



Retail & eCommerce Patent Threats & Litigation Continues at High Levels

Patent Assertion Entities (PAEs) — also known as patent trolls — are increasingly targeting Retail and eCommerce businesses. This industry is experiencing more threats, attacks and even litigation from PAEs than ever before.

▶ A Historic Perspective

For as long as humans have existed, so has sharing, trading, selling, and exchanging goods and services. Retail is a backbone of societies throughout the world, a critical component in companies' supply chains and operational logistics, and a key economic indicator of growth.

The world has come a long way since people were exchanging cows and sheep in times long past. We've seen the transition from Mom & Pops to General Stores. From Department Stores to Shopping Malls. From Big Box, brick-and-mortar Retailers to Wholesalers. And with the digital revolution of the Internet, eCommerce. We've seen the world evolve from the 1st known currency — the esopotamian shekel — which emerged nearly 5,000 years ago as stamped silver and gold coins or "mints" to paper money. From Cash Registers to Credit Cards. From Point-of-Sale (POS) systems to Touch Screens. From Smartphone payments to Credit card taps. Now, we are seeing the advent of Cryptocurrency — a decentralized digital currency such as Bitcoin — which relies on Open Source and is transferred on peer-to-peer networks.

Without barriers of time or geographic boundaries, consumers can find virtually anything — and everything — on the Internet across an ever-growing range of industries. Food. Cars. Clothes. Household Goods. Electronics. Entertainment. And it can be found from your fingertips, or voice-based virtual assistants such as Alexa, Google Assistant and Siri. Open Source technologies are behind these inventions and a significant contributor our lives today in the Digital Age.

Ecommerce has not replaced traditional shopping, but it has provided a new way to shop, transforming consumer expectations for both online and offline shopping experiences. Ecommerce also comprises a much larger market share of total retail sales than even a couple of years ago, and the trajectory is continued growth.

Open Invention Network members are highlighted and represent just over 50% of these eCommerce companies.

Table 2: Top B2C e-commerce companies by GMV, 2020

Rank by GMV		Company	HQ	Industry	GMV (\$ billions)			GMV change (%)	
2020	2019				2018	2019	2020	2018-19	2019-20
1	1	Alibaba	China	E-commerce	\$866	\$954	1,145	10.2	20.1
2	2	Amazon	USA	E-commerce	\$344	\$417	\$575	21.0	38.0
3	3	JD.com	China	E-commerce	\$253	\$302	\$379	19.1	25.4
4	4	Pinduoduo	China	E-commerce	\$71	\$146	\$242	104.4	65.9
5	9	Shopify	Canada	Internet Media & Services	\$41	\$61	\$120	48.7	95.6
6	7	eBay	USA	E-commerce	\$90	\$86	\$100	-4.8	17.0
7	10	Meituan	China	E-commerce	\$43	\$57	\$71	33.0	24.6
8	12	Walmart	USA	Consumer goods retail	\$25	\$37	\$64	47.0	72.4
9	8	Uber	USA	Internet Media & Services	\$50	\$65	\$58	30.5	-10.9
10	13	Rakuten	Japan	E-commerce	\$30	\$34	\$42	13.6	24.2
11	5	Expedia	USA	Internet Media & Services	\$100	\$108	\$37	8.2	-65.9
12	6	Booking Holdings	USA	Internet Media & Services	\$93	\$96	\$35	4.0	-63.3
13	11	Airbnb	USA	Internet Media & Services	\$29	\$38	\$24	29.3	-37.1
Companies above					\$2,035	\$2,399	\$2,890	17.9	20.5

Note: Alibaba year beginning 1 April, Walmart year beginning 1 February. Figures in italics are estimates. GMV = Gross Merchandize Value (as well as Booking Value).

Source: UNCTAD based on company reports.

▶ An International Pandemic Perspective

The COVID-19 pandemic shocked and disrupted businesses — including Retail and eCommerce — around the world. Consumers turned to purchasing and receiving retail goods online. This activity — online shopping — was reported as one of the most popular activities on the Internet in 2020, despite skyrocketing prices.

The dramatic worldwide increase in eCommerce during strict quarantine restrictions resulting from COVID-19 boosted online Retail sales' share of total retail sales from 16% to 19% in 2020, compared to 2% from 2018-2019, according to the United Nations Conference On Trade and Development (UNCTD). Industries such Travel, Leisure, Restaurants and Entertainment among others, took hard hits that some businesses never recovered from and were forced to close.

eCommerce sales reached \$5.2 trillion (USD) in 2021. This figure is forecast to increase 56%, reaching approximately \$8.1 trillion (USD) by 2026.

