IT4050 – IME – 2023 August

Business Idea Evaluation

Criterion	Factors to be Evaluated
1. Perfect personal match	▪ I like the idea. I can do it joyfully ▪ A business based on the idea is compatible with my dream ▪ My family likes it ▪ My skills match with the idea
2. Innovativeness / Uniqueness	▪ New to the market ▪ Difficult to copy
3. Market	▪ Easy to find customers. ▪ There is a sizeable market. It is expanding ▪ I can reach the market easily ▪ Customers don't grumble about the market price ▪ Easy to formulate marketing strategies
4. Competition	▪ Competition is not heavy ▪ I know the details of the competitors ▪ I will have competitive advantages
5. Technology & Equipment	▪ It is easy to acquire technology ▪ I know how to get technology ▪ Obtaining equipment is easy
6. Production easiness (Operation in case of a service)	▪ Raw material is available freely. ▪ Production process is not complicated. ▪ Production infrastructure can be arranged easily. ▪ No scarcity of production inputs.
7. Human resource	▪ Skilled human resources are available. ▪ Employee demands can be met. ▪ I have an idea about the HR requirement
8. Environmental protection	▪ Environmental restrictions are less. ▪ This business doesn't harm environment. ▪ Environmental-related risks are less. ▪ Obtaining environmental clearance is easy.
9. Capital	▪ This idea needs less capital. ▪ Sources are available for finding capital need.
10. Government support	▪ Government support schemes are available. ▪ Idea belongs to a priority industry sector.

No	Business Idea	Perfect Personal match	Innovativeness / Uniqueness	Competition	Technology & Equipment	Market	Production easiness	Human resource	Environmental protection	Capital	Government Priorities	Total Marks	Rank
1	A smart water filtering system with a mobile application that effectively water filtering, supplies oxygen, and automatic feeding the fish for the fish tanks	4	6	6	4	4	4	4	8	4	2	50	4
2	An ultrasonically operated automatic lid opening and closing dustbin.	10	10	10	8	8	8	8	10	8	10	90	1
3	A smart system that can identify the precise location of the ball while playing cricket using a mobile application and tracking system.	4	8	8	4	4	4	4	4	2	6	48	5
4	. A Mobile application for distributing clean drinking water at a subsidized price to people living in dry areas in Sri Lanka during periods of water scarcity.	6	6	6	4	8	4	4	8	4	6	56	3
5	Mobile Application for Sri Lankan All Traditional Foods & Sweets ordering and delivery system.	8	6	4	6	8	6	4	8	4	4	58	2

Scores: Very bad (0), Bad (02), Average (04), Good (06), Very good (08), Excellent (10) - 12th August 2023 – Dr. Krishantha Wisenthige

Annexure II - S.W.O.T. Analysis

List each of your business' strengths, weaknesses, opportunities, or threats in the table below and then outline how you plan to address each of the weaknesses/threats

Strengths	**Weaknesses**
• This modern solution attracts consumer interest through its unique design. • An automated lid minimizes germ spread, which is vital for health-conscious consumers. • Encourages proper waste disposal, fostering eco-friendly habits. • Meets growing demand for advanced tech products in Sri Lanka. • Effortless waste disposal due to automatic lid operation. • Adjustable features cater to user preferences. • Differentiates from regular bins, offering a competitive edge. • Promotes responsible waste management and environmental awareness. • The potential for additional services or accessories enhances revenue. • Applicable in various settings, expanding the potential market. • Aligns with advancing automation trends, ensuring relevance. • Demonstrates commitment to innovation and improvement. • Collaborations with relevant entities can amplify impact. • Elevates customer satisfaction and brand loyalty.	• Elevated manufacturing expenses due to technology may result in a higher price point, deterring cost-conscious consumers. • The automated system requires ongoing maintenance and potential repairs, increasing operational complexity and costs. • Not all consumers are adept with technology, limiting the appeal to a tech-savvy demographic. • Some consumers may favor manual bins due to cultural practices or reservations about technology dependence. • Elderly or mobility-impaired individuals might find the technology challenging to use. • Meeting safety, electronics, and waste disposal standards can be demanding. • Sourcing and maintaining electronic components can introduce complexities to the supply chain. • In areas with limited infrastructure, distribution, and servicing may face restrictions.

Opportunities	**Threats**
• Pioneer's innovative technology, establishing market leadership. • Gain an advantage by entering the market early. • Boost brand recognition through unique technology. • Stand out with automated features against traditional bins. • Elevate your brand's status with advanced convenience. • Educate consumers about automated waste disposal. • Highlight environmental benefits for conscious consumers. • Collaborate with waste management authorities. • Align with tech-driven urban initiatives for growth. • Appeal to diverse preferences with customizable features. • Introduce added services like maintenance or analytics. • Venture into neighboring markets after establishing in Sri Lanka. • Generate buzz and engagement through innovation. • Showcase product launches to gain positive media attention. • Appeal to consumers valuing eco-conscious choices. • Receive backing from local authorities for environmental impact. • Leverage connectivity features for valuable user insights. • Offer complementary products for increased sales. • Collaborate with cutting-edge retailers for wider reach. • Tap into automation trend for sustained expansion.	• High costs due to technology could deter price-conscious consumers. • Traditional practices could impede the acceptance of automation. • Technical issues might damage brand reputation and trust. • Educating consumers on benefits may demand extensive resources. • Frequent upkeep could inconvenience users. • Meeting standards adds complexity to the process. • Encouraging new waste disposal habits might meet resistance. • Reaching diverse regions efficiently could pose difficulties. • Malfunctions can lead to negative feedback. • Changing consumer spending patterns could impact demand. • Poor infrastructure areas may not support the product. • E-waste management challenges may arise.

Annex I

Market Research (Customer and Competitor Analysis)

a) Customer Research

Costumers	Types of Product Services Purchasing	Quantity, Frequency and Time of Purchasing	Why do they buy (Core Use)	Our Price	Competitors	Competitors' Price
Businessman (Cargill's Manager of the Kalutara branch)	**My product** 	Quantity =1 Time of Purchasing:30 mins	Very comfortable it makes modern look. Ease of use Flexible. No need to touch any place in the dustbin.	Raw material + employee charges =5545+3500 =Rs:8545	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	-
Manager of the Sampath bank Kalutara		Quantity =1 Time of Purchasing:10 mins	Low cost	-	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	Rs: 2250/=

Costumers	Types of Product Services Purchasing	Quantity, Frequency and Time of Purchasing	Why do they buy (Core Use)	Our Price	Competitors	Competitors' Price
A young boy (student of Kalutara Vidyalaya)		Quantity =1 Time of Purchasing:5 mins	Low cost	-	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	Rs: 440/=
Pregnant lady	**My product** 	Quantity =1 Time of Purchasing:22 mins	Very comfortable it makes modern look. Ease of use Flexible. No need to touch any place in the dustbin.	Raw material + employee charges =5545+3500 =Rs:8545	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	-
Old lady(Elderly home in Kalutara) (Who is in the wheelchair)	**My product** 	Quantity =1 Time of Purchasing:35 mins	Very comfortable it makes modern look. Ease of use Flexible. No need to touch any place in the dustbin.	Raw material + employee charges =5545+3500 =Rs:8545	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	-

Costumers	Types of Product Services Purchasing	Quantity, Frequency and Time of Purchasing	Why do they buy (Core Use)	Our Price	Competitors	Competitors' Price
A person who is working at the pharmacy		Quantity =1 Time of Purchasing:10 mins	Low cost	-	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	Rs: 440/=
Manager of the Perera & sons' bakery Kalutara		Quantity =1 Time of Purchasing:10 mins	Low cost	-	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	Rs: 2250/=
Surgery Medical doctor, general hospital in Kalutara	**My product** 	Quantity =1 Time of Purchasing:40 mins	Very comfortable it makes modern look. Ease of use Flexible. No need to touch any place in the dustbin.	Raw material + employee charges =5545+3500 =Rs:8545	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	-

Costumers	Types of Product Services Purchasing	Quantity, Frequency and Time of Purchasing	Why do they buy (Core Use)	Our Price	Competitors	Competitors' Price
Principle of the Kalutara Balika National school.		Quantity =1 Time of Purchasing:10 mins	Can hold huge dirt	-	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	Rs: 4000/=
Manager of the Ananthara hotel Kalutara.	**My product** 	Quantity =1 Time of Purchasing:40 mins	Very comfortable it makes modern look. Ease of use Flexible. No need to touch any place in the dustbin.	Raw material + employee charges =5545+3500 =Rs:8545	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	-
Employee of the kings' bakers in Kalutara south. Rs: 1014/=		Quantity =1 Time of Purchasing:12 mins	Low cost	-	Nilkamal, Daxer, Arpico, Daluwa Furniture, Macksons Plastic, Samson International, Sisil, Unilever Pureit	Rs. 1,014/=

b) Competitor Analysis

Competitor	Products	Market share (%)	Value to the customers	Advertising & promotion	Strengths	Weaknesses
Plastic Pedal Dustbin/ Bucket Rs: 2250/=		78%	Colour is subject to availability at time of purchase. SKU: 53000314. Categories: Garbage Bins, Phoenix. Size: 325 x 290 x 338. WEIGHT =1 kg. DIMENSIONS=11.5 × 11 × 13 in. Pedal-operated lids prevent germ spread, enhancing hygiene and convenience. Cost is quite expensive. The dirt inside the dustbin is not visible to the surrounding environment. Therefore, this cannot make smell bad in the environment.	We don't see advertisements about this dustbin on television, in newspapers, or on social media. No discounts. Has some Brands.	The dirt inside the dustbin is not visible to the surrounding environment. Therefore, this cannot make smell bad in the environment.	The upper lid of the dustbin can be opened only by using the foot. disabled person with no leg cannot open this dustbin(the person who is in the wheel chair). . Advertisements on TV and social media about this dustbin do not go like that. Cost is quite expensive.

Competitor	Products	Market share (%)	Value to the customers	Advertising & promotion	Strengths	Weaknesses
70 - 90 Litre Fibre Black Dustbin. Rs: 4000/=		76%	Weight=3.34kg. Capacity=90L. Size =51x28x76cm. Can hold more dirt than normal dustbin. The dirt inside the dustbin is not visible to the surrounding environment. Therefore, this cannot make smell bad in the environment	We don't see advertisements about this dustbin on television, in newspapers, or on social media. No discounts. Has a specific Brand but it is not too famous among the customers.	Can hold more dirt than normal dustbin. The dirt inside the dustbin is not visible to the surrounding environment. Therefore, this cannot make smell bad in the environment	Can't find it in the local market easily. High cost. You must open the top lid and dispose of the garbage. disabled person cannot put the dirt easily because of this dustbin is too higher (the person who is in the wheel chair). Takes up quite a lot of space. Advertisements on TV and social media about this dustbin do not go like that. It is hard to find this Litre Fibre Black Dustbin easily.

