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Robotics Design & Professional Practice

17 May 2017

Sustainable Business Practices

What is sustainability? Sustainability is essentially the process of "going green" and the means to pursue knowledge and practices that can lead to more environmentally friendly and ecologically responsible decisions and lifestyles. With that being said, sustainable engineering is the process of designing or operating systems such that they use energy and resources sustainably—or at a rate that does not compromise the natural environment or the ability of future generations to meet their own specific needs. Sustainability and sustainable engineering is all around us. Some examples consist of water supply, food production, sanitation and waste management, energy development, transportation, industrial processing, development of natural resources, cleaning up polluted waste sites, planning projects to reduce environmental and social impacts, restoring natural environments such as forests, lakes, streams, wetlands, etc. and much more. With that concept in mind, my professional practice research consisted of sustainable business practices and their impact on short term and long term business strategies. A sustainable business is a "green business" and does not necessarily have to be an engineering company, but must participate in actions that have negative impact on the global or local environment, community, society, or economy. Green businesses can either design and implement green systems or simply fund projects and spread the concept through word of mouth. There are many aspects of a sustainable business which this essay will analyze thoroughly as well as some of the projects making this world a "greener" place.

To start, every sustainable business incorporates an accounting framework called the "Triple Bottom Line" that consists of three separate parts. This model ensures the social,

environmental, and financial balance that a company wants to pursue. The triple bottom line evaluates performance in a broader perspective to create greater business value. The following figure shows the triple bottom line model and how the ultimate goal is to be sustainable.

The figure above is only a small representation of the triple bottom line. This accounting framework is divided into different tiers that branch from one another. The first tier consists of practices that are socio-environmental, socio-economic, and eco-efficient. Eco-efficiency

consists of resource efficiency, product stewardship, life-cycle management, and regional materials. Socio-economic incorporates job creations, skill enhancement, local economic impact, and social investments. Socio-environmental consists of environment health and safety, global climate change, crisis management, and environmental policies. Next, environmental stewardship branches off of the environmental and efficient tier and focuses on biodiversity, clean air, water, and land, emission, reductions, and to minimize waste. Economic growth branches from the efficient and economic tier and focuses on innovation, capital efficiency, risk management, and growth enhancement. Finally, social progress branches off from the economic and environmental tier and focuses on education, community outreach, human rights, and diversity. All in all, the above model is a framework that a green business uses to impact society it a balanced fashion. A green business incorporates principles of sustainability into each of its individual business decisions. It supplies environmentally friendly products or services that replaces the demand for non-green products or services. All in all, a sustainable business has makes an enduring commitment to all aspects of making society better in its business operations.

Along with the triple bottom line value production, a green business has many other characteristics. Some other characteristics consist of nature based knowledge and technology, products of service vs. products of consumption, solar, wind, geothermal, and ocean energy, local based organized economies, and a continuous improvement process. A vision of what

sustainability means to the company and all of its employees is crucial. Each individual must by self-aware and honest about the strategy and the company must have strong leadership and think long term. With that being said, the following information is a list of long term sustainability business tips:

1. Develop a long term strategic plan
2. Refine the organizational structure
3. Engage and motivate staff
4. Refine operations and budget
5. Create a “Case for Support” and position statement
6. Diversify fundraising sources
7. Develop communications and a tactical marketing plan
8. Formulate strategic alliances
9. Engage the board and volunteers
10. Monitor results and refine strategies where needed

The above tips are crucial for a sustainable business to be successful. Sustainable development is defined as development that meets the needs of the present (short term) without compromising the ability of future generations (long term). Continuity and synergy between short and long term goals and that is why organization is a must. In order to be synergetic, a company must focus on innovation and technology, collaboration with networking partners, process improvement, constant reporting, and greening the supply chain. Greening the supply chain is a concept that incorporates procurement, which is the act of contracting authorities and entities taking environmental issues into account when

tendering for goods and/or services. Sustainable business practices can become difficult when trying to balance short and long term goals; it is hard because you want to affect the community immediately, but in a way that doesn't affect it negatively in the future.

