Public Outrage and Legislative Action, *From Silent Spring* to Societal Expectations

Managing the Business Risks

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Overview

What ignites a controversy that results in new regulation or a dramatic drop in product sales? Recent history demonstrates that fears (well-founded or not) about chemicals can spark controversies that sway public opinion and sometimes can change the regulatory and consumer landscape. However, one can learn from social scientists and our practical experience to determine how to anticipate and limit such impact. This paper begins with examples that illustrate how public opinion has led to policy change, and then provides ERM's insights into constructive action that a business can take to minimize the resulting business risk.
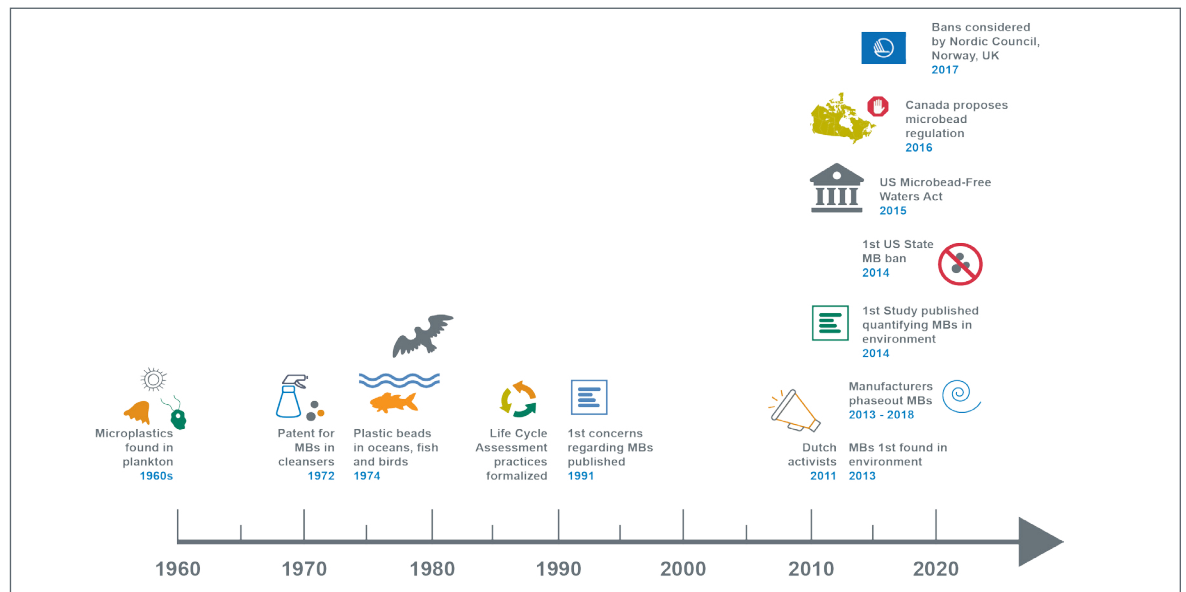
Learning from the Past

In 1948, the year the Nobel Prize was awarded to the scientist who discovered insecticidal properties of DDT, the American Medical Association (AMA) sounded the first alarm about the risks of human exposure to pesticides. The AMA called for immediate action:[1]

The development and use of new pesticides and herbicides have created public health hazards….If voluntary control proves to be inadequate for the protection of the public, suitable legislation must be considered and effective means of control promptly established.

Not until Rachel Carson published Silent Spring in 1962, however, did the public become broadly concerned about the potential risks from exposure to pesticides. Silent Spring conveyed warnings, some controversial, about the hazards of pesticides in plain-English storytelling that demystified scientific concepts for the public. Carson's environmental message spread through television and magazine articles - the social media of the day. The resulting public outcry led to action. Many believe that Carson's work catalyzed the environmental movement in the United States, ultimately leading to the formation of the Environmental Protection Agency in 1970, along with bans or restrictions on many pesticides. [2]

Another more recent example is the use of microbeads in personal care products.[3] When the first patent was granted on microbeads in 1972, scientists had already begun to express concerns about floating plastics in the world's oceans. Yet it was two decades before the first warnings about the potential environmental hazards from microbeads were published. It took a further two decades before Dutch activists raised the outcry in 2011, at which point various social media, including blogs and a "Ban the Bead" smartphone application, rapidly spread both information and misinformation about the hazards of microbeads.