Competitor	Products	Market share (%)	Value to the customers	Advertising & promotion	Strengths	Weaknesses
Daxer Plastic Dust Bin Normal (DDB 01) Rs: 440/=		80%	Brand=Daxer. JSKU=J0044536. Model Number=DDB 01. Product Weight=0.3 Kg. Colour Option: Black, Brown (Subject to availability). Material: Plastic. Dimensions (DxH): 305 x 290. Weight: 300 g. Low cost. A small amount of dirt can be retained. The dirt inside the dustbin is visible to the surrounding environment. Since this dustbin has holes and no top lid ,it can smell bad in the environment . Can be easily carried around.	No any discounts. We don't see advertisements about this dustbin on television, newspapers, or social media easily. Has a specific Brand but it is not too famous among the customers.	Low cost. Can be easily carried around.	A small amount of dirt can be retained. The dirt inside the dustbin is visible to the surrounding environment. Since this dustbin has holes and no top lid ,it can make smell bad in the environment

Competitor	Products	Market share (%)	Value to the customers	Advertising & promotion	Strengths	Weaknesses
240 Liter Plastic Dustbin with 2 Wheels Rs: 19990/= or Rs: 22490/=		60%	WEIGHT=14.6 kg DIMENSIONS=22 × 25 × 40 in Garbage Bin 240L Available Colours: Green / Blue / Red / Yellow / Black / Orange. SKU: 53000197 Category: Garbage Bins Tags: dustbin, garbage bins. High cost. Portable. Can hold more dirt than normal dustbin. The dirt inside the dustbin is not visible to the surrounding environment. Therefore, this cannot make smell bad in the environment.	No discounts. Has a specific Brand but it is not too famous among the customers.	Portable. Can hold more dirt than normal dustbin. The dirt inside the dustbin is not visible to the surrounding environment. Therefore, this cannot make smell bad in the environment.	Need to open upper lid to put the garbage. disabled person with no hands cannot open this dustbin (the person who is in the wheelchair). . Has a huge Hight. Takes up quite a lot of space. Advertisements on TV and social media about this dustbin do not go like that.

Competitor	Products	Market share (%)	Value to the customers	Advertising & promotion	Strengths	Weaknesses
KOLORR Twin Bin 18L Dustbin Dry & Wet Waste Pedal Dustbins Rs: 23559 /=		20%	Size: 313x285x415mm | Package Contain: 1 Pedal Bin 18 Liters. Imported from India (Sizes & Specifications are based on the India Market). It is made up of 100% virgin strong and durable plastic. No need to touch the bin as it is equipped with an easy functional foot pedal. No need to touch the bin as it is equipped with an easy functional foot pedal. It has a lid so there is no worry related to the smell escaping the bin. This pedal dustbin is versatile and has a stylish look to it. Side-by-side double-compartment recycles bins for dry and wet waste.	We don't see advertisements about this dustbin on television, in newspapers, or on social media. No discounts. Has a specific Brand but it is not too famous among the customers.	No need to touch the bin as it is equipped with an easy functional foot pedal. It has a lid so there is no worry related to the smell escaping the bin. This pedal dustbin is versatile and has a stylish look to it. Side-by-side double-compartment recycles bins for dry and wet waste. It is made up of 100% virgin strong and durable plastic.	Imported from India (Sizes & Specifications are based on the India Market) therefore must pay high cost. Buyers must pay more money to buy it. Without proper sealing or Odor-resistant features, wet waste bins might emit unpleasant Odors over time. If not cleaned and maintained regularly, the bins could become dirty, attracting pests and compromising hygiene. Twin bin designs might be more expensive than single-compartment alternatives, which could be a consideration for budget-conscious buyers. Durability Concerns.

Competitor	Products	Market share (%)	Value to the customers	Advertising & promotion	Strengths	Weaknesses
Buy Nilkamal 100 Litre Blue Virgin Plastic Dustbin. Rs: 7066/=		53%	Nilkamal 100 Litre Blue Virgin Plastic Dustbin, RFLB100L1, Dimension: 94x48x48 cm (Pack of 2). 100% Virgin plastic with UV protection. Heavy duty use with space saver design. Brand=Nilkamal. Capacity=100 L. Color=Blue. Item Code=RFLB100L1. If the dustbin comes with a lid, it can help contain Odors and prevent pests from accessing the waste. Plastic is generally easy to clean and maintain, which is important for a product designed to hold waste. Virgin plastic is known for its durability and resistance to cracking, chipping, and fading, making the dustbin suitable for outdoor use and exposure to various weather conditions.	We don't see advertisements about this dustbin on television, in newspapers, or on social media. No discounts. Has a specific Brand but it is not too famous among the customers.	If the dustbin comes with a lid, it can help contain odors and prevent pests from accessing the waste. Plastic is generally easy to clean and maintain, which is important for a product designed to hold waste. Virgin plastic is known for its durability and resistance to cracking, chipping, and fading, making the dustbin suitable for outdoor use and exposure to various weather conditions.	The large size of the 100-liter dustbin might be a disadvantage in settings with limited space. High cost. Larger capacity dustbins can be more expensive than smaller ones, and the cost might not be justified if the waste generated doesn't warrant such a large bin. A 100-liter dustbin, when full, can be quite heavy and challenging to move around. Height of the dustbin is big. While the blue colour might be suitable for waste disposal, it might not be aesthetically pleasing in all settings, such as indoor spaces. disabled person cannot put the dirt easily because of this dustbin is too higher (the person who is in the wheel chair).

Competitor	Products	Market share (%)	Value to the customers	Advertising & promotion	Strengths	Weaknesses
Kuber Industries Plastic 3 Pieces Medium Size Swing Dustbin/Swing Rs: 1014/=		78%	Kuber Industries Plastic 3 Pieces Medium Swing Dustbin/Swing Garbage Bin/Waste Bin, 10 Liters (Black & White)-KUBMART10219. Material: Plastic, Colour: Black & White. Package Contents: 3 Pieces medium size Swing Dustbin with Lid 10 Litre. Size: 28 cm x 28 cm x 39 cm. Package Contents - 3 pieces medium size Swing Dustbin with Lid 10 Litre. material: Plastic, Colour: Black & White. Medium Swing Dustbin prevent germ spread, enhancing hygiene and convenience. Cost effective. The dirt inside the dustbin is not visible to the surrounding environment. Therefore, this cannot make smell bad in the environment.	We don't see advertisements about this dustbin on television, in newspapers, or on social media. No discounts. Has some Brands.	The dirt inside the dustbin is not visible to the surrounding environment. Therefore, this cannot make smell bad in the environment. Cost effective.	The upper lid of the dustbin can be opened only by using the hands. disabled person cannot open this dustbin easily. . Advertisements on TV and social media about this dustbin do not go like that.

Annex III – Monthly Sales Forecast

Product / Service	Sales Price (LKR)	Number of Units (Monthly)												Total Sales (Units)	Total Sales Revenue (LKR) Year 01	Total Sales Revenue (LKR) Year 02	Total Sales Revenue (LKR) Year 03
		1	2	3	4	5	6	7	8	9	10	11	12				
240 Liter Plastic Dustbin with 2 Wheels 	22490/=						1	1	1	1	1	1	2	8	179,920	179,920	202,410
KOLORR Twin Bin 18L Dustbin Dry & Wet Waste Pedal Dustbins 	Rs: 23559 /=	2				2				1	1			6	141,354	94,238	117,795

Nilkamal 100 Litre Blue Virgin Plastic Dustbin. 	Rs: 7066/=	2	1	1	3				2	1	1	1	1	13	91,858	91,858	91,858
Kuber Industries Plastic 3 Pieces Medium Size Swing Dustbin/Swing 	Rs: 1014/=	2	5	1	1	1	1	5	4	3	2	1	2	28	28,392	30,420	30,420
Daxer Plastic Dust Bin Normal (DDB 01) 	Rs: 440/=	1	5	3	2	10	4	4	3	5	5	3	3	53	23,320	23,320	23,320

70 - 90 Litre Fibre Black Dustbin. 	Rs: 4000/=			2	2					2	2			8	32,000	32,000	40000
Plastic Pedal Dustbin/ Bucket 	Rs: 2250/=		3				2	4			4	4		17	38,250	45,000	56,250

* Sales projections for year 02 and 03 can be done based on expected sales increase

Annexure IV – Key Business Assets and Present Values

Asset	*Construction/ Purchasing Cost (LKR)*	*Means of Financing*		*Present Value (LKR)*
		Own Funds	**Loan**	
Land				
	No need to pay money to the land .my home premises are suitable for the land, so it is free of charge. Land value= 30 00 000	My own Land value= 30 00 000	No need to pay money to the land .my home premises is suitable for the land then it is free of charge.	My own Land value= 30 00 000
Buildings				
Single building	No need to pay money for the building .my home premises have a single building. It is suitable for the building then it is free of charge. Building value = 50 00 000	My own Building value = 50 00 000	No need to pay money for the building .my home premises have a single building. It is suitable for the land then it is free of charge.	My own Building value = 50 00 000
Machinery				
No need huge machine but we must spend money to the equipment	465,600,000	600 000	465 000 000	600 000
Furniture & Fittings				
Chairs and tables	600 000	600 000	No need to get the load	600 000
Motor Vehicles				
Lorry and motor bike	13,000,000	5,000,000	13,000,000	5,000,000
Other				

Staff bonus	100,000	100,000	No need to get the load	100,000
Total	**487,300,000**	**14,300,000**	**478,000,000**	**14,300,000**

Annexure V – Raw Material Requirement

Product / Crop	Total Production (units)	Type of raw Material / Input	Requirement (units)	Per Unit Cost	Total Raw Material Cost (Year 1)	Total Raw Material Cost (Year 2)	Total Raw Material Cost (Year 3)
ultrasonically operated dustbin with an automatically open and close lid	10800	Arduino uno R3	Set 1200	2100	2520000	2720000	2820000
		Flexible wire 15cm	Set 1200	30	36000	36000	36000
		Sub Total					
		Ultrasonic module	Set 1200	500	600000	620000	630000
		9V Battery	1200	400	480000	480000	480000
		Sub Total					
		Led	Set 1200	20	24000	25000	26000
		Cap/holder	Set 1200	300	480000	480000	490000
		Sub Total					
		Jumper wires	Set 1200	600	720000	720000	730000
		Mini gear servo motor	Set 1200	625	750000	760000	780000
		Dustbin	1200	1000	1200000	1600000	1800000
		Sub Total					
		Sub Total					
		Sub Total					
Total Raw Material / Input Cost					**4,314,000**	**7,441,000**	**9,653,000**

