Draft for assignment 2
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Approach to solving business challenges

1. Transition to a Marketplace Model

The approach focuses on using transactional and client data to discover consumer demands, maximize seller recruiting and match with regional demand patterns in order to transform Comfy from an omnichannel electronics shop to a competitive marketplace. Initially, RFM analysis and K-means clustering will be used for customer segmentation in order to group customers according to their purchasing habits. While customizing marketplace incentives for users who are price sensitive this segmentation will put a higher priority on keeping valuable clients. In order to find underserved categories such as smart home gadgets or electronics, demand gap analysis will next compare Comfy's existing inventory (SKU_id and Category) against rival trends like Rozetka's marketplace product mix. In order to facilitate the onboarding of third party sellers market basket research will also identify related items such as laptops and accessories. In order to highlight high growth cities for localized collaborations, heatmaps and cohort analysis will be used to analyze City_On_Off and Region sales data. In order to reconcile seller commissions with profitability, pricing plans will also include price elasticity modeling and rival fee structures that have been lifted from public sources. With the help of dynamic pricing and regional collaborations the result is a staged marketplace launch aimed at tech-savvy urban consumers and complementary vendors.

2. Launching an Electronics Rental Service

The strategy integrates consumer targeting, loyalty program integration and product viability evaluation for the electronics rental industry. Pareto analysis of Transactions.csv is the first step in product selection which identifies durable high revenue products such as high end computers and cameras that are appropriate for shortterm rentals. Device lifespans will be estimated using survival analysis of past Sale_Return data, guaranteeing ideal refurbishment cycles and price. In order to estimate rental propensity, customer targeting will use logistic regression on Client_information.csv variables such as purchase intermittency, Credit usage with an emphasis on groups such as urban millennials aged 18–35 with erratic purchasing habits. While A/B testing will examine rental to ownership incentives by putting 10% of rental fees toward purchases, pricing strategies will use industry depreciation rates like 3-year laptop lifetime to create tiered plans (day, weekly, and monthly). To provide regular renters additional points or discounts, loyalty program integration will compare Total_revenue and Number_of_receipts. In high-density locations. the result is a prototype rental program that offers flexible periods for highend devices and integrates with Comfy's reward network to encourage sustained involvement. Comfy's rental service launch and marketplace transition are certain to be data driven, customer centric and scalable thanks to this two pronged strategy.

Side-Information

Integrating external datasets with internal transactional and customer data is essential to addressing Comfy's two challenges: moving to a marketplace model and starting an electronics rental business. The necessary side-information, its source techniques and its strategic importance are described below.

1. Crucial Supplementary Data to Improve Decision-Making

First, Comfy might compare its marketplace fees and find inventory gaps e.g trending smart home gadgets or specialized electronics categories using rival pricing and product assortment data from platforms such as Rozetka, which is gathered via ethical web scraping of public product sites. By using this data, Comfy may target high-demand items without underpricing or overpricing third-party seller fees. Second, while establishing the rental business, industry information on electronics degradation rates and device lifespans from organizations such as Gartner or IDC are essential. To balance profitability and client affordability like tiered pricing models and maintenance schedules would be informed by knowledge about the usual 3-year depreciation cycle of high end laptops. Third, customer opinions about renting electronics may be revealed via social media sentiment data gathered through APIs from sites like google and apple maps and examined using nlp methods. This data may include desires for flexible terms or worries about the quality of the devices. Comfy's service design and marketing message would be improved by this realization. Lastly, macroeconomic data from Ukraine's State Statistics Service such as urbanization rates and regional disposable income levels, would be used to prioritize the opening of marketplaces and rental units in rapidly expanding cities. Through the correlation of these variables with Comfy's transactional data (such as City_On_Off use), the business can better match its strategy with economic and demographic trends, reducing the risk of economic instability or market saturation.

2. Holistic Insights Integration Strategy

Comfy has to combine these external datasets with its own internal data in order to operationalize them. For ex- SKU_id and Category attributes may be connected to competitor price data to find failing product lines and dynamically modify marketplace fees. Comfy's NPS survey data and social media sentiment analysis may be compared to identify differences in customer satisfaction and brand perception, allowing for focused enhancements. Region and City_On_Off variables may be linked to economic metrics such regional GDP growth, to give priority to marketplace development in regions where disposable incomes are increasing. The rental service can forecast device lifespans and optimize refurbishing cycles by combining previous Sale_Return data with depreciation rates from industry sources. Additionally to tailor rental offers for risk-averse clients, NLP-driven sentiment such as trust in rental quality may be added to client profiles using Client_id. Comfy can provide data driven agility in its business model shift by integrating external data into its current analytical frameworks to produce a cohesive picture of customer behavior, market dynamics, and operational hazards. By filling in the gaps in Comfy's internal statistics, this side information integration allows for tactics that take changing customer preferences, macroeconomic developments and competition pressures into consideration.