



# PupPal

PLAY WHILE YOU'RE AWAY

SPRING 2021

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# PupPal Delivers To Investors



## Marketing Strategy

Online Efforts Drive Awareness Increases



## Operations Management

Cost Reduction & Facility  
Flexibility Streamline the Process



## Financials

Revenues Grow Faster Than Expenses,  
Yielding Positive Returns



## Key Risks & Mitigation

High-Impact & Probable Risks  
Mitigated with Careful Preparation

# The Pet Accessories Market Is A Recession-Proof Industry with Forecasted Growth



**7%** increase pet ownership amidst the **COVID-19 Pandemic**



**6%** projected growth in the pet accessories industry over seven years



COVID-19 outbreak has strengthened two-way **companionship** between pet and owner, with some consumers **creating strong bonds** during lockdown



**63.4M** dog owning households in the United States shows promise for our product



# PupPal: Watch & Play While You're Away!

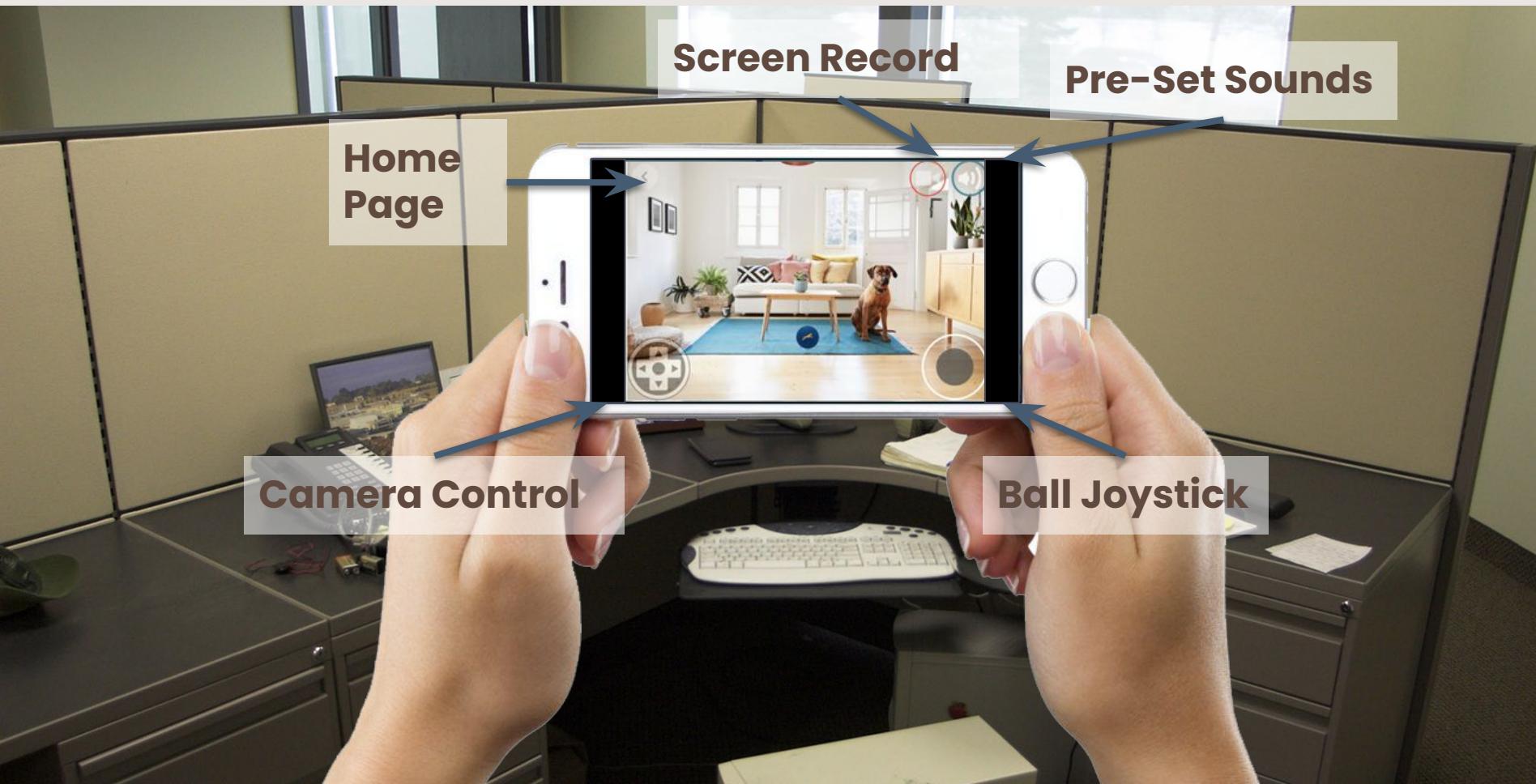
PupPal



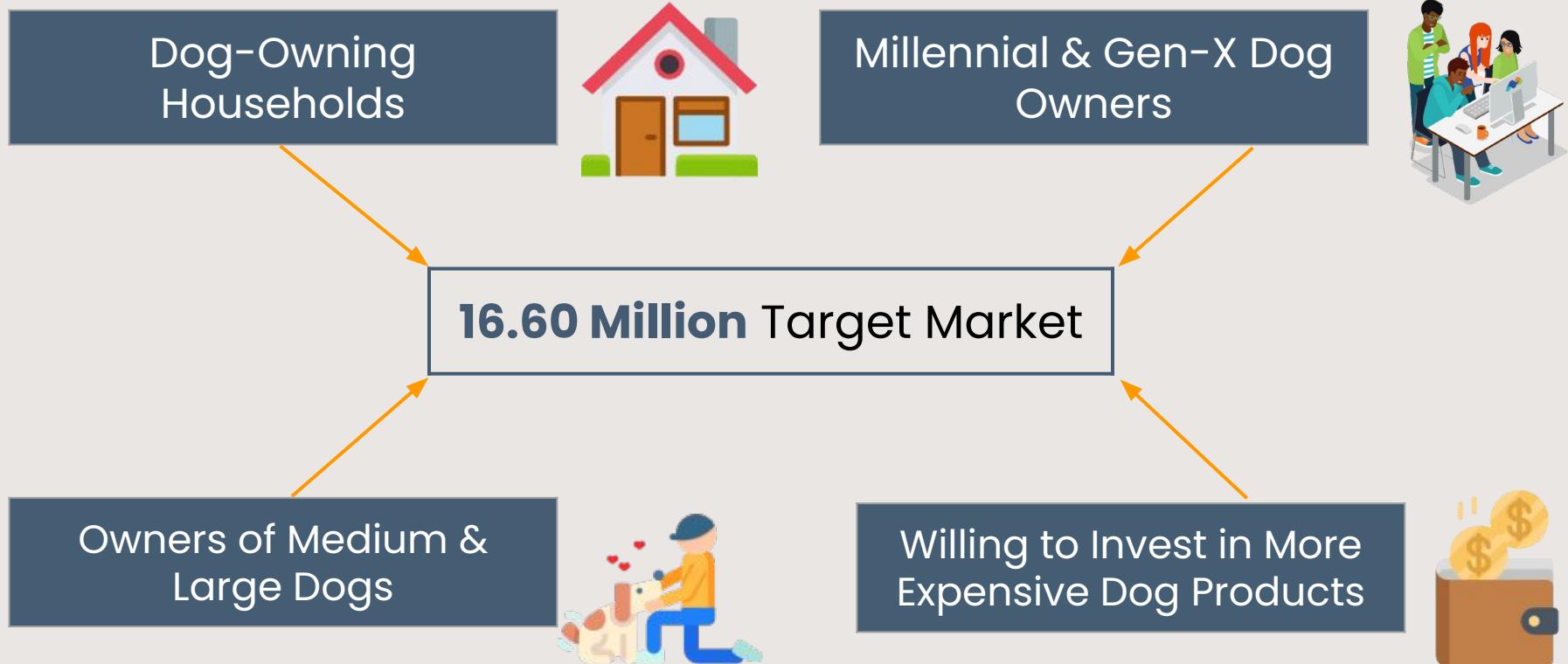
All-inclusive bundle promoting virtual interaction between dog & owner:

- ▶ Interactive dog ball
- ▶ PlayCam for monitoring
- ▶ A companion app allowing you to **move the ball, control the camera, and play pre-set sounds**, keeping your dog **engaged!**