Annexure VI – Labour Requirement/ Annual Labour Cost Calculation

Description	Existing No. of Workers	Expected No. of New Workers	Total No. of Workers (a)	Monthly Rate Per Worker (b)	Annual Labour Cost (Year 1) (a)*(b)*12	Annual Labour Cost (Year 2)	Annual Labour Cost (Year 3)
A. Production							
Electrical Engineer	1	5	5	45000	2,700,000	2,700,000	2,800,000
Storekeeper	1	2	2	35000	840,000	840,000	850,000
Software Developer	1	2	2	40000	960,000	960,000	970,000
Tester	1	2	2	35000	840,000	840,000	850,000
Total Production Laboure Cost							
B. Admin							
I am a manager of the company	1	1	1	45000	540,000	540,000	550,000
Total Admin Staff Cost (Page 12)							
C. Marketing	0	1	1	30000	36000	36000	37000
Total Marketing Staff Cost (Page 08)					**5,916,000**	**5,916,000**	**6,057,000**

Annexure VII – Depreciation

Assets	Cost	Life span	Year 1 (Cost/ Life span)	Year 2 (Cost/ Life span)	Year 3 (Cost/ Life span)
Building	No need to pay money for the building .my home premises have a single building. It is suitable for the building then it is free of charge. Building value = 50 00 000	The lifespan of a company building in Sri Lanka depends on factors like construction quality, maintenance, environmental conditions, and evolving business needs. Regular maintenance, adaptability, and compliance with changing regulations can help extend a building's life, ensuring it remains an asset for the organization.	No need to pay money for the building .my home premises have a single building. It is suitable for the building then it is free of charge. Building value = 50 00 000	No need to pay money for the building .my home premises have a single building. It is suitable for the building then it is free of charge. Building value = 50 00 000	No need to pay money for the building .my home premises have a single building. It is suitable for the building then it is free of charge. Building value = 50 00 000
Machinery & Equipment	465,600,000	A well-maintained and high-quality ultrasonic dustbin might have a lifespan ranging from 5 to 10 years or more. However, to ensure extended equipment life, regular maintenance, timely repairs, and occasional upgrades should be part of the business strategy.	465,600,000	565,600,000	665,600,000
Furniture & Fittings	600 000	However, on average, well-maintained office furniture and fittings can be expected to last for approximately 5 to 10 years or even longer.	600 000	700 000	800 000
motor Vehicle	13,000,000	These vehicles are expected to have a useful life of around 5 to 10 years. Proper maintenance and servicing can extend their lifespan, while heavy usage and inadequate maintenance can shorten it.	13,000,000	23,000,000	33,000,000
Other Equipment	100,000	expected to have a useful life of around 5 to 10 years.	100,000	200,000	300,000

Annexure VIII – Loan Instalment Calculation

Instalment No	Opening Balance (A)	Capital payment. (B)	Closing Balance (A-B)	Interest (C)	Total Repayment (Capital Payment + Interest) (B+C)
1	Machinery 465,600,000	91,365,272.47	374,234,727.53	2,328,000	93,693,272.47
2	Motor Vehicles 13,000,000	13,000,000	8,685,363.16	75,833.33	4,390,470.17
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
Total capital payment – Year 1		**104,365,272.47**	**Total interest payment - Year 1**	**2,403,833.33**	**98,083,742.64**
Total loan repayment – Year 1					
13	Machinery 465,600,000	36,857,898.82	428,742,101.18	1,941,994.67	38,799,893.49
14	Motor Vehicles 13,000,000	181,082.94	12,818,917.06	65,000	246,082.94
15					
16					
17					

18					
19					
20					
21					
22					
23					
24					
Total capital payment – Year 2		**37,038,981.76**	**Total interest payment - Year 2**	**2,006,994.67**	**39,045,976.43**
Total loan repayment – Year 2					
25	Machinery 465,600,000	9,167,130.47	456,432,869.53	1,552,000	10,719,130.47
26	Motor Vehicles 13,000,000	181,082.94	12,818,917.06	65,000	246,082.94
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
Total capital payment – Year 3		**9,348,213.41**	**Total interest payment - Year 3**	**1,617,000**	**10,965,213.41**
Total loan repayment – Year 3					**148,094,932.48**

Year 1:

calculate the loan installment components for a machinery loan with an opening balance of 465,600,000 LKR, an annual interest rate of 6%, and a loan tenure of 5 years.

For the Machinery Loan (465,600,000 LKR)

1. Opening Balance (OB): 465,600,000 LKR

2. Interest Rate (IR): 6% per annum

3. Loan Tenure (LT): 5 years

4. Monthly Interest Rate (MIR): Calculate the monthly interest rate by dividing the annual interest rate by 12 (months).

- MIR = (IR / 12) = (6% / 12) = 0.5% per month

5. Monthly Installment (MI): Use the formula to calculate the monthly installment for the machinery loan:

- MI = OB * [MIR / (1 - (1 + MIR) ^(-LT))]

Plugging in the values:

- MI = 465,600,000 * [0.005 / (1 - (1 + 0.005) ^ (-5))]

- MI ≈ 93,693,272.47 LKR

6. Capital Payment (CP): In the early months, most of the installment goes toward paying interest. Use the formula to calculate the capital payment:

- CP = MI - (OB * MIR)

- CP ≈ 93,693,272.47 - (465,600,000 * 0.005)

- CP ≈ 93,693,272.47 - 2,328,000 LKR

- CP ≈ 91,365,272.47 LKR

7. Closing Balance (CB): Calculate the outstanding balance after paying the installment. It's the difference between the previous opening balance and the capital payment.

- CB = OB - CP

- CB ≈ 465,600,000 - 91,365,272.47

- CB ≈ 374,234,727.53 LKR

8. Interest (I):Calculate the interest paid for the month. It's the product of the opening balance and the monthly interest rate.

- I = OB * MIR

- I ≈ 465,600,000 * 0.005

- I ≈ 2,328,000 LKR

9. Total Repayment (TR): Calculate the total repayment for the month, which is the sum of the capital payment and the interest.

- TR = CP + I

- TR ≈ 91,365,272.47 + 2,328,000

- TR ≈ 93,693,272.47 LKR

Here are the correct values for the loan installment components for a machinery loan with an opening balance of 465,600,000 LKR, an annual interest rate of 6% and a loan tenure of 5 years:

- Opening Balance (OB): 465,600,000 LKR
- Capital Payment (CP): 91,365,272.47 LKR
- Closing Balance (CB): 374,234,727.53 LKR
- Interest (I): 2,328,000 LKR
- Total Repayment (TR): 93,693,272.47 LKR

To calculate the loan installment components for a Motor Vehicles loan of 13,000,000 LKR, I can use the same formulae as mentioned earlier.

1. Opening Balance (OB): The initial loan amount.
   - OB = 13,000,000 LKR
2. Interest Rate (IR): Assume an annual interest rate. Let's use 7% per annum.
3. Loan Tenure (LT): Decide on the loan tenure in years. For this example, let's assume it's 3 years.
4. Monthly Interest Rate (MIR): Calculate the monthly interest rate by dividing the annual interest rate by 12 (months).
   - MIR = (IR / 12) = (7% / 12) = 0.5833% per month
5. Monthly Installment (MI): Use the formula to calculate the monthly installment:
   - MI = OB * [MIR / (1 - (1 + MIR)^(-LT))]

- MI = 13,000,000 * [0.005833 / (1 - (1 + 0.005833)^(-3))]

- MI ≈ 4,392,472.66 LKR

6. Capital Payment (CP): In the early months, most of the installment goes toward paying interest. Calculate the capital payment:

- CP = MI - (OB * MIR)

- CP = 4,392,472.66 - (13,000,000 * 0.005833)

- CP ≈ 4,314,636.84 LKR

7. Closing Balance (CB): Calculate the outstanding balance after paying the installment. It's the difference between the previous opening balance and the capital payment.

- CB = OB - CP

- CB ≈ 13,000,000 - 4,314,636.84

- CB ≈ 8,685,363.16 LKR

8. Interest (I): Calculate the interest paid for the month. It's the product of the opening balance and the monthly interest rate.

- I = OB * MIR

- I = 13,000,000 * 0.005833

- I ≈ 75,833.33 LKR

9. Total Repayment (TR):Calculate the total repayment for the month, which is the sum of the capital payment and the interest.

- TR = CP + I
- TR ≈ 4,314,636.84 + 75,833.33
- TR ≈ 4,390,470.17 LKR

- Opening Balance (OB): 13,000,000 LKR
- Capital Payment (CP): 4,314,636.84 LKR
- Closing Balance (CB): 8,685,363.16 LKR
- Interest (I): 75,833.33 LKR
- Total Repayment (TR): 4,390,470.17 LKR

Year 2:

To calculate the loan installment components for a loan of 465,600,000 LKR with an interest rate of 5% per year, we'll assume a loan tenure of 1 year (12 months) for this example. I can adjust the tenure as needed for my specific loan term. Here are the calculations:

1. Opening Balance (OB): The initial loan amount.
   - OB = 465,600,000 LKR
2. Interest Rate (IR): Annual interest rate.
   - IR = 5% per year
3. Loan Tenure (LT): Number of years.
   - LT = 1 year (12 months)

4. Monthly Interest Rate (MIR): Calculate the monthly interest rate by dividing the annual interest rate by 12 (months).
- MIR = (IR / 12) = (5% / 12) = 0.4167% per month

Now, let's calculate the monthly installment components:

5. Monthly Installment (MI): Use the formula to calculate the monthly installment:
- MI = OB * [MIR / (1 - (1 + MIR)^(-LT))]
- MI = 465,600,000 * [0.004167 / (1 - (1 + 0.004167)^(-1))]
- MI ≈ 38,799,893.49 LKR

6. Capital Payment (CP): In the early months, most of the installment goes toward paying interest. Use the formula to calculate the capital payment:
- CP = MI - (OB * MIR)
- CP = 38,799,893.49 - (465,600,000 * 0.004167)
- CP ≈ 38,799,893.49 - 1,941,994.67
- CP ≈ 36,857,898.82 LKR

7. Closing Balance (CB):Calculate the outstanding balance after paying the installment. It's the difference between the previous opening balance and the capital payment.
- CB = OB - CP
- CB = 465,600,000 - 36,857,898.82
- CB ≈ 428,742,101.18 LKR

