

# Reimagining e-commerce policies through open protocols



**beck'n**

[becknprotocol.io](https://becknprotocol.io) ↗



Version Number & Year: Version 1.1, 2021

Published under CC-BY-ShareAlike 4.0 license

Authors: Venkatesh Hariharan ([venkyh@gmail.com](mailto:venkyh@gmail.com)), Sujith Nair ([sujith@becknfoundation.org](mailto:sujith@becknfoundation.org))

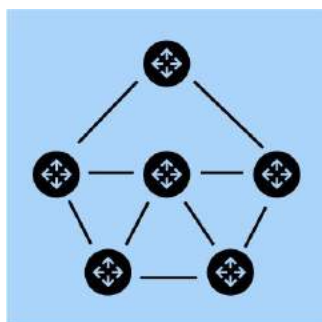
\*Volunteer contributed content

Regulating e-commerce monopolies and duopolies is becoming one of the biggest challenges facing policy makers around the world. The rapid growth of these platforms has left policy makers scrambling to come up with regulatory responses. The US, which adopted a *laissez-faire* approach to regulating these platforms now seems to be swinging to the other end of the pendulum. China, which allowed platforms to grow rapidly, imposed heavy-handed regulations after perceiving them as a risk to state power. The European Union, which does not have too many dominant home-grown platforms, has used regulations primarily as a means of curbing the influence of foreign platforms. The vast majority of countries, with low state capacity, have yet to formulate a response.

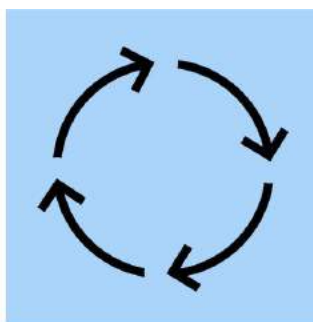
The winner-take-all nature of e-commerce platforms has provoked regulatory responses that range from calls for breaking up these platforms to imposing

heavy fines and penalties. In an era of rapid technological change, these approaches are akin to locking the stable doors after the horses have bolted. Breaking up one e-commerce platform might solve violations by a specific organization, but will not fix a system that spawns such platforms because of the technological factors and economic incentives that exist today. However, unless the basic plumbing of technology is fixed, policy responses will continue to look like a perpetually reactive whack-a-mole game. Therefore, in this note, we propose an alternative, technology-led approach to regulating e-commerce platforms with the objectives of enabling innovation, greater market participation, rebalancing power dynamics, and reducing concentration of power. We argue that this approach will enable policy makers to take a more proactive approach to shaping e-commerce markets, instead of reactive, post-facto regulations.

## From Open Internet Protocols to Closed Loop Ecosystems



**Open  
Internet Protocols**



**Closed  
Loop Ecosystems**



In the early days of the Internet, most of us were excited about the possibilities enabled by Open Internet Protocols (OIPs). It held the promise of democratizing access to knowledge, empowering small businesses, and fostering innovation. Cut to 2021, and the promise of OIPs has been dwarfed by Closed Loop Ecosystems (CLEs) in e-commerce and many other areas of technology. While OIPs are interoperable by design and play a unifying role, CLEs are rarely interoperable, and fragment the ecosystems they play in. CLEs are built using OIPs, but create walled gardens on top of it.

The big difference between OIPs and CLEs is that OIPs create value, but do not extract value, while CLEs create value as well as extract it. The value addition in CLEs happens inside the CLEs, and not in the open. This has significant policy implications and this paper will explore them, especially in the context of e-commerce.

CLEs like e-commerce platforms, online advertising services, food delivery services, ride-hailing services, and others have attracted regulatory scrutiny in every geography that they operate in. The reasons range from anti-competitive behavior, becoming too big to fail, privacy violations, and many others.

The US, which is home to many of the oldest CLEs seems to be swinging from one extreme to the other. In the early days, these CLEs were treated with light-touch regulations but are now under threat of being broken up. China let their CLEs grow rapidly, but recently started cracking down when they realized that the CLEs were becoming too big to fail and could become a threat to state authorities. The European Union (EU) which does not have too many dominant home-grown CLEs has taken a protectionist approach with the goal of curbing the influence of global CLEs.

