The sustainable corporation: lessons from Avatar

Norm Borin, California Polytechnic State University - San Luis Obispo
The sustainable corporation: lessons from Avatar

Norm Borin*
California Polytechnic State University,
San Luis Obispo CA 93407, USA
E-mail: nborin@calpoly.edu
*Corresponding author

Arline Savage
UAB School of Business,
University of Alabama at Birmingham,
Birmingham AL 35294-4460, USA
E-mail: arlsav@yahoo.com

Abstract: This article uses the fictitious company RDA from the movie Avatar as a textbook case of corporate non-sustainability. We provide a list of mistakes RDA made and provide parallel corporate examples in our own society in the areas of stakeholder analysis, corporate governance and systems thinking using the triple bottom line. For each area we present a framework that companies could use to operate in a more sustainable manner.

Keywords: sustainable business; corporate governance; triple bottom line; stakeholder analysis; indigenous.


Biographical notes: Norm Borin is a Professor of Marketing at the Orfalea College of Business California Polytechnic State University. His current research includes an investigation of strategies in marketing sustainability and the development of sustainability pedagogical learning tools for marketing courses. His work has appeared in a variety of journals including the Journal of Retailing, Decision Sciences, Journal of Consumer Marketing, Journal of Product and Brand Management, Journal of Marketing Education, Journal of Direct Marketing, Journal of the Academy of Business Education and the Journal of Interactive Marketing. He has taught at the Copenhagen Business School in Denmark, McIntire School of Commerce at the University of Virginia and Seinajoki University of Applied Sciences in Seinajoki Finland.

Arlene Savage is a Professor of Accounting at the University of Alabama at Birmingham. She received her Doctoral degree in Accounting from the University of Port Elizabeth (now Nelson Mandela Metropolitan University) in South Africa. She is also a Chartered Accountant. She has worked in academia, industry, the accounting profession, and as a consultant in South Africa, Canada and the USA. Her areas of expertise include corporate social disclosure and accounting and the public interest.
1 Introduction

Imagine that you are an executive at a company that expands into an environmentally pristine area to gather a critical resource. During the process, your company does irrevocable damage to the local inhabitants and ecosystem, which leads to distrust and hostility, and eventually to aggressive measures by the locals to regain control over their resources. In the end, your company’s capacity to operate has either been reduced or eliminated, the pristine area changed forever, and the critical resource damaged and yet still needed. Life has been lost, mistrust towards all business organisations has grown, and the faith of government’s role in the protection of peoples and societal welfare has eroded. If you believe that this scenario describes what took place on the moon of Pandora in the fictional movie Avatar, you are correct. But consider, for example, the cases of:

1. the Cofán, Siona, Secoya, Kichwa, and Huorani, indigenous groups in Ecuador
2. the First Cree Nation in Alberta, Canada
3. the Kunas and Ngöbe indigenous populations of Panama.

The Cofán, Siona, Secoya, Kichwa, and Huorani, indigenous groups of Ecuador are fighting to preserve their homes and way of life against Chevron, which has been drilling for oil for the past decade. Lawsuits related to the dumping of oil and other toxins total $30 billion (Walsh, 2010). Many are now calling Ecuador the Amazon Chernobyl. The native populations have come to view foreign corporations in the same way that the Na’vi viewed RDA – as invaders who take a lot and give little in return. Inhabitants of Ecuador have described cancers, blindness and other physical tolls that they believe come from their dead rivers and polluted air.

Similar to the expense of travelling 4.3 light years to extract unobtanium on Pandora, as fossil fuels become depleted, oil companies are producing expensive oil-sands petroleum. Carbon emissions and water usage are much higher for the production of oil-sands petroleum. The tar-sands projects in Alberta, Canada, have caused concern among the local fishermen due to the high levels of lead, mercury, cadmium, zinc and other pollutants found downstream from the project. Many of the locals are from the First Nation Cree tribe and are reporting increases in cancer and a decreased ability to live off their land (McDermott, 2010).

Since the early 1900s, the Kunas and Ngöbe indigenous populations of Panama have struggled against their own governments, as well as foreign and domestic corporate exploitation of resources on their lands. Although the government’s environmental laws are supposed to protect indigenous development and resource rights, little has been done to enforce those laws. The degradation of resources (e.g., sea turtles and lobsters, timber and minerals) has been accelerated by increased corporate resource rights granted by a government that is keenly interested in the additional revenue stream. The result is a large transfer of wealth from indigenous to non-indigenous stakeholders. A recent study found that “95 percent of the country’s indigenous areas are impoverished and 86 percent of the country’s indigenous people live beneath the extreme poverty mark” (Wickstrom, 2003).

Ecological sustainability, as defined by Starik and Rands (1995, p.909) is “the ability of one or more entities, either individually or collectively, to exist and flourish (either unchanged or in evolved forms) for lengthy time periods, in such a manner that the existence and flourishing of other collectivities of entities is permitted at related levels
and in related systems”. None of the examples above fit this definition and thus the corporations themselves cannot be sustainable in the long term. What did these corporations do wrong? What actions could they have taken to avoid these calamities?