8. Interest (I): Calculate the interest paid for the month. It's the product of the opening balance and the monthly interest rate.
- I = OB * MIR
- I = 465,600,000 * 0.004167
- I ≈ 1,941,994.67 LKR

9. Total Repayment (TR): Calculate the total repayment for the month, which is the sum of the capital payment and the interest.
   - TR = CP + I
   - TR ≈ 36,857,898.82 + 1,941,994.67
   - TR ≈ 38,799,893.49 LKR

- Opening Balance (A): 465,600,000 LKR
- Capital Payment (B): 36,857,898.82 LKR
- Closing Balance (A - B): 428,742,101.18 LKR
- Interest (C): 1,941,994.67 LKR
- Total Repayment (B + C): 38,799,893.49 LKR

To calculate the loan installment components for a 13,000,000 LKR loan with an interest rate of 6% per year, we can use the same formulas as before:

1. Opening Balance (OB): The initial loan amount.
   - OB = 13,000,000 LKR
2. Interest Rate (IR): Annual interest rate for the loan, which is 6%.
   - IR = 6% per year
3. Loan Tenure (LT): For this example, let's assume a loan tenure of 5 years.
4. Monthly Interest Rate (MIR): Calculate the monthly interest rate by dividing the annual interest rate by 12 (months).
   - MIR = (IR / 12) = (6% / 12) = 0.5% per month

Now, we can calculate the components:

5. Monthly Installment (MI):
   - MI = OB * [MIR / (1 - (1 + MIR)^(-LT))]

- MI = 13,000,000 * [0.005 / (1 - (1 + 0.005)^(-5))]
- MI ≈ 247,082.94 LKR

6. Capital Payment (CP):
- CP = MI - (OB * MIR)
- CP = 247,082.94 - (13,000,000 * 0.005)
- CP ≈ 181,082.94 LKR

7. Closing Balance (CB):
- CB = OB - CP
- CB ≈ 13,000,000 - 181,082.94
- CB ≈ 12,818,917.06 LKR

8. Interest (I):
- I = OB * MIR
- I = 13,000,000 * 0.005
- I ≈ 65,000 LKR

9. Total Repayment (TR):
- TR = CP + I
- TR ≈ 181,082.94 + 65,000
- TR ≈ 246,082.94 LKR

- Opening Balance (A): 13,000,000 LKR
- Capital Payment (B): Approximately 181,082.94 LKR
- Closing Balance (A-B): Approximately 12,818,917.06 LKR
- Interest (C): Approximately 65,000 LKR
- Total Repayment (B+C): Approximately 246,082.94 LKR

Year 3:

To calculate the loan installment components for a loan of 465,600,000 LKR with an interest rate of 4% per year, we need to determine the loan tenure as well. Since I haven't specified a loan tenure, I will provide calculations for a 5-year loan tenure. I can adjust the loan tenure as needed. Here are the calculations:

Loan Details:
- Loan Amount (A): 465,600,000 LKR
- Annual Interest Rate (IR): 4%
- Loan Tenure (LT): 5 years

Calculations:

1. Opening Balance (OB):
   - OB = Loan Amount (A)
   - OB = 465,600,000 LKR

2. Monthly Interest Rate (MIR):
   - MIR = (IR / 12) = (4% / 12) = 0.3333...% per month (approximately 0.00333333)

3. Monthly Installment (MI):
   - MI = OB * [MIR / (1 - (1 + MIR)^(-LT))]
   - MI = 465,600,000 * [0.00333333 / (1 - (1 + 0.00333333)^(-5))]
   - MI ≈ 9,168,682.47 LKR

4. Capital Payment (CP):
   - CP = MI - (OB * MIR)
   - CP ≈ 9,168,682.47 - (465,600,000 * 0.00333333)
   - CP ≈ 9,168,682.47 - 1,552,000
   - CP ≈ 9,167,130.47 LKR

5. Closing Balance (CB):
   - CB = OB - CP
   - CB ≈ 465,600,000 - 9,167,130.47
   - CB ≈ 456,432,869.53 LKR

6. Interest (I):
   - I = OB * MIR
   - I ≈ 465,600,000 * 0.00333333
   - I ≈ 1,552,000 LKR

7. Total Repayment (TR):
   - TR = CP + I
   - TR ≈ 9,167,130.47 + 1,552,000
   - TR ≈ 10,719,130.47 LKR

- Opening Balance (OB): 465,600,000 LKR
- Capital Payment (CP): 9,167,130.47 LKR
- Closing Balance (CB): 456,432,869.53 LKR
- Interest (I): 1,552,000 LKR
- Total Repayment (TR): 10,719,130.47 LKR

Please note that these calculations are based on a 5-year loan term and a 4% annual interest rate. Adjustments may be needed if my actual loan term differs from this.

To calculate the loan installment components for a 13,000,000 LKR loan with an interest rate of 6% per year, we can use the same formulas as before:

1. Opening Balance (OB):The initial loan amount.
   - OB = 13,000,000 LKR
2. Interest Rate (IR): Annual interest rate for the loan, which is 6%.
   - IR = 6% per year
3. Loan Tenure (LT):For this example, let's assume a loan tenure of 5 years.
4. Monthly Interest Rate (MIR):Calculate the monthly interest rate by dividing the annual interest rate by 12 (months).
   - MIR = (IR / 12) = (6% / 12) = 0.5% per month

5. Monthly Installment (MI):
   - MI = OB * [MIR / (1 - (1 + MIR)^(-LT))]
   - MI = 13,000,000 * [0.005 / (1 - (1 + 0.005)^(-5))]
   - MI ≈ 247,082.94 LKR

6. Capital Payment (CP):
   - CP = MI - (OB * MIR)
   - CP = 247,082.94 - (13,000,000 * 0.005)
   - CP ≈ 181,082.94 LKR

7. Closing Balance (CB):
   - CB = OB - CP
   - CB ≈ 13,000,000 - 181,082.94
   - CB ≈ 12,818,917.06 LKR

8. Interest (I):
   - I = OB * MIR
   - I = 13,000,000 * 0.005
   - I ≈ 65,000 LKR

9. Total Repayment (TR):

- TR = CP + I
- TR ≈ 181,082.94 + 65,000
- TR ≈ 246,082.94 LKR

- Opening Balance (A): 13,000,000 LKR
- Capital Payment (B): Approximately 181,082.94 LKR
- Closing Balance (A-B): Approximately 12,818,917.06 LKR
- Interest (C): Approximately 65,000 LKR
- Total Repayment (B+C): Approximately 246,082.94 LKR

Sri Lankan Institute of Information Technology

Innovation Management and Entrepreneurship (IT4050)

Business Plan

Date Submitted:

Name of Student : Peiris B M G

Registration No : IT20147396

Name of the Enterprise : An ultrasonically operated automatic lid opening and closing dustbin.

Details of the Entrepreneur : 4th year Undergraduate student in SLIIT.

Contents

1. Executive Summary

(Complete this section after you have completed the other sections of the Business Plan)

As an aspiring entrepreneur and a 4th-year second-semester undergraduate in Information Technology at SLIIT, I am thrilled to introduce an innovative and cutting-edge product to the Sri Lankan market - the "Ultrasonically Operated Automatic Lid Opening and Closing Dustbin." This product aims to revolutionize the way waste disposal is managed, combining technology and convenience to create a cleaner and more efficient environment. Our ultrasonically operated automatic lid opening and closing dustbin is a state-of-the-art solution designed to enhance the waste management experience. With built-in ultrasonic sensors, the dustbin can detect the presence of a user's hand or waste material, automatically opening the lid without the need for physical contact. After a predetermined period, the lid closes smoothly, preventing odors, pests, and the spread of germs.

In Sri Lanka, the growing concerns about sanitation, hygiene, and waste management create a ripe opportunity for innovative solutions. As urbanization increases and environmental awareness spreads, there is a demand for convenient and effective waste disposal methods. Our product caters to both residential and commercial segments, offering a hands-free and hygienic alternative to traditional dustbins. What sets our ultrasonically operated dustbin apart is its fusion of technology and practicality. The automatic lid operation not only ensures convenience but also minimizes direct contact with waste, promoting a healthier and safer environment. The sleek and modern design of the dustbin makes it a stylish addition to any setting, whether it's a household, office, restaurant, or public space. Our primary target audience includes urban households, offices, restaurants, cafes, shopping complexes, and public spaces that prioritize cleanliness and hygiene. The product appeals to individuals who seek modern and efficient solutions to everyday tasks, as well as businesses that wish to provide an improved waste disposal experience for their customers. We will employ a multi-faceted marketing strategy, utilizing social media platforms, influencer collaborations, and local events to create awareness and interest. Engaging demonstrations showcasing the convenience and technology of the product will be pivotal in driving sales. Distribution will be established through partnerships with retail chains, online platforms, and direct sales through our official website. Initial investments will be allocated to product development, manufacturing, marketing, and distribution setup. We anticipate a steady growth trajectory as the product gains traction in the market. Revenue projections are conservatively estimated based on market research, and we aim to achieve breakeven within the first two years of operation. The introduction of the ultrasonically operated automatic lid opening and closing dustbin to the Sri Lankan market signifies an innovative step towards enhancing waste management practices. With its modern design, technological sophistication, and convenience, our product addresses the growing need for cleaner and more efficient waste disposal solutions. As an ambitious undergraduate entrepreneur, I am excited to bring this cutting-edge product to Sri Lanka and contribute to a healthier and more sustainable future.

2. Entrepreneur's Profile and Business Details

a. Business Name	An ultrasonically operated automatic lid opening and closing dustbin.		
b. Business Contact Details			
Address	480/1, Badalwela, Kalamulla, Kalutara		
Telephone	*0711798124*	Fax	
Email	gpmalshika@gmail.com	URL / FB	https://web.facebook.com/malshika.peiris.35

c. Year of Establishment	2023
d. Number of Employees	2
e. Registration Number, Date of Registration & Registering Authority (if Registered)	

f. Name of the Owner / Directors	***Share %***	***Role/ Responsibility***
I. Malshika Peiris	70	Manage all activity. Gives new ideas, new modern technologies. (Manager)
II. Yanula Lakdinu *III. Navindu Heshan*	20	employee
IV. Kumara Peiris	10	counselor

g. Key Stakeholders of the Business	
I. Family Information (Family Members, Occupations and Contribution to the Business)	*My younger brother who helped me to develop this new dustbin.*
II. Key Customers (Individual and Business)	*No any Individual and business yet.*
III. Key Suppliers	*No any key suppliers yet.*

h. Entrepreneur's Profile

(Entrepreneur's business background, experiences, qualifications, and special training received)

Entrepreneur's Business Background:

I am Malshika Peiris. I come from a family of businesses and have always been intrigued by innovative solutions. I am a highly motivated and creative individual with a passion for leveraging technology to improve everyday life. From a young age, I was exposed to discussions about market trends, customer needs, and business strategies.

