Retail and E-Commerce

The paper conducts a brief review of the retail and digital retail—better known as e-commerce industries. It explores popular products and product categories, and how online shopping empowers consumers through price comparison tools and user experience.

**Keywords and Phrases:** e-commerce, comparison tools, user experience, UX

1. Introduction

Electronic commerce or e-commerce is the trading of goods and services conducted over the internet. It is ubiquitous with day-to-day living, e.g., e-hailing, grocery and fast-food delivery, etc. E-commerce sites provide server-connected platforms that enable site visitors or consumers to shop online for their desired products. The products vary by site, location and product category. The convenience that online shopping provides to consumers has led to staggering rewards for online retail giants. Shopify, being the most widely used e-commerce platform in 2024, saw gross profits of $3.5 Billion; Amazon—another e-commerce giant grossed about $68.6 Billion in 2024 [1, 2].

1. PRODUCTS & product categories

E-commerce platforms can sell niche products—e.g., online hardware or online shoe stores, but they can also be more generalised as in the case of Amazon.com. The products and type of products bought are typically different for each consumer (user), due to individuals’ varying desires and needs. However, user demands do converge, hence the most sold product on Amazon.com was in both 2023 and 2024, the Stanley Stainless Steel Quencher, selling around 1.64 million units in 2024. Additionally, the platform’s top three recorded categories in 2024 were Home & Kitchen, Beauty & Personal Care as well as Clothing, Shoes & Jewellery [3]. Globally, however, the leading categories in online shopping for 2024 were Electronics and Fashion/Apparel, seeing roughly $922.5 billion and $760.0 billion in revenue respectively [4].

1. price comparison tools

Price comparison tools can be crucial for users looking for the best possible prices. Being more efficient than on-foot price comparison, these tools are platforms or browser extensions which enable users to compare prices across multiple online stores simultaneously. One heavily used price comparison tool is Google Shopping which boasts 1.2 billion monthly searches [5]. It is integrated into product searches, consequently displaying the product image and its various prices. Booking.com is a multi-faceted online travel agency which offers its own price comparison tool for evaluating rental car prices offered by car vendors worldwide. Its website with 231 million monthly visits in 2023, mainly offers online bookings for travel accommodation, utilising the power of the internet to connect customers to international accommodators [6].

Price comparison tools can be technologically sophisticated, as they utilise complex algorithms for users to conduct searches. For Google Shopping, its search and ranking algorithms use information retrieval techniques with underlying models such as (and not limited to) the Best Matching 25 (BM25). This would score products on how best they match the users’ query. The algorithm has many components and is littered with upper-level mathematics, but its results are simplistic—displaying the ‘most’ relevant products for user searches [7].

1. user experience

Like in-person retail, user experience (UX) is crucial in online shopping—it shapes how users interact with products, influences purchasing decisions, and determines if they’ll return. Good UX can lead to better product recommendations, easier navigation through sleek design, and smoother transactions that reduce checkout abandonment. UX design addresses user needs, business goals, information architecture, and interface design, with various metrics used to quantify it [8, 9]. These include:

* Conversion Rate: how many users complete a purchase relative to total web traffic
* Customer Satisfaction Score (CSAT): can take the form of surveys or user reviews
* Net Promotor Score (NPS): likelihood of users recommending a product

1. Conclusion

Overall, e-commerce has been transformative in changing the way customers interact with commerce. It has empowered both buyers and sellers through competitive product offerings and highly globalised customer bases, but it has also allowed for computer science applications to thrive in online marketplaces, as seen in the case of price comparison tools.

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