We use the movie, Avatar, as an example of poor sustainable business practices. We then describe key mistakes made by RDA, the corporation depicted in the movie, and we draw parallels with recent cases in the real world. Lastly, we suggest sustainable corporate solutions that can lead to a win-win-win for all stakeholder group, including ecosystems as a stakeholder group (e.g., Starik, 1995).

1.1 Avatar

Avatar’s re-release in 2010 continued to add to its position as the highest-grossing movie of all time. In addition to its box office success, the movie’s impact can be measured by the broad spectrum of social/cultural/environmental/organisational lessons that individuals have attributed to it. Some have accused the movie of promoting racism (white man wants to save the ‘primitive’ people) or creating suicidal feelings from those who feel all is lost for our own planet (Thomas, 2010). Cohen (2009) discusses the movie’s message of anti-imperialism, while others have noted the movie’s anti-military and anti-religious tones (Douthat, 2009; Moore, 2009). Although the movie’s ending may be transparent, it does reinforce the proverbial right-over-might message.

The movie has considerable relevance to those who adopt the view that, for the earth to remain (or become) sustainable, there needs to be a reconciliation of environmental, social and economic demands. In the movie, this does not happen. The basic plot of Avatar consists of a corporate/government entity (RDA), seeking to procure a valuable resource (unobtanium) for profit, which RDA attempts to gain by:

1. ignoring and violating the social and cultural needs and desires of the various species that live where the resource is located
2. destroying many of the unique environmental characteristics of the land.

Sustainability of the planet was presumably restored when RDA was defeated and forced out at great cost to all three of the sustainability facets (see Appendix for a description of the main characters in the movie).

Although it is unlikely that James Cameron developed the movie with the objective that it would be used as a case example for business sustainability, Avatar has some valuable lessons for corporations. There are many examples of movies that have been used in both academic and non-academic settings for their pedagogical value. Table 1 provides examples of some that illustrate key business skills.

<table>
<thead>
<tr>
<th>Movie</th>
<th>Knowledge, skill sets</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Noon</td>
<td>Leadership, limited resources</td>
</tr>
<tr>
<td>Rocky</td>
<td>Perseverance</td>
</tr>
<tr>
<td>You’ve got mail</td>
<td>Understanding your competition</td>
</tr>
<tr>
<td>Story of Alexander Graham Bell</td>
<td>Entrepreneurship</td>
</tr>
<tr>
<td>Big</td>
<td>Creativity</td>
</tr>
<tr>
<td>The Godfather</td>
<td>Role of the firm</td>
</tr>
</tbody>
</table>
Even if the Avatar scenario is a work of fiction, there are numerous corporate examples on our planet that parallel RDAs unethical and unsustainable endeavour. The question is: Can real-world businesses learn sustainability lessons from Avatar and what should RDA have done differently to allow a win-win situation for all stakeholders?

Avatar serves as an excellent example of unsustainable corporate and, to some extent, anti-societal behaviour, towards both indigenous populations and the environment, which Freeman et al. (2000, pp.22–23) describe as old-story ‘cowboy capitalism’. We identify these behaviours in Avatar, draw parallels with recent real-world examples, and provide recommendations for RDA or any real company that may choose to venture into new areas of operations. As Post (1991) notes, ecological sustainability issues require thinking at levels of abstraction not normally used in managerial decision making.

So, what went wrong on Pandora?

2 Lack of stakeholder analysis

“They are fly-bitten savages that live in tree.” Parker Selfridge, corporate administrator for the RDA mining operation

2.1 RDAs problems and mistakes

In a landmark book on stakeholder management, Freeman (1984, p.46) defines an organisation’s stakeholder as “any group or individual who can affect or is affected by the achievement of the organization’s objectives”. However, shareholder satisfaction alone has long been recognised as an unsustainable method to conduct business operations (Bakan, 2004; Freeman 1984). Traditional stakeholders include banks, customers, suppliers, employees, competitors, unions, activist groups, the government, political groups, trade associations, and other groups that can help or harm the organisation (Freeman, 1984). On the other hand, some authors argue that the natural environment is also a legitimate and under-represented stakeholder (Post, 1991; Sovacool, 2008; Starik, 1995), with a legitimate claim in the organisational value-creation process. Freeman et al. (2000, pp.55–56) also pose this question, over a quarter of a century after Freeman’s (1984) oft-cited definition above defines stakeholder in human terms by his use of the word ‘who’.

This contention of the natural environment as a stakeholder is illustrated in the Avatar movie, where the Na’vi tribe and its natural environment are entwined key stakeholders. There are parallels between the relationship of the Na’vi tribe with its environment and that which cultures such as the American Indian or Nepalese have with theirs. The Na’vi people live harmoniously with the flora and fauna and have a well-developed and deep respect for all life on Pandora. This is evidenced by Neytiri’s sadness when she feels compelled to kill a Viperwolf to save Jake’s life. The reverence that the Na’vi people have for their planet would be a key consideration for a corporate mining operation by an outsider like RDA to be successful.