Experiences:

During my time at SLIIT (Sri Lanka Institute of Information Technology), I took part in some Augmented reality competitions. This experience taught me the importance of identifying real-world problems and crafting effective solutions.

Qualifications:

I am pursuing a bachelor's degree in information technology at SLIIT. My coursework has equipped me with a strong foundation in software development, electronics, and project management. I have consistently maintained a high academic performance, demonstrating my commitment to learning and personal growth.

Special Training Received:

Recognizing the potential of merging technology and business, I completed online courses on entrepreneurship, product management, and design thinking. I also attended workshops on effective communication, team leadership, and market research. These experiences broadened my skill set and perspective beyond technical expertise.

Introduction of "Ultrasonically Operated Automatic Lid Opening and Closing Dustbin":

I am excited to introduce a revolutionary product to the Sri Lankan market – the Ultrasonically Operated Automatic Lid Opening and Closing Dustbin. This innovative dustbin is designed to address the common challenges faced by households and businesses in managing waste disposal. The dustbin utilizes ultrasonic sensors and smart technology to offer a convenient and hygienic waste disposal solution.

Product Features:

1. Touchless Operation: The ultrasonic sensors detect the presence of a user's hand or waste, automatically opening the lid without the need for physical contact, ensuring a germ-free experience.

2. Smooth Lid Mechanism: The lid opens and closes smoothly and quietly, preventing any disturbances or sudden noises.

3. Adaptive Sensing: The sensors are intelligent enough to differentiate between various types of movements, reducing false activations and saving energy.

4. Sleek and Modern Design: The dustbin's aesthetic design complements any environment, making it suitable for homes, offices, and public spaces.

5. Large Capacity: Available in various sizes, the dustbin offers ample storage capacity to accommodate different waste volumes, reducing the frequency of emptying.

6. Battery Efficiency: The built-in rechargeable battery ensures long-lasting operation, reducing the need for frequent recharging.

7. Easy to Clean: The dustbin's interior is designed for easy cleaning, maintaining a hygienic environment.

i. Business Idea and Justification

Business Idea: Introducing Ultrasonically Operated Automatic Lid Opening and Closing Dustbins to the Sri Lankan Market.

As a 4th-year second-semester undergraduate Information Technology student at SLIIT and an aspiring entrepreneur, I am excited to introduce a cutting-edge product to the Sri Lankan market – the Ultrasonically Operated Automatic Lid Opening and Closing Dustbin.

<u>Product Overview:</u>

The Ultrasonically Operated Automatic Lid Opening and Closing Dustbin is my smart waste management solution that utilizes ultrasonic sensor technology to detect the presence of a user or trash, allowing the lid to open and close automatically without the need for physical contact. This innovative dustbin aims to enhance convenience, hygiene, and efficiency in waste disposal while reducing the risk of contamination and promoting a cleaner environment.

<u>Business Strategy:</u>

1. Market Research: I will conduct comprehensive market research to understand the demand, potential competitors, pricing strategies, and customer preferences related to automated waste management solutions in Sri Lanka.

2. Product Development: I will collaborate with engineers and manufacturers to design a sturdy, weather-resistant dustbin with a reliable ultrasonic sensor system. I will ensure compatibility with various waste bin sizes commonly used in Sri Lanka.

3. Branding and Marketing: I will develop a brand identity that emphasizes modernity, convenience, and hygiene. My marketing campaigns will focus on the benefits of touchless waste disposal, especially in public places, households, and commercial establishments.

4. Distribution: I will partner with local retailers, supermarkets, and online platforms to make the product accessible to a wide range of consumers. I will consider offering bulk discounts to businesses and institutions.

5. After-sales Service: I will establish a customer support system to address any technical issues, provide maintenance, and offer product education.

<u>Materials and Equipment:</u>

1. Ultrasonic Sensors: I will use high-quality ultrasonic sensors capable of accurately detecting motion and objects within the specified range.

2. Microcontroller: I will incorporate a microcontroller (e.g., Arduino or Raspberry Pi) to process data from the ultrasonic sensor and control the lid mechanism.

3. Lid Mechanism: I will design a robust and weather-resistant lid mechanism with a motor to open and close the lid smoothly.

4. Power Supply: Depending on the location of the dustbins, I will provide a battery-powered supply.

5. Connectivity Module (Optional): For advanced features, I will consider adding Wi-Fi or Bluetooth connectivity for remote monitoring and maintenance.

Justification for Materials and Equipment:

1. Ultrasonic Sensors: These sensors are essential for accurate and reliable detection of users or trash, ensuring smooth lid operation.

2. Microcontroller: The microcontroller serves as the brain of the system, processing sensor data and controlling the lid mechanism effectively.

3. Lid Mechanism: A sturdy and efficient lid mechanism guarantees seamless lid opening and closing, enhancing user satisfaction.

4. Power Supply: A reliable power supply ensures uninterrupted functionality, especially in areas prone to power fluctuations.

5. Connectivity Module: This optional feature enables remote troubleshooting, updates, and data collection for continuous improvement.

By introducing the Ultrasonically Operated Automatic Lid Opening and Closing Dustbin to the Sri Lankan market, I aim to revolutionize waste management practices, minimize physical contact with public bins, and contribute to a cleaner and healthier environment. With the right materials, equipment, and strategic approach, this innovative product has the potential to make a significant impact in Sri Lanka's waste management sector.

j. Start-up Summary / Current Status

Startup Summary:

Product Overview:

As a 4th-year second-semester undergraduate Information Technology student at SLIIT and an aspiring entrepreneur, I'm excited to introduce a revolutionary product to the Sri Lankan market - the "Ultrasonically Operated Automatic Lid Opening and Closing Dustbin." This innovative solution combines cutting-edge technology with everyday convenience to provide a cleaner and more efficient waste disposal experience for households and businesses across Sri Lanka.

Market Opportunity:

Sri Lanka is rapidly urbanizing, leading to increased waste generation and management challenges. Traditional dustbins often result in unhygienic conditions due to manual lid handling. Our ultrasonically operated automatic dustbin addresses this issue by offering a touchless, hands-free lid operation, reducing the risk of germ spread and enhancing overall cleanliness.

Key Features:

- *Ultrasonic Sensor: The dustbin is equipped with an advanced ultrasonic sensor that detects motion and opens the lid automatically when a person approaches and closes it after use.*
- *Energy Efficiency: The device is designed to be energy-efficient, utilizing low power consumption while still providing reliable performance.*
- *Sleek Design: Our dustbin boasts a modern and sleek design, making it an aesthetic addition to any living space or commercial environment.*
- *Easy Maintenance: The dustbin's removable and washable inner compartment makes maintenance a breeze.*
- *Target Market:*
- *Our primary target market includes households, offices, restaurants, and public spaces that prioritize hygiene and convenience. With an increasing awareness of health and sanitation, we believe our automatic lid-opening and closing dustbin will resonate well with health-conscious consumers.*

Business Model:

We plan to adopt a direct-to-consumer business model, leveraging both online and offline sales channels. Additionally, we will explore partnerships with local retailers, waste management companies, and office supply stores to expand our reach.

Current Status:

Product Development:

- ✓ *At this stage, we have successfully developed a sketch and calculated the budget for the ultrasonically operated automatic lid opening and closing dustbin. The prototype showcases the core functionalities and design aesthetics of the product.*
- ✓ *We are rigorously testing the ultrasonic sensor's accuracy, lid opening and closing mechanisms, power consumption, and overall durability to ensure that the final product meets the highest quality standards.*

Market Research:

- ✓ *We have conducted comprehensive market research to understand consumer preferences, pricing expectations, and potential competitors. This research has provided valuable insights into how we can position our product effectively within the Sri Lankan market.*

Funding:

- ✓ *As a startup, we are actively seeking seed funding to support the manufacturing, marketing, and distribution phases of the product launch. We have reached out to potential investors and are exploring various funding options. Our immediate focus is on finalizing the product design based on user feedback and test results. Simultaneously, we are working on building a strong online presence through a dedicated website and social media platforms to generate buzz and interest in our innovative product. In conclusion, as a driven and innovative IT student turned entrepreneur, I am enthusiastic about bringing the Ultrasonically Operated Automatic Lid Opening and Closing Dustbin to the Sri Lankan market. This product has the potential to*

transform waste disposal practices and improve the overall cleanliness and hygiene standards across the country.

k. How do you want to see your business after 05 years from now?

The Problem:

In Sri Lanka, waste management is a growing concern. Improper disposal, overflowing bins, and the unsightly appearance of public areas are just a few of the issues we face. Moreover, traditional dustbins can become breeding grounds for germs and pests due to their manual operation, which discourages proper lid closure.

The Solution:

Imagine a dustbin that opens and closes its lid automatically, without requiring any physical contact. Enter the Ultrasonically Operated Automatic Lid Opening and Closing Dustbin! This cutting-edge product utilizes ultrasonic sensor technology to detect the presence of waste and triggers the lid to open and close seamlessly, ensuring a hands-free and hygienic experience.

Key Features:

1. Hands-Free Operation: The ultrasonic sensor detects motion, allowing the lid to open automatically when you approach with waste and close after disposal.

2. Hygiene: Minimize contact with the dustbin's lid, reducing the risk of germ transmission and contamination.

3. Sleek Design: A modern and aesthetic design that complements various indoor and outdoor settings.

4. Customizable Settings: Users can adjust the lid's sensitivity, opening duration, and other settings to suit their preferences.

5. Energy-Efficient: The ultrasonic sensor system is designed to consume minimal energy, making it environmentally friendly.

Market Potential:

The Sri Lankan market presents immense potential for this innovative product. From households to public spaces, businesses, and local authorities, the automatic lid opening and closing dustbin addresses the need for efficient waste management while promoting health and cleanliness.

Business Vision (5 Years):

In envisioning the future of this business five years from now, my aspirations are grand. I see our automatic dustbins seamlessly integrated into the fabric of Sri Lankan society:

1. Nationwide Presence: Our dustbins are a common sight in households, offices, parks, and public areas across Sri Lanka, transforming the way we manage waste.

2. Hygiene Standard: Our product contributes to elevated hygiene standards, reducing the spread of diseases and fostering a healthier environment.

3. Environmental Impact: By promoting responsible waste disposal and recycling, we've made a significant contribution to environmental sustainability.