Figure 1. Evolution of Bans on Microbeads

Bans considered by Nordic Council, Norway, UK
2017

Canada proposes microbead regulation
2016

US Microbead-Free Waters Act
2015

1st US State MB ban
2014

1st Study published quantifying MBs in environment
2014

Manufacturers phaseout MBs
2013 - 2018

MBs 1st found in environment
2013

Dutch activists
2011

1st concerns regarding MBs published
1991

Life Cycle Assessment practices formalized

Plastic beads in oceans, fish and birds
1974

Patent for MBs in cleansers
1972

Microplastics found in plankton
1960s

1960   1970   1980   1990   2000   2010   2020

1. Blood, N.O.F., 1948. Pesticides: Chemical Contaminants of Foods. JAMA. 137(18):1604-1605.
2. Griswold, E., 2012. How 'Silent Spring' Ignited the Environmental Movement. New York Times. September 21. Available at: http://www.nytimes.com/2012/09/23/magazine/how-silent-spring-ignited-the-environmental-movement.html (accessed February 2017).
3. Adapted from: Sellers, K., 2015. Product Stewardship, Life Cycle Analysis and the Environment. Chapter 4. CRC Press.

By 2013, many major manufacturers had committed to phasing microbeads out of their products. Yet despite those commitments, and ignoring the fact that much of the scientific literature published at that time contradicted many of the activists' claims, continued public outrage led to legislation and moves to legislate around the world banning the bead[4]. This example illustrates how outrage can build in the absence of or in contrast to scientific findings.

These two examples, decades apart, followed the same pattern: the quiet cautions of scientists rested in journals on library shelves for decades until a passionate storyteller captured the public's imagination through social media. The resulting outcry led to retail regulation and legislative action.

But such progression is not inevitable; companies can take proactive steps to anticipate outrage and manage the business consequences.

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4. As of April 2017, bans have been discussed or promulgated in the United States, Canada, United Kingdom, Norway, France, and India, among other geographies.

Perceived Risk = Hazard + Outrage

Catalyst for Action: Understanding Outrage

Sometimes, a call for action reflects thoughtful understanding of risks to human health or the environment and a careful analysis of the consequences of action. But often it is human perception and misunderstanding that fuel public indignation and demand for action. It's worth considering, therefore, the factors that shape perceptions.

Social scientists have codified public reactions in a simple equation[5]: Risk = Hazard + Outrage

The way that most people understand risk reflects both intellectual understanding of the hazards and emotional reaction. Public perceptions often depend on a handful of factors, which can include[6] :
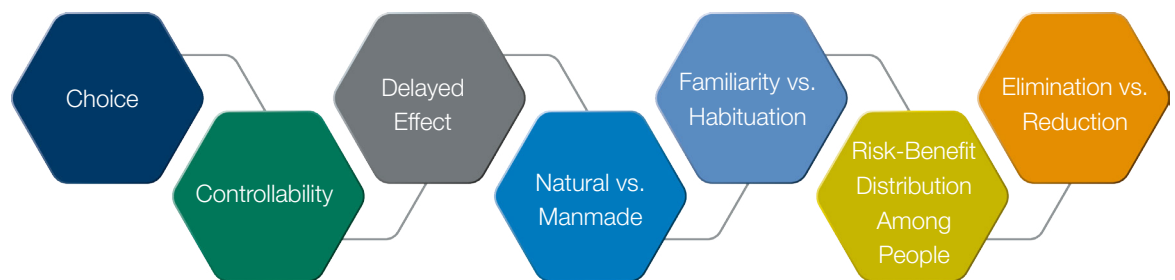
Choice. People are often more willing to take on a risk if they "volunteer" for it. Consider the risks that many take by driving too fast.