Although the science team led by Grace is charged with winning over the Na’vi specifically to smooth the way for RDA to mine unobtanium, there are a number of problems that prevent success for RDA. First, the team offered this stakeholder group items that they may not value in their culture: the English language, schools, roads, and medicine. Ghana represents an example of this on our own planet, where a rural
community was placed on the national electrical grid but requested to be taken off when they could not afford the payments and found that it led to the moral decay of their youth (Bonsu and Polsa, 2011). Second, there is a lack of respect for indigenous peoples on Pandora, particularly the Na’vi who are referred to as ‘blue monkeys’ or ‘fly-bitten savages that live in trees’. London and Hart (2011, p.24) found that many managers describe indigenous peoples, who are not normally part of the formal capitalistic economy, in unflattering ways, including ‘lazy, lack intelligence, or helpless’.

RDA security forces had no compunction in the murder of an indigenous population that posed little threat, other than living in an area that RDA wanted to exploit for profit. RDA felt that it should make little difference to the Na’vi what group of trees they live in. Although Grace’s team lived with the Na’vi in an attempt to understand their culture and win their trust, she was asked to leave the group after many Na’vi were killed by RDA security. This, together with the fact that the planet’s atmosphere was not hospitable to human life, may have motivated corporate representatives to diminish the value of Pandora and all its life forms beyond that of unobtanium.

2.2 Parallels

Like RDA and the Na’vi, there are numerous cases (besides the three mentioned in the introduction) of corporations that have encroached on indigenous populations and pristine habitats in order to extract valuable natural resources. For instance, approximately 15,500 inhabitants of the Great Bear Rain Forest Area and Haida Gwaii archipelago islands in Western Canada are of aboriginal descent (First Nations). This area has been the site of extensive logging by companies such as Weyerhaueser and Cascadia Forest Products, consequently depleting the natural capital of the area while returning few economic benefits to the locals. The indigenous inhabitants demanded that future extractions take into account their values, cultures, subsistence and receipt of a share of the royalties, jobs and other economic opportunities. Because of court decisions recognising native rights, increasing environmental protests, and international concern over the loss of temperate rainforests, the companies were forced to find a solution to continue logging in these areas (Green, 2007).

Other examples from across the globe are:

1. the indigenous communities in Kenya and their fight against the construction of the massive Gibe 3 dam that will block their access to water

2. the native community at Point Hope in the USA who are demanding a voice to keep the Arctic Ocean safe from offshore drilling

3. the movement in the Philippines against an illegal nickel mine to protect the biodiversity and indigenous people on Mindoro Island

4. the native peoples of Bristol Bay in Alaska’s opposition to Anglo America and Rio Tinto’s gold and copper mine.

2.3 Possible solutions

Friedman and Miles (2006) contend that RDA (and any other organisation) should be thought of as a grouping of stakeholders, with the purpose of the organisation being to
manage stakeholder interests, needs and viewpoints. The corporations mentioned above could have saved themselves a lot of trouble by performing a stakeholder analysis prior to attempting to encroach on indigenous populations and pristine habitats. The goal of stakeholder analysis is to develop cooperation between stakeholders and the company’s project team. As part of a successful stakeholder analysis process, all stakeholders and their respective needs are identified, all changes that would stem from the project are effectively communicated, and a mutually satisfying set of goals is developed.

There are many methods that could be used to identify and prioritise stakeholders, including identifying power levels (Mitchell et al., 1997) and potential for threat and cooperation (Savage et al., 1991). Starik and Rands (1995) propose a multilevel (i.e., the individual, organisational, political-economic, social-cultural, and ecological) and multisystem integrated relationship framework to manage ecological sustainable organisations. Jones (1995) provides a stakeholder theory that focuses on the relationships between the firm and its stakeholders and posits that organisations contracting on the basis of trust and cooperation will solve problems related to opportunism.

Figure 1 Corporate stakeholder accountability (see online version for colours)

A desired outcome of stakeholder analysis is the development of appreciation and respect for the needs of stakeholders impacted by corporate activities that allows for the inclusion of those that are normally marginalised (Sovacool, 2008). In the Western Canada case discussed earlier, environmental groups, logging companies, workers, communities, and the indigenous Nations jointly met to develop a satisfactory process for logging operations to continue. A key part of the solution was to gain an understanding of the needs of the First Nations people. Through discussion, it was revealed that the natives were interested in maintaining a sustainable harvest that
respected their cultural practices, e.g., harvesting cedar for canoes, totem poles and homes. They wanted an operation that would minimise damages to the salmon run and other parts of the ecosystem. In addition, the First Nations people believed that the economic benefits from logging should be shared. This collaboration resulted in the development of an Eco-Based Management System that satisfied both parties, i.e., continued logging while maintaining the natural capital of the environment and protecting cultural norms of the natives.