4. Job Creation: Our success has led to the creation of local jobs in manufacturing, distribution, and maintenance of the automatic dustbins.

5. Innovation Hub: We've inspired a culture of innovation, motivating young minds to develop more solutions to local challenges.

6. Community Engagement: Through partnerships with local communities and government bodies, we've initiated waste management awareness programs.

7. Expansion: We've explored opportunities to expand beyond Sri Lanka's borders, taking our innovative product to international markets.

Conclusion:

As a passionate entrepreneur and an IT student at SLIIT, I am committed to revolutionizing waste management in Sri Lanka. The Ultrasonically Operated Automatic Lid Opening and Closing Dustbin is not just a product; it's a step towards a cleaner, healthier, and more sustainable future for our beautiful island nation. Together, let's create a lasting impact!

3. Vision, Mission and Objectives

a. Vision

I envision a cleaner and more convenient waste management system for Sri Lanka. With my background in IT, innovative thinking, and passion for sustainability, I believe that the Ultrasonically Operated Automatic Lid Opening and Closing Dustbin can make a significant positive impact on how waste is managed in homes, public areas, and businesses across the country. By introducing this product, I aim to contribute to a more hygienic and efficient waste disposal process, aligning with Sri Lanka's efforts towards a greener future. I am committed to bringing this cutting-edge solution to the market, leveraging my entrepreneurial spirit, technological skills, and dedication to creating positive change.

b. Mission

Our mission is to provide Sri Lankans with cutting-edge waste management solutions that combine ultrasonic technology and automation to create a cleaner and healthier environment. Through our ultrasonically operated automatic lid opening and closing dustbin, we aim to simplify waste disposal while promoting responsible waste management practices.

c. Objectives

i. *Develop and maintain a competitive edge by continuously innovating and integrating the latest advancements in ultrasonic technology, automation, and waste management systems.*

ii. *Establish a strong presence in the Sri Lankan market by strategically positioning our product as a must-have household and community waste management tool.*

iii. *Foster strong relationships with customers by providing exceptional user experiences, efficient customer support, and regular updates to our product's features and functionality.*

iv. *Minimize the ecological footprint by promoting the proper disposal of waste, reducing littering, and encouraging recycling and composting practices among users.*

v. *Collaborate with local communities, schools, and organizations to raise awareness about the importance of responsible waste management, emphasizing the role of technology in making positive changes.*

d. Values

i. *We believe in pushing boundaries and thinking creatively to develop solutions that contribute to a cleaner and more sustainable world.*

ii. *We are committed to delivering products of the highest quality that meet or exceed customer expectations and industry standards.*

iii. *Our products are designed with the environment in mind, aiming to reduce waste, conserve resources, and promote eco-friendly practices.*

iv. *We prioritize our customers' needs and preferences, ensuring that our products are user-friendly, reliable, and provide tangible benefits.*

v. *We uphold the highest ethical standards in all aspects of our business, from product development and marketing to customer interactions and partnerships.*

vi. *We actively engage with local communities to understand their challenges, provide valuable solutions, and contribute to the well-being of society.*

vii. *We embrace a culture of learning and growth, consistently seeking opportunities to enhance our products, processes, and business operations.*

4. Marketing Plan

Market Growth & Trends:

What recent trends have emerged in the market? What growth potential is available and where do you fit in? How will the market/customers change when you enter the market?

In the Sri Lankan market, we've witnessed some notable trends that align perfectly with the launch of our innovative product:

I. *Smart Home Solutions: Sri Lankans are embracing smart technologies in their homes, from smart lighting to home security systems. Our ultrasonically operated dustbin fits seamlessly into this trend by offering a smart and convenient waste management solution.*

II. *Hygiene and Health Awareness: Recent global events have heightened the awareness of hygiene and health. People are more conscious of minimizing physical contact with surfaces that could harbor germs. Our touchless dustbin aligns perfectly with this newfound focus on cleanliness.*

III. *Urbanization and Modernization: As urbanization continues to reshape our cities, there is a growing need for efficient waste management solutions. Our automatic dustbin contributes to the modernization of urban spaces, making waste disposal cleaner and more convenient.*

IV. *Environmental Consciousness: Sri Lankans are increasingly concerned about the environment and sustainable practices. Our product encourages responsible waste disposal by making it easier for individuals to dispose of their waste properly.*

V. *Tech-Savvy Youth: The youth in Sri Lanka are tech-savvy and open to embracing new technologies. As a student at SLIIT, I understand the preferences of this demographic and believe that our ultrasonically operated dustbin will resonate with them.*

In conclusion, I am confident that the Ultrasonically Operated Automatic Lid Opening and Closing Dustbin will revolutionize waste management in Sri Lanka. By aligning with recent market trends and addressing the evolving needs of the population, this product will not only simplify our daily lives but also contribute to a cleaner, more sustainable future.

The potential for growth and impact of our ultrasonic dustbin in the Sri Lankan market is immense:

I. *Urban Centers: In densely populated urban areas, where waste management is a challenge, our solution can streamline the process and encourage responsible waste disposal.*

II. *Households: As more families become health-conscious, the demand for hygienic and convenient waste disposal options will rise. Our product fits perfectly into this lifestyle trend.*

III. *Commercial Spaces: Restaurants, shopping malls, offices, and other public spaces can benefit from the hands-free and aesthetic appeal of our automatic dustbins.*

IV. *Smart Cities: As Sri Lanka moves towards becoming a smarter nation, integrating technology into everyday life is crucial. Our product aligns with this vision by incorporating innovation into a routine activity.*

The Product:
Imagine a dustbin that opens and closes its lid automatically, completely touch-free! Our ultrasonically operated dustbin utilizes cutting-edge sensor technology to detect when you approach it, making disposing of waste a hassle-free experience. The lid opens smoothly, and once you're done, it closes gently, ensuring that unpleasant

odors and pests are kept at bay. This product not only provides convenience but also promotes hygiene and a cleaner environment.

Market Impact:

1. Convenience Redefined:
Our automatic dustbin will revolutionize the way Sri Lankans dispose of waste. No more struggling with dirty hands to open lids or worrying about spreading germs. This innovation caters to all age groups and backgrounds, making waste disposal an effortless task.

2. Hygiene Promotion:
In a post-pandemic world, hygiene is of utmost importance. Our automatic dustbin prevents direct contact with the lid, minimizing the risk of spreading illnesses. This feature will resonate deeply with health-conscious consumers and establishments, such as hospitals, restaurants, and offices.

3. Environmental Consciousness:
Sri Lanka's natural beauty is a treasure we must protect. Our automatic dustbin encourages responsible waste disposal, reducing littering and promoting a cleaner environment. By aligning with the nation's push for sustainability, we contribute to a greener future.

4. Tech Enthusiasts' Delight:
As an IT student, I understand the value of embracing technology. Introducing a smart dustbin will capture the interest of tech enthusiasts who appreciate innovation and its real-world applications.

5. Tourism Enhancement:
Tourism is a significant contributor to our economy. By implementing modern waste management solutions, we send a positive message to tourists about our commitment to cleanliness. This can lead to better reviews, increased tourism, and economic growth.

Customers

Customer Demographics

Define who your target customers are and how they behave. You can include age, gender, social status, education and attitudes.

The Ultrasonic Bin is an ultrasonically operated automatic lid opening and closing dustbin. This state-of-the-art technology offers a touchless and convenient waste disposal experience. With a simple wave of the hand, the lid gracefully opens, eliminating the need for physical contact and promoting hygiene. What's more, this innovation is not just about convenience; it's about inclusivity. The Ultrasonic Bin is designed to be accessible and user-friendly for all people and disabilities.

Target Customers:

Our primary focus for the Ultrasonic Bin is centered on individuals who value convenience, hygiene, and inclusivity. Our target customer segments include:

1. Individuals with Disabilities (Age: Varied):

- Age & Gender: All ages and genders.
- Social Status: Diverse range, spanning different social and economic backgrounds.
- Education: Varied education levels.

- Attitudes: These individuals face unique challenges in daily tasks. They value products that empower them, enhance their independence, and integrate seamlessly into their routines.

2. Families and Caregivers (Age: 25-50):

- Age & Gender: Both men and women, aged 25 to 50.
- Social Status: Middle to upper-middle class.
- Education: Typically, have at least a high school education.
- Attitudes: Families and caregivers of people with disabilities seek products that facilitate daily activities. They appreciate solutions that make the lives of their loved ones easier and more comfortable.

3. Eco-Conscious Consumers (Age: 18-40):

- Age & Gender: Primarily individuals aged 18 to 40.
- Social Status: Varied, but often inclined toward environmentally conscious practices.
- Education: Varied education levels.
- Attitudes: These consumers prioritize sustainable choices and appreciate innovations that align with their values. The Ultrasonic Bin's touchless operation promotes hygiene, making it appealing to this segment.

Customer Behavior:

1. Individuals with Disabilities:

- They value products that cater to their unique needs and enhance their quality of life.
- Accessibility and ease of use are paramount. They seek solutions that minimize physical strain.
- They are more likely to engage with brands that demonstrate a commitment to inclusivity.

2. Families and Caregivers:

- They actively seek products that provide convenience and support for their family members with disabilities.
- Recommendations from professionals and peers play a significant role in their decision-making process.
- They appreciate products that simplify caregiving responsibilities.

3. Eco-Conscious Consumers:

- Sustainability is a key consideration in their purchasing decisions.
- They are likely to research products extensively and read reviews to ensure the product aligns with their values.
- The Ultrasonic Bin's touchless feature adds a hygiene element that resonates with this segment.

Innovation for Disabilities:

- The Ultrasonic Bin's accessible design benefits people with disabilities by:
- Independence: It empowers them to manage waste disposal without assistance.
- Ease of Use: The touchless operation accommodates mobility challenges.
- Inclusivity: The product is designed with their needs in mind, fostering inclusivity and promoting a sense of normalcy.

Customer Retention

How will you maintain a good relationship with your customers? What methods will you use? How will you keep your customers coming back? Have you introduced customer service standards?