# The PupPal App: Play-Time from Anywhere!



# PupPal will Attract Dog Lovers Anywhere



# PupPal Prioritizes Accessibility & Engagement

## Convenience is Key

### iOS & Android capable:

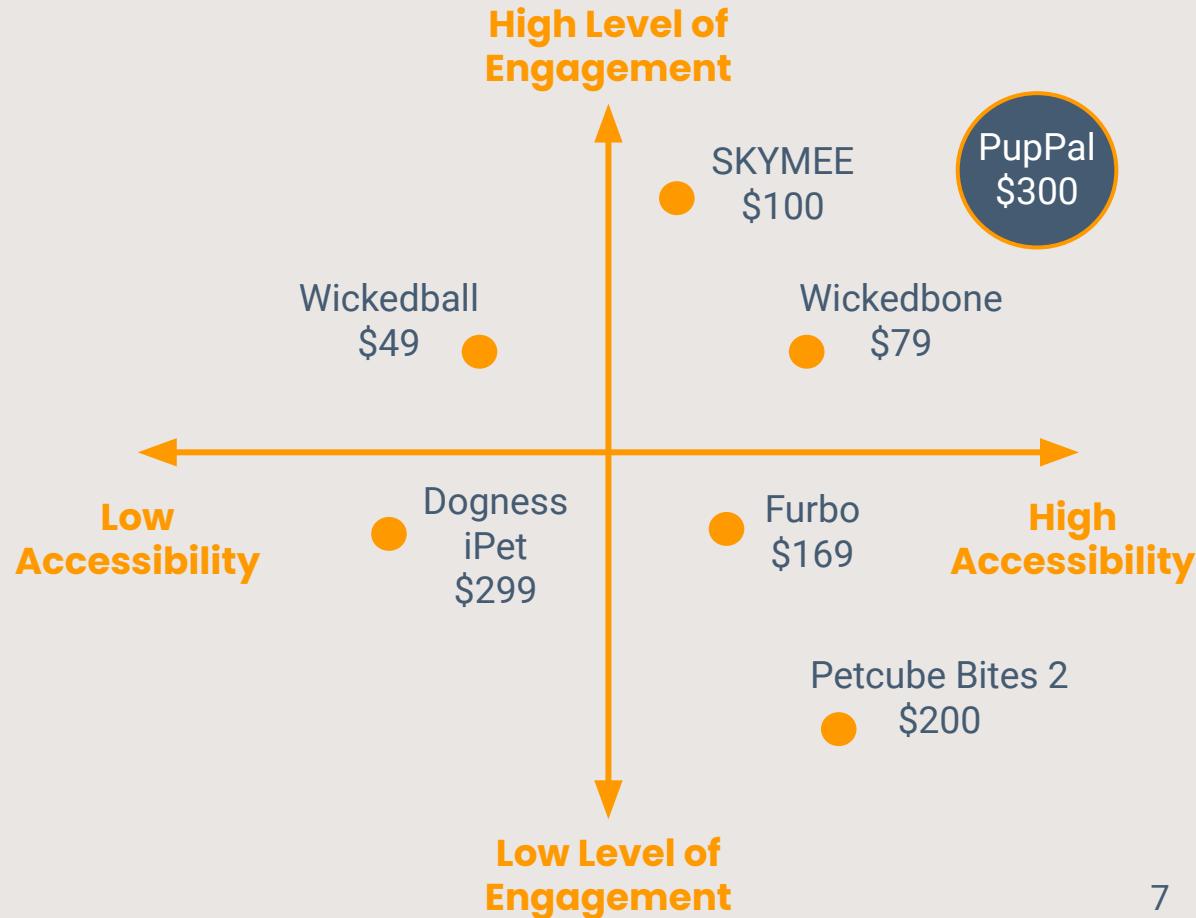
Play From Anywhere! with proper WiFi/cellular and Bluetooth connection

## Multiple Play Styles

Play virtually at the office or have hours of fun on a Sunday afternoon with family!

## Uniqueness

Active engagement



# Creative Events & Magazines Drive Awareness In Year 3

Awareness

	Year 1	Year 2	Year 3	Year 4	Year 5
	7.5%	9%	21%	23%	24%

Magazines



Creative Events



Online



Fairs & Events



PR & Blogs



Social Media

1

2

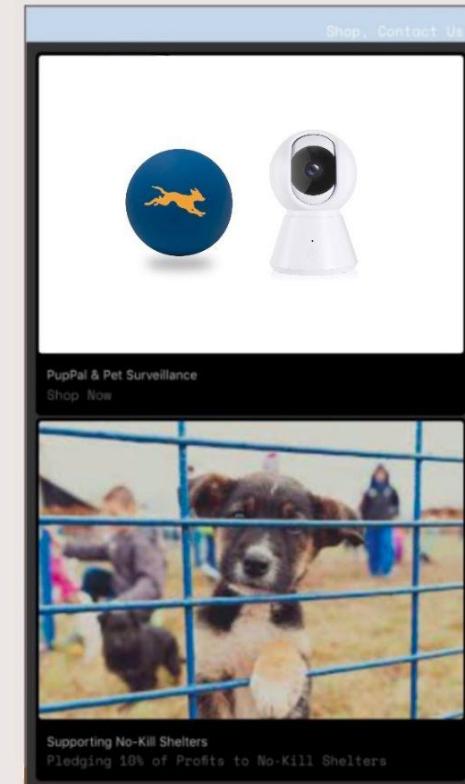
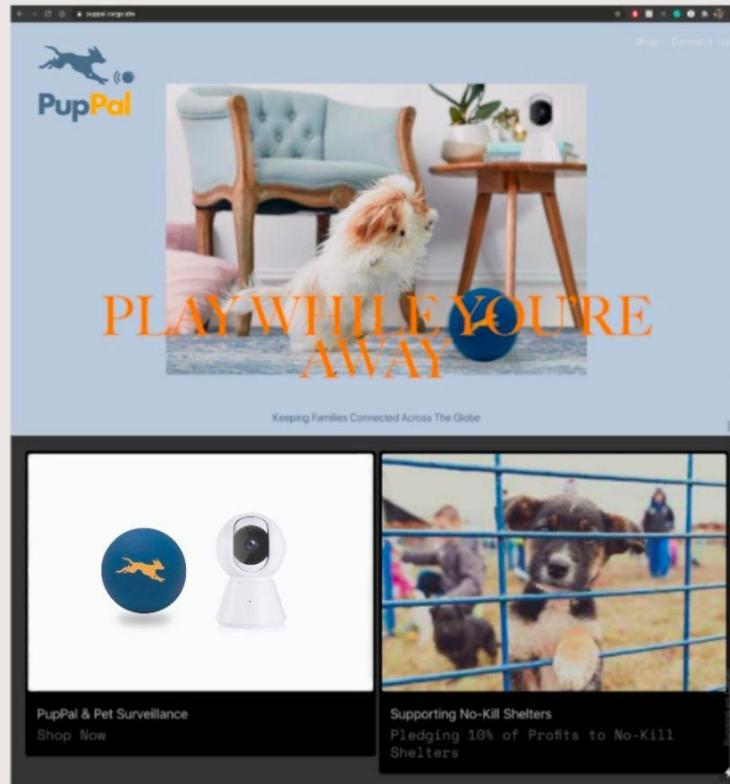
3

4

5

Year of Introduction

# PupPal Website Will Be Our Main Communication Tool



# Purchase PupPal at Multiple Outlets with Ease

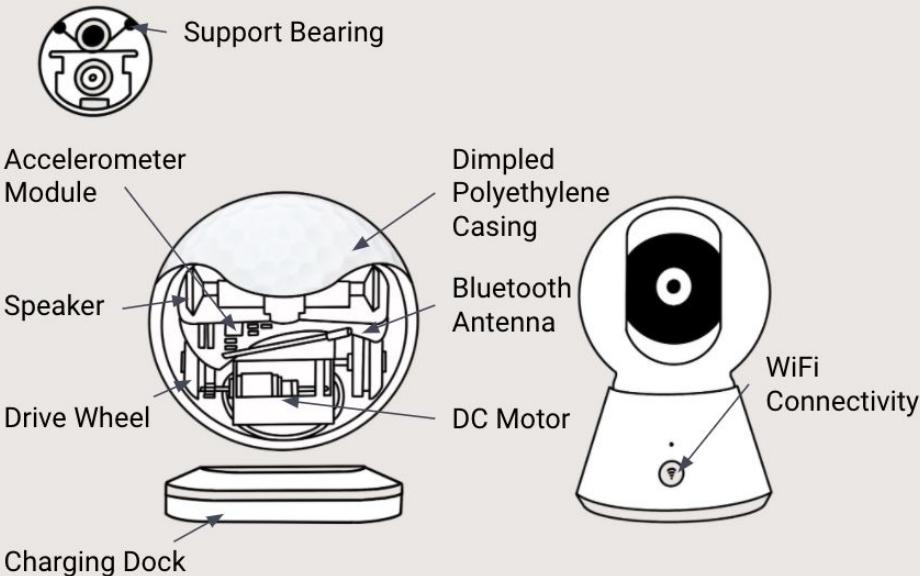
ACV	Year 1	Year 2	Year 3	Year 4	Year 5
	14%	17%	22%	27%	33%

Distribution Channel

## PupPal's Retailers



# The PupPal Balances Important Customer Attributes and Engineering Characteristics



- Hermetically sealed for moisture control
- Dimpled casing texture allows for ball to **traverse various surfaces**
- Inductive charging allows for the ball to be **charged wirelessly**

**The ball and charging dock will be manufactured in-house**

**The camera will be outsourced from AEI components** for modifications

# Facility Planning for Greater Efficiency

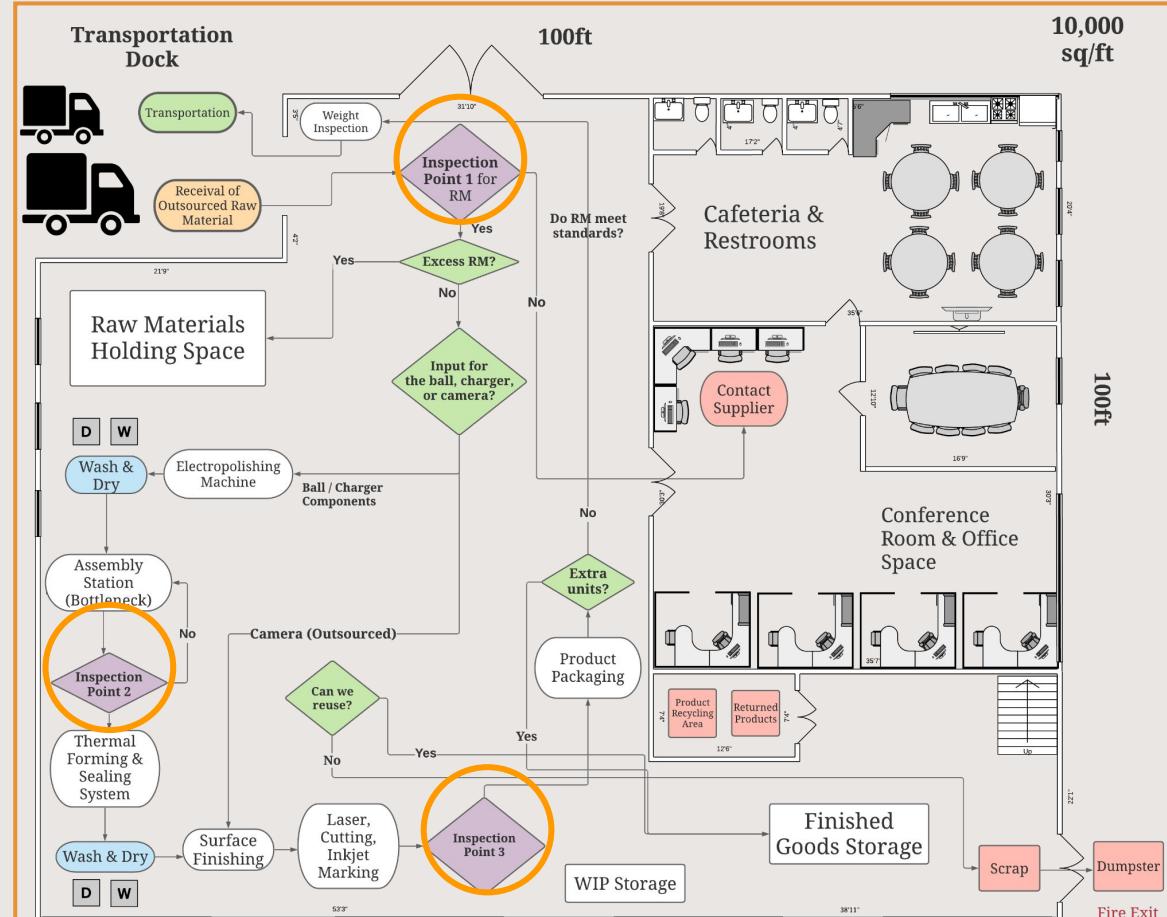
Factory located in Kansas City, MO to **minimize inbound freight and distribution costs**



