Resources, Recycling, Regulations, and Reputation: A Case Study Comparison of Operations Sustainability Techniques

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ABSTRACT

This paper will use the case study approach to evaluate two different firms and the sustainability of their operations. The research conducted on the sustainability practices of a major healthcare provide located in Pittsburgh, PA (UPMC) and Seneca Resources (SRC) in Lycoming County, PA. SRC has highlighted some major techniques and practices that other firms can adapt to ensure the sustainability of their own operations. Ultimately, both companies in this study illustrated how reuse of resources can lower costs, improve performance, and help the environment.

Keywords: healthcare operations, hydraulic fracturing, LEED certification, sustainable operations, sustainability, Seneca Resources, UPMC, waste management.

INTRODUCTION

Sustainability as a Strategy

Sustainability is a growing concern and challenge for companies around the globe. Batra (2012), McDonagh and Clark (1995), Menon, Menon, Chowdhury, and Jankovich (1999), and Moisander (2007) attribute this challenge to the over-consumption of the Earth's resources, especially in developed countries, and the unexpected rapid increase in the world's population throughout the last century. Many corporate management have realize that in a world with decreasing resources and increasing population, that it is imperative to consider sustainability in their own operations (Simintiras, Schlegelmilch, & Diamantopoulos, 1994; Straughan & Roberts, 1999; Thogersen, 2006; Van Liere & Dunlap, 1981; Vesilind, Heine, & Hendry, 2006). When evaluating sustainability in production processes the four "R's" of sustainability is a useful tool. These are the resources used by the production process, the recycling of production materials and product components, the regulations that apply, and the firm's reputation (Hooley, Saunders, & Pierry, 1998; Iyer & Banerjee, 1993; Jain & Kaur, 2006). A company can assess their organization and use the four "R's" to determine where improvements can be made. Companies are often unaware of the advantages sustainability can bring. Searcy (2009) points out that there were few published examples of indicators being used either in Board-level and strategic decision-making, or in managing supply chains or even business units. The world would benefit if more corporations began implementing sustainability processes.

Resources are used primarily by the firm’s operations segment. This suggests that there are many opportunities to use human, financial, and material resources in a sustainable manner (Kayas, McLean, Hines, & Wright, 2008; Kilbourne, 1995; Kroes & Ghosh, 2010; Laroche, Bergeron, & Barbaro-Forleo, 2001). Reducing resources is the most common way companies implement the four “R’s”. When a firm reduces the amount of resources used, costs will also be lowered. Low costs and resource use help increase the company’s profit margins while also incorporating a sustainable approach. There are many different ways that a company can reduce their resource consumption. One common approach is to lower energy and water costs. Another example is reducing the amounts of materials used in a process. Advancing technology allows firms to become more efficient in their materials use.

Waste Management

Waste is another aspect of sustainability that every company must deal with. There are only three things that can be done with waste: burn it, bury it, or reuse it (Hooley, et al. 1998; Jain & Kaur, 2006). Burning waste is not a sustainable practice because it pollutes the atmosphere and increases greenhouse gasses. Burying creates even more problems; we have a limited amount of space that will eventually run out and it also pollutes ecosystems and can have dangerous consequences. Therefore, it is essential that management attempt to design products and services that utilize the cradle to cradle approach. In this process design, we can follow the product from creation to destruction while having no effect on the environment. There are numerous ways that a firm can recycle whether plastic; glass, or metals, and there are always opportunities for a firm to become more sustainable in the recycling arena.

Laws and regulations affecting transportation, waste, and noise are proliferating and can be as much of a challenge as reducing resource use (Kroes & Ghosh, 2010; Laroche, et al., 2001). Regulations may impact a company negatively but they are necessary in a world with finite resources. Governmental agencies are aware that we will not be able to take from the environment indefinitely and are attempting to correct the imbalance. Companies can face fines or taxes for not complying with regulations; therefore, it is in the best interest of the company as well as the environment for firms to attempt to curb pollution as much as possible. This is often referred to as a carbon footprint reduction and represents the firm’s impact on the environment.

