

Exploring strategy for common pool resources: How do corporations manage water risks?

Abstract

This study explores the strategies that multinational companies employ to manage water risks. The common pool resource characteristics of water confront companies with a strategic dilemma, because a priori, the only rational strategy seems to be selfish exploitation. Yet, twelve in-depth case studies reveal that there are four different archetypical response strategies, none of which resembles selfish exploitation. I theorize that the choice of strategy is guided by the degree of water risk exposure, and the degree to which this water risk is shared with others. Contrasting these four strategies with insights from common pool resource economics reveals that all strategies can be rational choices, if viewed in a sequential model.

Motivation

The World Economic Forum 2015 identified water crises as the global business risk with the highest potential impact. Water is an essential input to almost any production process and the resource is increasingly scarce in many areas of the world. Major companies are aware of this risk and respond in various ways. Yet, there is no strategic management literature to date examining such water strategies.

This is also an important theoretical gap, because water is a common pool resource. Common pool resource strategy is a nascent field, likely because the influential paradigm of the “tragedy of the commons”, posits that selfish exploitation is the one and only rational strategy for companies in common pool resource situations. However, the work of Nobel laureate Elinor Ostrom on common pool resource governance has established, that there are many other solutions to the tragedy of the commons that emerge out of individual strategies. With this observation, I join a handful of other scholars, who have just begun to evaluate the relevance of Ostrom’s work in the management field.

Methodology

Based on these motivations, I ask: How do companies become aware and respond to water risks? I explore this research question in a qualitative design. I crafted a theoretical sample of 12 companies, reflecting variability in their exposure to water risk as well as in their capabilities to deal with them. The sample spans the sectors Food and Beverage, Energy, and Chemicals and includes: Nestlé, Coca-Cola, Heineken, SABMiller, Olam, Shell, EDF, ESKOM, DuPont, BASF, Novartis, and Borealis. The research was undertaken in collaboration with the water chapter of the World Business Council for Sustainable Development.

I accessed four sources for data collection. First, I screened over 200 company reports published during the last 20 years for the keyword water in order to understand the history of water strategy. Second, I reviewed the latest responses to the CDP water disclosure project, in order to understand the current risk exposure and management situation. Third, I collected media stories related to water issues over the last 10 years, in order to include an external view of controversies. Finally, I conducted semi-structured interviews. For each case company, I talked to water management specialists for 60 to 90 minutes over the phone. For three companies I talked to a top management representative for 30 to 60 minutes, in order to get a bird’s eye view on the water strategy. Still outstanding are three interviews with plant managers, in order to get a more immediate account of local strategy implementation. The interviews were coded in MaxQDA in collaboration with a master student. The coding guideline was iteratively developed until it stabilized.

Results

The results describe how companies become aware of water risks, and how they respond to them. From that, I identify two key dimensions that influence the response strategy. First, the degree of risk exposure varies across the sample and determines the level of effort companies are willing to put into water risk management. Second, the degree to which risks are shared with other resource users influences the way in which a company responds to water risks. Spanning up these two axes to organize my findings, I develop four archetypical strategies.

High risk exposure	Water management	Water stewardship
Low risk exposure	Water compliance	Water responsibility
	Low risk sharing	High risk sharing

Water compliance is a passive strategy that focuses simply on complying with existing regulation. Water management is a strategy focused on increasing efficiency within operations. Water responsibility is a strategy that emphasizes transparency and the signaling of commitment. Water stewardship is a strategy that attempts to organize collective action at the watershed level, in order to mitigate the risk at its source.

Discussion

From a game-theoretical perspective, all strategies except water compliance seem irrational. However, even though water management is about conserving water that will be used by others, it is an important strategy, when seen as part of a dynamic strategy process. Excelling in water management is a prerequisite to motivate other resource users to manage water efficiently as well. In connection to that, it is important to engage in water responsibility and to be transparent about water usage. Both of these strategies are necessary, in order to build the trust and credibility, which are sine qua non for an engagement in water stewardship.

The rationale for water stewardship is clear to all companies, yet there are also important barriers such as long payback times, risk of failure and monitoring difficulties. As a result, it is a strategy that is only attractive for companies with a high risk exposure. There is evidence of practice in this strategy, but it is still at experimental stage.

A comparison with Ostrom's work on polycentric governance suggests parallels and shortcomings of current strategy practice. The heavy investments in trust and credibility seem justified, given that collaborative solutions to common pool problems hinge critically on trust. Yet, large efforts in gathering data about the local resource situation are not used optimally, because it would be more effective to share such data, rather than keeping it privately.

Contributions

I intend to make two contributions with this work. First, this study will open up water strategy as a new field of research. Water risk is currently one of the most significant risks to economic development, and has recently caught widespread attention of the business world, driven by the ongoing drought conditions in California. This article supplies the first academic examination of business strategy in relation to water resources and provides analytical implications to improve the way companies around the world deal with water. Second, I contribute to an emerging stream of research, evaluating the significance of Elinor Ostrom's work for business strategy. I utilize the insights of common pool resource economics and contrast them with empirical data on practiced strategies. In doing so, I offer a novel typology of common pool resource strategies for businesses and explain the conditions under which they serve their strategic intentions.