CHUKA UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF MASER OF SCIENCE IN ENTREPRENEURSHIP AND ENTERPRISE MANAGEMENT

MEEM 842: NEW PRODUCT DEVELOPMENT ODEL

STREAM: MEEM Y2S1 TIME: 3w HOURS

INSTRUCTIONS: Answer All Questions

QUESTION ONE: Read the case and answer questions (a) to (d)

Tesla's New Product Development Process for Cybertruck

Tesla identified a market gap in electric trucks while analyzing key trends such as growing demand for pickup trucks in the U.S and ancreasing consumer interest in EVs due to environmental concerns and high-performance, durable electric truck.Elon Musk publicly stated his ambition to create a futuristic truck that looked like it was from a sci-fi movie.Tesla's leadership assessed the idea based on Technical feasibility: Can an EV truck deliver high power, range, and towing capacity?, Market research: Would truck buyers accept a radical design? And Financial viability: Could Tesla produce it at scale while maintaining profitability?. Based on this analysis the green light was given, leading to concept development.

Tesla developed the concept of a Stainless steel exoskeleton (ultra-durable & dent-resistant), Bulletproof glass (for enhanced safety) and Tri-motor powertrain (allowing acceleration from 0-60 mph in 2.9 seconds).Tesla showcased a live prototype in 2019, but during the demo, the bulletproof glass shattered unexpectedly—creating viral marketing impact. Tesla estimated Competitive pricing starting at $39,900,Targeting truck owners, EV enthusiasts, and tech-savvy customers and Revenue streams: Vehicle sales, self-driving software, accessories, and potential future upgrades.Tesla developed prototypes to refine battery efficiency, aerodynamics, and durability.

The company faced manufacturing challenges with its cold-rolled stainless steel body, which required new production techniques. Gigafactory expansion in Texas was planned to scale Cybertruck production.

In market Testing, Tesla allowed customers to reserve the Cybertruck with a $100 deposit and received over 1 million pre-orders, indicating strong demand. Adjustments were made based on customer expectations, such as size modifications and feature enhancements.At Commercialization and Launch, Tesla delayed production multiple times due to supply chain issues and material challenges and officially launched in 2023, with an updated design and improved specifications. Tesla used social media, live events, and influencer marketing to drive awareness.

Questions

a) Explain how Tesla identified the need for an electric truck and the key factors evaluated before deciding to proceed with Cybertruck (10mks)
b) With reference to Product Development & Testing explain why Tesla choose a stainless steel exoskeleton and the failed bulletproof glass demonstration impact on public perception.(10mks)
c) What challenges did Tesla face in scaling up Cybertruck production? (8mks)
d) What lessons can other companies learn from Cybertruck's development and launch? (12 mks)

QUESTION TWO

a) With the aid of practical examples , discuss the major trends influencing new product development (12mks)
b) Explain any techniques you can employ in searching for new product ideas(8mks)

Question Three

With reference to test marketing, discuss the key strategies that that business can adopt to effectively test and refine their marketing efforts before full scale rollout of new products.(20mks)

QUESTION FOUR

As an expert in NPD, you have been requested by your local chamber of commerce to enlighten them on the role of technology in new product development. Prepare a detailed presentation demonstrating how technology is applied in NPD.(20mks)