Another evaluation criterion of sustainability is the firm’s reputation. Many companies today are realizing that sustainability can be an advantageous marketing technique. Consumers are becoming more aware of sustainability practices and will do business with companies that reflect these values (Granzin & Olsen, 1991; Haanpää, 2007; Hooley, Saunders, & Pierry, 1998;

Iyer & Banerjee, 1993). Although firms are not required to commit to sustainable values, they often gain market share because they embrace the techniques. A comment made in a recent Harvard Business Review article stated, “Impressive as the cost efficiencies are, more intriguing is the growth that companies in emerging markets have gained by extending their sustainability efforts to the operation of their customers. Companies are building unique business models by boosting customers buying power and, in the process, creating interdependencies that are difficult for competition to copy” (Haanaes et al., 2013). Seeing that sustainability is unlikely to disappear, firms would be suited to use this marketing technique to their advantage.

Purpose of Study

This paper will use the case study approach to evaluate two different firms and the sustainability of their operations. The first company is the University of Pittsburgh Medical Center (UPMC), which is a global nonprofit health enterprise. They are considered one of the leading health care providers in the U.S. and one of the largest employers in the Pittsburgh region. The second company is Seneca Resources Corporation (SRC), which is a subsidiary of National Fuel Corporation. Seneca Resources handles the prospecting for, development of, and purchase of natural gas and oil reserves. Their primary focus is on the Marcellus Shale in Pennsylvania. The paper will analyze these companies in terms of general characteristics, operations sustainability and compare these two different companies.

CASE STUDIES

Company Profile: University of Pittsburgh Medical Center (UPMC)

University of Pittsburgh Medical Center is comprised of four major divisions: Hospital and Community Services, Physician Services, Insurance Services, and International and Commercial Services. UPMC’s system wide revenue reached $10.19B for FY 2012, making it the largest non-profit healthcare system in the United States in terms of gross revenue (UPMC, 2012). It is also Pennsylvania’s largest employer with over 58,000 employees (UPMC, 2012). UPMC has consistently gained national recognition for providing excellent patient care and was most recently ranked #10 on U.S. News and World Report’s 2012-2013 Honor Roll (Romoff, 2012).

UPMC is perhaps most notable for its vast network of hospitals and outpatient care centers located in and around Pittsburgh and Western Pennsylvania. Currently, UPMC operates 20 hospitals and 400 outpatient locations that treat over 4 million people per year (Romoff, 2012). The presence of multiple hospital locations in key areas around the metro area has allowed UPMC to gain a 60% inpatient market share in Allegheny County (Romoff, 2012). Hospital and Physician services contributed approximately $4.5B to system wide revenue in 2012 (Riefner, personal communication, 2013).

Established in 1998, UPMC Insurance Services serves approximately two million members and has quickly grown into the 12th largest provider in the country in terms of Medicaid revenue and the 17th largest in the country in Medicare revenue (Romoff, 2012). The membership includes over 9,600 employer groups and operates one of the most comprehensive and effective workplace health and wellness programs in the United States (Romoff, 2012).

Shortly after establishing its Insurance Services division, UPMC launched the International and Commercial Services division. The goal of this division is to expand UPMC's reach and influence to different markets, both nationally and internationally. Hospitals specializing in transplants and cancer treatments have since been established in foreign nations such as Italy and Ireland. The division also seeks to share ideas and processes through consulting services and various international partnerships.