Controllability. Anyone who has ever sat next to a white-knuckled passenger on an airplane flight can appreciate that most people are more willing to accept risks that they can somewhat control – say, driving a car to the airport – than the risks they cannot control.

Delayed effect. People often find it easier to accept the risk from a consequence that may occur "someday" than one that could happen next week or next month.

Natural vs. manmade. Many people are more willing to accept a risk posed by a natural force, and to be outraged by a manmade hazard like an anthropogenic chemical.

Familiarity vs. habituation. Familiar risks fade into the background and may get far less attention than the novel worries about a chemical or product in the news.

Risk-benefit distribution among people. Risks can be perceived as more serious if they appear to affect disproportionately a certain group, particularly children.

Elimination vs. reduction. The ability to eliminate a risk often offers far more appeal than the more subtle approach of risk reduction.

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5. Sandman, P.M., 1993. Responding to community outrage: Strategies for effective risk communication. AIHA. Available at: http://petersandman.com/media/RespondingtoCommunityOutrage.pdf (accessed February 2017).
6. See Sandman, 1993.

Anticipating Issues

No one can foresee the next product stewardship issue with impeccable precision and accuracy. But there are tools and techniques that can be used to track issues, assess them, and prioritize for response (see Figure 2).

Here's what ERM has learned from working with multinational organizations to anticipate and develop responses to emerging concerns that can affect their products:

- **Effective monitoring requires persistent effort.** Scanning for potentially relevant product stewardship issues is not a one-time occurrence, it is something that must be done periodically (if not continually). It is far better to watch a "false positive" fail to develop than to miss an issue crucial to the company.

- **Set aside biases and, to a certain extent, technical insights.** Post-truth outrage often fuels calls for action. It's easy to dismiss early warning signs as being technically unfounded and therefore inconsequential.

- **Early action can mitigate business risk.** Robust product stewardship can minimize the potential for an issue to emerge. Once a policy driver has arisen, early action can have far-reaching effects.

Our human tendency to react based on emotion rather than fact is so endemic today that there's a word for it:

post-truth,

the Oxford English Dictionaries Word of the Year 2016 defined as 'relating to or denoting circumstances in which objective facts are less influential in shaping public opinion than appeals to emotion and personal belief'.

See: https://en.oxforddictionaries.com/ word-of-the-year/word-of-the-year-2016

Figure 2. Anticipating Issues and Framing a Response

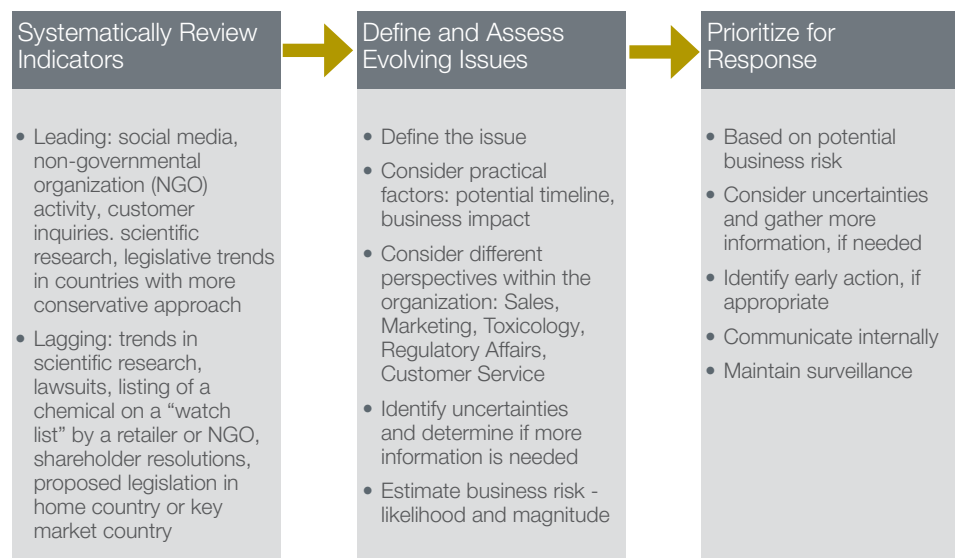| Systematically Review Indicators	Define and Assess Evolving Issues	Prioritize for Response
• Leading: social media, non-governmental organization (NGO) activity, customer inquiries. scientific research, legislative trends in countries with more conservative approach • Lagging: trends in scientific research, lawsuits, listing of a chemical on a "watch list" by a retailer or NGO, shareholder resolutions, proposed legislation in home country or key market country	• Define the issue • Consider practical factors: potential timeline, business impact • Consider different perspectives within the organization: Sales, Marketing, Toxicology, Regulatory Affairs, Customer Service • Identify uncertainties and determine if more information is needed • Estimate business risk - likelihood and magnitude	• Based on potential business risk • Consider uncertainties and gather more information, if needed • Identify early action, if appropriate • Communicate internally • Maintain surveillance