The pandemic also contributed an extra \$218.53 billion to eCommerce's bottom line over the past 2 years. In 2020, the pandemic added \$102.08 billion to the United States' eCommerce industry and added \$116.45 billion in 2021, according to Digital Commerce 360.

As a result of Covid, many storefronts now offer Buy Online Pick up in Store (BOPIS) services, same-day delivery and online shipping — many of which are powered by Open Source. With these new ways to buy goods, Point-of-Sale (POS) systems are becoming smarter and communicating both on- and offline transactions, tracking inventory, calculating real-time store promotions, and monitoring consumer behavior.

Some say, Augmented Reality (AR) shopping may become a new norm. With virtual fitting rooms, enhanced in-store AR navigation and other AR experiences spreading across the market, AR may bridge the gap between digital eCommerce and brick-and-mortar stores. Ikea Studio, for example, uses AR to display rooms, measurements, windows, doorways and more on customers' iPhones so they can easily and quickly visualize products in their homes.

▶ An Economic Perspective

Both Retail and eCommerce describe the process of a business selling products or services to consumers. The difference is Retail is the sale of products in stores, person-to-person, or through direct mail. eCommerce is the sale of products or services solely over the Internet, which relies on Open Source. In other words, not every Retail store involves eCommerce, and not every eCommerce store involves Retail.

The global Retail market generated sales of over \$26 trillion (USD) in 2021 and is forecast to reach over \$30 trillion (USD) by 2024. The global eCommerce market was valued at \$9.1 trillion (USD) in 2019 and is expected to grow at a Compound Annual Growth Rate (CAGR) of 14.7% from 2020 to 2027.

Here are 10 factors — all of which Open Source technologies influence — contributing to this economic growth.

- 1. Smartphone Access** — As of September 2022, 6.648 billion people use smartphones – 83.4% of the world's population.

2. **Internet Availability**— There were more than 5 billion Internet users worldwide as of April 2022 — 63.1% percent of the global population.
3. **Industry Momentum** — Different industries are turning to eCommerce online options, from Travel and Leisure to Financial Services to what is known as “eTailing.”
4. **Digital Content** — From emails, apps, and social media platforms to online advertising — such as Google and Facebook — more retailers understand the significance of creating and maintaining an online presence.
5. **Technological Awareness** — As more consumers have access to the Internet, Smartphones and other digital devices, eCommerce awareness is rapidly increasing.
6. **Faster Browsing** — Innovative technology developments such as 4G and 5G connectivity continue enhancing the marketplace.
7. **Preferred Shopping Method** — The majority of both Millennials and Gen Xers in the United States report they would rather shop online than in physical stores.
8. **New eCommerce Market Entry** — There are approximately 24 million eCommerce stores alive around the globe, with new businesses opening daily.
9. **Different Rules** — Fierce global competition dictates new rules to remain competitive and retailers are adopting innovative ways to attract and retain customers
10. **Game-Changers** — The Retail market of large, multinational eCommerce websites, such as Amazon, eBay, Alibaba (an OIN member) and Wayfair are influencing the way businesses operate as more customers choose the ease and convenience of online shopping over traditional, in-person transactions.

As previously mentioned, the Covid-19 pandemic played a significant role in accelerating eCommerce and disrupting traditional brick-and-mortar Retailers, forcing many stores to close. It negatively impacted companies' bottom lines as they faced new challenges around health, safety, supply chain operations, labor force, cash flow and consumer demand. Businesses that have survived thus far continue navigating these issues.

Economists say the post-pandemic commerce world will be shaped by 3 factors:

1. Consumers adopted short-term behaviors during the pandemic that in many cases will continue and may become permanent.
2. Consumers will emerge from the pandemic in a new economic reality which will impact changing commerce behaviors.
3. A significant consolidation of Retailers will alter the competitive and partner landscape.

▶ An Open Source Perspective

It has occurred to most retailers and eCommerce businesses they are dependent on technology. There is not a single aspect of Retail or eCommerce that is not touched by or doesn't involve technology. Innovating requires the best-of-the-best tools and talent available.

OSS development is not only the standard today, but the norm. Even companies that are not aware Open Source is a driving force in their business, are relying on Open Source. According to Siteefy, 74% — nearly 55 million — live websites are built on Open Source and more than 80% of smartphones — which rely on the Android Operating System (OS) run on Open Source.