In Figure 1, we present a modified version of Brooks and Dunn’s (2010, p.243) Corporate Stakeholder Accountability framework. We add to the framework the key stakeholders discussed above, i.e., residents and indigenous peoples, as well as the environment. Many of the stakeholders that are most impacted by corporate expansions into indigenous areas are often referred to as the Base of the Pyramid (BoP). London and Hart (2011) describe how BoP individuals represent the majority of the population, own the fewest assets, make the least money, and are not part of the formal capitalistic economy. We now turn our focus to this important group.

2.3.1 BoP stakeholders

Early BoP research proposed that companies could make sizeable returns by selling low cost and low value products to BoP people (Prahalad, 2005). The rationale was that business intervention could raise the standard of living of BoP residents above through increased income and an opportunity to make market choices (Bonsu and Polsa, 2011). Unfortunately, companies expatriated most of the profits, the local residents’ standards of living were not improved and their cultures were westernised (Bonsu and Polsa, 2011; Dawar and Chattopadhyay, 2002). Fortunately, recent research advances BoP strategies and advocates that companies develop a fortune for and with rather than off of the BoP (Bonsu and Polsa, 2011; London and Hart, 2011).

Figure 2 BoP stakeholders special considerations, strategies and outcomes (see online version for colours)
Figure 2 expands upon the BoP portion of Figure 1 and presents a process for a more sustainable encounter with this group. Prior to entering indigenous areas, companies should consider the mutual benefits or objectives of the project. These should involve financial benefits based on desired standard of living goals as well as those that maintain or minimise impacts on the environment while respecting cultural identities (Kirchgeorg and Winn, 2006). Hart and Dowell (2011) also suggest that companies determine how they will gain legitimacy with groups that are often skeptical or hostile to outside corporations. Once these mutually determined goals are established, the company evaluates all facets of the situation with a particular focus on collecting information from the BoP (Kirchgeorg and Winn, 2006).

The academic literature recognises that indigenous populations have a wealth of traditional ecological knowledge (TEK) that can be used to positively contribute to the conservation of biodiversity, rare species, protected areas, and ecological processes, and help sustain natural resources in general (Alcorn, 1989; Berkes, 1999; Berkes et al., 2000; Colding, 1998; Gadgil et al., 1993; Johannes, 1989). Berkes et al. (2000, pp.1253–1259) and Kimmerer (2002) identify areas where TEK can be complementary or equal to scientific ecology. These areas include:

1. using rules for the management of natural resources and ecology that are crafted and socially enforced by indigenous peoples
2. having flexible resource use, e.g., area rotations, watershed-based management, and nurturing sources of ecosystem renewal
3. using a diversity of resources for livelihood security
4. responding to environmental feedback to monitor the status of a natural resource
5. using qualitative management, with resource and ecosystem changes dictating the direction, rather than focusing on quantitative yield targets
6. using TEK as a source of new ecological insights and potential models for sustainable development.

The information gathered from the BoP can be used to develop additional strategies with this group. Oftentimes, new business ventures with BoP require the establishment of microfinance options in the area (Kirchgeorg and Winn, 2006; Yunus, 2003). Businesses then must tailor the standard marketing mix to BoP unique needs. For example, low income residents often cannot afford to store large quantities of goods. Thus, companies have begun to develop smaller package sizes of their products. Figure 2 identifies changes in other marketing mix tactics that are recommended.

Finally, outcomes need to be measured and their achievement fed back into the constant loop of consideration, strategies and outcomes. Including the BoP as a central part of this loop and as a part of the value chain can reduce the primary roadblocks of communication, delivery, and credit that Kirchgeorg and Winn (2006) identified as impediments to BoP market success. Sánchez et al. (2005) found that under certain conditions (a low level of community marketing orientation, corporate unfamiliarity or uncertainty with low income groups and the number of personalised opportunities possible with the product or service), a company should become highly socially embedded in the market, i.e., develop strong personal contacts and relationships.
Simanis (2011) describes his work to bring soy protein to low-income consumers in India. As part of this process, teams were embedded in villages to participate in family livelihood activities. The teams gained villager trust while learning about the people’s culture and way of life. During this time, they also explored possible business partnerships with women of the villages and agreement was reached on the objectives of these businesses. The local women were a key part of the business strategies which focused on fun and socialising through cooking with the nutritional protein. Initially, the business was a success with price points much higher than expected. Unfortunately, the business has recently had difficult times, which the author blames partly on a deviation from culturally-based BoP focused strategies to more traditional market entry strategies (e.g., increase awareness and value added), which focus on rapid market development.

2.3.2 Not in my backyard (NIMBY)

Many corporations are faced with organised NIMBY residents who are adamant in their stance that no acceptable level of corporate intrusion exists. Whether this was the case with the Na’vi is arguable, but even in cases like this, authors have identified possible solutions. Noto (2010) classifies failures in extreme cases into four categories: misinformation, emotional needs, conflicts of values, and conflicts of interest. In the case of Avatar, each of these was evident. The Na’vi people were given misinformation regarding RDAs ultimate purpose of mining unobtanium in the exact location where the Na’vi lived. Once revealed, this led to distrust and animosity.