U-Shaped layout allows for **flexibility** and helps **accommodate** more workers



Factory processes are **automated** with exception of ball & charger assembly



1225 W 8th St, Kansas City, MO

# PupPal will Scale Production with Demand

## Year 1

13 Machines + 2 Assembly Stations

9 Full-Time Employees

1 Part-Time Employee

Capacity Utilization

60%

Yield Rate

87%

Service Level

92%

DM Cost/Unit

\$46



## Year 5

13 Machines + 10 Assembly Stations

15 Full-Time Employees

3 Part-Time Employees

Capacity Utilization

80%

Yield Rate

98%

Service Level

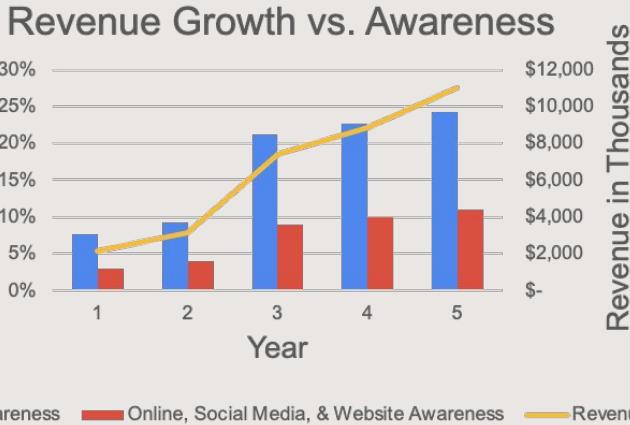
97%

DM Cost/Unit

\$39

# Awareness and Order Discount are Main Drivers of Profitability

## Marketing



## Operations



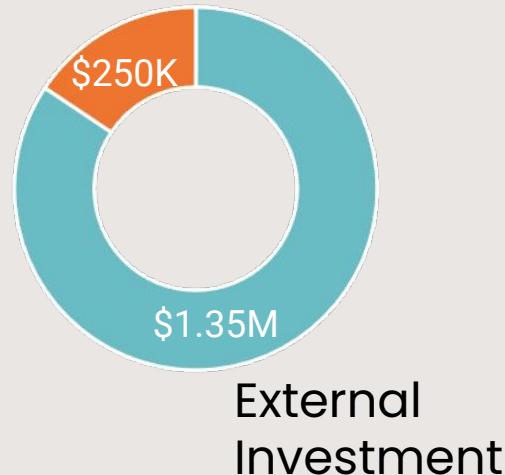
- Online awareness accounts for a large % of our total awareness
- Increased awareness is our main driver of revenue

- COGS is largest expense
- Direct Materials make up majority of COGS
- Net Income growth exhibits a near 1:1 ratio with order discounts

# Strong Financial Forecasts Ensures Profitability for Investors

Total Investment Required	\$1.6M
NPV	\$2.7M
IRR	60%

## Friends & Family

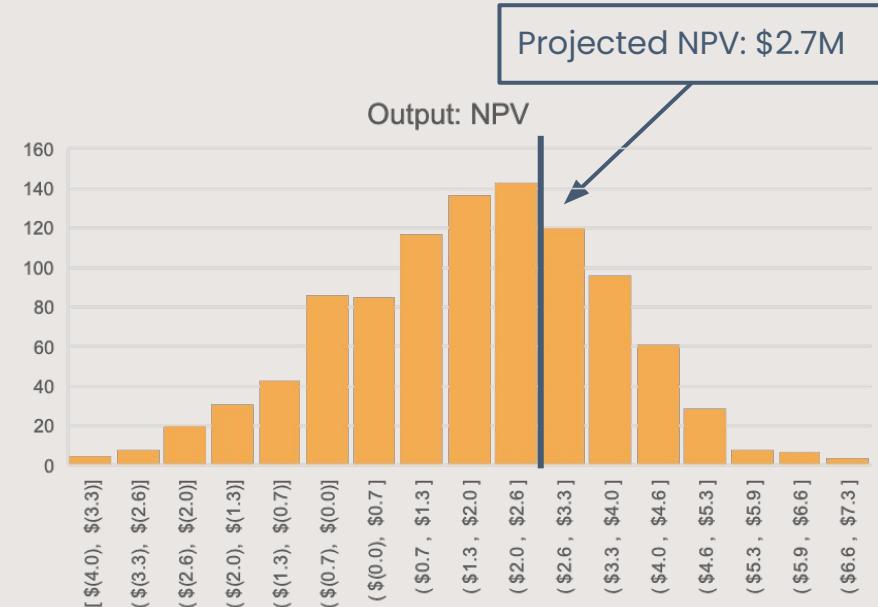
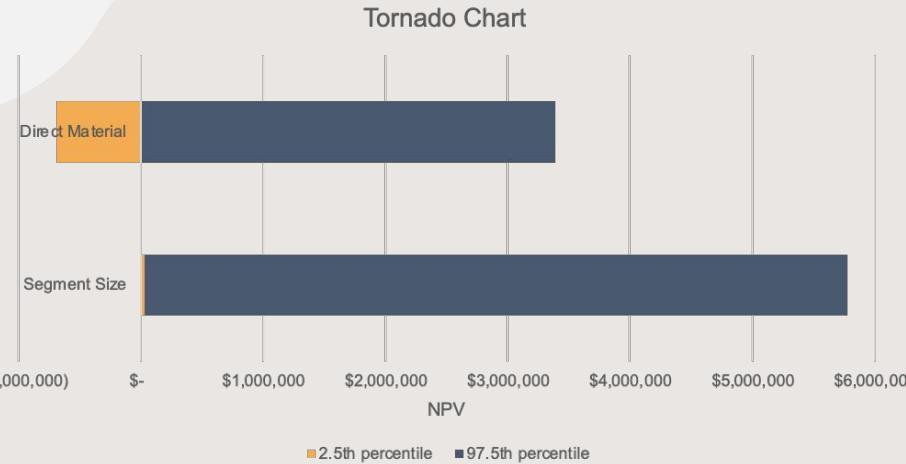


Dividend Return % vs. Initial Investment %



- ➡ Cash flows break even in **year 2**
- ➡ Investors will make **124%** of their investment by **year 4**
- ➡ Total return of **271%**
- ➡ Terminal Value of **\$4M**
- ➡ Enterprise value of **\$4.2M**
- ➡ Stable NPV indicator of profit

# Marketing Variables Have Greater Impact on Our NPV Compared to Operation Variables



Projected NPV: \$2.7M

- Direct material cost per unit will stay closer to minimum, NPV closer to maximum
- Segment size has wide range of NPVs but rarely negative
- The more variables that change unfavorably, higher chance of negative NPV

# Though Several Risks Are Out of Our Control, We Have Invested Time and Capital Into A Risk Mitigation Plan



## Marketing

- Precisely forecast segment size by **mining consumer data**
- Increase awareness through **social media**
- Increase consumer compatibility through **brand extensions**



## Operations

- Minimize supply chain crises by **backing multiple sources**
- **Ensure product quality** by hiring on-site mechanical engineer & quality assurance manager
- Maximize efficiency through **management training** program

# Overall, PupPal is an investment that shows great promise

A premium high-tech pet product brings ***connectivity and love from anywhere.***

The return on investment will total over **\$4 million in 7 years.**

**A strong supply chain network** with a team of dedicated staff secures high-demand logistics.

**A detailed mitigation plan** serves as our guide to combat risks.



# Backup Slides



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# Marketing



# IMC Strategies Will Attract Consumers & Retailers



Guerilla marketing campaign dedicated to promoting **CSR initiatives**



Vibrant, aesthetic colors will attract **retailers and consumers** at trade shows & fairs

# Advertising

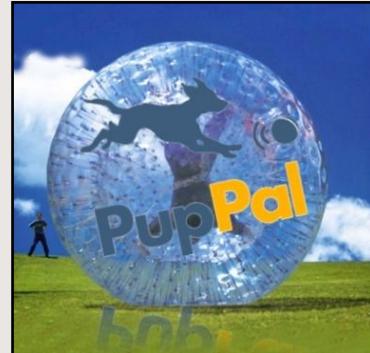


**PupPal**  
PLAY WHILE YOU'RE AWAY

Saving the lives of dogs across America

We will be donating \$1 of every purchase to no-kill shelters!



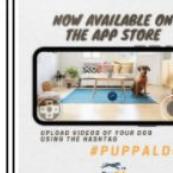
**PupPal** 

A fun, innovative way for dog-owning families to watch and play with their tail-wagging best friend.

