

Expecting the Public Backlash: Public Relations Lessons for Nanotechnology from the Biotechnology Experience

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ABSTRACT

This paper discusses the relationship between public reaction to new technology and the legal, regulatory, and public policy environment that develops to provide oversight for the technology. The paper contends that there are useful lessons to be derived for nanotechnology from the relationship between public response and legal oversight that developed with the introduction of biotechnology and other innovative technologies. It identifies the most useful lessons for the nanotechnology industry available in the prior experience. Based on those applicable lessons, the paper describes a regulatory strategy for nanotechnology that is conducive to continued research and effective commercialization in the field.

Keywords: regulation, publicity, promotion

1 PUBLIC RELATIONS AND REGULATION

Public reaction to a field of scientific research or to an advance in technology can have a profound impact on the legal, regulatory, and public policy environment applied to the research or technology. The reaction of the public to a field of research or to a new technology can ultimately shape the laws, regulations, and public policies that govern the research or technology. This interaction between public perceptions and legal oversight seems to exist for any type of new technology. Accordingly, those who would shape the legal context in which new technologies develop and evolve should be acutely aware of the public perception of those technologies, including both public hopes and fears as to the technologies, and they should act to influence the public perception in a constructive manner.

The public influence on the legal climate associated with new technology is exerted in part through political pressure. Political pressure translates into legislation and regulation. Public opinion plays a significant role in the establishment of the policy agenda of government. That agenda is largely implemented through legislation and regulation. Through this process, public perceptions regarding the potential and the risk associated with new technology shape the legal and regulatory framework that oversee that technology.

Public influence is also exerted through private legal actions. Individuals and groups of individuals can initiate private lawsuits enforcing civil law claims. The results of those private legal actions influence future conduct by creating common law principles that interpret legal obligations. In this way, private litigation helps to shape the legal context in which technology develops and is applied. Private enforcement of legal rights provides another key aspect of public influence on technology regulation.

The legal and regulatory climate that evolves for a new technology has both a direct and an indirect effect on development of applications for the technology. The direct effect consists of legal requirements enforced in conjunction with creation, distribution, and use of the technology. Those requirements establish the limits of permissible conduct and they force the parties involved with the technology to bear the costs of compliance. The indirect effect involves potential financial impact on the technology as a result of the level of risk and uncertainty associated with the technology. When there is a clear legal framework associated with a technology, developers, users, and investors involved with that technology are better able to identify and quantify risk. In that environment of greater certainty as to risk assessments, investors and lenders are more willing to offer financial support for the technology, and insurers are more willing to offer coverage for potential liability.

2 THE BIOTECH EXPERIENCE

The public response to the development of advances in biotechnology and genetic research, and the associated legal and regulatory climate that developed, provide a useful model for the field of nanotechnology. By examining the public reaction to the development of biotechnology and the legal framework that evolved for that technology, we can derive a few principles that are likely to be applicable for nanotechnology, and for other new technologies that carry both significant potential promise for public benefit and some risk of potential public harm.

One of the assumptions regarding public acceptance made in the biotechnology context, was that the public would quickly recognize and appreciate the potential value to quality of life presented by biotechnology. Although it is fair to say that the public did recognize many of the potential benefits associated with biotechnology, potential risks associated with the technology captured the attention

of segments of the media and important portions of the general public. This attention served to underscore possible adverse consequences, and in the context of limited public understanding of the details of biotechnology, the concern grew into active opposition to various applications of the technology.

Another important assumption was that rational arguments could effectively influence the response to biotechnology. Experience demonstrated, however, that even though much of the public acknowledged the significant benefits of biotechnology, fear as to potential abuses and accidents associated with the technology seemed captivated key segments of the population. The fear and concern surfaced into political and legal action in specific instances, genetically modified foods, for example. Proponents of biotechnology continued to raise rational arguments in defense of the technology, focusing on its vast benefits and explaining that the risks were not as substantial as opponents of the technology suggested. Although the rational arguments expressed in response to the opposition were helpful, they were not able to diffuse entirely the more vocal opposition.

3 LESSONS FOR NANOTECH

Public perception of nanotechnology appears to be developing along a track similar to that followed for biotechnology. Although there is general recognition of the potential benefits from many aspects of nanotechnology, there is also significant public uncertainty regarding the technology and some fear that arises largely from the uncertainty. That combination of support mixed with a lurking fear of possible adverse consequences is very similar to the climate that developed around biotechnology. Proponents of nanotechnology can take several useful lessons from the experience provided by public reaction, and associated legal and regulatory oversight, regarding biotechnology and other technological advances.