Companies could minimise such problems by clearly communicating information and listening to the stakeholder. Small group meetings allow the corporate team to bond with locals and help them feel that their specific concerns are heard. Although some issues, such as maintaining ecological purity may appear to be deal killers, Noto suggests focusing on common values and listing problems that all agree should be solved. This allows for progress, as in the Haiwa and Great Bear Rainforest case – both sides agreed that unemployment was a problem.

More recently, inhabitants of the Borneo rainforest and larger timber companies were able to move forward with harvesting wood once both sides agreed that maintaining growth in the forest was a mutual objective. Another option is to try and present a logical set of facts to convince residents of the worth of the project. Given the Na’vi relationship with life, one might wonder if the project could have been more successful if the lives of earth residents could have been personalised to the Na’vi.

3 Poor corporate governance

“Bad quarterly statements are hated worse than bad public relations.” Parker Selfridge, Corporate administrator for the RDA mining operation

3.1 RDAs problems and mistakes

Irresponsible, manipulative, grandiose, a lack of empathy, asocial tendencies, refusal to accept responsibility for their own actions and an inability to feel remorse: according to Bakan (2004), author of The Corporation, this is a checklist of psychopath traits that match the character of many corporations. Bakan claims that these traits arise from the
need of corporations to maximise profits for its shareholders. This, in turn, rationalises in the mind of top executives inappropriate and unethical corporate behaviours, such as child or sweatshop labour and destroying the natural environment.

Why do companies such as RDA, Exxon, PG&E, Unifirst or BP operate in ways that many would view as unsustainable? Bakan outlines a number of possible reasons, including a focus on shareholder interests versus stakeholder interests (discussed above) and leadership. It was not clear what the leadership structure of the RDA organisation was and whether there was agreement on what the interaction with the stakeholders should be. The security arm of RDA had killed many of the Na’vi, which made it difficult for Grace to achieve her objectives. This situation seemed likely to continue, given that the chief of security, Colonel Quaritch, had such little respect for the natives, their culture and the team of scientists. He had also used Scully to infiltrate both the science team and the native clan without alerting the head of RDA. Another reason proposed by Bakan is communication, which was clearly absent between RDA, their security team and the scientists. There was strong disagreement on goals and timelines. Although there was some communication with the Na’vi, the real purpose of RDA was not disclosed until trust had already been betrayed.

Two other relevant reasons for unsustainable practices put forth by Bakan are regulation and corporate ethics. He writes extensively about how capitalism has replaced politics as the high priest. Corporate donations, lobbying, and shareholder demands have all created an environment where many companies either ignore the rules or establish their own self-serving rules that lead to unsustainable business practices in the quest for profit. Without any government restrictions, it appeared that Selfridge had no misgivings, beyond some negative PR, about annihilating an entire ecosystem and destroying the habitat of the Na’vi clan. Furthermore, although interest in business ethics rose dramatically during the 80s and 90s, there is no scarcity of business case studies that illustrate mere lip service to the ethical principles and social responsibility statements listed on corporate websites. In Avatar, it appeared that planet Earth would not survive without unobtanium. Does this permit one group or person the right to survive by destroying another?

3.2 Parallels

Corporate governance is the set of processes, customs, policies, laws, and institutions affecting the way a corporation is directed, administered or controlled (Katja et al., 2010). Good corporate governance starts with the control environment at an organisation, i.e., the ‘tone at the top’, i.e., senior management’s philosophy, ethics and integrity (or lack thereof), and operating style, as well as an attitude of careful oversight by the board of directors. The tone at the top permeates the entire organisation, and the downstream effect on managers and employees, down to the lowest levels, can significantly impact the success or failure of an organisation. This broad definition produces an extensive list of examples of bad corporate governance, including well-known ones such as Enron and Worldcom (accounting), Deutsch Bank and HP (spying), and Siemens and Lockheed (bribery).

Hosmer (1994) makes the case for ethics and moral obligations of management being central, not peripheral, to strategic planning and the overall management of the firm, consequently building trust on the part of all stakeholders of the firm. He provides
reasons for, and methods by which to, include ethical principles in the strategic management process.

With regard to sustainability, the question is whether there is overall support from the board and senior executives for sustainability efforts that can foster success. Is sustainability integrated into corporate strategy? Bad examples reflective of this project’s focus include the Chevron and BP cases presented in the introduction of this paper. Another example involves the rainforests of Indonesia and the devastation caused by companies operating in an unsustainable manner. Less than 5% of these companies have written sustainability into their processes, while only 16% of the timber is from members of the WWF Global Forest & Trade Network (McVeigh, 2010). The activities of these companies have severely decimated the larger trees, while the indiscriminate harvesting practices have also damaged new trees. Fewer trees equal less biodiversity and less water absorption, consequently creating pollution in rivers and flooding in villages. Many of the indigenous peoples have moved elsewhere to escape these corporate-induced conditions.

3.3 Possible solutions

Large-scale corporate scandals have resulted in increased interest in improving corporate governance. Figure 3 modifies Brooks and Dunn’s (2010, p.244) governance process and adds (in italics) some of the key ideas discussed below that provide guidance for sustainable ventures.

