and those that did not disclose enough information to make a fair judgment of overall improvement or decline. Within improved and declined performance segments, the median figure will be calculated for the range of companies.

PERFORMANCE IMPROVED		PERFORMANCE DECLINED	INSUFFECIENT DISCLOSURE	
MillerCoors	4.21		Fieldale Farms	-0.768
Coca-Cola	.401			
PepsiCo	1.98			
Campbell Soup	2.49			
Chicken of the Sea	11.75			
Smithfield	3.08			
Nestle	4.68			
Tyson	2.03			
Hershey's	6.36			
Aurora	9.6			
ConAgra	1.44			
Hormel	0.88			
General Mills	2.87			
McCormick	0.904			
HIGH **LOW**	**MEDIAN**			
11.75 **.401**	**2.7**			
14		*0*	*1*	*15*

OVERALL PERFORMANCE OF NON-GRI REPORTING ENTITIES

PERFORMANCE IMPROVED		PERFORMANCE DECLINED	INSUFFICIENT DISCLOSURE	
ADM	1.8		GNP	2.49
Darden	2.76		Sunny Delight	--
Heinz	1.173		Omega Protein	12.3
Land O' Lakes	7.6		Organically Grown Company	0.275
Ben & Jerry's	5.49		Craft Brew Alliance	2.6
Keystone	1.636		Hero	2.67
Smucker's	0.96		Constellation Brands	4.56
			UNFI	-0.113
HIGH **LOW**	**MEDIAN**			
27.5 **5.61**	**1.8**			
7		*0*	*8*	*15*

Comparing the performance of the companies in the condensed tables above visibly demonstrates the difference between overall performance among GRI and Non-GRI reporters. When comparing both tables, it is clear the GRI reporters out number the amount of non-GRI

reporters on improved performance. All but one of the GRI reporting companies improved overall sustainability performance over the course of two or more years. In comparison, less than half of the non-GRI reporting companies improved on their performance, with the rest of the non-GRI companies publishing an insufficient amount of disclosures to make a fair case for improved or declined performance.

The median number calculated for the non-GRI companies in improved performance was lower than the median performance of GRI reporting corporations. This suggests that organizations that follow the standards by GRI do report a higher improvement in performance. None of the GRI companies in this study declined in their overall performance, however for the one GRI company that did not disclose a sufficient amount of information, the company's sustainability performance was one of the lowest in the sample. This implies that higher levels of disclosure correspond with higher levels of sustainability performance as measured by improvement in the KPIs used by a company.

b. Limitations

It should be noted that conclusions drawn from this analysis are limited to the narrow focus of the sample selected. This study has been limited to one country, one industry, and only 30 organizations within those demographics. Subsequent investigation to improve on the conclusions of this analysis should expand on sustainability measures of different industries, broaden the scope of companies compared and research the sustainability efforts of GRI metrics beyond the United States. This research merely sets up a framework to be expanded upon by future studies.

8. Conclusion

In the case of the sample presented, the GRI reporters performed comparatively better in terms of sustainability performance improvement than those who did not follow GRI standards. The GRI sustainability reports had significantly more numbered measures and improved performance throughout the years than the non-GRI reports. Regarding the research purpose, this result indicates that GRI standards may have a behavioral effect on companies and a positive influence towards sustainable development. The results of the compared companies suggest that reporting regimes allow companies to understand how much they are consuming and how that effects all three aspects of the triple bottom line. Moving forward, SASB should require all companies to disclose on their sustainability performance in the same manner companies are required to report on financial measures. It's only fair that stakeholders are aware of a company's entire performance as making decisions based solely on financial information is only addressing one third of performance. Sustainability disclosure tracks and allows for the improvement on those issues most tied to a corporation's environmental and social impact and most material to a company's financial performance. With the guidance of standards on industry specific indicators and the mandatory requirement to track performance, SASB has the ability, when fully implemented, to improve all companies on their environmental, social, and economic performance.

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