Through exceptional innovation and management, UPMC has established itself has one of the top healthcare provider systems in the world, but it will surely face some of its greatest challenges in the coming years. The rapidly changing healthcare landscape in both Western Pennsylvania and the United States will force healthcare providers to change the way they do business. No single factor, however, will present a greater challenge than the recently passed Patient Protection and Affordable Care Act (PPACA). In summary, the act aims to increase health insurance coverage for all citizens while reducing the cost and increasing the quality of healthcare. While this act will eventually benefit individuals, it will put tremendous pressure on health care providers and hospitals to tighten operations and become leaner and more efficient than ever before. The provision of the act that could possibly have the greatest effect on operations deals with Medicare reimbursements to hospitals and healthcare providers. Currently, care providers are reimbursed by Medicare on a fee-for-service basis. This means that each medical service is billed and reimbursed separately. Under PPACA effective in 2014, Medicare will only be disbursing "bundled payments" in which one lump sum will be paid to cover all aspects and stages of treatment. For a hip replacement under the current system, for example, Medicare makes separate disbursements for aspect of treatment (e.g., surgery, surgeon fee, post-op care, rehab, etc.) based on what is billed by each department. Under the new system, however, Medicare will pay one standard lump-sum amount based on the type of episode. According to Cutler and Gosh (2012), an analysis of the costs associated with some of the more expensive episodes showed that bundled payments do have the potential to significantly reduce costs by forcing hospitals to increase efficiency in the provision of care. Another provision of the act that has begun to take effect is a penalty fee that is charged based on certain types of re-admittances. If a care provider reports a certain amount of unnecessary readmittances, they will in turn be docked a percentage (up to 3%) of their Medicare reimbursement.

Another important challenge that UPMC will face in the coming years is an increase in competition with major competitor Highmark. Currently, a contract exists between UPMC and Highmark that allows Highmark members access to UPMC facilities. At the end of 2014, however, this contract will no longer exist. UPMC has no plans for renewal as Highmark is currently in the process of acquiring West Penn Allegheny Health System (Wenner, 2013). With the contract agreement ending and Highmark becoming somewhat of a full service health care system of its own, UPMC must continue to innovate and strengthen operations in order to retain its market share.

A final major challenge that has recently arisen is the city of Pittsburgh's decision to challenge the tax-exempt status of UPMC as a charitable organization. Mayor Luke Ravenstahl issued the following statement regarding the city's decision to challenge the status: "They haven't been operating as a charity and it's time that this community step up in that regard. The reality of the situation is the taxpayers ... are currently subsidizing UPMC's non-profit status." (Balingit, 2013). A ruling in favor of the city could result in UPMC absorbing over $30M in property taxes that it is currently except from as a charitable organization (Schooley, 2013).

Healthcare Sustainability Considerations

In order for UPMC to remain a major player in the healthcare provider industry and overcome these challenges, the company must rely on the key success factors and core competencies that allowed it to rise to its current position. UPMC's major key success factor is its broad and diverse network of healthcare facilities that range from physician's offices to hospitals to rehabilitation centers. It allows for a patient to be diagnosed, treated, and rehabilitated without having to go outside of UPMC. This contributes greatly to the improvement of operations management in a number of ways. First, it allows UPMC to better manage costs, especially in the era of PPACA. Controlling all aspects and stages of patient treatment allows for UPMC to control entire processes instead of individual stages as other hospitals might do. Also, quality of treatment is better maintained when UPMC is able to monitor a patient's progress throughout various stages of treatment. According to Donald Riefner, Vice President of Finance and Chief Revenue Officer, the number one detriment to quality is the handoff, which is when patients are transferred from one care division to another (Riefner, personal communication, 2013). By integrating and monitoring a diverse network of health care divisions, UPMC is better able to monitor patient handoff and a patient's overall experience at facilities. According to Mechanic and Tompkins (2012), UPMC will have additional opportunities to fine-tune operations as the bundled-payment initiative provides an opportunity for hospitals to gain experience with coordinating care across a continuum of services for discrete clinical conditions.

To complement its broad and diverse network of care facilities, UPMC runs many specialty care facilities that are unmatched by other hospitals. This can be considered its major core competency. Facilities such as Children's Hospital, Magee Women's Hospital, and Western Psychiatric Institute offer highly specialized care that is of top-notch quality. Combined with the sheer number and convenient location of other care facilities, UPMC offers one of the best arrays of specialized, high quality, easy-to-access health care services in the country.