Figure 3  Corporate governance framework (see online version for colours)

Stakeholders Including BoP

Company Management

Board of Directors


Hires: Ethical and Strong Leaders

Precautionary Principle
Government Regulation

5 questions for ethical decision making

Source:  Modified from Brooks and Dunn (2010)

Stakeholders continue to be an overriding force that impacts the company at the management and executive levels. The board is responsible for providing feedback to key stakeholders, such as indigenous populations, on their sustainability activities and achievements (triple bottom line is discussed later). Effective leadership is achieved through the board setting the proper mission and strategies and implementing two-way channels of communication with management, with the board guided in the development
of the broad and tactical policies through the precautionary principle, regulation, and an ethical framework (Hosmer, 1994).

The precautionary principle is a major principle of international law often used by policy makers to prevent activities that could irreversibly harm others, even if scientific evidence is absent (Rio Declaration on Environment and Development, 1992). Thus, the burden of proof shifts to firms to demonstrate that some firm activity will not cause harm. Although the Gulf oil disaster demonstrated that more needs to be done, even a company such as BP realised that sustainability is not inconsistent with corporate goals. John Browne, their former top executive, stated that “it would be dangerous to ignore the mounting evidence [over global warming and greenhouse gases] …… there is a need to take precautionary action now” [Bakan, (2004), p.44].

Although many consider environmental regulation anti-business, there is growing support in this area. 50% of corporations in one survey stated that voluntary action is more effective while 40% agreed that additional regulations are needed (The Economist Intelligence Unit, 2008). Examples could include more staffing in regulatory bodies, harsher penalties, increased personal liability, protecting whistle blowers. More importantly, government expectations should be clearly stated – nearly two-thirds of companies surveyed felt that uncertainty over government expectations made it difficult to plan corporate sustainability strategies (The Economist Intelligence Unit, 2008).

An ethical framework proposed by Tucker (1990) presents a series of five questions that should be asked for a decision before deciding whether to proceed with a project. A decision maker can revise the action to remove or reduce a negative consequence, but if this is not possible the proposal will not be ethical and should not move forward. We consider Tucker’s five questions as they apply to decisions that impact corporate sustainability.

1 Will the decision improve the profitability of the company? This allows the company to consider shareholder interest. A cost-benefit approach would allow the company to consider regulatory costs that may arise from externalities or potential pollution liabilities.

2 Is the decision legal? Endangered species, indigenous rights, EPA and other regulations should be considered on their own, as well as how they impact the profitability of the company.

3 Is it fair, and …

4 Is it right? Some companies have ventured overseas (and interplanetary in Avatar) because the regulatory environment is not as strict as in their home country. Certainly, the Na’vi did not feel RDAs intrusion was fair or right. When a company enters an area, it needs to ensure a just distribution of benefits by maximising social benefits and minimising individual and societal injuries (Brooks and Dunn, 2010).

5 Is it sustainable? Has the company considered environmental values such as the rights of non-human populations and other resources?

The carpet company, Interface, is an example of the successful integration of sustainability into the firm’s business strategy, and the successful implementation that strategy. In 1994, the firm’s founder and chairman, Ray Anderson, challenged management and the employees to adopt a bold vision and a new strategy. Under
Anderson’s leadership (i.e., the tone at the top), the firm has gained recognition as one of the most environmentally sustainable businesses in the world.

4 Environmental Destruction

“We must protect the forests for our children, grandchildren and children yet to be born. We must protect the forests for those who can’t speak for themselves such as the birds, animals, fish and trees.” Qwatsinas (Hereditary Chief Edward Moody), Nuxalk Nation

4.1 RDAs problems and mistakes

Whether it was a case of good versus evil, a dislike for US imperialism, or an acknowledgment of corporate negligence, many audiences cheered when RDA was defeated and driven from Pandora (Moore, 2009). In this particular case, an entire ecosystem worked collectively to fight off an invasive species. In recent years, a growing number of authors have argued that our planet is also beginning to rebel against our attacks (McKibben, 2010). Changing temperatures, melting ice, more rain, more storms, rising sea levels, shrinking water supplies, invasive species, dwindling energy resources, and increased poverty have created a new Earth that we can no longer exploit. We have to change the way we live in order to survive (McKibben, 2010). On Pandora, we saw some of the commonly-cited factors that create environmental instability and lead to the problems we now face on earth, namely, externalities, a lack of systems thinking, and environmental scarring.

An externality is defined as a cost or benefit to a party that is external to a transaction. Although there are positive examples of externalities (education, police protection), most discussions of these relate to the negative impacts. Thus, a community incurs a negative externality from the pollution by a company. In Avatar, there were no apparent benefits to any of the Pandora stakeholders from the extraction of resources from their moon. The visual, noise and other forms of pollution, as well as the changes in the Na’vi lifestyle, were all externalities created by RDA. Air, land and water pollution caused by corporate emissions are all examples of negative externalities that members of society are exposed to.

