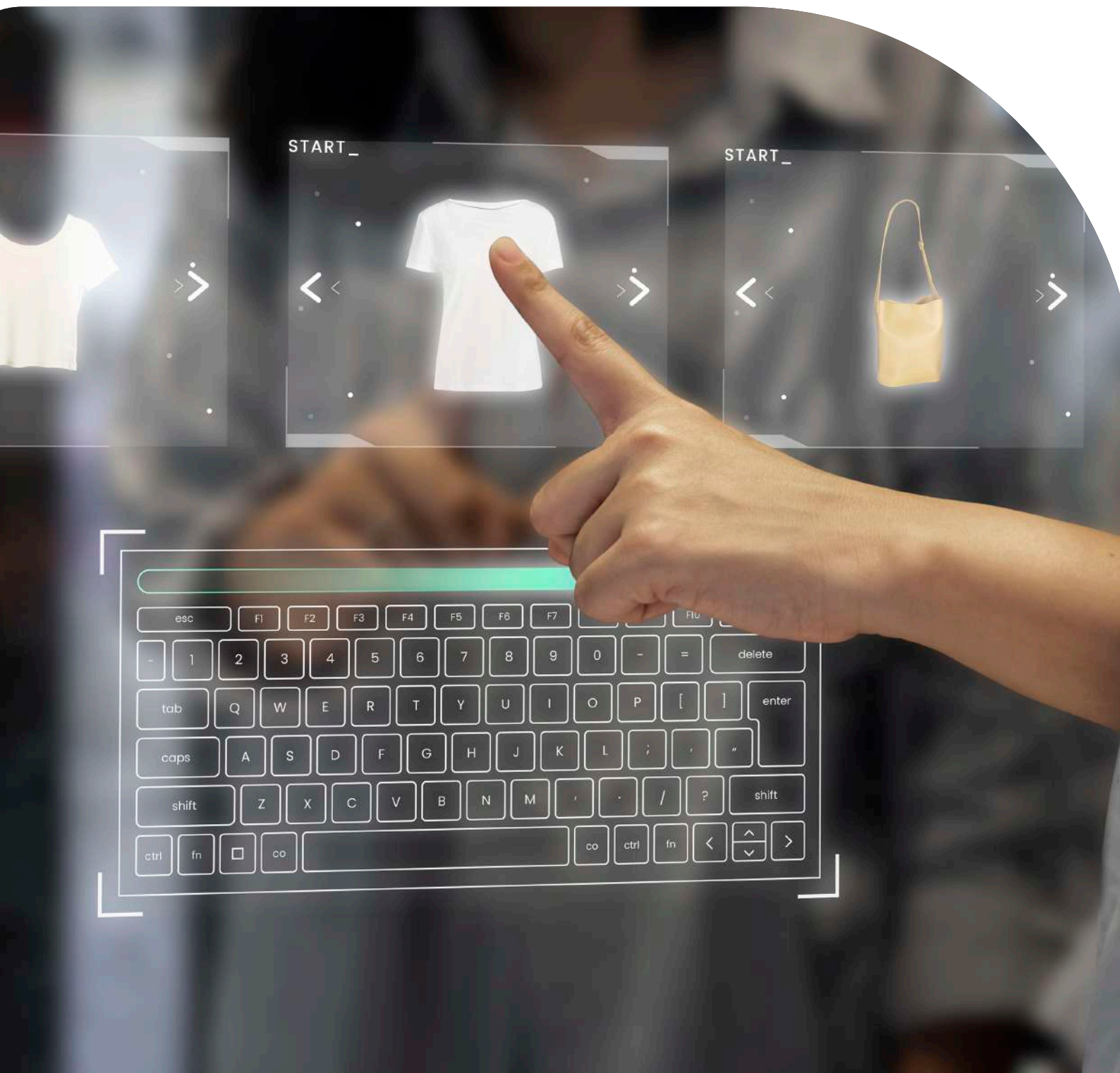


Think Before Tap

How Online Shopping Is Quietly Shaping the Planet's Future

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“What if one of the most powerful climate action we can take today is not installing solar panels or driving electric cars, but simply choosing to buy more mindfully?”

Shopping today looks nothing like it did decades ago. With the rapid rise of e-commerce, nearly anything, from clothes, electronics, groceries, even furniture, can now be delivered to our doorstep with just a tap.

In Indonesia, this shift is particularly striking. The e-commerce sector is becoming increasingly dominant, positioning the country as one of the fastest-growing digital economies in the Asia-Pacific region. By 2025, Indonesia's digital economy is projected to reach USD 137.5 billion, with online retail playing a central role (Databoks, 2025).

While this rapid growth has brought significant economic gains, it has also fundamentally reshaped consumer behavior. What used to take time and effort—going to stores, comparing prices—has now been replaced by personalized ads, one-click checkouts, and same-day delivery. The expectation of waiting has given way to a culture of instant gratification, where shopping is no longer a decision, but a reflex. Over time, buying more frequently, and often impulsively, has become the new normal, simply because it's easy.

Yet this convenience comes at a hidden cost. Behind every order lies a complex system that generates mountains of packaging waste and contributes to rising carbon emissions, particularly through transportation and last-mile delivery. Though these impacts may be invisible in the moment, they are quietly contributing to today's environmental challenges and shaping the future of our planet.