Sustaining Operations for the Future at UPMC

The healthcare that UPMC offers is award winning, recently receiving an excellence accreditation from the National Committee for Quality Assurance (UPMC Health Plan, 2013). Over the past few years UPMC has been working to take their excellence a step further beyond the area of healthcare and into the realm of operational sustainability coinciding with environmental concerns. UPMC recognizes that they not only have a responsibility to provide great healthcare, but also to be more socially accountable, which will not only positively affect their patients but also the western Pennsylvania region. According to Laura Kinney, the healthcare industry spends $8.3 billion on energy each year as well as being the largest water user in communities and producing two tons of waste per year (Kinney, L., 2010). Not only will social responsibility by UPMC improve the quality of life for the surrounding communities, but can significantly lower the costs that the company incurs. To show their commitment to green sustainability, UPMC has incorporated environmental sustainability in all aspects of the company. Sustainability measures in the areas of regulations, resources, recycling, and reputation are necessary for UPMC to continue its success and meet patient demands.

UPMC is continually working towards improved management and reduction in the use of resources as well as encouragement of recycling throughout the company. Their goal is to promote sustainability throughout their company, on all levels. A partnership with Duquesne Light has allowed UPMC to more actively handle its use of power and reduce it. Duquesne Light has established software within UPMC that puts computers into "sleep" mode at a suitable intermission of non-use. This small change alone has resulted in computer power usage being reduced by fifty percent ("A Network for Sustainable Business," 2013). UPMC also reduced its use of paper and the resulting paper waste by promoting paperless meetings, making medical records available electronically, switching to direct deposit for employee pay, and appropriately recycling paper that is used. As a result of these changes in paper usage, more than one million pounds of paper is recycled on an annual basis. UPMC also incorporates recycling and resource management into hospital services by not only changing to biodegradable products for use in food services, but they also use locally grown produce in healthy meals serviced throughout the hospital. UPMC purchases produce from local vendors, promoting local sustainability and community, as well as growing their own produce and herbs in gardens at Magee-Women's Hospital.

UPMC demonstrated their commitment to recycling and resource reduction when building the new Children's Hospital of Pittsburgh. UPMC used recycled building materials as well as local materials; a water reduction and air filtration system was put in place, green roofing and shading systems were installed to lower costs of cooling the hospital, among many other areas of environmental concern being addressed. This successful commitment to efficiency resulted in Children's Hospital of Pittsburgh of UPMC receiving Leadership in Energy and Environmental Design (LEED) certification. Renovations of the UPMC offices located in the U.S. Steel Tower also resulted in LEED certification. Green renovations in the U.S. Steel Tower consisted of low-flow water systems, rapidly renewable finishes, and low-emitting furniture, carpeting, and paint ("U.S. Steel Tower," 2012). UPMC is also in the process of expanding its presence in the western Pennsylvania region by building a campus in Monroeville, PA as well as expanding the existing campus in McCandless, PA. It can certainly be expected that UPMC will continue its success in green sustainability with these expansions and strives to earn additional LEED certifications.

Future Directives

Ultimately, the best actions to take in order to increase operational sustainability are those that fall within the core competencies of a firm and make the firm successful. UPMC is a health care provider, and the majority of examples provided in this study revolve around UPMC creating a healthier and safer environment for patients and safer work place for their employees. SRC has been characterized as an innovative firm. Throughout this study, we have shown that SRC's success in sustainability has come from their ability to implement new products, technologies, and processes in the natural gas industry. Both firms also face their share of challenges, which makes achieving sustainability difficult. UPMC has had to deal with new Medicare policies forcing them to adopt leaner operations, new competition within the Pittsburgh area, and the threat of losing tax-exempt status. SRC has also faced fierce competition during the Marcellus shale boom in Pennsylvania as well as the continuous battle to maintain a positive reputation. These challenges have not stopped either firm from taking initiative to protect the environment and fulfill their social responsibilities to create a more sustainable business and future for others. In fact, the sustainability measures discussed in this study have aided both firms in facing and in some cases overcoming the difficulties they face. This should provide a sense of hope and motivation for all firms to promote sustainability from within, especially by finding ways to use resources more effectively, recycling to protect the environment, satisfying and exceeding industry regulations, and improving the way they are perceived by their customers and the world.

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Relevance to Marketing Educators, Researchers, and Practitioners:
This case study is relevant to marketers and researchers in dealing with business ethical dilemmas and sustainability issues for smaller companies in formulating their supply chain management policies and practices.

Track: Business to Business Marketing/Supply Chain Management

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