A lack of systems thinking may create environmental problems. According to the director of Avatar, the movie asks us to see that everything is connected, all human beings to each other, and us to the planet. The residents of Pandora all live together as part of an integrative ecosystem and have an elaborate biological interface that allows for interspecies communication. There exists a respect for all life and an understanding that existence is mutually dependent. RDA did not appreciate this interaction and treated the Na’vi as a species that could be moved in and out of their eco-system with no repercussions. RDAs focus was only on profit and in fact, early in the movie, Parker Selfridge explained that the $20 million dollars a kilo that unobtanium was worth was the sole reason for being on Pandora.

Environmental scarring is endemic in our world. In Avatar, RDA made no attempt to build their compound on Pandora to blend into the environment. A fence enclosed this large human complex – the base of operations and housing for the humans – aptly named ‘Hells Gate’. Massive weapons were positioned at each apex to defend Hell’s Gate.
against intrusions by hostile Pandoran wildlife. A clearing surrounded the base, regularly patrolled by automatic plant-clearing machinery to keep the jungle at bay. Consequently, Hell’s Gate added to the alienation that the Na’vi had for the humans and the separation that the humans felt from Pandora.

4.2 Parallels

Even companies that develop sound policies to deal equitably with all stakeholders are not sustainable if environmental protections are not in place. Companies that pollute (e.g., BP, Exxon, Shell), clear cut woods (e.g. Sierra Pacific in California), engage in mountain top removal (Massey Energy Company) and cause losses in biodiversity [a recent report by PricewaterhouseCoopers found that only 27% of global executives surveyed said they were concerned about biodiversity loss (Jones, 2011)] are a few examples of corporate activities that compare with RDAs. Though the total costs across the varied types of ecosystems are challenging to estimate, the economic losses due simply to land degradation amounted to 2 to 4.5 trillion dollars worldwide in 2008 (Jones, 2011). This excludes non-quantifiable social and environmental costs.

A systems consideration can often reveal the additional costs borne by environmentally destructive corporate behaviours. In their book, *A Necessary Revolution*, Senge et al. (2008) discuss the interconnection between the areas of energy and transportation, food and water, and material waste and toxicity. Problems in each of these areas, e.g., energy depletion, are often tackled in isolation, which leads to short-term solutions and little improvement in long-term imbalances in the supply, demand and quality of these resources. Using corn as an example, the authors discuss how the growth in the use of corn for ethanol has driven up the price of corn for food and feedstock. Corn is a staple crop for many BoP people and consequently it has led to increased hunger and food riots in many parts of the world. Unfortunately, there is no reduction in greenhouse emissions since ethanol’s production varies little from petroleum’s production. In fact, the authors’ argue the impact on the climate may be greater since there has been substantial clearing of grasslands and forests to grow corn. A systems approach prior to the explosion in corn grown for ethanol would have identified these problems, which arose from interconnections between people, planet and profit. This is discussed in more detail in the next section.

4.3 Possible solution

A possible solution is to use *Triple Bottom Line (TBL) reporting*. Popularised by John Elkington (1998) in his book *Cannibals with Forks: the Triple Bottom Line of 21st Century Business*, the triple bottom line refers to the suggestion that to maximise long term sustainability, companies should focus not only on profits but also on people and the planet. Thus, these three ‘Ps’ constitute a complete systems approach. Though it is often discussed in the context of changes in accounting practice (Elkington, 2000), the TBL is commonly used to identify new strategic orientations a firm should take to identify new markets and ensure that critical resources are available long term. General Electric, Unilever, Proctor and Gamble, 3M and Cascade Engineering are examples of companies that measure and utilise triple bottom line accounting.

Figure 4 presents our corporate sustainability framework, which merges all the ideas presented in this paper. Although many versions of the TBL present profit, people and
planet as interlocking ovals that must be balanced and implicitly given equal rank to ensure sustainability, we believe that corporate sustainability can best be achieved if priority is given to environmental issues. Corporations that develop strategies with these variables in the forefront will reduce costs, maximise revenues, enhance their image and thus create strong profits. For example, Willard (2002) did an exhaustive analysis of a computer company and determined that the five-year net present value of engaging in sustainable activities was over $9 billion dollars.

Figure 4  Corporate sustainability framework (see online version for colours)

The TBL is introduced as metrics that provide feedback to the board of directors and company management. It also allows the corporation to be held accountable and provide accountability to stakeholder groups. Developing useful metrics is one of the challenges with TBL accounting. Though the lack of agreed upon metrics makes intercompany comparisons difficult, it allows companies to choose those that are most relevant to their situation. The important point is to establish a benchmark that can be evaluated and improved upon overtime. Table 2 presents some measures that are often used by corporations (Slaper and Hall, 2011).

