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Sinclair C-5 (1984)

Product Value Proposition
- Introducing a new and radical form of transportation
  - 3 wheeled, efficient, environmentally friendly electric vehicle, cheap alternative to car
  - Practical design for short trips
    - 93% of drivers travel less than 60 miles daily - avg. travel is 13 miles
- C-5 is marketed as both sexy and safe
  - Many not convinced of safety, proper testing?
  - No indication that people think it’s stylish
- Exploiting legislative loopholes
  - No motor tax nor parking regulations
    - Abused legislation will be regulated
    - Even 14 year olds can ride without insurance or helmets → poorly defined target audience
  - Indication that C-5 may be ahead of its time
- Notable features
  - Wind resistant technology → while advanced, consumers will not care
  - Vehicle has pedals → very unappealing
  - State of the art materials and largest mass produced injection molding ever seen
  - It is assumed that all people from kids to adult commuters will fall in love with the C-5
  - Lack of market testing and prototyping
  - MVP is the final iteration of the product

Technology, Operations, Management
- Sinclair Research → cutting edge technology
  - Everything is custom designed
  - State of the art lead-acid battery technology of the era
    - Electric vehicles are not very efficient or economic in 1984
- Small management team
  - Predominantly controlled by Sinclair
  - Barry Wills - general manager
    - Brings experience in the automotive industry
  - Most R&D was done in secrecy
- Hoover Corporation → capable manufacturer
  - Possesses the scale and manpower needed to accommodate the C-5
  - 80 different suppliers of parts
  - Scale achieved in operations and maintenance
    - 3 strategically placed warehouses
    - Hoover’s nationwide engineering team provides efficient door-to-door repairs
    - Replacement batteries available at 300 different Sinclair battery centres
- Sir Clive Sinclair
  - Genius inventor with great vision and communication skills
  - Well respected and trusted name with many past successes
  - Sole investor - over £8 M to date
  - His name helps justifies a product that has not justified itself

Go-to-Market Strategy
- Massive advertising campaign using the Sinclair name → £3 milion in 3 months
  - Initial mail order phase with door delivery
    - Going into various retail chains
    - Con: consumers will want to test drive
    - Pro: increased product control/reliability
    - Targeting UK cities → trendy and receptive
    - Nonspecific target audience: from children to adults of various income levels
  - Diverse user base will deter customers

Profits and Pricing
- Selling for £399 (about $1750 today)
  - Mopeds = better and cheaper alternative for most
  - Assume: 10-15% profit margins (industry avg.), avg. annual salary of 14k pounds for 200 employees, optimistic 100k in sales despite only 45k electric vehicles on the road
  - MROS = .0498 and MROI .662 → both very low
  - Low margins, excessive marketing expenses
  - Bottom line for year one is negative £812,000
  - Far from profitable even when excluding operation cost, rent, maintenance, and other expenses

Key Considerations
- The C-5 could forever change the automotive industry and has huge growth potential and virality
  - Too much of the C-5 is driven by Sinclair’s name and power and not the product or market
  - Insufficient market validation
  - Company has reached a launch solely due to Sinclair’s funding
  - Huge expenses before selling any product
Lit Motors (2012)

Product Value Proposition, Technology, and Market Conditions
- C1 combines the benefits and safety of a car with the convenience of a motorcycle
  - Conversely, C1 has the flaws of both vehicles and may fall between markets
  - Many alternative forms of transportation may not address a real need
  - Companies offering similar products/benefits have failed
    - Unproven market, but the market conditions have drastically changed
- Advanced technology: electrically powered, environmentally friendly, high fuel efficiency
  - More economical than car → lower maintenance and fuel costs
    - Saves $23,500 over 200k miles when compared to petrol car
  - Growing number of environmentally conscious consumers
  - Patented gyroscopic stability could change the automotive industry
  - Maneuverability shortens commuter time & easier to park especially in cities
  - Can go over 200 miles on a single charge, easy to charge
- Specific target audience: (1) young urban professionals, (2) older, wealthier men with past motorcycling experience who want safer and easier to handle vehicles with motorcycle feel
  - Ideal customer earning over $70,000 and can afford, maybe as a second vehicle
  - High switching costs for car drivers → need to get Class M Motorcycle License
  - Low incentive for motorcyclists to switch → higher MSRP and operating costs, lacks image of toughness of a motorcycle
  - Sleek machine that appeals to both men and women → women influence 80% of purchase decisions
- Appealing to global market: Europe would be an early adopter, then potentially China & India. US markets likely more hesitant to accept a scooter product
- Cargo scooter: mini pickup truck → efficient short distance travel with cargo space
  - Could be great for delivery services in busy cities - India market a good fit
  - Should separate C1 and Cargo Scooter businesses → failure of one product could weigh down the other.

