1. Homogeneous products

2. Perfect Competition → No Profit for Firms

3. Hotelling's Model of Competition, Bertrand Paradox & Differentiation

4. Pricing power


**Detailed guideline**

E-commerce & Omnichannel retail


A. PRODUCT DIFFERENTIATION & PRICING STRATEGY ANALYSIS


1. In e-commerce & Omnichannel retail, they usually use: **HOMOGENEOUS PRODUCTS**


Homogeneous products in economics are defined as goods or services that are identical in quality and characteristics regardless of their producer. Lv Bing (2010) explains that in a balanced economic system, homogeneous refers to enterprises or products being the same, with no significant differences from the perspective of consumers or the market. This definition highlights that in markets with homogeneous products, differentiation in terms of quality or features is minimal or non-existent, leading to competition primarily based on price (Bing, L., 2010)

In other contexts, it is evident that the rise of e-commerce has significantly influenced both consumer behavior and market dynamics. According to Villa and Monzón (2021), the expansion of e-commerce, propelled by changing consumer preferences and the "Amazon effect", has not only increased accessibility to a variety of products but also made them more affordable. This

phenomenon is characterized by a growing online population adapting their purchasing habits, leading to a surge in the use of light goods vehicles for delivery and a consequential shift in urban logistics systems. The study emphasizes how e-commerce evolution, driven by a mixed economic model, affects consumer choices, contributing to a more competitive market landscape for homogeneous products.

## 2. Perfect Competition → No Profit for Firms

An important economic principle is that under perfect competition, the marginal cost (MC) is equal to the marginal revenue (MR), which is also equal to the price. This principle was explored by Kolmar (2017), who analyzed firm behavior under perfect competition. The study asserts that in a perfectly competitive market, a profit-maximizing firm will operate where the price equals the marginal costs if the resulting revenues at least cover the average variable costs. This situation ensures that the firm will never make losses in its optimum since it can avoid these by leaving the market. In the long-run market equilibrium with free market entry and exit, a firm's producer surplus is always equal to zero, which implies that **firms do not make a profit in the long run.**