Building Strong Customer Relationships:
As an entrepreneur committed to serving the Sri Lankan community, establishing and maintaining strong customer relationships is paramount. Here's how I plan to do it:

- *Exceptional Customer Support: A dedicated customer support team will be available to address any concerns, answer queries, and provide assistance promptly. Whether it's through phone, email, or social media channels, we'll be there for our customers.*

- *Transparency: Open and honest communication builds trust. Regular updates on product enhancements, maintenance tips, and company news will keep customers informed about our commitment to their satisfaction.*

- *Product Education: We understand that adopting new technology can sometimes be intimidating. Through user manuals, video tutorials, and workshops, we'll ensure that our customers feel confident and comfortable using our automatic dustbin.*

- *Feedback Integration: Customer feedback is invaluable. By actively seeking and integrating suggestions, we'll continuously improve our product and its features to better serve our customers' needs.*

- *Warranty and Maintenance: Offering a solid warranty period and accessible maintenance services will assure customers of the product's quality and our dedication to its proper functioning.*

- *Community Engagement: Hosting local events, participating in environmental initiatives, and engaging with the community will show our genuine commitment to Sri Lanka's betterment beyond just our product.*

Market Introduction Methods:

- *Digital Presence: Establish a user-friendly website and social media profiles to create awareness about the product. We will use platforms like Facebook, Instagram, and Twitter to showcase the product's features, benefits, and real-life testimonials.*

- *Product Demonstrations: Host product demonstrations and workshops at shopping malls, tech expos, and community events. Live demonstrations will allow potential customers to see the dustbin in action and experience its benefits firsthand.*

- *Collaborations: Partner with local influencers, bloggers, and tech reviewers to review and promote the product. Their genuine experiences can resonate with potential customers and build trust.*

- *Press Releases: Distribute press releases to local media outlets, highlighting the technological advancements and benefits of our product. This will help us reach a wider audience and gain media coverage.*

Customer Retention Strategies:

- *Quality Assurance: Ensure that our product's build quality and performance meet the highest standards. Offering a durable and reliable product will encourage customers to stick with our brand.*

- *Regular Updates: Stay engaged with customers by providing software updates that enhance the product's functionality. This demonstrates our commitment to continuous improvement and customer satisfaction.*

- *Warranty and Support: Offer a comprehensive warranty and excellent customer support to address any issues promptly. A strong after-sales service creates a sense of trust and reliability.*

- *Loyalty Programs: Implement a loyalty program that rewards repeat customers with exclusive discounts, special offers, or early access to new products.*

Customer Service Standards:

- *Prompt Responses: Commit to responding to customer inquiries and concerns within a set timeframe, showing that we value their time and concerns.*

- *Personalized Interactions: Train our customer service team to engage with customers in a friendly and personalized manner. Building a rapport with customers can foster long-term relationships.*

- *Problem Resolution: Empower our customer service team to resolve issues effectively and efficiently. Going above and beyond to solve problems can turn dissatisfied customers into loyal advocates.*

- *Feedback Incorporation: Actively seek and incorporate customer feedback to improve our product and service. This demonstrates that we genuinely care about their opinions.*

Market Expansion

Target market and market expansion strategies, how are you going to penetrate into the market (Segmentation, targeting, positioning)

Target Market:

Our product is designed to cater to a diverse range of consumers, recognizing the growing demand for cleanliness and convenience. Our primary target markets include:

- *Households: Families and individuals who value cleanliness and convenience in their homes.*
- *Commercial Spaces: Offices, restaurants, and public areas where maintaining hygiene is crucial.*
- *Healthcare Facilities: Hospitals, clinics, and laboratories that require strict sanitation measures.*
- *Hospitality Industry: Hotels and resorts aim to enhance guest experience and maintain high standards of hygiene.*

Market Expansion Strategies:

Segmentation, Targeting, and Positioning:
To effectively penetrate the Sri Lankan market, we will implement the following strategies:

1. *Segmentation: Divide the market into distinct segments based on demographics, psychographics, and behavioral patterns.*
- *Demographics: Age, gender, income levels.*
- *Psychographics: Health-conscious individuals, tech-savvy consumers.*
- *Behavioral: Those seeking convenience, hygiene, and innovative solutions.*

2. *Targeting: Focus on the following target groups within the identified segments:*
- *Urban Households: Position the product as a modern solution for hassle-free waste management in busy urban lifestyles.*
- *Corporate Offices: Emphasize the benefits of touchless waste disposal for maintaining a healthy work environment.*
- *Healthcare Facilities: Highlight the product's significance in reducing cross-contamination risks.*
- *Hospitality Sector: Showcase how the dustbin aligns with the industry's emphasis on guest well-being.*

3. Positioning: Craft a unique positioning statement that highlights the core benefits of the product.

Market Penetration:

To establish a strong presence in the Sri Lankan market, we will employ the following strategies:

- *Product Awareness Campaigns: Utilize social media, local advertisements, and partnerships with influencers to generate buzz around the innovative dustbin.*

- *Educational Workshops: Conduct workshops and demonstrations in partnership with local schools, businesses, and communities to showcase the benefits of the product.*

- *Strategic Partnerships: Collaborate with key players in the waste management industry, such as local municipalities and waste collection services, to ensure seamless integration of our product.*

- *Localized Branding: Customize marketing materials to resonate with Sri Lankan culture and values, building trust and familiarity.*

- *Affordability and Financing: Offer flexible pricing options and financing plans to make the product accessible to a wider range of consumers.*

Competitive Edge

What is your competitive edge of your products / services, marketing & distribution compared to the other competitors in the market?

Competitive Edge

My ultrasonically operated automatic lid opening and closing dustbin has a number of competitive advantages over other products on the market. These advantages include:

- *Advanced technology: My dustbin uses state-of-the-art ultrasonic technology to detect movement. This technology is more reliable and accurate than other technologies, such as infrared sensors.*
- *Durability: My dustbin is made from durable materials that can withstand the elements. This makes it a good choice for both indoor and outdoor use.*
- *Affordable price: My dustbin is priced competitively, making it affordable for businesses and consumers alike.*

Marketing and Distribution

I plan to market my ultrasonically operated automatic lid opening and closing dustbin through a variety of channels, including:

- *Online marketing: I will create a website and social media presence to promote my product.*
- *Trade shows: I will attend trade shows to showcase my product to potential buyers.*
- *Direct sales: I will sell my product directly to businesses and consumers.*

I believe that my ultrasonically operated automatic lid opening and closing dustbin has the potential to be a successful product in the Sri Lankan market. I am confident that my product's advanced technology, durability, and affordable price will make it a popular choice for businesses and consumers alike.

Promotion and Advertising

How are you going to advertise / promote your product to your customers?

Here are some ideas on how you can advertise and promote your product to customers in Sri Lanka:

- *Create a website and social media pages for your business. This will give you a platform to share information about your product, such as its features, benefits, and where it can be purchased. You can also use social media to run contests and giveaways to generate excitement about your product.*
- *Reach out to influencers in Sri Lanka. Influencers are people who have a large following on social media. They can help you promote your product to their followers by talking about it on their channels.*
- *Run paid advertising campaigns. You can use Google Ads or Facebook Ads to target your ads to people in Sri Lanka who are interested in your product.*
- *Attend trade shows and expos. This is a great way to meet potential customers face-to-face and showcase your product.*
- *Partner with other businesses. You can partner with other businesses that sell products or services that complement yours. This will help you reach a wider audience.*

Here are some additional tips for promoting your product in Sri Lanka:

- *Use local language and cultural references in your marketing materials. This will help you connect with potential customers on a more personal level.*
- *Make sure your website is translated into Sinhala and Tamil. This will make it easier for potential customers to learn about your product.*
- *Offer discounts and promotions to attract customers. This is a great way to get people to try your product for the first time.*
- *Provide excellent customer service. This will help you build trust and loyalty with your customers.*

By following these tips, you can effectively advertise and promote your product to customers in Sri Lanka.

Sales and Distribution

How are you going to sell your product to your customers?

I would start by creating a strong brand identity for my product. I would use a name that is easy to remember and pronounce, and I would create a logo and branding that is modern and stylish. I would also focus on creating a positive brand image, positioning my product as a convenient, hygienic, and stylish way to dispose of waste. I would then conduct market research to understand the needs of my target customers. What are their pain points when it comes to waste disposal? What are they looking for in a dustbin? Once I have a good understanding of my target market, I can tailor my marketing message to appeal to their specific needs. I would use a variety of marketing channels to reach my target customers. I would advertise in newspapers and magazines, create social media content, and attend trade shows and events. I would also partner with retailers and distributors to make my

product available in stores across Sri Lanka. I would offer a variety of value-added services to my customers. For example, I would offer free delivery and installation, and I would provide a money-back guarantee. I would also offer a customer support hotline to answer any questions or concerns that my customers may have. I believe that by following these steps, I can successfully introduce and sell my ultrasonically operated automatic lid opening and closing dustbin to the Sri Lankan market.

Here are some additional points that I would emphasize in my marketing message:

- *My product is hygienic and sanitary. The lid automatically closes after each use, which helps to prevent the spread of germs.*
- *My product is convenient. You can open and close the lid with a simple wave of your hand, so you don't have to touch it with your dirty hands.*
- *My product is stylish. It comes in a variety of colors and finishes to match any décor.*
- *My product is backed by a money-back guarantee. If you're not happy with your purchase, simply return it for a full refund.*

Product / Service Mix

Product / Service	*(mark whether)*	
	Existing	*New*
Plastic Pedal Dustbin/ Bucket Rs: 2250/=	Rs: 2250/=	
70 - 90 Litre Fibre Black Dustbin. Rs: 4000/=	Rs: 4000/=	
Daxer Plastic Dust Bin Normal (DDB 01) Rs: 440/=	Rs: 440/=	
240 Liter Plastic Dustbin with 2 Wheels Rs: 19990/= or Rs: 22490/=	Rs: 19990/= or Rs: 22490/=	
KOLORR Twin Bin 18L Dustbin Dry & Wet Waste Pedal Dustbins Rs: 23559 /=	Rs: 23559 /=	
Nilkamal 100 Litre Blue Virgin Plastic Dustbin. Rs: 7066/=	Rs: 7066/=	
Kuber Industries Plastic 3 Pieces Medium Size Swing Dustbin/Swing Rs: 1014/=	Rs: 1014/=	
An ultrasonically operated automatic lid opening and closing dustbin.		Rs:8545/=

Sales Forecast				
Product / Service	***Last Year Sales***	***Sales Year 01 (LKR)*** *(Refer Annex iii)*	***Sales Year 02 (LKR)*** *(Refer Annex iii)*	***Sales Year 03 (LKR)*** *(Refer Annex iii)*
240 Liter Plastic Dustbin with 2 Wheels 	179,920	179,920	179,920	179,920
KOLORR Twin Bin 18L Dustbin Dry & Wet Waste Pedal Dustbins 	141,354	141,354	94,238	117,795
Nilkamal 100 Litre Blue Virgin Plastic Dustbin. 	91,858	91,858	91,858	91,858
Kuber Industries Plastic 3 Pieces Medium Size Swing Dustbin/Swing 	28,392	28,392	30,420	30,420
Daxer Plastic Dust Bin Normal (DDB 01) 	23,320	23,320	23,320	23,320

70 - 90 Litre Fibre Black Dustbin. 	32,000	32,000	32,000	40000
Plastic Pedal Dustbin/ Bucket 	38,250	38,250	45,000	56,250
Total	*535,094*	*535,09*	*496,756*	*539,563*

Marketing and Distribution Cost			
Item	***Cost Year 01 (LKR)***	***Cost Year 02 (LKR)***	***Cost Year 03 (LKR)***
I. Wages and bonuses to marketing staff	*15,000*	*17000*	*17000*
II. Promotion costs	*20,000*	*20000*	*20000*
III. Sales outlet - rent	*450000*	*400000*	*350000*
IV. Sales outlet – other expenses	*100000*	*100000*	*100000*
V.			
VI.			
VII.			
VIII.			
IX.			
X.			
Total	*585,000*	*537,000*	*487,000*

5. Production Plan

a. What is / are the Improvement Suggested Exiting Technology / Process

Improvements to Existing Technology:

1. Optimize the ultrasonic sensor and lid mechanism for energy efficiency. This is crucial in areas with inconsistent electricity supply. Consider incorporating low-power modes or alternative energy sources like solar panels.