Unwrapping the Environmental Cost

Every online order arrives wrapped in layers of plastic, cardboard, bubble wrap, and other materials. While packaging is designed to protect products during transit, much of it consists of single-use materials discarded immediately after use, contributing to the growing volume of waste in landfills and oceans.

This may seem like a small trade-off for convenience, but the consequences are far from minor. The volume and disposability of these materials make packaging one of the fastest-growing sources of waste globally, especially in the age of online shopping.

Long before plastic packaging becomes waste, its environmental toll has already begun. The manufacturing process itself takes up a lot of resources, emitting greenhouse gases at nearly every stage, from extraction of raw materials to processing and transportation. According to Plastic & Climate: The Hidden Costs of a Plastic Planet by the Center for International Environmental Law, by 2050, the full life cycle of plastic is projected to emit 2.8 billion metric tons of CO₂, an amount equivalent to the emissions from 500 coal-fired power plants (Aliansi Zero Waste Indonesia, 2023).

In the context of online commerce, the use of single-use materials becomes even more pronounced. Unlike traditional retail, where products are shipped in bulk to stores, e-commerce often requires individualized packaging for each item. This shift has drastically increased the volume and complexity of packaging waste. A study by the State Post Bureau found that an average online order includes 2.18 layers of packaging, largely due to protective layering, branding, and logistical demands like speed and traceability (Igini, 2024).

In Indonesia, the situation is particularly concerning due to the dominance of daily deliveries and the high frequency of consumer purchases. Data from the Sistem Informasi Pengelolaan Sampah Nasional (SIPSN) under the Ministry of Environment and Forestry reveals that plastic is the second-largest contributor to national waste, making up 19.7% of the total. Disturbingly, only 9% of this plastic waste is successfully recycled, while the rest ends up polluting landfills, rivers, and oceans, or is burned, contributing further to air pollution (SIPSN, 2025).

What makes this problem alarming is the nature of the packaging itself. Most e-commerce packaging consists of



2.18 layers of packaging are used on average in every online order, driven by the need for protection, branding appeal, and logistical requirements

Source: State Post Bureau

mixed materials, such as laminated plastics or bonded layers, that are nearly impossible to separate and recycle efficiently. As a result, even consumers who try to dispose of packaging responsibly still contribute to waste that accumulates or releases more emissions when incinerated (Igini, 2024) because the problem is not just how we throw it away, but how it is made in the first place.

So, behind every “unboxing moment” we enjoy lies a chain of consequences to the environment. Without substantial innovation in packaging systems or a shift in consumer habits, the environmental impact of online shopping will only continue to escalate.

The Footprint of Fast Delivery

Packaging may be the most visible consequence of online shopping, but the carbon footprint of delivery is equally responsible for environmental harm. Behind every order lies a complex logistics chain, from planes, ships, trucks, and motorbikes, all moving at high speed in service of getting goods to our doorsteps as quickly as possible.

This race for speed, however, is not without consequences. According to the World Economic Forum (WEF), the number of delivery vehicles worldwide is projected to grow by 36% by 2030, reaching an estimated 7.2 million units. This increase is expected to generate over 6 million tons of CO₂ emissions annually (WEF, 2020). A major contributor to this surge is the growing popularity of same-day and instant delivery services, which have expanded by 36% and 17% each year respectively (WEF, 2020).

In Indonesia, this challenge is even more pressing due to the widespread use of motorcycles for urban deliveries. From food and beverages to daily necessities, these two-wheelers make

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thousands of trips each day. In 2023, one of Indonesia’s leading tech companies—widely recognized for its ride-hailing, digital payment, and delivery platforms—reported over 870,000 tons of CO₂ emissions from transport-related operations alone (Cicilia, 2024). To put that into perspective, that’s roughly equivalent to the amount of carbon it would take more than 14 million mature trees a full year to absorb (One Tree Planted, n.d).

Ultimately, the rise of fast delivery reflects more than just innovation in logistics but also mirrors our collective appetite for immediacy. Waiting weeks for a delivery used to be normal, now, anything longer than a day feels like an inconvenience. Because while this acceleration in service meets consumer demand, it also accelerates environmental degradation. By 2025, deliveries and shipping are projected to account for around 3% of global greenhouse gas emissions (WEF, 2020), a share that will likely rise if demand continues unchecked.

After all this, perhaps it is worth asking: **is faster always better?** Consumers hold the power to shift demand, not by rejecting convenience altogether, but by approaching our purchases with a bit more awareness. Because apparently, slowing down, even slightly, could be one of the simplest yet impactful climate actions we take.

The Mindful Tap

As consumers, we rarely pause to consider what happens after we tear open the package or unwrap a product, because waste disappears from our view the moment we discard it. But now, we know better: every layer of plastic, each rushed delivery, and all the convenience we once took for granted come with environmental costs that quietly accumulate over time.

In an era where digital platforms are designed to remove friction and reward immediacy, the simple act of pausing before a purchase is more powerful than it appears. Mindful consumption does not mean we must stop buying, it means choosing with intention, reclaiming our control in a system engineered for impulse.

By thinking before we tap, we reframe consumption as a conscious act. We begin to recognize that the true cost of convenience is not paid at checkout, it is passed on to the landfills, air quality, and future generations. Perhaps the future of our planet won’t be shaped solely by policies or innovations, but by the millions of micro-decisions made in quiet moments: at the checkout page, in front of a screen, with a single pause before a tap.

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