**Panel (a)**
**Market**
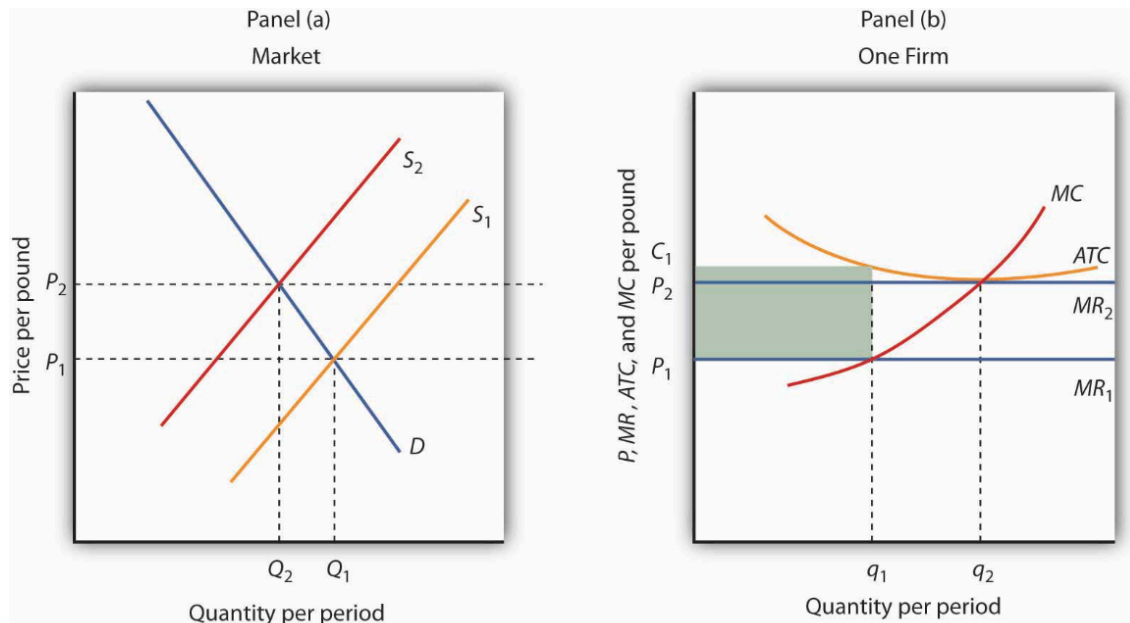
**Panel (b)**
**One Firm**

*Panel (b) demonstrates that initially, at price P1, firms can't cover average total costs, leading some to exit the industry. This shifts the supply curve in Panel (a) to S2, decreases industry output to Q2, and increases the price to P2. Here, firms break even with zero economic profit, halting further exits. As a result, individual firm output increases from q1 to q2, but total market output drops due to fewer firms. Panel (a) uses uppercase Q for total market quantity, while lowercase q in Panel (b) represents quantity by an individual firm.*

To explain this further, in a perfectly competitive market, individual firms are price takers due to the presence of many suppliers and consumers. The market price is determined by the intersection of the market demand and supply curves. Since firms can sell as much as they want at the market price, their marginal revenue - the revenue from selling one additional unit - is equal to the market price. To maximize profit, firms produce output up to the point where marginal cost, the cost of producing one additional unit, equals marginal revenue. However, since marginal revenue is equal to the price, firms in perfect competition end up producing at a point where price equals marginal cost. In the long run, this leads to a situation where **firms only cover their average total costs, resulting in zero economic profit.**

**2. Hotelling's Model of Competition, Bertrand Paradox & Differentiation**

**a, Brief introduction about Hotelling's Model of Competition:** Spatial Competition: Hotelling's Model originally explains how businesses compete based on location, aiming to be close enough to competitors to attract the largest customer base.

Characteristics of e-commerce

+ Virtual Market Space: In e-commerce, Hotelling's model is adapted to the virtual space where physical location is replaced by online presence and digital marketing strategies.
+ Consumer Behavior Online: Examines how online consumer preferences and behaviors influence product positioning and differentiation strategies.

**Hint:**

→ Virtual Market Space in E-commerce: In the digital realm, Hotelling's model is adapted where physical location is replaced by an online presence. E-commerce retailers use horizontal differentiation strategies to set themselves apart. Zhang Be (2015) in their study on e-commerce retailers noted that these strategies allow firms to use pricing and promotion tactics effectively without negatively impacting profits, especially as the perceived utility of consumer product differentiation increases (Zhang Be, 2015).

→ Consumer Behavior Online: Understanding online consumer preferences is crucial for product positioning and differentiation. The behavior of consumers online influences how e-commerce businesses strategize their product positioning. Studies like that of SwitzerDavid (2011) on the Hotelling model show the importance of matching products with consumer preferences in a competitive market, emphasizing the need for businesses to understand and adapt to online consumer behavior (SwitzerDavid, 2011).

**b, Bertrand Paradox**

+ In Bertrand competition, even when products are distinct in features, brand, or quality, price remains a crucial competitive factor. This is because consumers often use price as a key decision-making criterion.

+ If one e-commerce lowers their price just a little than its competitors, it would gain all market share.

+ All firms will undercut each other's prices to gain a larger market share.

+ Eventually, all firms will set prices equal to marginal cost, resulting in zero profits for all firms.

→ **In reality, they use Horizontally Differentiated Products to charge premium prices.** This strategy, as discussed in Bockem's 1994 study, allows companies to avoid direct price competition by offering unique product features or designs that cater to specific customer segments. Effective horizontal differentiation helps firms attract a loyal customer base, maintain premium pricing, and establish a distinctive brand identity, thus avoiding a price-based competition and enhancing profitability (Bockem, 1994).

