Overview

<table>
<thead>
<tr>
<th>Problem</th>
<th>Product</th>
<th>Market</th>
<th>Summary</th>
</tr>
</thead>
</table>

- Problem
- Product
- Market
- Summary
Stan’s Dilemma
Oil Filters and the Environment

1

8 oz

62,000 Gal
Oil Filters and the Environment

450,000,000

80%

255,000

2
Stan’s Dilemma
How Cyclos Works

1. Clamp
2. Make Holes
3. Spin
User Features

- One Button Operation
- Indicator LEDs
- Front Cover Slides Off
- Power and Hose Connections
Safety Features

Emergency Stop Button

Door Killswitch

Locking Door
Superior Performance

Gravity Drain

50% 80%

24:00 00:02
Problem
Product
Market
Summary

Cost
$7000
$1000
$600
$100

Gravity Drain

<20

20 – 50

> 50

Filters Per Day

Crushers

TurboSpin

Competition
Business Model

1000 machines/year
Manufacturing cost: $280
Selling price: $600
15% discount rate
30% ROI
Thank you

Prof. Wallace
Bobby Dyer
Matt Duplessie
Prof. Vandiver
David Custer
Ethan Crumlin
Pappalardo Staff
Ray Magliozzi and Craig Lavalle of Good News Garage

Questions?
Supplementary Materials
Environmental Impact

- Over **450 million** oil filters are manufactured each year in the US.
- **80%** disposed of in landfills.
- EPA requires that oil filters are **70%** drained for recycling
- Wastes **25.5 million gallons** of recyclable oil and **230 thousand tons** of steel.
- 8 oz of oil can contaminate **62,000 gallons** of drinking water, enough to fill a community swimming pool.
- 42 gallons of crude oil to produce **2.5 quarts** of lubricant; 1 gallon of used oil to produce the same amount.
Why is the Cyclos more efficient?

- Spinning around the axis → Shorter distance for the oil to travel
- Optimal hole locations and puncturing method
Fast and Efficient Drainage

![Graph showing the percent of oil removed over time for Spinning and Gravity Drain methods. The graph indicates that Spinning is more efficient than Gravity Drain, particularly at shorter time intervals.](image-url)
Punching Tests

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<td></td>
<td></td>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>
## Manufacturing Cost: $280

<table>
<thead>
<tr>
<th>Component</th>
<th>Cost (Per Unit)</th>
<th>Total Cost (Per Unit)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Materials</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUNCHING</td>
<td>$7.50</td>
<td>$8.45</td>
</tr>
<tr>
<td>GRIPPING/SPINNING</td>
<td>$40.00</td>
<td>$53.60</td>
</tr>
<tr>
<td>STRUCTURE</td>
<td>$54.53</td>
<td>$99.15</td>
</tr>
<tr>
<td>CONTROLS</td>
<td>$27.75</td>
<td>$29.95</td>
</tr>
<tr>
<td>MISC</td>
<td>$4.50</td>
<td>$10.50</td>
</tr>
<tr>
<td><strong>Direct Costs</strong></td>
<td>$129.78</td>
<td>$201.65</td>
</tr>
<tr>
<td><strong>Overhead</strong></td>
<td>$51.91</td>
<td>$80.66</td>
</tr>
<tr>
<td><strong>Total Cost</strong></td>
<td><strong>$181.69</strong></td>
<td><strong>$282.31</strong></td>
</tr>
</tbody>
</table>

Manufacturing costs based on production of 1000 machines a year

- 10 year product life; 400,000 small to medium repair shops;
- 25% market share
Benefits for Clients

- **Financial**
  - Lower filter pickup costs for non-hazardous material
  - Value of Oil
- **Environmental**
  - Reduce oil pollution
  - Recycle steel
- **Other**
  - Reduce disposal time
  - Avoid fines
Customers

- Repair shop contacts
  - Sullivan Tires and Good News Garage burn used oil for heat
  - Others have recycling companies that pick up used oil
  - This product would leave our garage less vulnerable to EPA fines for improper disposal of hazardous waste.
    - Ray Magliozzi, Good News Garage

- Recycling center contacts:
  - “Very cool machine.”
    - Peter Pasquier, Director of Waste Services, Marketing at Safety-Kleen
  - “…there is a need for this product….to capture a higher percentage of the oil and do it quicker.”
    - Wayne, SaveThatStuff