



Brief: Reputational Issues in the Space Industry

January 25th, 2022

Findings

Rotoiti interviewed several professionals working in various segments of the space industry. This brief summarizes their views on major reputational issues that are specific to the space industry.

Conceptualizing Reputational Risk

In the space industry, as in any industry, there is a unique set of issues that tends to play an outstanding role in affecting market actors' reputations. Some issues affect firms regardless of the industry in which they work; corruption and bankruptcy, for instance, arguably hurt the reputations of firms in many industries. But depending on the industry, some issues more significantly affect firms' reputations than do other issues. In oil and gas, for example, pollution is a major concern. In social media, on the other hand, data security breaches are especially prominent. This brief describes reputational issues that are particularly important in space.

- Launch and satellite firms often bear the brunt of reputational damage. If a subsystem, for example, causes a satellite failure, ensuing criticism often likelier targets the satellite firm, not the subsystem firm (especially criticism from industry outsiders). Reputational issues covered in this brief may nonetheless be relevant to other sorts of market actors.

The extent to which reputational issues matter is context-specific; generally, reputational issues matter to the extent that they affect a firm's ability to conduct business. A firm's ability to conduct business depends on various stakeholders – customers, suppliers, regulators, employees, financiers, and others. If the firm's reputation suffers in the eyes of these important stakeholder groups, this matters more than if its reputation suffers in the eyes of other groups of people. An important caveat, however, is that reputational impact can be indirect; seemingly irrelevant groups can influence important stakeholder groups and thus affect a firm's business.

- Launch providers often face criticisms about pollution, but associated reputational damage may be irrelevant to them. If they only care about customers, for instance, and if customers only care about launch prices, reputational damage may not matter.
- As an example of reputational issues impacting business indirectly, consider satellite firms in the business of selling data. For them, perceptions of amateur astronomers may at first glance appear irrelevant. But if astronomers lobby government, then regulators may pressure satellite firms to show how they are managing light pollution.

Firms can manage their exposure to reputational risk; it is not necessary to completely avoid issues that damage reputations. Firms can, for instance, lessen criticism by devising and implementing best practices, presenting themselves as responsible corporate citizens. They can frame their activities as advancing “science” or “education”. Another common strategy is quantifying costs associated with reputational issues and then incorporating those costs into business planning; resources can be set aside, for instance, to appease stakeholder groups.



Environment-Related Reputational Risk

One environment-related issue is space debris. People in the industry care about space debris because it presents an obstacle to accessing and operating in space. It is also an important issue for people outside the industry, since it has been prominently featured in non-industry-specific forums (e.g. news and popular movies). A common anxiety about space debris is that it makes accessing space more difficult, disincentivizing development of the space industry. A more dire scenario which some fear is debris will make space inaccessible and trap humanity on Earth. There is yet to be a major debris disaster blamed on a commercial operator. If and when that happens, this will likely change how much space debris concerns affect firms' reputations.

- Much criticism about space debris focuses on the numbers of spacecraft in orbit, but lack of information sharing is arguably a more troublesome factor; a single "rogue" spacecraft arguably exacerbates debris issues more than many responsible spacecraft.

Another common criticism of space firms is that they worsen environmental challenges on Earth. Many launch vehicles release greenhouse gases into the atmosphere, exacerbating human-induced climate change. Satellites often have toxic components whose manufacture and use causes environmental damage. Both launch vehicles and satellites, when deorbiting to Earth, release materials which may adversely affect the environment and human health.

- As with many reputational issues, perceptions can be more important than reality. If a launch vehicle emits no carbon dioxide, for example, it can still be criticized for doing so.

A third environmental issue is light pollution. As the number of satellites in orbit grows, an issue of concern is the extent to which they will interfere with humanity's ability to see the night sky. This is problematic both for professional astronomers and also for amateur stargazers. For the former, the issue is a pragmatic one: light pollution from satellites may hinder research of the universe. For the latter, the criticism is more aesthetic: humanity loses a beautiful source of inspiration when the view of the cosmos is interrupted by spacecraft.

A fourth common criticism of the space industry is that by leaving Earth, humanity becomes less concerned with environmental issues on Earth. The prospect of humanity becoming multiplanetary lowers the importance of sustainability issues here on Earth, according to this common critical view. Mars or another destination becomes a "Plan B", the existence of which means humanity invests less effort in living sustainably on Earth. This criticism often targets firms that explicitly communicate their long-term aspirations of settling the Solar System.

- A related issue that can affect space firms' reputations is allegations of elitism. This is especially salient in the case of firms working in space tourism. The criticism is that firms helping billionaires leave the planet are diverting resources away from dealing with environmental issues, economic disparities, and other societal woes here on Earth.

Politics-Related Reputational Risk

Firms' reputations can be negatively impacted by working for military or intelligence clients.

In the space industry, firms' success often depends on government contracts, many of which are awarded by military or intelligence agencies. Firms can be criticized for such contracts, particularly if the contracts do not align with how firms portray themselves. Many new space firms portray themselves as democratizing engagement with space, but critics can see this as being at odds with working for military and intelligence agencies. In general, there is increasing concern about "militarization" of space as governments attempt to extend authority off-planet.

Working with some governments closes doors to working with others; working for one "side" hurts a firm's reputation on the other "side". Governments often compete to build up their national space industries. In this context, if a firm works in one national industry, this can harm its reputation in another. If, for instance, an Italian firm supplies Chinese satellite firms, this could undermine its chances of supplying American ones. Governments also sometimes penalize firms they perceive as undermining their own space industry's development. The more antagonistic an international relationship is, the more these reputational matters affect firms.

Working with some firms can similarly create difficulties for working with other firms. Politics also matter even when governments are not involved. There is significant competition between firms in space, particularly in segments that are arguably overcrowded (e.g. launch services). If a firm become aware that a market actor is working with its competitors, then the firm may refuse to work with the market actor because it sees the market actor as working "against" it. A related point is competitors often work together. They may, for example, sell components to each other. This complicates business politics for market actors working with both competitors.

Technology-Related Reputational Risk

If a technology lacks performance history or has been marred by performance failures, this compromises reputation. It is important to show a technology will perform satisfactorily. This is often done by building up "flight heritage". Technologies with more heritage arguably have a reputational advantage. It is sometimes important to develop client-specific reliability and trust. This is especially the case with larger bureaucratic clients like governments or primes. Working with these clients requires familiarization with their systems and building up to larger projects.

Even though firms benefit from using technologies with established performance histories, they also benefit from using "cutting edge" technologies. There can sometimes be a reputational disadvantage for firms that are seen as using old technologies. New technologies enable competitive advantages – downlink relay networks, for instance, that bounce signals from LEO to GEO to Earth. Firms using older technologies can be seen as uncompetitive. It is a fine balancing act for space firms to use technologies that are both reliable and cutting edge.