<http://puppal.com>

**ABOUT US** **BEST FRIENDS** **FAQ** **REVIEWS**

<b>CONTEST</b>  BECOME OUR POSTER DOG!	<b>Healthy Pet</b>  Travel Tips to Keep the Trip Warmer, Calmer Heartworms, Fleas & Ticks & More	
	<b>NOW AVAILABLE ON THE APP STORE</b>  UPLOAD VIDEOS OF YOUR DOG USING THE APP DOG <b>SPUPPALDOG</b> <b>PupPal</b>	

# Bases Model

Year	1	2	3	4	5
Target Market Size (1.5% Annual Growth Rate)	16,570,000	16,810,000	17,040,000	17,240,000	17,420,000
% increase rate of purchase intention	3%	3%	3%	3%	3%
ADJUSTED Purchase Intent @ \$300	7.3%	6.9%	7.0%	7.5%	7.9%
Awareness	7.6%	9.3%	21.2%	22.6%	24.2%
ACV	14%	17%	22%	27%	33%
Trial %	0.08%	0.11%	0.32%	0.46%	0.63%
Competition Adjustment (Units Lost to Competition)	0%	0%	20%	30%	35%
<b>TOTAL UNITS</b>	<b>12,800</b>	<b>18,300</b>	<b>44,000</b>	<b>55,000</b>	<b>71,400</b>
Average WEIGHTED Manufacturing Price	\$ 169	\$ 171	\$ 168	\$ 160	\$ 154

# Demand Curve

Cumulative PI vs. Price



# Price to Channel Years 1 & 5

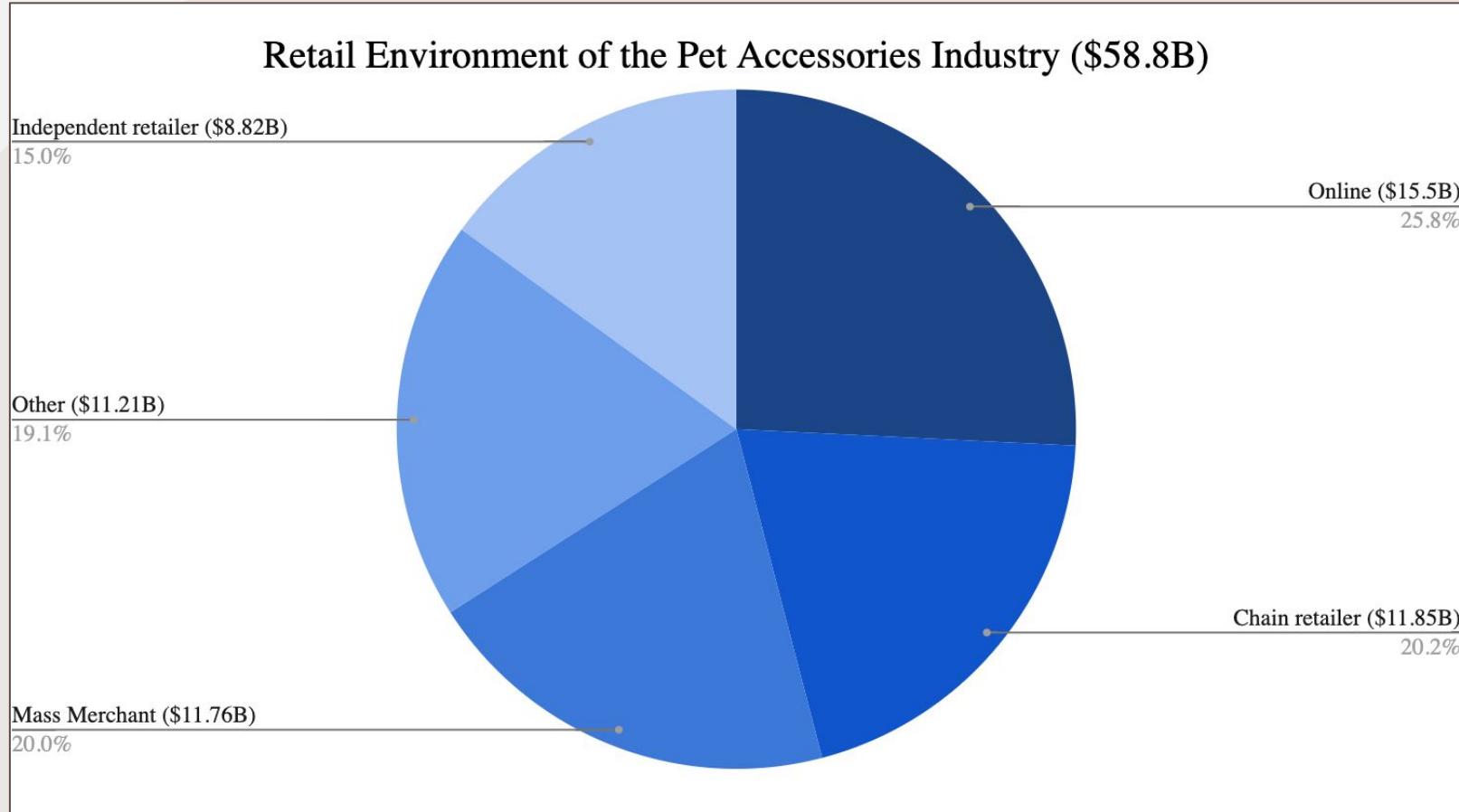
<b>Y1 Average Weighted</b>	<b>% Total Units</b>	<b>Selling Price</b>
Units into Independent Retailers	14%	\$ 180
Units into Online (Amazon)	86%	\$ 167
<b>Average Manufacturer's Selling Price to Channel</b>	100%	<b>\$ 169</b>

<b>Y5 Average Weighted</b>	<b>% Total Units</b>	<b>Selling Price</b>
Units into Independent Retailers	12%	\$ 180
Units into Online (Amazon)	36%	\$ 167
Units into Chains (PetCo & Chewy)	22%	\$ 153
Units into Mass Merchants (Target)	30%	\$ 129
<b>Average Manufacturer's Selling Price to Channel</b>	100%	<b>\$ 154</b>

# Awareness Generated from IMC Plan

		Year 1	Year 2	Year 3	Year 4	Year 5
Paid	Magazine Ads			2.63%	2.63%	3.01%
	Fairs/Events	2.58%	2.58%	4.30%	4.30%	4.30%
	Online	2.00%	3.00%	6.00%	7.00%	8.00%
	Creative Marketing Idea			1.00%	1.00%	1.00%
Earned	PR Magazines & Blogs	2.00%	2.00%	2.00%	2.00%	2.00%
	Word of Mouth		0.19%	0.22%	0.70%	0.89%
	Carry Over		0.50%	2.00%	2.00%	2.00%
Owned	Social Media	1.00%	1.00%	3.00%	3.00%	3.00%
<b>Total Awareness Generated</b>		<b>7.58%</b>	<b>9.27%</b>	<b>18.52%</b>	<b>20.00%</b>	<b>21.19%</b>

# Retail Environment



# Brand Extensions

## PupCall - Concept



A collage of images related to the PupCall concept. It includes a large grey paw print icon, three small photos showing dogs being walked on leashes, a close-up of a dog's collar and a matching bracelet, and a diagram of the PupCall device which consists of a retractable leash attached to a matching collar with a built-in Bluetooth-connected button.

**PupPal**  
play where you're at

Price Range: \$60-70

**Target Consumer:** Owners of Small-Medium Sized Active Dogs

**Key Features:**

- Matching Collar and Bracelet
- Retractable Leash for easy accessibility
- Bluetooth-connected button between collar and bracelet

**Benefits:**

Would limit the need to carry leashes, as well as improve owner-dog relationship.

## DoggyDaycare - Concept



A collage of images related to the DoggyDaycare concept. It includes a large grey paw print icon, a blue circular icon with the PupPal logo, a white camera-like device, and a photo of a brown and white dog lying on a bed with several toys.



**Pricing:** \$40-50 per day

**Target Consumer:** Existing PupPal customers that more-frequently travel (i.e. for business, for family obligations, etc.)

**Category:** Pet Grooming and Boarding

**Differentiating Benefit:** Utilize already-existing PupPal application to monitor your dog

# Positioning Statement

"For **on-the-go dog owners** who *frequently* leave their dogs at home and need a *durable* product and *interactive* way to **engage** with their dogs, the **PupPal** is a high-tech dog toy and surveillance camera, which facilitates **easy** **check-ins** for busy professionals as well as at-home **entertainment** for families and dogs alike and is *unlike* the Wickedbone and FURBO."