The common thread between all these responses is that these are ham-handed policy responses to challenges raised by technological developments. By definition policy responses are reactive, and sometimes akin to locking the stable doors after the horses have escaped. The risk with such policy-based responses is that they lead to uncertainty for entrepreneurs, investors, and the ecosystem during the long transition from an existing policy to a new one. There is also no certainty that the new policies or laws will actually accomplish the intended policy goals.

In an era of technological change, policy makers might be better served by a techno-legal approach to policy making instead of depending purely on policy responses to technological changes. Unless the basic plumbing of technology is fixed through technology-led responses, policy responses will continue to look like a reactive whack-a-mole game. Breaking up one CLE might solve for violations by a specific organization, but will not fix a system that spawns CLEs because of the technological factors and economic incentives that exist today.

*Therefore, the key question is: Can we transform existing winner-take-all digital industries into win-win ecosystems that nurture competition, encourage innovation and provide meaningful choices to consumers?*

In this concept note, we argue that creating such win-win ecosystems is possible through technology-led policy making. We outline an approach for doing so in the arena of e-commerce.



## Reimagining digital commerce as open commerce networks

The point of this concept note is not to blame CLEs who are merely responding to market forces. In the field of e-commerce, it was difficult to enable discovery, ordering, and payments in the distributed manner prevalent on OIPs. This led to the creation of giant e-commerce platforms that concentrated power in the hands of a few. To transform this ecosystem, we must begin by applying the principles of Open Internet Protocols to e-commerce.

OIPs enabled an explosion of services online because their foundations were *protocols* that created value without capturing any value. For a simple analogy see how the Simple Mail Transfer Protocol (SMTP) behind email allows a person to send an email from any email client

to a recipient without worrying about what email client the recipient uses. Now compare that to e-commerce platforms that allow buyers and sellers to transact within a closed loop. As more and more buyers and sellers transact within these CLEs, the platforms create value as well as extract value for themselves.

These CLEs ride on OIPs but create walled gardens on top of these OIPs because the economic incentives are aligned to such closed loops. For buyers and sellers, this means that they might have to be on multiple e-commerce networks. CLEs inevitably lead to the creation of winner-take-all markets and tend to become monopolies or duopolies. While this is not bad per se, real-life experience demonstrates that these lead to reduced agency for buyers and sellers

on these CLEs, narrowing of choices, and less innovative markets. In the short-term, monopolies and duopolies might lead to reduced prices, but regulators must take a long-term view when regulating market structures.

For example, in food delivery, CLE platforms spend heavily to bring restaurants and customers onto their platform. Customers are attracted to platforms that have a larger listing of restaurants while restaurants are attracted to platforms that have a larger number of customers. Marketplaces that generate network effects by bringing both restaurants and customers onto their platforms create a virtuous cycle. Those that are unable to generate network effects eventually fade into oblivion. Hence these are termed as winner-take-all markets where only one or two players survive. These network effects lead to centralization of power with the platform owners who set the rules of the marketplace. Restaurants, drivers, and the other suppliers on these platforms have very little room to negotiate or set their own terms and conditions. At a socio-economic level, such concentration of power through CLEs leads to increasing wealth disparities.

What if we could reclaim the ideals of an open Internet and bring them into the realm of e-commerce? This is possible if we create OIPs for e-commerce. Such OIPs might not completely replace existing CLE e-commerce platforms but can offer a viable alternative for merchants and consumers.



## Difference between OIPs and CLEs

The World Wide Web (Web) and email are two of the best examples of OIPs. Both are built on top of open protocols called HyperText Markup Language (HTML) and Simple Mail Transfer Protocol (SMTP) respectively. On the Web, anyone can create websites using the HTML protocol, and these can be accessed by any browser that is HTML compliant. With email, we can send and receive emails without even knowing what type of email client (GMail, Hotmail, Yahoo Mail, Outlook, Proton Mail etc) the recipient is using.

platforms cannot communicate with each other and often find themselves installing multiple apps. While OI protocols create value, without extracting it for themselves, CLEs create value for users, but also extract significant value for themselves. OIP operate as public goods that are non-rivalrous and non-excludable, while CLEs operate as club goods with significant barriers to entry. Both these ecosystems lead to very different public policy outcomes. It is therefore critical to understand the differences between the two.