**Applying in E-commerce**

+ Variety in Product Attributes: Horizontally differentiated products offer a range of attributes like design, color, or features, which are not necessarily about higher quality but about matching different consumer tastes and needs. For instance, in the web hosting market, despite a lack of conventional attributes of horizontal differentiation, pricing strategies are influenced by factors like reputation and e-visibility, emphasizing the importance of non-quality related attributes in e-commerce pricing

+ Return Policies as Differentiators: In markets with horizontally differentiated products, return policies can serve as a significant

differentiator. In such markets, return policies can be more efficient signaling devices than pricing, influencing consumer choices and improving social welfare

+ Social Media Influence on Product Differentiation: The sharing of purchases on social media platforms has significant implications for online retailing, especially for horizontally differentiated products. Consumers are more influenced by observational learning from strangers for vertically differentiated products than for horizontally differentiated ones. However, the strength of social ties plays a crucial role in accelerating observational learning for horizontally differentiated products

+ Consumer Preferences and Pricing Strategies: Consumers' differential willingness to pay for non-quality related attributes, such as flavor or color in a product line, significantly affects pricing strategies in e-commerce. Firms exploit these differences in consumer preferences through product-line pricing strategies, often setting different prices for product lines but uniform prices for all variations within a line

**Case study: Shopee & Lazada:**

That's why Lazada and Shopee thrive in such homogeneous products oriented market:

+ Lazada has capitalized on the popularity of personal computers and smartphones, emphasizing the importance of online marketing. By focusing on consumer behavior and online purchasing process theory, Lazada aims to continuously improve its website's operational capabilities, offering a platform with local characteristics and thereby enhancing consumer satisfaction and loyalty (Zongjun, 2020).
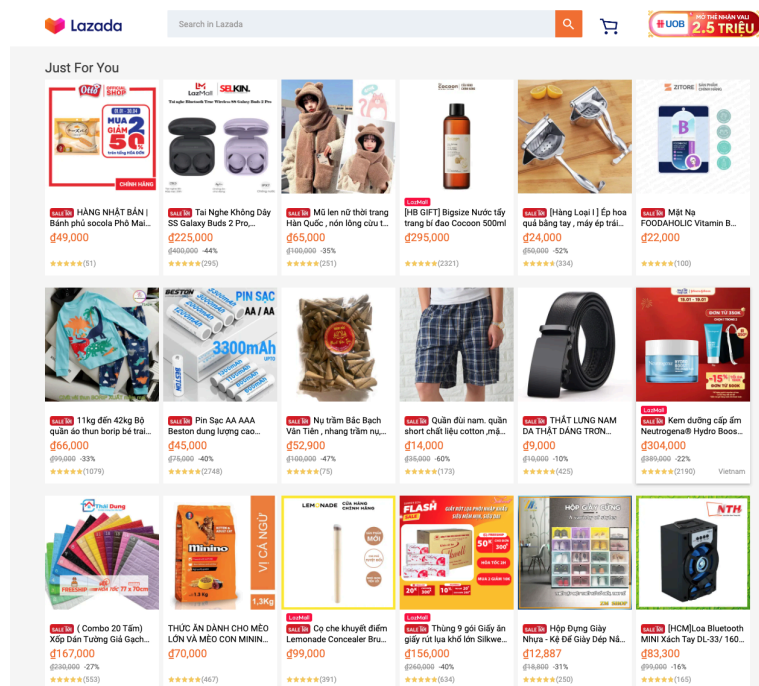
*Lazada Platform*

+ Shopee: Shopee's approach to enhancing user loyalty through its user-friendly interface. A study by Putri & Pujani highlights how system and information quality, alongside e-service quality and perceived value, positively impact Shopee users' loyalty in Padang City. This finding underscores Shopee's successful strategy in sustaining customer loyalty by prioritizing high-quality systems and services in a competitive e-commerce market (Putri & Pujani, 2019).

*Shopee Platform*

## 4. Pricing power

Perfect Competition: Price taker → Horizontally Differentiated Products: Price maker

Change in effective price to show the impact of differentiation:

- Competitors: Shopee and other e-commerce platforms

- Product: Two platforms offer identical products

- Tool: Competing by selecting price

- Disutility cost: This is the cost in exchange of a preference

**<u>Example:</u>**

2.000 VND for 1 km traveling

xx VND for more vouchers and free shipping (E-commerce platforms usually increase the price of a product and then let customers apply vouchers to boost customer satisfaction)

## Function:

At a consumer point x,

The effective price of Shopee: $P + ax$ ($a$ = disutility cost)

The effective price of other store: $P + a(1-x)$