Figure Note: For additional information on surveillance principles, see: Hart, G. (in press 2017). Chapter 11 Maintaining Awareness of and Responding to Requirements. IN: Professional Practices of Product Stewardship. Product Stewardship Society, Falls Church, VA.

Weathering the Storm: Taking Action

ERM has found that proactive positioning can help a company prepare for effective response to the kind of public outrage that may spur regulatory action. Once an issue emerges, companies can take the following steps to manage the business impact.

Prepare

Positioning for potential outrage over a business-critical product begins with a robust product stewardship program. *Regulatory compliance alone may not suffice.* Consider the examples at the beginning of this paper. Both DDT and microbeads were brought to market in compliance with the regulations in place at the time. One could argue with the advantage of hindsight that some of the subsequent policy drivers could have been foreseen. After all, the AMA raised concerns about the hazards of pesticides in the same year that the Nobel Prize was awarded to Paul Müller for his work with DDT. And with the clarity of hindsight and the environmental perspective of the present day, could some of the concerns about microbeads have been predicted based upon their physical and chemical properties?

These cautionary tales offer several lessons. For products that may have high market value or be made in high volume, it is worth thinking creatively about the exposures that could result from both the anticipated uses of the product and adaptive uses. Focusing on products associated with particular hazards (i.e., persistent bioaccumulative or toxic [PBT], carcinogens, mutagens, or reproductive toxicants [CMR]) is especially prudent. Systematic product risk assessment during the development of a new product and periodically thereafter can help identify vulnerabilities and enable a company to minimize their business risks. And periodic audits of existing products for sustainability and compliance status can further minimize risk.

A robust product stewardship program, including appropriate communication with stakeholders, can also help gain the benefit of the doubt in the minds of some onlookers when a firestorm breaks. In our post-truth era, personal belief can shape public opinion as much or more than scientific data. Psychologists explain one aspect of this phenomenon as "motivated reasoning". In other words, a person is more likely to believe something – even if it appears to contradict logical fact – if s/he is motivated by alignment with our own world view or our sense of belonging to a core group. Building a trusted brand cannot entirely insulate a company from an emerging chemical issue, but can help to create a setting for some observers to be more open to considering scientific facts. Or, as one authority has described it, build "fan networks" to support effective response if needed when an issue emerges[7].

These best practices - robust stewardship and effective engagement and communication to build trust - can help to position a company to minimize the business consequences of global chemical policy drivers.

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7. J. Pfeffer, T. Zorbach & K. M. Carley. 2014. Understanding online firestorms: Negative word-of-mouth dynamics in social media networks. Journal of Marketing Communications, 20:1-2, 117-128.