An important part to highlight is the focus on people, i.e., stakeholders. Social considerations must extend beyond shareholders and even the company’s own employees. They should include all parts of the supply chain that a company’s product/service interacts with from raw material extraction to manufacturing, production, distribution, consumption and final disposal. Thus, corporations must work with suppliers and buyers to ensure that they are also working towards sustainable operations. Prior to encroachment into indigenous areas, a company should clearly evaluate what the benefit to the inhabitants might be.
Table 2  Triple bottom line measures

<table>
<thead>
<tr>
<th>Profit</th>
<th>Planet</th>
<th>People</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Profits</td>
<td>• Sulphur dioxide concentration</td>
<td>• Unemployment rate</td>
</tr>
<tr>
<td>• Cost of underemployment</td>
<td>• Concentration of nitrogen oxides</td>
<td>• Female labour force participation rate</td>
</tr>
<tr>
<td>• Establishment churn</td>
<td>• Selected priority pollutants</td>
<td>• Median household income</td>
</tr>
<tr>
<td>• Establishment sizes</td>
<td>• Excessive nutrients</td>
<td>• Relative poverty</td>
</tr>
<tr>
<td>• Job growth</td>
<td>• Electricity consumption</td>
<td>• Percentage of population with a post-secondary degree or certificate</td>
</tr>
<tr>
<td>• Employment distribution by sector</td>
<td>• Fossil fuel consumption</td>
<td>• Average commute time</td>
</tr>
<tr>
<td>• Percentage of firms in each sector</td>
<td>• Solid and hazardous waste management</td>
<td>• Violent crimes per capita</td>
</tr>
<tr>
<td></td>
<td>• Change in land use/land cover</td>
<td>• Health-adjusted life expectancy</td>
</tr>
</tbody>
</table>

There are numerous examples of companies that now use a systems business strategy to ensure the long term existence of needed resources. Coca-Cola’s focus on water as an essential long-term resource serves as a good example (Senge et al., 2008). The company operates 52 bottling plants in India and after a series of droughts the rural population became increasingly concerned with the water usage of the company. As water tables lowered, local communities had to dig deeper and found pesticides that they alleged were from chemicals dumped by the company (Burnett and Welford, 2007). In response to lawsuits, Coca-Cola gathered information from locals, partnered with NGOs and developed a knowledge system for effective local watershed management (Senge et al., 2008). Focusing on the people and the planet, Coca-Cola was able to develop win-win scenarios and ensure their long term profits in the region.

5 Conclusions

We have used the fictitious company RDA from the movie Avatar as a case example of problems that can arise when corporations engage in unsustainable activities. We draw parallels with corporate conduct on our own planet and provide a series of frameworks that companies could use to increase the likelihood of long term success. Each framework includes work from past research and adds elements focused on corporate sustainability. We present some examples of companies that have been successful venturing into BoP communities by working with these stakeholders, modifying their corporate governance policies and approaching new areas with a systems consideration of the interconnections amongst people, profits and the planet.

Earth will return to Pandora in the near future. More companies here on our own planet will venture into new areas that have indigenous people, unique flora and fauna, non-polluted environments and little noise or light pollution. There are valuable lessons
that we can learn from the past mistakes (or the future in the case of Avatar), of corporate ventures into these types of areas. There have been repeated examples of successful sustainable ventures by companies but they require implementation of many of the ideas presented in this paper.

References


The sustainable corporation: lessons from Avatar

Appendix  Avatar characters referenced

http://www.en.wikipedia.org/wiki/Avatar_%282009_film%29

The corporation

RDA: Resources Development Administration is the corporation in the movie that had ventured to Pandora to mine unobtanium.

Humans

- Colonel Miles Quaritch: Quaritch is the head of the mining operation’s security detail. Fiercely loyal to his military code, he has a profound disregard for Pandora’s inhabitants that is evident in both his actions and his language.

- Corporal Jake Sully: Sully is a disabled former Marine who becomes part of the Avatar Program. His military background helps the Na’vi warriors relate to him. His initial role is to live with the Na’vi and through a cultural breakthrough and mutual understanding convince them to allow the mining of unobtanium. Almost immediately, Colonel Quaritch asks him to use his position to identify military advantages. This creates a personal struggle throughout the movie as Sully finds himself falling in love with a people and the relationship they have with their natural environment.

- Dr. Grace Augustine: Augustine is an exobiologist and head of the Avatar Program. She mentors Sully and is an advocate of peaceful relations with the Na’vi, having set up a school to teach them English.

- Parker Selfridge is the corporate administrator for the RDA mining operation: Despite being the human in charge of the mining project, he reluctantly authorises the attacks on the Na’vi after being persuaded by Quaritch that the attacks is necessary, and that they will be humane. When the attacks are broadcast to the base, Selfridge displays discomfort at the violence. Despite this, he shows little interest in Na’vi culture, or in Pandora’s biosphere.

Na’vi

- Neytiri is the daughter of the Omaticaya leader, the Na’vi clan that is central to the story. She is attracted to Jake because of his bravery, while being frustrated with him for what she sees as his naiveté and stupidity with regard to the Na’vi ecosystem.

- Mo’at is the Omaticaya’s spiritual leader, Neytiri’s mother, and consort to clan leader Eytukan.

- Eytukan is the Omaticaya’s clan leader, Neytiri’s father, and Mo’at’s mate.

- Tsu’tey is heir to the chieftainship of the tribe, and at the beginning of the film’s story he is betrothed to Neytiri.