

Info3608 Cased-Based Questions

Sameer Ali - 816031872

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TechTrend, a startup specializing in smart gadgets, wants to launch an online store to reach a global market. The company seeks an e-commerce solution that offers seamless product browsing, a secure payment gateway, real-time inventory tracking, and personalized recommendations based on user behavior. Additionally, TechTrend wants features like customer reviews, order tracking, and an intuitive admin panel for easy management. Your task is to design and develop a comprehensive ecommerce system that meets these requirements while ensuring a user-friendly and scalable platform.

Question 1

a) Describe 3 potential business model and corresponding revenue source that TechTrend can use. [6]

E-tailer Business Model (Sales Revenue Model)

TechTrend could set up shop as a digital storefront, essentially a "virtual merchant," to sell its smart gadgets directly to online customers. The main way they'd make money (**Sales Revenue**) would be through the direct sale of these gadgets. This approach means focusing on building a compelling digital shopping environment, complete with thorough product details, customer feedback options, and streamlined purchasing.

Reference: Chapter 2, Slide 19 - Describes E-tailer, mentions Sales revenue model, and Virtual Merchant variation.

Manufacturer-Direct Business Model (Sales Revenue Model)

Since TechTrend develops its own smart gadgets, taking the manufacturer-direct route is a strong possibility. This involves selling the products they create straight to consumers, cutting out middlemen. This gives them oversight of the entire customer journey and can boost profit potential by avoiding retailer markups. Again, **product sales** would be the core income stream.

Reference: Chapter 9, Slide 26 - Describes the Manufacturer-Direct model. (Also mentioned as an E-tailer variation in Chapter 2, Slide 19).

Subscription Business Model (Subscription Revenue Model)

Another strategy could involve offering added-value services linked to their smart gadgets through a subscription. For instance, TechTrend might provide upgraded capabilities, special information access, or longer guarantees for a recurring monthly or annual payment (**Subscription Revenue**). A common tactic here is using a **freemium** setup: offer the basic device functions free to draw users in, then charge for the advanced features.

Reference: Chapter 2, Slide 7 - Lists "Subscription revenue model" and "Freemium strategy."

b) Describe the 4 features of E-commerce Technology. Describe how any THREE of the features can be considered by TechTrend as a justification for an E-commerce system. [14]

The 4 Features of E-commerce Technology:

1. **Global Reach:** E-commerce allows businesses to engage in commerce across cultural and national lines with much greater ease than traditional methods, potentially reaching customers anywhere in the world.
2. **Universal Standards:** The internet operates on technical standards common across the globe, which simplifies interoperability and allows for smoother international transactions.
3. **Information Richness:** E-commerce platforms can convey detailed and multifaceted communications—using text, video, and audio together—to vast audiences in ways traditional marketing cannot easily match.
4. **Personalization/Customization:** E-commerce makes it possible for businesses to adapt their marketing communications and even product offerings to suit the specific interests, history, and needs of individual users.

Reference: Chapter 1, Slides 10 & 11 - "Unique Features of E-commerce Technology"

THREE features as justification for TechTrend:

Global Reach: TechTrend's explicit ambition is to "reach a global market." E-commerce directly enables this. A digital platform lets them connect with customers around the world almost immediately, bypassing the heavy spending and logistical hurdles of setting up physical stores internationally. This vastly expands their accessible market.

Reference: Chapter 1, Slide 10 - "Global reach" is listed as a unique feature.

Information Richness: Because TechTrend is dealing with sophisticated smart devices, clearly conveying technical details, benefits, and how-to guides is essential. An e-commerce site allows them to present this information effectively using detailed descriptions, quality photos, video demonstrations, and customer reviews (which they specifically want), providing potential buyers with the thorough details needed to make a purchase decision.

Reference: Chapter 1, Slide 10 - "Information richness" is listed as a unique feature.

Personalization/Customization: This capability is central to TechTrend's requirement for "personalized recommendations." By analyzing how users interact with the site (what they view, compare, or buy), TechTrend can tailor the online journey. Showing customers the smart gadgets most likely to match their observed interests makes the experience more relevant, boosts user involvement, and improves the chances of making a sale.

Reference: Chapter 1, Slide 11 - "Personalization/customization" is listed as a unique feature of e-commerce technology.