React Effectively

As outrage builds toward regulatory action, a company should carefully assess potential responses and prepare to react effectively. These responses can range in duration, cost, and intensity; a business should scale the response to the maturity of the issue, the value of the product, and the potential business impact. With respect to a particular product or chemical, actions might range from customer communications, to scientific research, or changes to a product line, including reformulation, cessation or divestiture. The response plan may vary in intensity and tactics as the situation evolves.

An important part of an effective response can be a communications program. In the heat of the moment, "no comment" can do more harm than good. Call on internal or external resources to help shape and convey a compelling message for each target audience, recognizing the factors that motivate public reaction and the dynamics of social media. For major issues, many of our clients develop a Crisis Communication Plan or Crisis Response Plan. ERM's Public Affairs team works with clients through "Crisis in a Box" programs to build, maintain, and implement effective plans that include appropriate messaging related to a number of potential scenarios, as well as step-by-step response actions.

> 62% of US adults get their "news" from social media (mainly Facebook). Only about ¼ of these people get news from two or more sites, and between 20-30% of those watch the nightly news (network or local).
>
> *- News Use Across Social Media Platforms 2016, Pew Research Center http://www. journalism.org/2016/05/26/news-use-across-social-media-platforms-2016/)*

Companies may consider developing an advocacy program or participating in a trade group that advocates on behalf of its members. Advocacy provides an opportunity to shape developing laws and regulations in many countries. Legislators and regulators may not initially understand some practical aspects of production and product use. Advocates can also help forecast the consequences of certain regulatory actions so that the legislation or regulation can be written to minimize unintended yet negative consequences. In the case of microbeads, for example, an industry consortium developed model legislation that regulators could consider in developing laws. That model was written to support the development of consistent legislation in various states in the US.

At ERM, we've helped our clients to weather the business strains resulting from global chemical policy drivers, by building robust product stewardship and communication programs, tracking emerging issues, and analyzing the potential business consequences. When a firestorm breaks, our experienced teams have provided objective scientific analyses to support prudent business decisions, and supported public communications to put the situation into context.

Conclusions

Public outrage can profoundly influence the business of making and using chemicals. Various tools and techniques can be used to anticipate those drivers and manage their consequences. Best practices to manage business risks include the following:

Monitor leading and lagging indicators of emerging policy drivers, recognizing that an issue can smolder for decades before it ignites.

Sustain a robust product stewardship program that goes beyond compliance for crucial products to include risk reviews during new product development and periodically thereafter. Invest in scientific testing and analyses where the potential return on the investment, in terms of brand protection, is clear.

Communicate thoughtfully to build a trusted presence (to the extent possible) and then to manage the consequences to the business after a storm breaks.

Advocate using science-based reasoning communicated in a way that the audience, whether a regulator or a member of the public, can relate to; use that advocacy to shape the development of laws and regulations.

How to Learn More

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Kate Sellers, a Technical Director at ERM, works with a wide range of clients to develop and execute effective product stewardship strategies. Writing offers Kate the opportunity to explore technical challenges from multiple vantage points; her most recent book, Product Stewardship: Life Cycle Analysis and the Environment (CRC Press, 2015), explores the mechanisms for and consequences of global chemical controls. Kate is the President Elect of the Product Stewardship Society.

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About ERM

Environmental Resources Management (ERM) is a leading global provider of environmental, health, safety, risk, social consulting services and sustainability related services.We have more than 160 offices in over 40 countries and territories employing more than 4,500 people who work on projects around the world. ERM is committed to providing a service that is consistent, professional and of the highest quality to create value for our clients. We have worked with many of the Global Fortune 500 companies delivering innovative solutions for business and selected government clients helping them understand and manage the sustainability challenges that the world is increasingly facing.

For over 40 years we have been working with clients around the world and in diverse industry sectors to help them to understand and manage their environmental, health, safety, risk and social impacts. The key sectors we serve include Oil & Gas, Mining, Power, and Manufacturing, Chemical and Pharmaceutical. All face critical sustainability challenges and our clients in these and many other areas rely on our ability to assist them operate more sustainably which has a positive impact on our planet.

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