# Operations Management

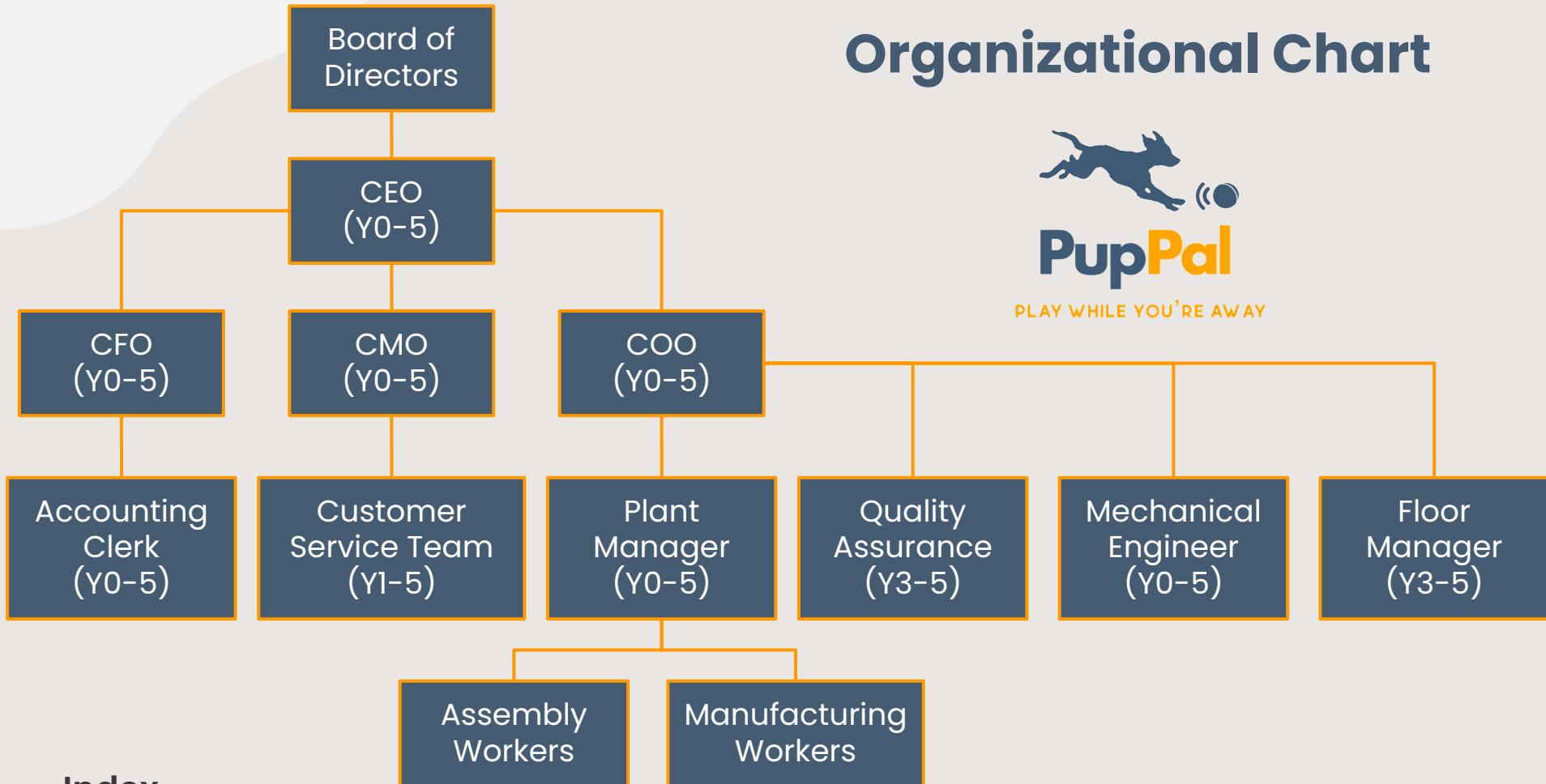


# Organizational Chart

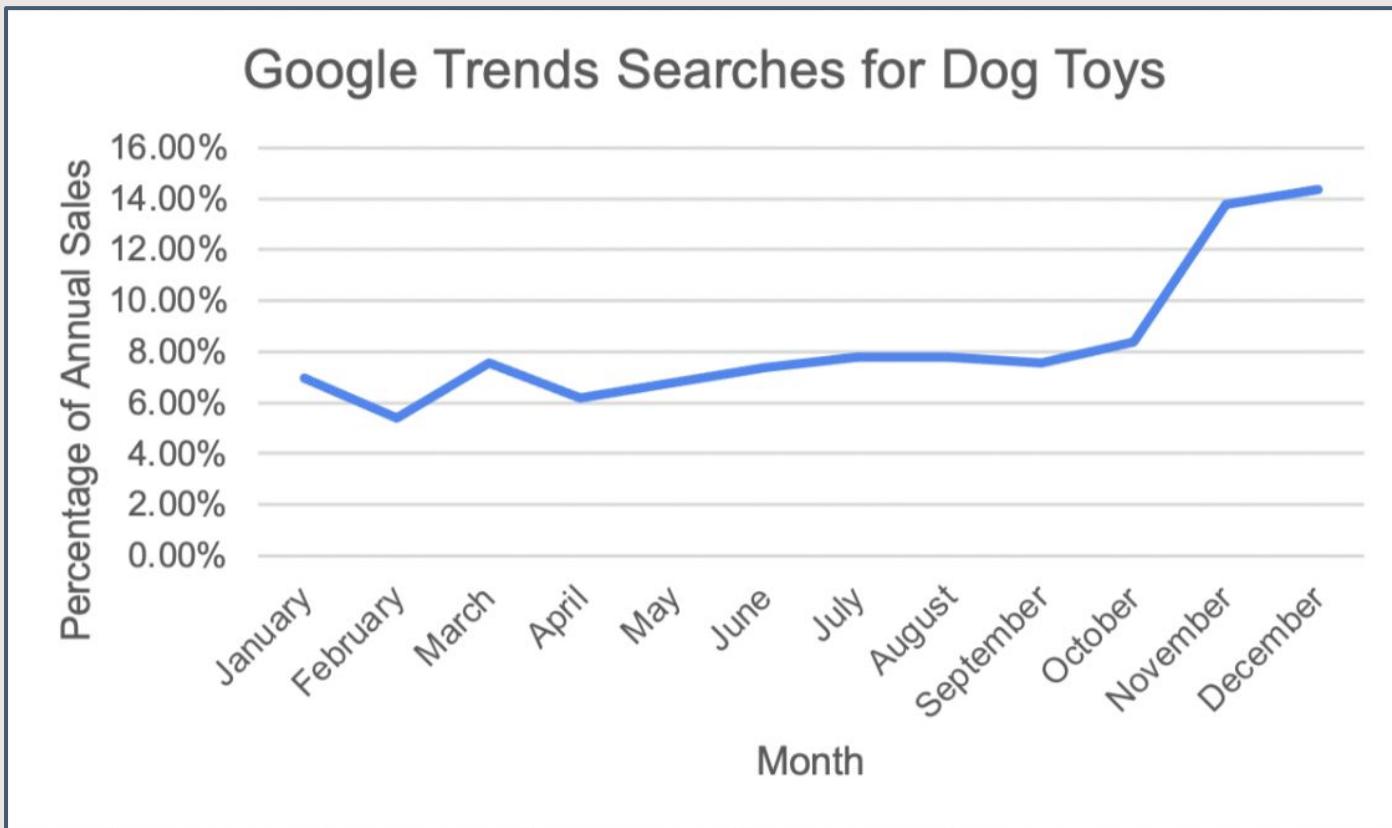


PupPal

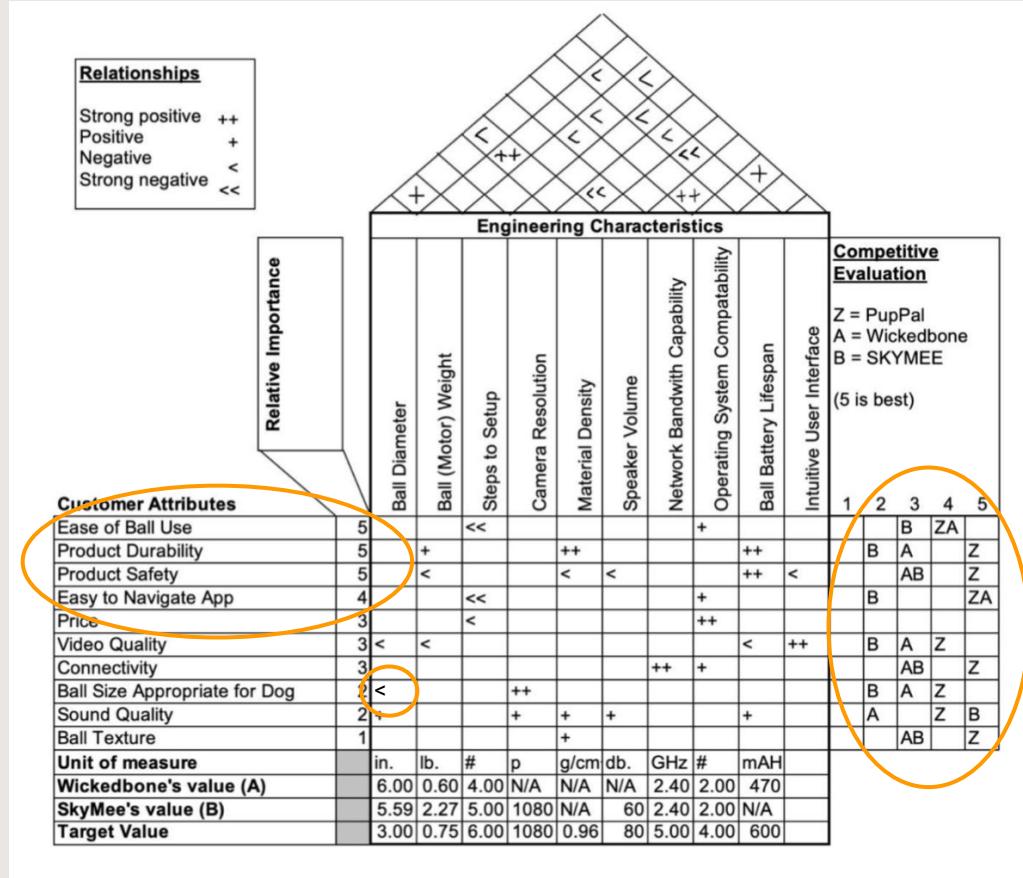
PLAY WHILE YOU'RE AWAY



# Monthly Demand Forecast is Based on Dog Toy Trends



# House of Quality



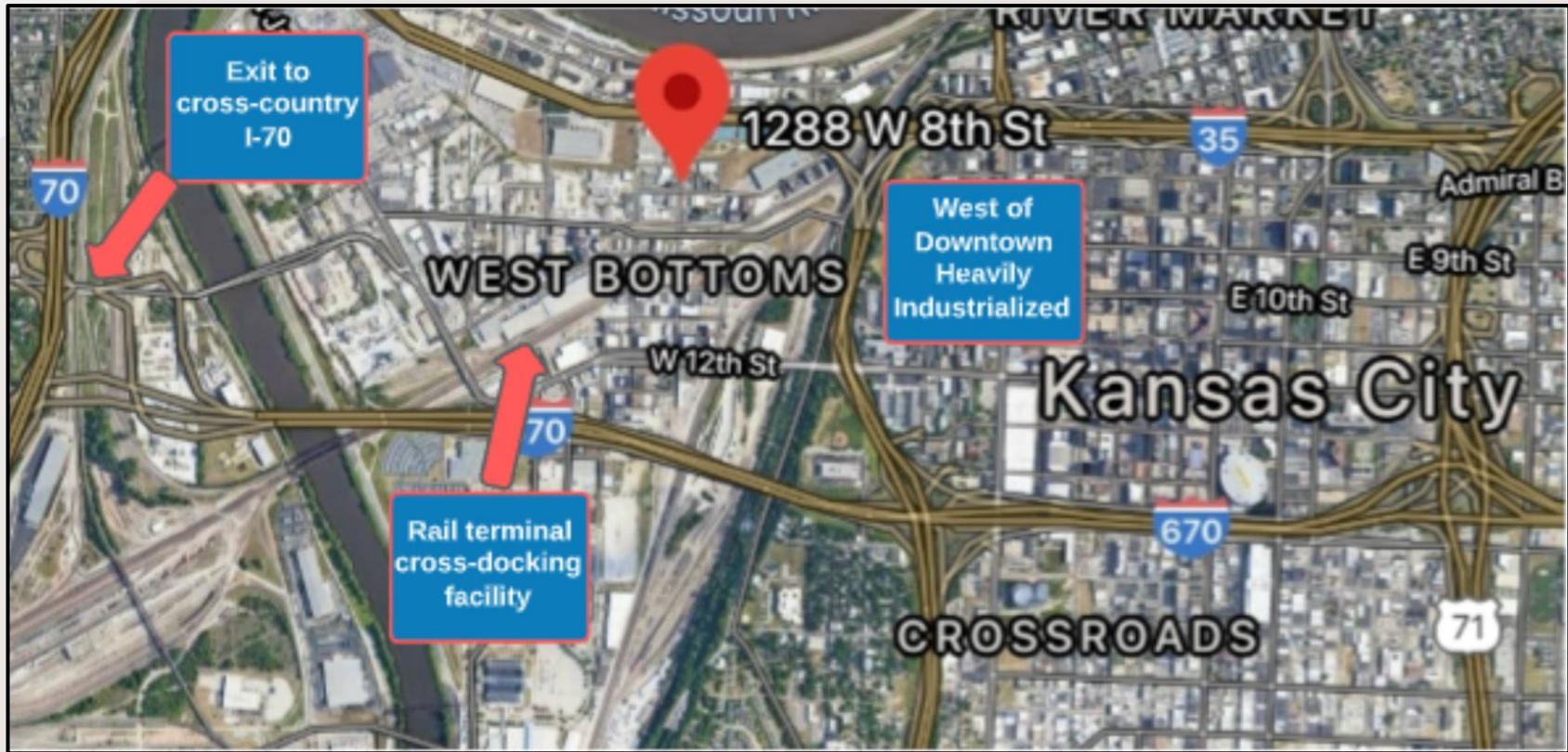
# Year 1 Hybrid Aggregate Plan

Expected Monthly Demand %	7%	5.5%	7.5%	6.2%	6.8%	7.5%	7.8%	7.8%	7.5%	8.5%	14%	14.5%	100%
Period	1	2	3	4	5	6	7	8	9	10	11	12	
Forecast	890	690	970	790	870	940	1,000	1,000	970	1,100	1,750	1,830	12,800
Regular Output & Cost	640	640	640	640	640	640	640	640	640	640	640	640	6,680 \$24,960
Part-Time Output & Cost	-	-	-	480	480	480	480	480	480	480	480	480	3,760 \$11,124
Beginning Inventory	1,970 (Y0)	1,715	1,665	1,335	1,660	1,910	2,300	2,220	2,340	2,500	2,540	1,900	
Ending Inventory	1,715	1,665	1,335	1,660	1,910	2,300	2,220	2,340	2,500	2,540	1,900	1,180	1,025
TOTAL Cost													\$43,700

# Year 5 Hybrid Aggregate Plan

Expected Monthly Demand %	7%	5.5%	7.5%	6.2%	6.8%	7.5%	7.8%	7.8%	7.5%	8.5%	14%	14.5%	100%