Question 2

a) Provide THREE advantages and THREE disadvantage of a recommendation for hosting the Ecommerce system. [12]

Advantages:

Scalability and Flexibility: Cloud hosting offers the vital ability for TechTrend to adjust computing resources as needed—up or down—which is essential for an expanding new company. They can manage higher visitor numbers during busy times (like holidays) and then reduce capacity during slower periods, helping control expenses.

Reference: Chapter 3, Slide 17 - Discusses cloud benefits including reducing infrastructure costs. (Scalability concept also discussed generally in Ch 4, Slide 37).

Lower Initial Investment and Operational Costs: Choosing cloud hosting helps TechTrend sidestep the large initial cost of buying and maintaining its own servers. Costs shift to regular operating fees (pay-as-you-go), which is often much easier for a startup to manage financially and lessens the need for dedicated IT staff focused on server upkeep.

Reference: Chapter 3, Slide 17 explicitly mentions cloud reduces costs of infrastructure. Chapter 4, Slide 17 discusses Build vs Outsourcing cost trade-offs.

Enhanced Security and Reliability: Leading cloud services dedicate substantial resources to security infrastructure (like advanced firewalls, DDoS protection) and operational best practices, offering a level of protection that would likely be too expensive for TechTrend to replicate in-house. Features like built-in backup systems and disaster recovery plans also improve the platform's overall dependability.

Reference: While no single slide lists this as a primary advantage, it's a common industry benefit. Chapter 5, Slide 28 (Cloud Security Issues) implies reliance on the provider for security.

Disadvantages:

Limited Control Over Infrastructure: When using cloud hosting, TechTrend won't have direct, hands-on control over the basic hardware and network configuration. This could restrict their ability to make highly specific technical changes or optimizations and makes them reliant on the hosting company's support and infrastructure choices.

Reference: Chapter 3, Slide 17 mentions potential drawbacks including "shifts responsibility for storage and control to providers."

Potential for Higher Long-Term Costs: Placing customer data on third-party servers adds layers of difficulty in meeting diverse international data protection rules (like Europe's GDPR). TechTrend must carefully verify that their cloud host adheres to all necessary regulations in every region they sell to, requiring ongoing diligence.

Reference: Chapter 4, Slide 21 discusses ongoing maintenance costs generally, relevant to long-term considerations.

Data Privacy and Compliance Challenges: Storing customer data in cloud environments can create additional compliance complications, especially when serving global markets with varying data protection laws. TechTrend may face challenges ensuring their cloud provider meets all regional regulatory requirements (like GDPR in Europe).

Reference: Chapter 8, Slides 23 (Privacy Policies) & 24 (Privacy Protection in Europe/GDPR) discuss regulatory considerations.

b) Provide TWO argument for profiling and TWO argument against profiling customers in the ecommerce system used by TechTrend. [8]

Arguments FOR Profiling:

Enhanced Personalization and Customer Experience: Profiling is key to fulfilling TechTrend's requirement for personalized product suggestions. By understanding user browsing habits and purchase history, they can create individualized interactions, increasing user involvement and the likelihood of a sale. For the customer, this means a smoother, more relevant shopping journey.

Reference: Chapter 8, Slide 16 (describes Profiling) & Slide 17 (Business Perspective). Also Chapter 4, Slide 45 (Personalization Tools).

Improved Business Intelligence and Inventory Management: Analyzing customer profiles offers useful information about market trends and product popularity. TechTrend can use this data to make smarter decisions about managing stock levels (aligning with their "real-time inventory tracking" goal), ensuring sought-after items are available and minimizing investment in less popular ones, thus making operations run more smoothly.

Reference: Chapter 6, Slides 51 (Marketing Analytics) & Slide 52 (Web Analytics figure) relate to using data for BI.

Arguments AGAINST Profiling:

Privacy Concerns and Erosion of Customer Trust: Collecting and analyzing detailed user behavior brings up major worries about privacy. If customers feel their online activities are being monitored too closely or if the data handling isn't done openly, it could significantly harm the trust essential for a new brand like TechTrend, potentially driving customers away.

Reference: Chapter 8, Slides 14 (Privacy Rights), 15 (Profiling as key issue), & 17 (Critics' Perspective).

Regulatory Compliance Risks and Legal Exposure: Profiling activities face increasingly strict rules globally (e.g., GDPR, CCPA). Failing to precisely follow regulations regarding data gathering, user consent, and usage can lead to large fines and legal headaches. As TechTrend targets a global audience, they must carefully handle these complex and varied laws, adding expense and risk.

Reference: Chapter 8, Slide 24 discusses GDPR/EU Privacy regulations.