Product Testing, Market Validation, Management
- Emphasis, rapid prototyping, iteration, and hitting predetermined milestones
- Showrooming, interviewing and surveying → tailoring to high-end niche market
  - Order reservations and feedback indicates consumer interest
  - Solid team of engineers, efficient and lean management
  - Lacking business development professionals → offset by strong mentors and advisors who have learned from Altera’s failure

Marketing, Growth, and Profit Analysis
- “Rolling iPhone” marketing strategy → revolutionary, simple/sleek advertising
  - Creating a culture of acceptance (and distance C1 from the “geeky” product label)
  - Contrasts with their focus on a narrow niche market
  - 6 million annual burn rate → large expense, but necessary to scale
  - Estimated cost of $600 M to fully bring C1 to scale
  - Not a proven market or technology so hard to raise $15 million → difficult to derisk
  - Should validate market before incurring such large expenses
  - If no C1 market, focus on cargo scooter and bring gyroscope to motorcycles
- Simple design and cost-effective manufacture → MSRP of $12,000
  - High value based pricing, and high perceived value → should hike price
  - Relying on a high viral coefficient → reduces customer acquisition costs
  - Initial: BOM $30k, price $24,000, 1,000 units sold → - $6,000,000 in losses
  - Later: price $12,000, $6,000 COGS, 100,000 units sold → $ 600 M gross profit
    - Hiking price to $14,000, 10% loss in sales → $720 M gross profit
    - Price change remains viable up to a very high 25% loss in sales
    - Price increase can attract higher end customers and helps the bottom line
- Lit Motors will need to scale rapidly → very risky, difficult, costly
  - Requires 38 vendors to break even → slows scalability
  - Lit Motors will not break even or operate at a profit for years → investors will be less willing to come on board
Recommendations

**Sinclair**: a cutting edge and revolutionary product that nobody wants or needs → **Do Not Invest**
- Innovative product, but the market in 1984 is not ready
- **Insufficient market validation**
  - Lack of prototyping and market research
  - Not a clear demand, customers have many alternatives
  - Product falls between markets → lacking benefits and appeals of both cars and motorcycles
- **Ahead of its time**
  - Technology not advanced enough to make product economic or efficient, and people are not very environmentally focused
- **Optimistic projections with no grounding**
  - Anticipating huge demand, manufacturing large inventory before kinks/bugs are worked out
  - Millions invested before securing a paying customer
- Too much of the product is being driven by Sinclair’s money and his trusted name
  - When it comes to actually buying the product, the product has to be successful on its own
  - Sinclair can only force the product so far

**Lit Motors** - **Invest** after additional market research (if VC or a large investor)
- **Excels in all the areas that Sinclair struggled**
  - Will probably fail → but has huge growth potential, effective managements, and useful patented technology
- **Concerns**:
  - Many transportation alternatives, C1 may fall between markets
  - C5 expensive to manufacture, distribute, and maintenance
  - C5 may be labelled geeky, falling victim to the plight of Segway
- **Benefits**
  - Huge growth prospects: if C1 becomes the new trend, the company will make billions → huge multiple attractive to VC
  - Improved technology makes C1 practical and cost effective → consumers in 2012 concerned with environment and cost
  - Emphasis on leanness, prototyping, and market testing
- **Suggestions**
  - Conduct extensive market research before raising another round of capital → market not yet validated
  - Initially separate cargo scooter from C1 → failure of C1 would dig into scooter funds and potential
  - If C1 gains traction → combine products for branding
  - Increase MSRP of C1
  - If C1 does not gain traction → partner with established motorcycle company and create more advanced motorcycles using gyroscopic stability