Package of the Future

Shaping E-commerce Delivery Experiences

A POINT OF VIEW

Abstract

Today's digital customers seek remarkable experiences in their interactions with the digital world. One such interaction relates to the packaging business. Present day packaging used in e-commerce parcels involves the use of corrugated cardboard boxes as tertiary packaging material. It serves the basic needs of protection and ease of transportation but falls short on three fronts.

First, sustainability and responsible disposal. Packaging waste is a massive global problem. With global e-commerce sales forecast to hit $4.9 trillion by 2021[1] (almost a fifth of all retail sales), retailers must make the switch to green packaging. Regulatory and public concerns around single-use packaging waste is driving change through consumer preferences.

Second, customer expectation and experience. Interestingly, 86% of customers are willing to pay more for a better customer experience[2]. Data has shown that by the end of 2020, customer experience would overtake price and product as the key brand differentiator[3]. Third -- flexible and cost-effective operations to scale up for increased speed and volume.

The parcel logistics industry, in general, deals with extreme heterogeneity and a lack of labor force to deal with exceptions, making automation in packing and handling difficult. Last mile / last meter delivery remains the Achilles heel in logistics. The 'package of today' has served its purpose and outlived its time. E-commerce companies must invest in technology innovation for a new era of retail and e-commerce. Headless e-commerce – an architecture -- where the front-end and the back end are de-coupled and able to function independently -- and 'package of the future' will drive exceptional customer experiences in retail.

What is 'Package of the Future'?

Science and technology related to packaging has progressed significantly and the time is ripe for the package to become connected, intelligent, automation-friendly, and reusable. Material science, on its part, is bringing in newer materials that can address the sustainability issues associated with cardboard-based packages. Technologies like data standardization and advanced analytics, warehouse robots, RFID, printable electronics, cloud, IoT, digital twin, autonomous vehicles/drones, and others, have seen rapid developments that can integrate well with newer packages. Emerging connectivity technologies like low energy bluetooth, battery-less bluetooth, along with 5G can keep these packages connected through their journey and can thus help usher in a new era of experience-oriented e-commerce deliveries.

New experiences that this 'package of the future' could offer include:

End-2-end (E2E) flexibility from order placement to delivery

Customers can experience flexibility in delivery options, the more common ones being change delivery locations post order placement, especially closer to delivery times. Standardization in packaging sizes and the ability to utilize technologies like artificial intelligence, autonomous vehicles / drones, and real-time tracking enable last minute delivery location updates and ensure e-commerce parcels stay connected with customers, to reach them, wherever they are.

Seamless experience in transit

A package in transit means it is moving in the transportation network, to be delivered on the scheduled delivery date. However, a package can remain in this status until delivery. While logistics may have a view into their fleet, the manufacturer, retailer and customer are uninformed, with transportation being perceived as a black box. Currently, most logistics chains implement passive track and trace (based on scanning and RFID); that is, parcel tracking mechanisms are not real-time, only hub-to-hub.

Providing a seamless experience to customers throughout the movement and storage of the package means:

- **Keeping customers informed:**
  Customers want real-time tracking and the ability to redirect deliveries when on route. Present day package tracking allows customers to track their packages but not in real-time and only with limited specificity. IoT and sensor-based technologies, however, offer opportunity for the package to become smart and to stay connected. Universal IoT based packaging solutions will enable the integration with smart devices – smart home/ google assistant, amazon echo, and smart watches as well. With the combination of 5G, online mapping technology, and landmarks, packages can automatically push updates to the customer and logistics command center. Real-time tracking data can streamline delivery significantly, improving logistics operations, enhancing visibility in logistics, providing the ability to deliver personalized communication or to detect route deviations and take quick corrective actions. In the case of cross-border e-commerce, the ability to track and share accurate and real-time shipment information about parcels that pass through various customs and ports along the delivery route and are transported by multiple carriers. Exact time of delivery can be intimated ensuring the customer is available at the time of delivery, thus reducing the number of missed deliveries.

- **Maintaining flexibility in operations to meet the need for increased speed and volume:**
  Automation-friendly packages can play a crucial role in alleviating the already existing labor shortages in the industry as the pre-defined size of such packages enable robots to pick and operate on packages efficiently. This allows for the flexibility required to handle sudden surge in volumes. The ability to reap productivity gains in sorting centers and warehouses via automation can ensure sustained operational quality with increased speed.

- **Improving delivery experience with Last Mile and Last Meter delivery efficiency:**
  Smart packages with technologies like IoT and Machine Vision can transmit enough information about movement during transit, bringing in complete visibility throughout the journey; technologies like wearable augmented reality can further guide delivery personnel assuring a correct doorstep delivery, resulting in quicker deliveries for the customer.

- **Taking preventive actions to maintain in-transit delivery quality:** Advancements in sensor technology allow to sense the product inside the packaging such as, temperature, humidity, spoilage gases, and others. While detection of damage to the product during transport can create opportunities to mitigate losses early on, the ability to provide advanced notification of delivery issues and taking remedial or preventive action can improve seller ratings and boost brand loyalty.

All of these can offer consistent delivery experience, regardless of the channel of purchase.

Guilt-free consumption

Retailers can now offer customers sustainable delivery options to enable 'guilt-free consumption'. To reduce negative environmental impact, customers can opt for sustainable delivery – reusable / smart packaging. Millennials are twice as likely (than older demographies) to spend on sustainable packaging. According to recent research from Asia Pulp & Paper Group, 52 percent of consumers are willing to pay over 10 percent more for products with sustainable packaging, and 28 percent are willing to pay up to 30 percent more[4], making a very good business case for companies.

A thousand times reusable package with appropriate after-use treatment can ensure that eco-conscious customers purchase guilt-free, without concern regarding the impact their purchase has caused on environment. Post-delivery feedback on the positive sustainability impact of their purchase will further boost consumer confidence; strengthen brand loyalty and promote brand advocacy.

A memorable E2E experience

For products bought online, tertiary packaging is the first point of experience for customers and hence plays a vital role in creating a positive unwrapping experience for the end user. The quality and experience with tertiary packaging also reflects directly on the seller and has an impact on seller (in terms of seller rating) and brand loyalty. As local delivery networks get operationalized, tertiary unboxing experiences can be taken to the next level with technology - with the use of advanced materials, display inks, and personalized messaging -- that gets initiated from home automation gear/proximity-based devices to provide a personalized experience.

Seamless returns and feedback process

With real-time information on the delivery status, customer care teams will be better equipped to proactively interact with customers to mitigate delivery fulfillment issues and appropriate compensation for inconvenience and disappointment caused.

E-commerce sales have increased exponentially in recent times. While retail e-commerce revenues in 2019 were around 3 trillion USD, it is expected to double in the next three years by 2022[5]. This augurs well for the development and use of the 'package of the future' as a reimagination of the e-commerce package delivery experience.

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