Next, let us look a little more in depth at the major examples of sustainable improvement. These consist of solar energy, wind energy, crop rotation, efficient water fixtures, and green space. Solar energy is probably the most used and most known for of sustainable improvement. Solar energy is completely free and is available in limitless supply. We see solar panels everywhere we go, they used to be only commercial but the residential use has since grown. Solar energy is a benefit to the consumers, helps reduce pollution, and is both environmentally and financially effective meeting two of the frameworks illustrated in the triple bottom line. The next example is wind energy which incorporates the use of windmills to generate power. The construction cost and finding a suitable location makes this slightly difficult, but this is meant to service more than just the individual. Wind energy can supplement or even replace the cost of grid power. Wind energy is a great investment for overall sustainable development. Crop rotation is the next example. Crop rotation is defined as "the successive planting of different crops on the same land to improve soil fertility and help control insects and diseases". Crop rotation is completely chemical free and maximizes the growth potential of the land. This applies to both commercial farmers as well as home gardeners. Another huge aspect of sustainable development is the use of efficient water fixtures. This incorporates replacing current construction practices while supporting the installation of efficient shower heads, toilets, and any other water appliances. It takes a lot of energy to produce and transport water and to process waste water so it is very important at

the individual and societal level due to a lack of fresh water supply. This aspect is crucial to sustainable growth because moving water is difficult. Water is all around us so the installation of cleaner and more efficient fixtures can ultimately save an enormous amount of water. The last example of sustainable development is green space. Green space improvement consists of parks and other areas where plants and wildlife are able to thrive. This also can create opportunities to enjoy outdoor recreation in areas like cities. The UW-Madison Department of Urban & Regional Planning defined this movement as "helping regulate air quality and climate, reducing energy consumption by countering the warming effect of paved surfaces, recharging groundwater supplies and protecting lakes and streams from polluted runoff". Developments of this nature also showed improvement to an individual's mental health. With that being said, green space incorporates all beneficial aspects of a society. Sustainable development incorporates numerous aspects of society, even if it doesn't correlate to engineering directly.

So what do these examples actually do for society, both positively and negatively? All of the positive impacts are listed above, but there actually a few negative factors of sustainable development. Although sustainable development is predominantly positive, there comes a time where it may cost a price. We have seen in the past with the way our land has changed, certain areas of land are no longer "common" or owned by the public. When factories and such are built on land, a lot of area becomes private and no longer accessible to the public. As this continues to happen, more and more land is no longer "common". This is negative to sustainable development because what if this continues to grow to where there is no such thing as "common" water or air. Air may be a stretch, but it is definitely possible.

Although sustainable development is excellent for an overall community, it may eventually hurt the “common” individual.

To conclude, how can a business stay sustainably intact without negatively affecting their business as well as positively affecting the society? Here are five key considerations for a sustainable business strategy.

1. Can you cover costs in the long term?
2. Can you reduce consumption of natural resources?
3. Can you reduce waste and wasteful behavior?
4. Can you engage local communities all along your value chain?
5. Can you drive the agenda?

With that being said, a business would never commit to a green lifestyle if they cannot meet the above requirements. Sustainable businesses must be efficient but they also must be smart. Networking and relationships is a huge part of sustainable developments. There is no one company that handles all aspects that incorporate into a sustainable society. A good sustainable business handles what they can and then reaches out to its partners for help with funding and the areas in which they aren’t so proficient. Let us look at the top five sustainable companies in the world of 2017 according to Forbes Magazine:

1. Siemens—Industrials
2. Storebrand ASA—Financials
3. Cisco—Information Technology
4. Danske Bank A/S—Financials

5. ING Group—Financials

When looking at this top list, the first thing that stands out is that three of the sustainable leaders happen to be in the financial industry. These companies are the top of the line because they handle money well to nourish relationships and fund projects that make the world around more sustainable even if they are not actually doing the work themselves. Sustainability is ultimately about teamwork, companies must work together to make the world more "green".

All in all, sustainable business practices main goal is to positively affect society in all aspects without negatively affecting the future of the society. Sustainable practices originally began as a consumer demand but has rapidly became part of the legal landscape. Sustainability isn't just making the world more "green", it's about making societies more balanced from start to finish by means of the following goals:

- No poverty
- Zero hunger
- Good health and well being
- Quality education
- Gender equality
- Clean water and sanitation
- Affordable and clean energy
- Decent work and economic growth
- Industry innovation and infrastructure

- Reduced inequalities
- Sustainable cities and communities
- Responsible consumption and production
- Climate action
- Life below water
- Life on land
- Peace, justice, and strong institutions
- Partnerships for all goals.

Wrapping things up, we are looking at sustainability from an engineering and business standpoint. Not all engineering companies are great business companies. Incorporating a good business strategy with a good engineering standpoint and a great public backing, the sustainable development results could be endless.

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