The Critical Link between Sustainability and Business Strategy

This article, based on the author’s book, *Introduction to Sustainability Analytics* (CRC Press, 2018), introduces leaders to the untapped potential of sustainability analytics to determine which metrics are material, relevant, and actionable to their business.
Advances in enterprise systems are making it feasible for corporations to track and transform performance to meet their corporate goals. Business analytics enable organizations to convert raw data into actionable insights to achieve their corporate performance objectives. In the sustainability context, governments and corporations are facing a plethora of ever-expanding management challenges related to issues spanning physical, financial, geo-political, social, and environmental concerns. The quadruple bottom line of sustainability comprises of profit, people, planet, and purpose.

Sustainable development “meets the needs of the present without compromising the ability of the future generations to meet their own needs.” Sustainability analytics analyze the data and provide insights that help transform sustainability information into measures across the value-chain and life-cycle to accomplish their social responsibility and sustainability goals. The materiality of these seemingly noneconomic impacts is the critical link between corporate sustainability and business strategies. Organizations must recognize the strong connections between competitive advantage and sustainability issues.

**Profit, People, Planet, and Purpose**
The quadruple bottom line of sustainability comprises profit, people, planet, and purpose—a more recent enhancement. The materiality of these seemingly noneconomic impacts is the critical link between sustainability and business strategy. Leaders need insight into how to determine which sustainability metrics are material to them and relevant to their business. With increasing focus on sustainability factors from the marketplace (i.e., regulators, investors, financiers, and consumers), corporate sustainability disclosure is shifting from voluntary to vital. Business leaders are challenged now, more than ever, by the global sustainability and corporate social responsibility issues. This article aims to introduce leaders to the untapped potential of sustainability analytics. Beginning with the genesis of corporate social responsibility, the article presents the merit of sustainability analytics to incorporate them into their corporate strategy, resource allocation prioritization, and decision-making processes.

**Genesis of Corporate Social Responsibility**
Social responsibility is not a new concept. More than a century ago, Mohandas Karamchand Gandhi (Mahatma Gandhi) taught us that, the earth provides enough to satisfy every man's needs but not every man's greed; he was one of the first to envision sustainable development and its quadruple dimensions, namely prosperity, planet, people, and purpose. Extreme greed, whether for money or nature's resources, indeed has disastrous consequences. In 1930, Gandhi's friend and contemporary, Albert Einstein's guidance to scientists and engineers—concern for (hu)man and his/her fate must always form the chief interest of all technical endeavors…. should never be forgotten amid diagrams and equations—was one of the first calls to scientists and engineers to be socially responsible. More recently, Pope Francis, leader of the Catholic faith, drew the world's attention to one of the mega issues of sustainability when he called climate change a dire threat that humans have a moral responsibility to address.

**New Social Contract and Transformed Business Ambiance**
Corporation and its contract with society have been debated from Nobel Laureate Milton Friedman’s *maximize shareholder value*, to Edward Freeman’s *consider the interests of multiple stakeholders*, on to the *New Social Contract*, defined as “business is one thread in the complex web of interwoven society.” Risks of corporate tsunamis in today's synchronous interactive connectivity ambiance are enormous, as recently experienced by Facebook. Today, with greater recognition that there is a strong connection between competitive advantage and sustainability issues and that shareholders are only one of many stakeholders, there is a consistent and continual move from shareholder primacy to stakeholder primacy; leaders must steward under this transforming business ambiance. In the sustainability context, governments and corporations are facing a plethora of ever-expanding management challenges related to issues spanning physical, financial, geo-political, social, and environmental concerns.

**Evolving Corporate Social Responsibility Regulations**
Emerging regulations seeking disclosures emanate from government departments of environment, trade & commerce, and finance & treasury to ensure sustainable development; to protect equity investors investing in publicly listed stocks and to collect fair share of taxes. Lenders and institutional investors are increasingly required to disclose, through integrated reporting, how their investments are channeled into responsible operations from the perspectives of longevity, risk, and reward. Stock exchanges are recognizing the need for transparency on corporate sustainability strategy. The U.S. Securities and Exchange Commission (SEC) and several stock exchanges across the developed world call for reporting material risks in their operations as part of their annual financial reports. Countries like Australia, China, France, India, and the United Kingdom require some form of sustainability disclosure compliance by companies listed on their stock exchange. Investors are turning to integrated reporting for a better comprehension of the whole picture. Integrating sustainability and financial reporting adds further credibility to sustainability disclosures and helps communicate business value of sustainability using analytics to external stakeholders.

The integrated report meets a range of market needs, including transparency, inclusiveness, and more information that is material to modern business.
Using Sustainability Analytics to Optimize Resource Allocation

Ernst & Young states that environment, health, and safety (EHS) and sustainability analytics programs help companies reduce risks and drive cost savings. The first three components listed by Ernst & Young—summarization, visualization, statistical econometric analysis—are elements of more traditional analytics. The next three constituents—comprising of spatial, human driven algorithmic and heuristic machine-learning—represent the more advanced analytics applications today. The untapped potential of sustainability analytics is only now beginning to be recognized.

Environment, Social, and Governance Metrics

Metrics, or indicators, are measures that describe the current progress level or state of a sustainability aspect (e.g., an operation’s energy consumption or greenhouse gas emission). Metrics are the basic units that go into reporting frameworks as well as indexes. Indexes are aggregates of metrics, designed and defined by the provider of that index, commonly used by investors (e.g., Dow Jones Sustainability Index). A framework is a disclosure of a structured comprehensive set of metrics or indicators of the sustainability performance and impact of an operation, with a focus on the quadruple bottom-line (e.g., Global Reporting Initiative).

Models for Resource Allocation Prioritization

Despite the potential influence of the non-financial factors on future value creation, its integration into decision-making remains a challenge. Environmental and sustainability issues are tough socio-political choices. Society does not have unlimited natural resources, so it becomes necessary to prioritize and allocate resources in an optimal manner.

Cost–benefit analysis quantifies the value of public or corporate policy decisions in monetary terms, including consequences (impacts) on all significant stakeholders. Cost-effectiveness analysis involves computing life cycle costs of competing alternatives, all expressed in present value terms for a given amount of benefits. Environmental life cycle assessment addresses the environmental aspects and potential impacts of a product or service throughout their life cycle. Social and socio-economic life cycle assessment assesses the social and socio-economic aspects of products and their potential positive and negative impacts along their life cycle.

Strategic decision models (a) use probability distributions for decision analysis using decision trees or (b) use priority rankings, such as multiple-criteria decision-making, which can consider both technical and non-technical attributes. These methods have been successfully applied in a wide range of applications related to energy and sustainability problems.

Conclusion

Sustainability analytics has significant untapped potential to identify material metrics and to prioritize allocation of resources to these material initiatives. The need to garner insight for government or corporate policy decisions has led to the development and use of statistical or econometric analysis for decision-making.

The U.S. government has performed complex and intense cost–benefit and risk analysis for significant regulatory efforts, such as the U.S. Clean Air Act. Recent advances in remote sensing and data capture, have propelled application of analytics to a different stratum. Spatial analysis with real-time feedback provides granular insight into potential opportunity and risk for operational improvement. Human-driven algorithmic analysis informs real-time intervention or multi-criteria decision-making through predictive and preventive analysis of real-time data. However, the wide array of diverse real-time data from global operations with potential legal ramifications continues to be a governance challenge.

References