As evidenced, Retailers and eCommerce stores around the world use Open Source — as do other industries — for many reasons. **Here are the Top 10.**

1. Fosters innovation
2. Increases time-to-market
3. Streamlines operations
4. Expands transparency
5. Creates a culture of collaboration
6. Attracts & retains the world's top talent
7. Leverages the best-of-breed platform and de-facto software development standard
8. Decreases costs
9. Enhances consumers' shopping experiences
10. Builds brand loyalty

▶ An Intellectual Property Perspective

Patent Assertion Entities (PAEs) — also known as patent trolls — are increasingly targeting businesses of all sizes and all industries. Retail and eCommerce businesses are no exception. They are experiencing more threats, attacks and even litigation from PAEs than ever before.

PAEs are businesses that acquire patents from 3rd parties and seek to generate revenue by asserting them against alleged infringers. They are not operating companies in that they do not develop or sell products or services. As a result, PAEs are not at risk from patent infringement claims from others. A Boston University study found these companies are costing businesses approximately \$29 billion (USD) a year, excluding indirect costs.

Of the areas that PAEs attack as tracked by RPX, "eCommerce & Software" was the area most targeted by PAEs with 624 litigations in 2021 and 572 in 2020. This trend has continued during the first half of 2022. Clearly, that participate in Retail and eCommerce activities are at risk to be targeted by PAEs for patent litigation.

In addition, retailers increasingly are using Open Source Software, as discussed above. Litigation towards Open Source programs reached an all-time high of 721 cases in 2021, according to data from RPX and Unified Patents. NPE Open Source patent litigation reached 617 cases from January-June 2022 and is on track for 1,200 this year, doubling the number of cases in 2022 over 2021.

"Growth in eCommerce has changed the way that retail businesses operate. Retailers employ Open Source Software (OSS) to deliver their services, as well as meet customer expectations in today's digital world. It is also clear that E-commerce is an active area for PAE patent assertion and litigation activity, says Keith Bergelt, CEO of OIN, "Open Invention Network has, and will, continue investing in programs and activities to hinder PAE actions associated with core OSS that Retailers and eCommerce companies rely upon."

The study also reveals PAEs are also not just threatening enterprise but now pursuing start-ups and small businesses who do not have the resources to fight litigation. Most of the time, it is cheaper for these businesses to pay IP

blackmail than proceed with court litigation. When patent suits do occur, they can result in million dollar payments and unexpected expenses, negatively impacting profit.

Conclusion

Inevitably, Open Source is revolutionizing the Retail and eCommerce industries, and more specifically, changing the way people shop. The evolution of eCommerce has been rapid, growing at a mind-boggling pace.

None of this would be possible without Open Source technologies, worldwide collaboration, and transparency.

One reason Retail and eCommerce companies are increasingly joining OIN is for free support to reduce patent risks and mitigate patent infringement litigation. Retailers and eCommerce companies are clearly at risk from PAE threats, so the impetus to join OIN and other defensive organizations is Open Invention Network's "[Retail & eCommerce Patent Threats & Litigation Continues at High Levels](#)" report:

- Demonstrates how and why Retail and eCommerce patent threats and litigation is increasing
- Provides examples of patent suits from PAEs against well-known retail brands: CVS, Kohl's, Macy's, Walmart and Target
- Identifies nearly 20 Open Source technologies Patent Assertion Entities (PAEs) may be targeting in Retail and eCommerce
- Lists 5 ways OIN — at no cost — protects and defends our members from patent risks in Open Source, reduce patent threats & mitigate patent litigation related to core Open Source technologies
- Shows a sampling of Retail and eCommerce OIN community members that are household brand names

Unarguably, history has demonstrated Retail will continue shifting and eCommerce will continue growing as Open Source technologies continue to emerge.



Download OIN's Report

["Retail & eCommerce Patent Threats & Litigation Continues at High Levels"](#)

About Open Invention Network

Open Invention Network (OIN) operates an aggressive pre-issuance submission program targeting patents of known Patent Aggression Entities (PAEs). In addition, OIN founded and funded a new Unified Patents Open Source Zone to facilitate the invalidation of PAE patents that read on Open Source functionality. OIN — an organization in which membership is free — can help its members mitigate litigation and reduce risks in Open Source as a free member benefit.

(Sources: Digital Commerce 360, Dinarys - segment chart, Grand View Research, IBIS World, Let's Talk About Money, Medium, Retail Dive, RPX, Siteefy, Statista, The Future of Customer Experience & Engagement, U.S. Census Bureau, United Nations Conference On Trade and Development (UNCTD), Unified Patents)