One important lesson is to avoid underestimating the ability of public reaction to influence the legal and policy environment. Public reaction to nanotechnology, regardless of the basis for that reaction, can translate into political influence, which in turn affects the form and substance of legislation and regulatory oversight. Both informed and uninformed opposition can affect public perception and have a corresponding impact on the legal environment applied to nanotechnology and its applications.

Another important lesson is to recognize the importance of engaging all concerns regardless of whether they are considered to be based in fact or merely unrealistic speculation. In the context of biotechnology and other forms of new technologies, there has sometimes been a view that concerns or opposition not based in fact can be ignored. This is a mistake. All concerns and opposition should be treated seriously, as all of those concerns can affect the regulatory climate applied to technology.

Another critical lesson is to respond to expressed concerns quickly and with a consistent set of messages. Every effort should be made to engage criticism or concern quickly. Responses should be direct and they should be dynamically presented, in a clear and lively manner. In addition, proponents of nanotechnology should not always wait for the opposition to take the initiative. When possible, supporters of nanotechnology should present the affirmative case for nanotechnology to the public using the most effective available marketing and promotional practices and strategies.

When presenting the affirmative case for nanotechnology, however, advocates of nanotechnology should try hard to avoid overstating the value of the technology. There is often incentive to exaggerate the potential benefits of a new technology, to attract funding, for example. Overstated benefits frequently return to haunt the supporters who oversold the claims, as public disappointment arising from inability to deliver the promised results can easily breed mistrust of the technology and its promoters. When the benefits of the technology are exaggerated, the door is opened for critics to question whether any of the positive assumptions associated with the technology are accurate. It is important for nanotechnology proponents to tell a consistent and realistic story regarding the technology to government, investors, and the general public.

Finally, nanotechnology supporters should recognize that a significant portion of the opposition to nanotechnology is not really inspired by the technology itself, but is instead driven by a combination of fear, frustration, and anger directed toward major institutions in our society. Part of the opposition expressed against nanotechnology, or any other new technology for that matter, is inspired by discontent with respect to government and businesses. To the extent that citizens are frustrated by their government or feel that large businesses have moved beyond the scope of effective control that discontent may surface as opposition to new technologies supported by those institutions, such as nanotechnology. No amount of effort by the nanotechnology industry will address fundamental societal discontent that expresses itself as opposition to nanotechnology.

4 CONCLUSION

This is a critical time for efforts to influence public perception of nanotechnology. Different applications of nanotechnology are emerging into the commercial marketplace, and are becoming more visible to the public. Mass market entertainment, including best selling novels, now occasionally highlight nanotechnology, and often in a highly unflattering light. Controversies over application of biotechnology and other novel technologies are fresh in the public consciousness. Public views on nanotechnology are now being developed.

Past experience with public reaction to other new technologies suggests that a major threat to new technologies is a stampede to regulation that can develop long before the technologies are mature enough to permit effective risk assessment. An effective strategy to reduce the risk of a rush to regulate is the coordinated use of existing legal and regulatory mechanisms. This approach is based on the argument that there is no need for development of an entirely new legal regime for nanotechnology, as its many different applications are already governed by several different regulatory systems. For example, nano-particulates are already governed by existing health and environmental regulations. Nanotechnology applied in the context of medical products and procedures are already regulated by the public health and medical regulatory processes. An effort to prevent premature comprehensive regulation of nanotechnology should begin with the argument that the various applications of different forms of nanotechnology are already effectively controlled through a diverse set of existing regulatory regimes.

The legal and regulatory framework applicable to nanotechnology will be significantly affected by public opinion. The need for proponents of nanotechnology to be mindful of the connection between public perception and legal oversight is underscored by experience with other novel technologies, particularly biotechnology. Supporters of nanotechnology should apply sophisticated promotional and marketing techniques to present to the public the affirmative case in support of nanotechnology. They should also respond quickly and dynamically to opposition to nanotechnology, no matter how rational or irrational the basis for the opposition.

Finally, advocates of nanotechnology should work to persuade the public that the range of nanotechnology applications can be effectively overseen by the current regulatory framework. Each application of nanotechnology will be subject to the regulatory oversight associated with that application. Given that established regulatory regime, the public interest would not be served by implementation of laws or policies directed specifically at nanotechnology. If we learn from past experience regarding public acceptance of new technology, perhaps we can preserve a legal and public policy environment in which innovative and useful applications of nanotechnology can be created and can flourish, for the benefit of society.

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