

# What is Common Among Open Standards, Open Source and Open Innovation?

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For decades, the idea of "open"-ness has been used as a competitive strategy by firms in the computers and communications industries. Phrases like "open standard," "open source" and more recently "open innovation" have been used to describe these strategies.

What do they have in common? Which ones really are "open"? What does "open" mean, anyway?

Here I contrast firm strategies for these three types of "open"-ness in the context of their respective business models. Any firm needs a business model if it hopes to profit from innovation ([Chesbrough 2003](#)). From disparate research on business models, [the three key elements](#) of a business model are value creation, value capture and a value network.

## Open Standards

The term "open" has been used for standards since at least the 1960s. For some — as in the U.S. computer industry — "open" merely meant "not IBM" and later "not Microsoft." For others — such as in the European telecommunications industry — "open standard" was redundant, because if it wasn't an "open" standard, produced using "open" procedures (e.g. the ITU or ISO), then it wasn't really a "standard."

As in the research on organizational fairness, an "open" standard usually has two justifications: open in the process, or open in the outcome (cf. [Greenberg 1990](#)). The open process is the perspective of the standards creators, and is normally associated a particular type of standards-setting organization ([SSO](#)) — the formal standards development organization (SDO) rather than a standards consortium or private firm. The process fairness is achieved through the structure of the SSO. For example, [Ken Krechmer](#) lists open meetings, due process in voting, and transparency of meeting outcomes.

From an economic perspective, there are limits to openness, as I argued in "[The Economic Realities of Open Standards.](#)" Buyers seek an open enough outcome to assure competing implementations of the standard, in hopes of providing price competition and thus lower prices. However, no standardization activity that is economically self-supporting can be perfectly open.

[Tim Simcoe](#) argued that in standardization, firms face an inherent conflict between value creation and value capture. A completely open standard creates lots of value, none of which can be captured; a completely closed standard captures 100% of no value created. So a profit-maximizing firm must seek an intermediate point that partially accomplishes both goals.

Thus to pay the bills, there has to be value capture somewhere: everything has some level of openness and some level of proprietary-ness.<sup>1</sup> Typically, standards that are open in one area are often not open in another. An "open" standard may use the copyright on the standard to charge to view or use the standard. As Rudi Bekkers [has found](#), a process that is nominally open may be dominated by a few big companies that steer the technical definitions to overlap their own intellectual property and competencies

## Open Source

In the narrowest sense, open source software is defined by a particular form of software license. In practical terms, the concept of open source [has three dimensions](#): an IP license, a virtual development process and a system of shared governance.

Compared to open standards, open source has one huge advantage: you can use the technology without bearing the cost of implementing it. If it's licensed under a permissive (non-viral) license, a firm can even use it to build its own technology for sale. But there is no guarantee that an open source package will be produced using the process fairness of, say, the [ISO](#) — even if you ignore the effect of founder privilege ("benevolent dictator for life"). And while a standards setting organization such as the [IETF](#) requires multiple implementations as a core value, open source (or particularly "[free software](#)") partisans decry multiple implementations as "forking" (a cardinal sin in the [open source cathedral](#)).

Given an open source IP license makes it difficult to capture value, how do firms create profitable business models around open source? Typically, they give away the open source to create value, but capture value [through the sale of related products or services](#).

## Open Innovation

A lot of open source and open standards participants wonder what's "open" about "open innovation." After all, both of the former have a shared or public goods element to them, whereas a prime goal of Open Innovation (as defined by Henry Chesbrough's [2003 book](#)) is that firms have a way to capture a private return. In fact, my own chapter [with Scott Gallagher](#) argues that the purest forms of open source or free software (such as Project GNU) are specifically **not** open innovation.

Still, open innovation can incorporate a public goods aspect. In the aforementioned chapter, we note that the pooled R&D of an open source consortium (such as the IBM-led [Project Eclipse](#)) inherently creates spillovers outside the consortium, no matter how much the consortium partners might want to appropriate the returns for their own.

Even without such public goods, the practice of open innovation is inherently open in other ways. Innovation occurs across the boundaries of the firm, and both the value creation and value capture activities are [spread across the value network](#), rather than controlling them within the scope of a single firm. It is for these reasons that shifting from closed to open innovation is often traumatic for a large firm that was previously successful in its vertical integration.

## Enabling Collaboration and Competition

For open standards, open source and open innovation, the "open" part refers to collaboration by firms in producing some form of shared output. While sometimes openness is forced by buyers or regulators, today many firms voluntarily favor openness for those problems that require coordination and cooperation.

Openness can be [deliberately used](#) to attract to adopters. It also can be used to align the interests of firms across the value network. Systems industries (such as in the IT sector) inherently require a value network in which suppliers, customers, competitors and complementors [collaborate to create value](#). If anything, being open only cements these relationships as it more closely aligns the interests of the various

firms in the network.

At the same time, in even the most open [business ecosystem](#), firms will pursue their own (inherently competing) private interests. [Siobhán O'Mahony](#) refers to this as "competing on a common platform." Such private interests require that firms ultimately capture value.

Thus for all three forms of cooperation, openness makes it easier to create value and assure cooperation across the value network, but harder to capture value.

Open innovation is not "open" like the other two. If anything, open innovation brings a note of realism to the discussion of open standards and open source, by putting the profit motive front and center. Both open standards and open source must serve the interests of those stakeholders that provide the essential resources. Conversely, both provide existence proofs for building effective institutions that align and coordinate the interests of potential competitors.

## Notes

1. In claiming that all standards have open and proprietary elements, I don't mean to suggest that the architecture of a [Lisa](#) is as open as a [Lintel box](#).

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