

**Business management**  
**Higher level**  
**Paper 3**

1 hour 15 minutes

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**Instructions to candidates**

- Do not open this examination paper until instructed to do so.
- Read the case study carefully.
- Answer all questions.
- You are permitted access to a calculator for this paper.
- The maximum mark for this examination paper is **[25 marks]**.

## Clean Energy Stoves (CES)

Read the resources and answer the questions that follow.

### Resource 1 - Background of the social enterprise

Ayesha Basu, a social entrepreneur from a developing country, founded Clean Energy Stoves (CES) with a vision to address the severe health and environmental impacts of household air pollution in rural areas. Having witnessed the detrimental effects of traditional cooking stoves, Ayesha was driven to find a safe, sustainable and affordable solution for rural communities. With initial funding from a local NGO and a small loan from a microfinance provider, CES started operations as a privately held company. The company has been operating for three years.

CES aims to provide clean, safe, and affordable cooking stoves to low-income households. The social enterprise's manufacturers solar powered cooking stoves and energy efficient cooking stoves. The products are designed to reduce reliance on wood and charcoal, reduce indoor household pollution and reduce fuel consumption. CES' vision is to improve household indoor air quality in rural communities and enhance the health and well-being of underserved communities around the world.

As part of their below the line marketing strategy CES combines education and community outreach programmes to inform and educate consumers, NGOs and governments about the adoption of clean cooking stoves and clean fuel technologies. CES organizes workshops and training sessions to educate families about the health risks associated with traditional fuels and the health benefits of switching to clean stoves.

**Table 1: Selected data on CES and three competitors**

Clean Cooking Stove Companies	Price	Quality
CES	High	High
Eco-stoves	Average	Average
Power Stove	Low	Low
Green Stove	High	Average

**Table 2: Market Share data for 2024**

Clean Cooking Stove Companies	Market Share
CES	15%
Eco-stoves	20%
Power Stove	30%
Green Stove	10%
Others	25%

**Table 3: Industry average stock turnover and creditor days for 2022 -2024 compared with CES**

From 2022 - 2024	Stock Turnover	Creditor Days
Industry Average	21 days	42 days

From 2022 - 2024	Stock Turnover	Creditor Days
CES	35 days	60 days

**Resource 2: CES Production Planning Targets 2023 - 2024**

CES has the capacity to produce 70,000 stoves annually but is currently operating at 75% capacity.

	Actual	Target
Average Lead Time	45 days	30 days
Supplier Reliability Rate	70%	95%
Production Capacity Utilization	75%	95%
Cooking Stove Defect Rate	18%	5%

M25/BUSMT/HP3/ENG/MOCK

**Resource 3: Highlights of key facts on Household air pollutants from the World Health Organization. Published December 2023.**

- Around 2.3 billion people worldwide (around a third of the global population) cook using open fires or inefficient stoves fueled by kerosene, biomass (wood, animal dung and crop waste) and coal, which generates harmful household air pollution.
- Household air pollution was responsible for an estimated 3.2 million deaths per year in 2020, including over 237 000 deaths of children under the age of 5.

Source: <https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health>

**Resource 4: Green Future Market Research 2024 - Highlights of Key Trends Shaping Clean Cooking Technologies Industry**

- Health organizations and governments are promoting the adoption of clean cooking technologies as part of broader public health initiatives.
- Many governments, especially in developing countries, are providing subsidies and incentives to encourage the switch to clean cooking solutions.

**Resource 5: Email to Ayesha from Sarah a freelance marketing consultant**

**From:** Sarah.Jones@SJmarketing.com

**To:** Ayesha.CEO@CES.com

**Subject:** Marketing Audit Findings

Dear Ayesha,

Our audit has uncovered critical issues. Sales are likely underperforming due to poorly designed distribution channels that are not effectively reaching your target market. The current strategy of using local wholesalers is not successful in reaching locations with underdeveloped transport infrastructure.

The below the line promotion, brand awareness and brand messaging strategies require improvement. Our findings suggest the current promotional messaging emphasizes the benefits to the environment but does not focus enough on the immediate health and safety concerns that are more compelling to your target market. Power Stove's penetration pricing is gaining traction in rural areas where price sensitivity is high. CES's high-quality product position is challenged by its higher pricing strategy, suggesting a need for changing the pricing.

### Resource 6: Email from Operations Manager regarding supply chain issues

**From:** Operations Manager

**To:** Ayesha Basu, CEO

**Subject:** Production Challenges and Material Sourcing Issues

Dear Ayesha,

We are experiencing significant challenges in sourcing recycled metals from local suppliers for our clean cooking stoves. Suppliers are consistently delayed, causing production bottlenecks. Additionally, the variability in material quality has led to excess stock that doesn't meet our standards. Our production remains below capacity due to these sourcing issues.

We should explore partnerships with more reliable suppliers or consider investments in our own material recovery processes to stabilize our supply chain.

The supply chain and production challenges are having a negative impact on employee motivation. Employees are concerned about their annual Summative Appraisal, as production targets have not been met, and operational challenges are still unresolved.

### Resource 7: Consumer Reviews from CES consumers

*"I'm so happy with my CES clean cooking stove! Not only has it made cooking quicker and more convenient, but it's also improved my health significantly. Gone are the days of stuffy noses and headaches, my family are happy".*

*"The CES clean stove has made such a positive impact on our daily lives. Before, cooking indoors meant dealing with smoke that caused health issues like coughing and headaches for my kids. But ever since we started using the CES stove, smoke is no longer a problem".*

1. With reference to business management motivation theory, describe one need that CES satisfies for individuals and families requiring clean cooking stoves. [2]
2. Explain two possible challenges facing CES. [6]
3. Using all the resources provided and your knowledge of business management tools and theories, recommend a possible plan of action for CES over the next five years. [17]