Period	1	2	3	4	5	6	7	8	9	10	11	12	
Forecast	4,990	3,840	5,410	4,410	4,840	5,270	5,550	5,550	5,410	5,980	9,830	10,250	71,380
Regular Output & Cost	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480	4,480	52,690 \$174,270
Part-Time Output & Cost	-	-	-	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	1,440	16,930 \$44,500
Beginning Inventory	2,810 (Y4)	3,740	5,810	6,320	7,820	8,900	9,550	9,910	10,270	10,780	10,710	6,800	
Ending Inventory	3,740	5,810	6,320	7,820	8,900	9,550	9,910	10,270	10,780	10,710	6,800	2,460	2,410
TOTAL Cost													\$249,525

# Centralized Location



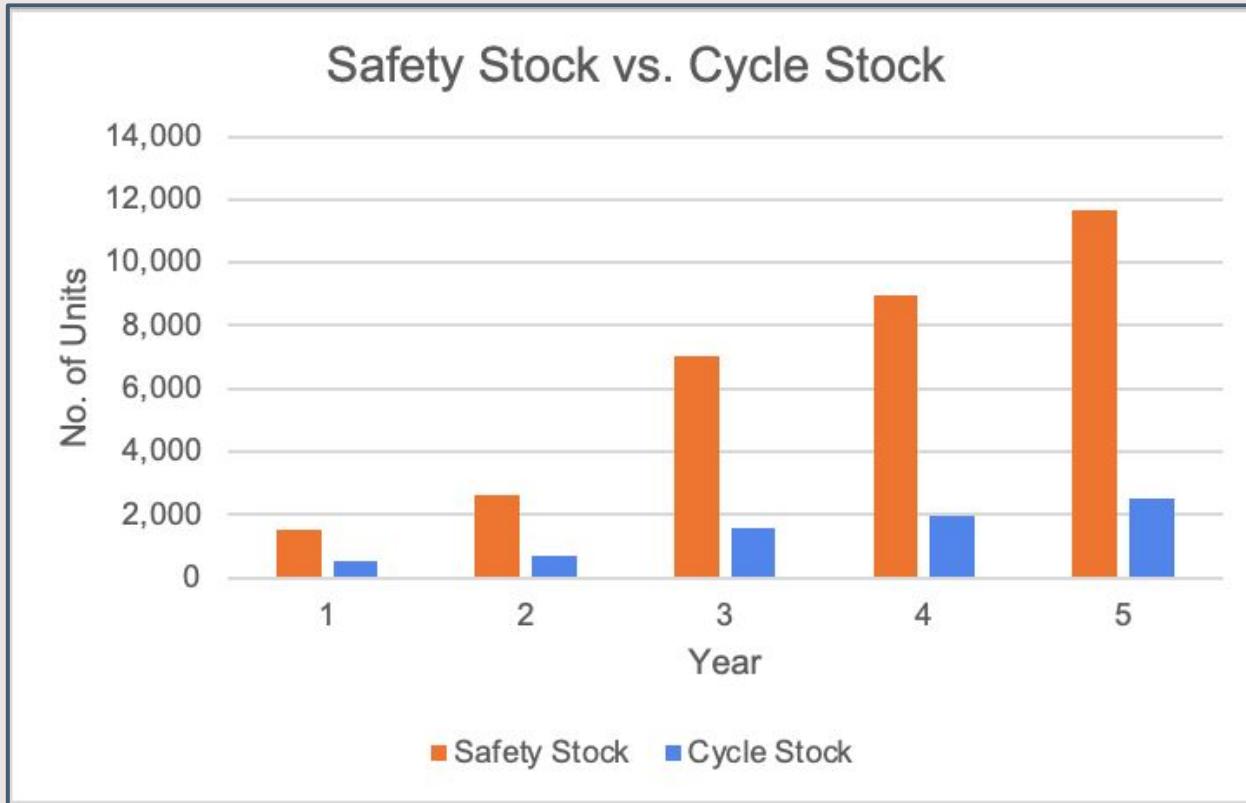
# Aggregate Plan Decision Making

Aggregate Plan	Level	Chase	Hybrid
Year 1	\$58,522	\$43,253	\$43,703
Year 5	\$265,794	\$252,032	\$249,525

# Cost Reductions from Year 1 to Year 5

Cost Reductions (3% for every 10,000 units)			
Year	Order Quantity	Cost Reduction %	Order Cost
0	1,574	0%	\$47.51
1	10,440	3%	\$46.08
2	18,302	3%	\$46.08
3	42,394	12%	\$41.81
4	54,475	15%	\$40.38
5	69,619	18%	\$38.96