Compare emails with messaging platforms where all activities happen within a closed loop. Users of these

## Comparison of Open Internet and Closed Loop Ecosystems



Features	Open Internet Protocols	Closed Loop Ecosystems
Creation of value	Very high	High
Retention of value	None	Significant retention
Interoperability	Permissionless, highly interoperable by design	Permissioned, based on bilateral negotiations
Data Retention	Protocols don't store customer data, services run on top of these protocols might store data	Centralized data controls. High incentives to collect maximum data for personalization
Nature of marketplace	Win-Win	Winner-Take-All
Barriers to entry	Low barriers, protocols are usually open, royalty-free formats that can be implemented by anyone	High barriers to entry. Typically monopolies or duopolies once the markets consolidate
Public Good	Yes	No. Closer in nature to club goods.
Power Dynamics	Distributed	Concentrated with the platform owners



## The Beckn Protocol: A new distributed, interoperable approach to e-commerce

Like HTML and SMTP, the Beckn protocol is a royalty-free open protocol that can be implemented by anyone. The protocol eliminates the need for a central platform or intermediary, central control, or authority to enable commerce interactions among participants. Unlike centralized platforms, the Beckn protocol does not extract any value or power for itself but acts as a force multiplier to the beneficiaries it serves.

Beckn is not an app or a website or a platform. It's an open protocol (a set of well documented specifications) that allows fair and transparent rules of play for market participants. It allows the creation of a distributed digital market that resembles an open playground that is free and fair, instead of being closed and non-inclusive. Each participant, by virtue of implementing the Beckn protocols, can join networks powered by Beckn and become discoverable at their own command.

For market players, once the Beckn protocol becomes popular in a particular domain, they have the option of using the CLE platforms or adopting the Beckn protocol or doing business on both ecosystems. For example, restaurants can choose to be on CLE food delivery platforms or on networks powered by Beckn, or have a presence on both. Once they establish their presence on a Beckn network, restaurants can interoperate with other Beckn networks for delivery fleets, restaurant middleware, suppliers, and others. This will allow restaurants to take orders directly from customers, contact delivery fleets, and ship orders to their customers in real-time, using the Beckn protocol.

Currently, such possibilities are enabled only through centralized CLE food delivery platforms. In contrast, Beckn is like email for commerce. Buyers and sellers need not be on the same platform but can interact directly with each other without intermediaries. If you are naturally discoverable on any app without having to have bilateral arrangements, it is a win-win as

organizations can get customers without much spending.

Similarly, in other sectors like ride-hailing, taxi drivers can choose to be on CLE ride-hailing apps, or on networks powered by Beckn, or have a presence on both. Taxi owners could become part of a Beckn network and attract fares directly from their customers, without paying commissions to CLEs. Customers on the network will be able to book multimodal transport to their destination in one sitting without having to open multiple apps for trains, metro, taxis, buses, bicycles. Customers can even book parking spots and EV charging stations through open networks powered by Beckn.

Regional transport authorities can create transport networks using the Beckn protocol while taxi drivers federations could onboard their members onto the Beckn protocol, thus giving their members greater control over their work.

Just as a variety of Internet firms help organizations create their own websites, an ecosystem of Beckn service providers will help organizations onboard themselves onto the Beckn ecosystem. However, these service providers are unlikely to have the ability to dictate terms to market players the way CLE e-commerce platforms do. Networks built using the Beckn platform will offer an attractive alternative to sellers who wish to have a direct online relationship with their customers.



## Conclusion

Interoperability was a fundamental feature of the World Wide Web as envisioned by its creator, Sir Tim Berners Lee, and led to the tremendous innovation that we saw on the Internet. The rise of the CLEs goes against this vision of an interoperable Internet. We are now entering an era where it is not possible to regulate e-commerce through legal code alone; technology code and the legal code need to work hand-in-hand to regulate markets.

Policy makers must realize that interoperability is not merely a nice to have technical feature, but the very essence of competitive markets on the Internet. Using technology and regulatory frameworks to enforce *interoperability by design* is one of the most efficient ways of ensuring efficient markets. OIPs like Beckn enable greater market participation, competition, innovation, and deters concentration of power. Therefore, policy makers must take cognizance of new technology frameworks like Beckn, create enabling frameworks around them, and use these frameworks to achieve policy goals.