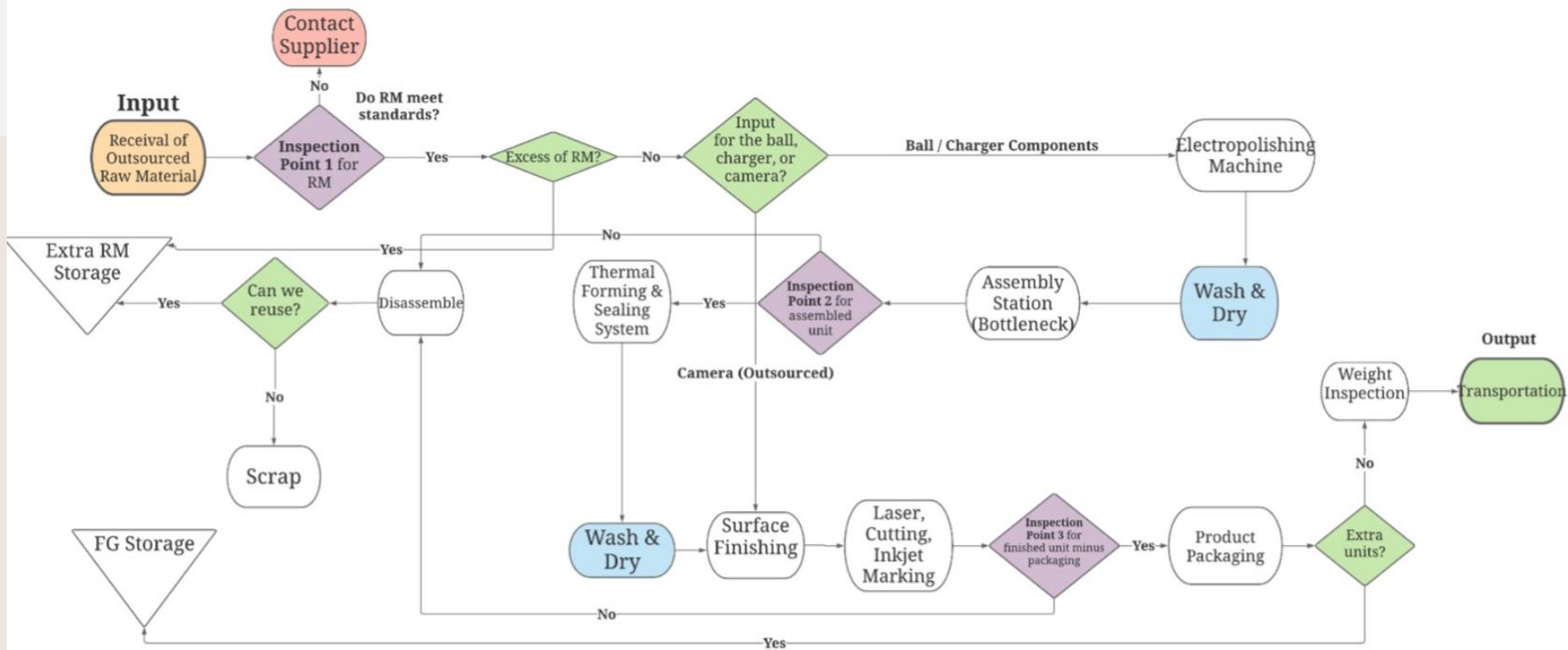
# Safety Stock vs. Cycle Stock



# System Capacity Utilization

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5
Average System Capacity Utilization	60%	64%	64%	74%	77%	80%

# Process Flow Diagram



# Finance



## Net Income and Financial Ratios

Income Statement Financial Ratios	1	2	3	4	5
COGS % Sales	52.18%	50.59%	39.37%	39.13%	37.49%
Gross Margin % Sales	47.82%	49.41%	60.63%	60.87%	62.51%
Net Income % Sales	6.68%	14.86%	28.34%	29.94%	32.42%
SG&A % Sales	25.72%	18.18%	11.76%	9.85%	8.13%
Marketing Expenses % Sales	8.00%	5.43%	4.46%	3.77%	3.17%

# CAPM and PPE Investment

CAPM		PPE Investment	
10 Year T-Bill Yield	1.68%		
Beta	1.43	Y0	\$366,000
S&P Average 10 Year Return	10%	Y3	\$19,000
Small Business Premium	11.65%		
CAPM	25%		



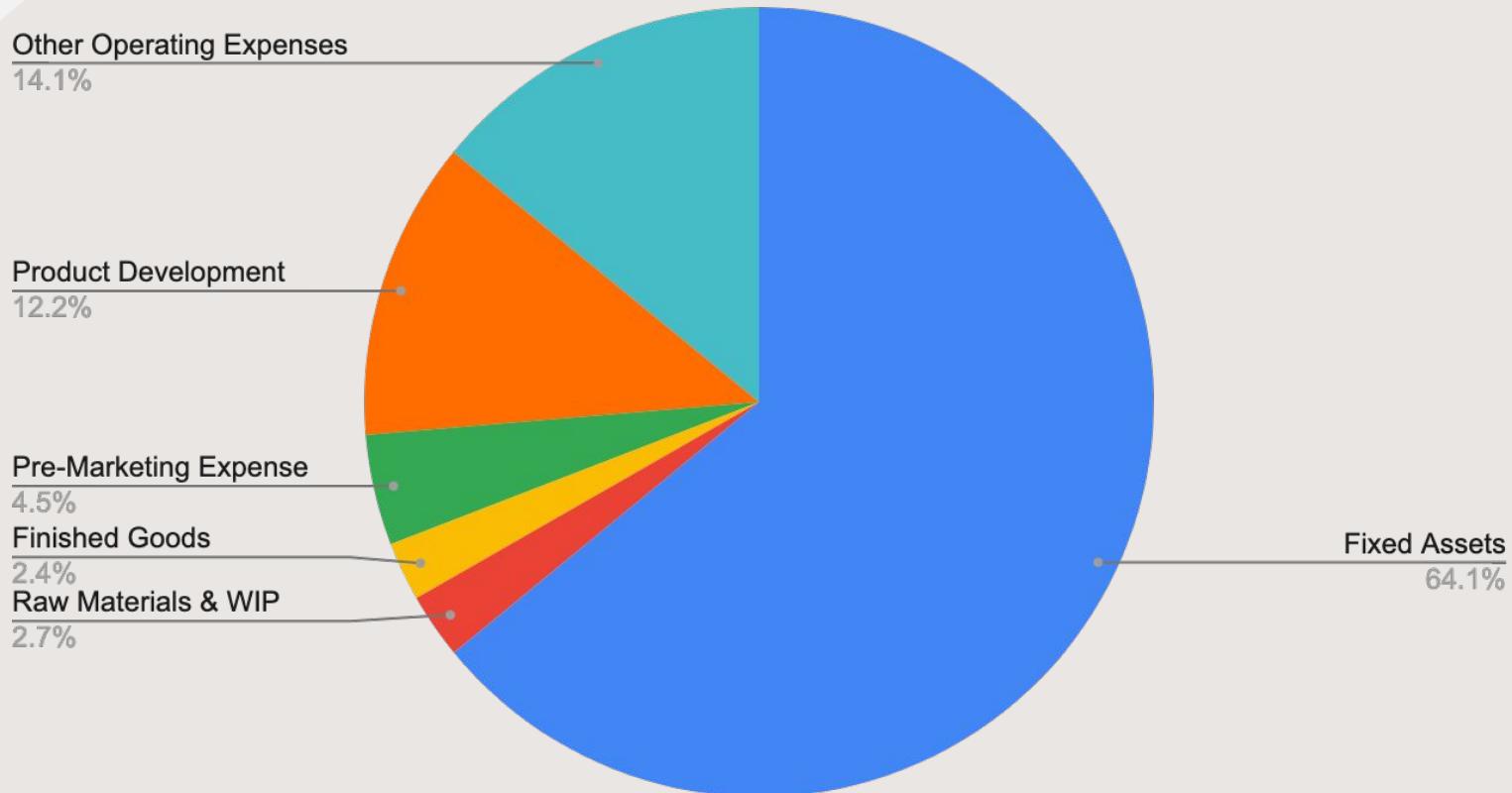
Year	0	1	2	3	4	5
Net Income	(\$738,000)	\$144,000	\$464,000	\$2,099,000	\$2,653,000	\$3,570,000

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# Forecasted Cash Flow Growth to Calculate Terminal Value

		Forecast Cash Flow	Growth
Introduction	0	(\$1,130,000)	0%
	1	(\$87,000)	92%
Growth	2	\$356,000	512%
	3	\$1,428,000	301%
Maturity	4	\$2,453,000	72%
	5	\$3,255,000	33%
Decline	6	\$2,929,000	-10%
	7	\$2,490,000	-15%

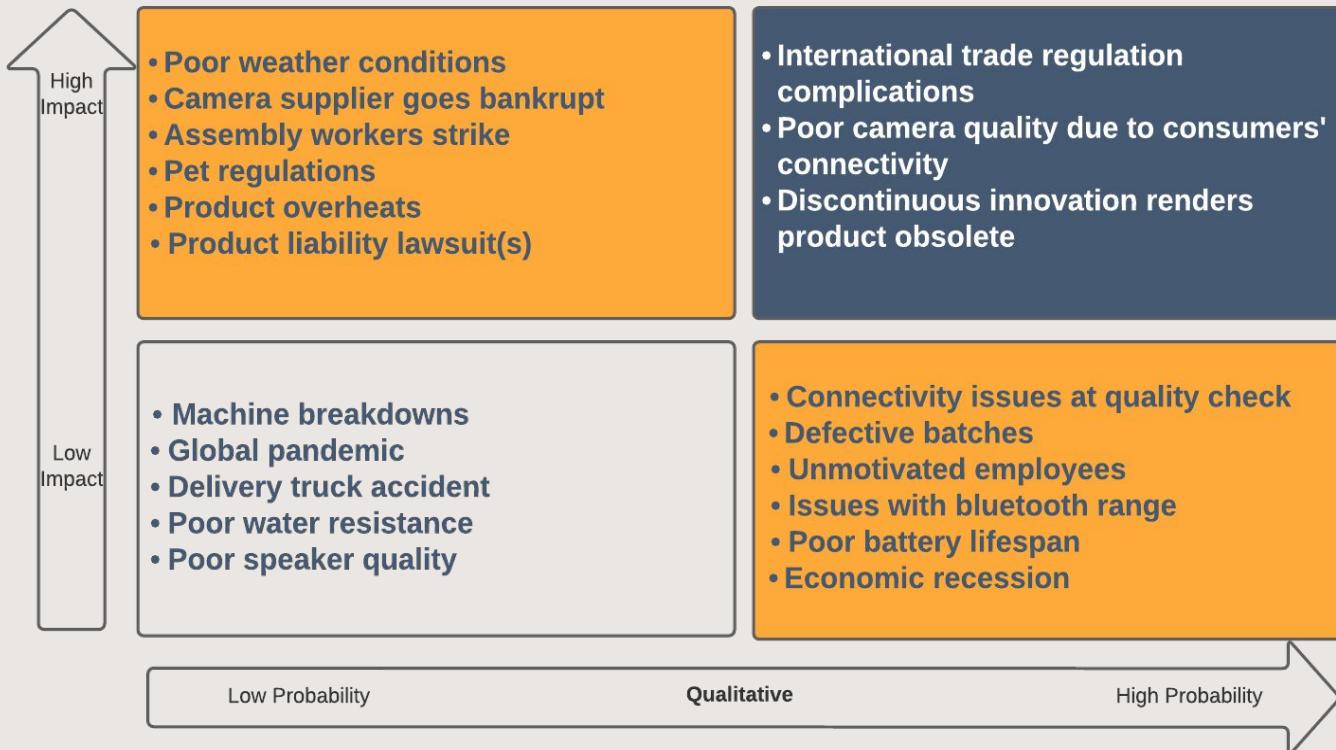
# Initial Startup Costs



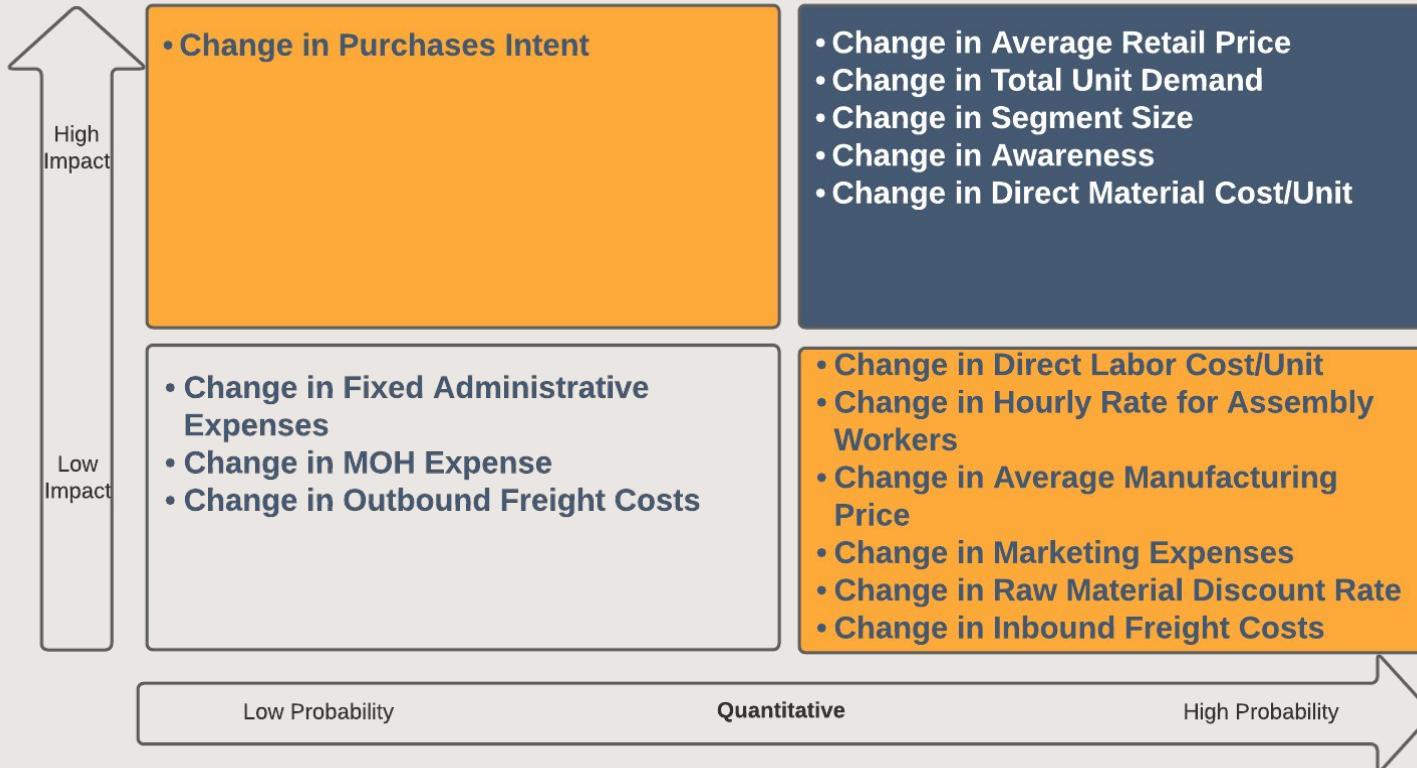
# Risk Mitigation



# Qualitative Risks



# Quantitative Risks



# Variable Sensitivities

	Function	Starting Value (Base case)	Breakeven Value	Breakeven Change %	Margin of Safety %	NPV with 1% increase	Change in NPV with 1% increase	Elasticities (% change due to 1% increase)	Impact	Probability
Average Retail Price	MK	\$290	\$347	20%	-20%	\$2,581,877	\$ (137,489)	5%	High	High
Total Units Demand	MK	12,789	9,885	-23%	23%	\$2,839,200	\$ 119,835	4%	High	High
<b>Segment Size</b>	<b>MK</b>	<b>16,570,000</b>	<b>12,807,828</b>	<b>-23%</b>	<b>23%</b>	<b>\$2,839,200</b>	<b>\$ 119,835</b>	<b>4%</b>	<b>High</b>	<b>High</b>
Purchase Intent	MK	7.28%	5.62%	-23%	23%	\$2,838,601	\$ 119,236	4%	High	Low
Awareness	MK	7.58%	5.85%	-23%	23%	\$2,838,601	\$ 119,236	4%	High	High
<b>Direct Material Cost/Unit</b>	<b>OM</b>	<b>\$46</b>	<b>\$79</b>	<b>71%</b>	<b>-71%</b>	<b>\$2,681,005</b>	<b>\$ (38,360)</b>	<b>1%</b>	<b>High</b>	<b>High</b>
Fixed Administrative Expenses	OM	\$413,660	\$1,293,716	213%	-213%	\$2,706,583	\$ (12,782)	0%	Low	Low
Direct Labor Cost/Unit	OM	\$31	\$111	258%	-258%	\$2,708,979	\$ (10,386)	0%	Low	High
MOH Expense	OM	\$256,050	\$1,124,122	339%	-339%	\$2,711,344	\$ (8,021)	0%	Low	Low
Average Manufacturing Price	MK	\$169	\$982	482%	-482%	\$2,712,682	\$ (6,683)	0%	Low	High
Raw Material Discount Rate	OM	3.00%	-10%	-433%	433%	\$2,725,827	\$ 6,462	0%	Low	High
Marketing Expenses	MK	\$172,760	\$977,033	466%	-466%	\$2,713,524	\$ (5,841)	0%	Low	High
Inbound Freight Costs	OM	\$48,112	\$428,643	791%	-791%	\$2,722,570	\$ 3,205	0%	Low	High
Hourly Rate For Assembly Workers	OM	\$13	\$132	914%	-914%	\$2,716,370	\$ (2,995)	0%	Low	High
Outbound Freight Costs	OM	\$16,818	\$403,698	2300%	-2300%	\$2,718,173	\$ (1,192)	0%	Low	Low

# Simulation Standard Deviation Calculations

Determining Standard Deviation for Simulation			
Min	Base	Max	Assumptions
90%	100%	110%	Number of dog owning households in the US can vary by 10%
52%	57%	62%	% of Millenial & Gen X dog owners can vary by 5%
69%	74%	79%	% of owners of Medium & Large Dogs can vary by 5%
42%	62%	82%	% of willingness to invest in more expensive dog products can vary by 20%
14%	26%	44%	% of dog owning US households in our segment

Mean	28.0%	*Used source material to find standard deviation of triangular distribution <a href="https://www.itl.nist.gov/div898/handbook/mpc/section5/mpc541.htm">https://www.itl.nist.gov/div898/handbook/mpc/section5/mpc541.htm</a>	
Standard Deviation	12.5%		

	Low	Base	High
<b>Camera</b>	\$ 15.99	\$ 19.93	\$ 30.00
<b>Plastic Housing (ICD)</b>	\$ 2.07	\$ 3.00	\$ 4.16
<b>Power Cable (ICD)</b>	\$ 2.99	\$ 3.99	\$ 5.00
Inductor (ICD)	\$ 0.10	\$ 0.80	\$ 3.00
<b>Axis Gyro w/ Accelerometer Module</b>	\$ 1.35	\$ 2.50	\$ 5.00
PCB	\$ 0.03	\$ 0.05	\$ 0.50
<b>ST Micro STM32 F3 MCU (Microcontroller)</b>	\$ 2.75	\$ 3.18	\$ 12.10
3dbi Bluetooth Antenna	\$ 0.20	\$ 0.28	\$ 2.75
ST Micro M24512-R 512 (EEPROM)	\$ 0.41	\$ 0.45	\$ 0.91
Copper Heat Sink	\$ 0.95	\$ 0.99	\$ 2.99
350mAH Li-ion Battery	\$ 1.05	\$ 1.35	\$ 3.86
Axle	\$ 0.30	\$ 0.50	\$ 1.79
Drive Wheel	\$ 0.10	\$ 0.80	\$ 2.85
Inductor	\$ 0.24	\$ 0.80	\$ 2.90
Speaker	\$ 0.50	\$ 1.20	\$ 4.15
DC Motor	\$ 0.80	\$ 1.00	\$ 3.40
Stability Ball Bearing	\$ 0.10	\$ 0.25	\$ 1.00
Polyethylene Housing	\$ 0.45	\$ 0.50	\$ 1.00
<b>Direct Material Cost/Unit Variation</b>	\$ 30.38	\$ 41.57	\$ 87.36
	0.73	1	2.10

# Simulation Summary Statistics

	Segment Size	Direct Material	All Variables
Average	\$ 2,698,430	\$ 1,649,669	\$ 1,650,624
Median	\$ 2,710,175	\$ 1,832,705	\$ 1,632,787
Standard Deviation	\$ 1,478,605	\$ 1,114,899	\$ 1,870,201
25th percentile	\$ 1,645,178	\$ 866,890	\$ 386,370
75th percentile	\$ 3,688,418	\$ 2,538,559	\$ 2,962,968
2.5th percentile	\$ 33,010	\$ (689,825)	\$ (1,939,640)
97.5th percentile	\$ 5,745,706	\$ 3,389,322	\$ 5,190,350
VaR@5%	\$ 352,180	\$ (443,696)	\$ (1,334,528)
Minimum	\$ (2,391,230)	\$ (1,386,802)	\$ (4,671,100)
Maximum	\$ 7,554,802	\$ 3,700,782	\$ 7,229,477
%NPV < 0	2.40%	9.60%	20.50%