2. Enhance the durability of moving parts in the lid mechanism to ensure a longer product lifespan and reduce maintenance requirements.

3. Offer user-friendly customization options for lid sensitivity and timer settings. This allows consumers to adapt the dustbin to their specific needs and preferences.

4. Ensure compatibility with various types of waste containers. The dustbin should accommodate both standard and larger waste bags commonly used in Sri Lanka.

5. Integrate smart technology for remote monitoring and control via a mobile app. This feature can be appealing to tech-savvy consumers and allow for more convenient usage.

6. Adapt the product interface and instructions to local languages and cultural preferences, making it more accessible and user-friendly for the Sri Lankan market.

7. Implement sustainable materials and manufacturing processes to minimize the environmental impact of the product.

Improvements to the Implementation Process:

1. Conduct thorough market research to understand the specific needs, preferences, and waste management challenges in Sri Lanka. Identify target consumer segments and their pain points.

2. Ensure that the product complies with local regulations and safety standards related to waste disposal and electronic devices. Obtain the necessary certifications.

3. Develop an efficient distribution strategy, considering both urban and rural areas. Collaborate with local retailers and distributors to reach a broader audience.

4. Establish a network of service centers or partnerships with local technicians who can provide maintenance and repairs. This ensures ongoing customer satisfaction.

5. Determine an affordable price point that appeals to a wide range of consumers. Consider offering different models with varying features and price levels to cater to different income groups.

6. Launch a comprehensive marketing campaign that not only promotes the product but also educates consumers about the benefits of automated dustbins. Highlight hygiene, convenience, and environmental advantages.

7. Collaborate with local waste management authorities and environmental organizations to promote proper waste disposal practices and gain their support for the product.

8. Collect feedback from early adopters and continuously iterate on the product based on their input. This demonstrates a commitment to improvement and customer satisfaction.

9. Provide responsive customer support and warranty options to build trust with consumers. Address any issues or concerns promptly.

10. Implement a take-back program for electronic components and batteries to responsibly handle electronic waste.

b. Production Process / Service Process

Detail out your production / Service Process and illustrate flow diagram in displaying all steps of production process / service process

Production Process

1. *Concept Development*
   Idea generation and evaluation. Define the product's key features and specifications.

2. *Market Research*
   Analyze the Sri Lankan market to understand consumer preferences and needs. Identify potential competitors and market gaps.

3. *Design and Prototyping*
   Create detailed product design, including the ultrasonic sensor system and automated lid mechanism. Develop prototypes for testing and refinement.

4. *Materials Sourcing*
   Procure materials, including high-quality plastics, electronic components, sensors, and batteries.
   Ensure compliance with safety and environmental standards.

5. *Manufacturing*
   Assemble the dustbins in a controlled production facility. Integrate the ultrasonic sensor and automated lid mechanism. Conduct rigorous quality control checks.

6. *Testing and Quality Assurance*
   Test each unit for functionality, durability, and safety. Address any defects or issues during this stage.

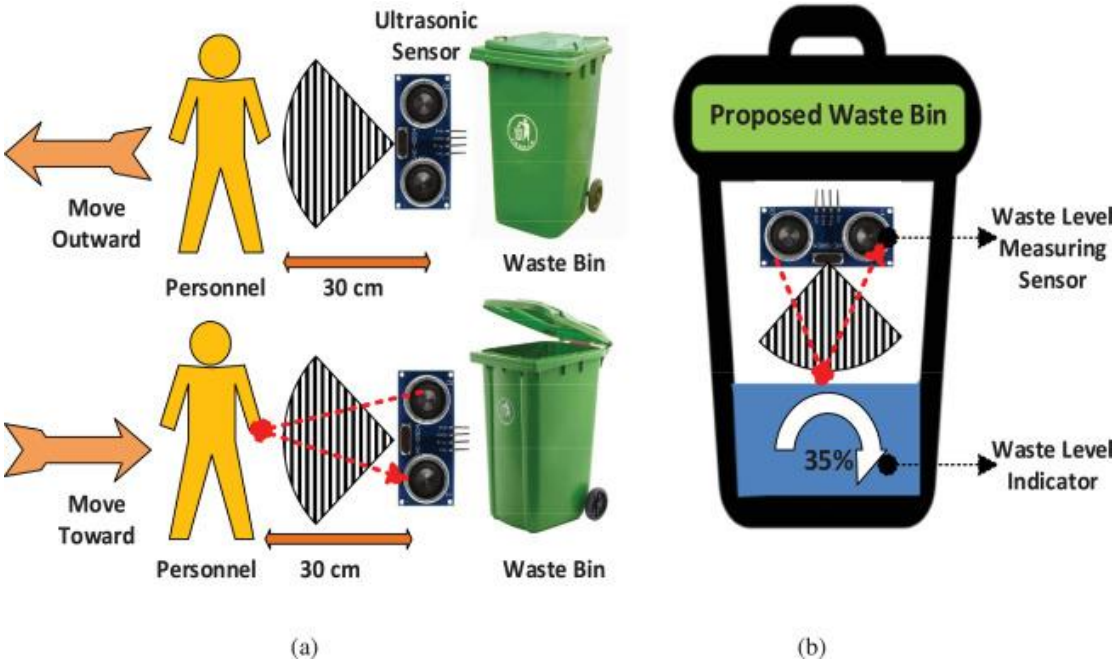
7. *Packaging*
   Design and create packaging that is both protective and informative. Ensure clear instructions for use.

8. *Distribution and Logistics*
   Establish a distribution network within Sri Lanka. Plan for efficient transportation and delivery to various markets

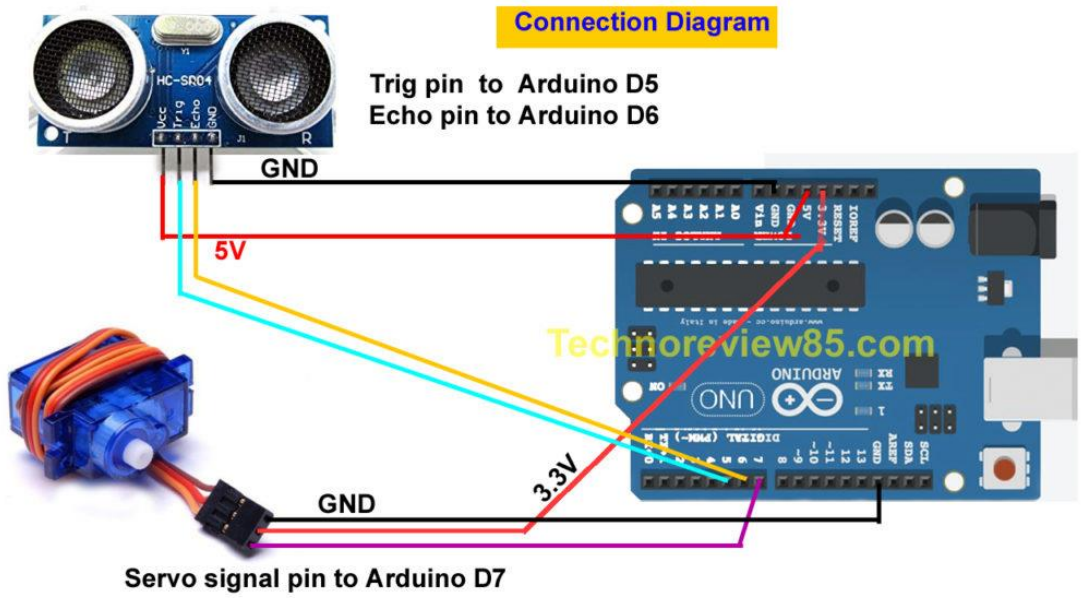
9. *Regulatory Compliance*
   Ensure the product complies with Sri Lankan regulatory standards and certifications for safety and electronic waste disposal.

10. *Market Launch*
    Develop a marketing and advertising strategy tailored to the Sri Lankan audience. Plan product launch events and promotions.

Here is the basic flow of the product.



Here is the basic flow of the circuit board.



c. Factory / Business Premises Layout

Design and Development Department:

- Research and development team.
- Product designers and engineers.
- CAD/CAM workstations for design and prototyping.

Production Area:

- Manufacturing floor with designated zones for various production stages.

- Automated assembly line for dustbin components.
- Quality control stations at key production points.
- Inventory storage for raw materials and components.

Automation and Electronics Workshop:
- Specialized area for assembling and testing electronic components.
- Skilled technicians for sensor and automation system integration.

Finishing Section:
- Dustbin painting booths with proper ventilation.
- Area for applying protective coatings.
- Quality inspection for paint and finish.

Employee Facilities
- Breakroom and cafeteria for staff.
- Restrooms and locker rooms.
- First-aid station.

Security and Surveillance
- Access control and security systems.
- Surveillance cameras for safety and asset protection.

Green Initiatives
- Space for waste recycling and disposal.
- Energy-efficient lighting and heating/cooling systems.

Training and Development
- Area for employee training and skill development.

Packaging
- Packaging station for dustbins and components.
- Inventory space for finished products.
- Shipping and receiving area for logistics.

Maintenance and Repairs
- Dedicated space for repairing and maintaining equipment.
- Workshop for refurbishing and upgrading existing products.

Office Space
- Administrative offices for management and support staff.
- Meeting rooms for team collaboration and client meetings.
- IT infrastructure for data management and communication.

Parking and Loading Docks
- Parking space for employees and visitors.
- Loading docks for receiving and dispatching materials.

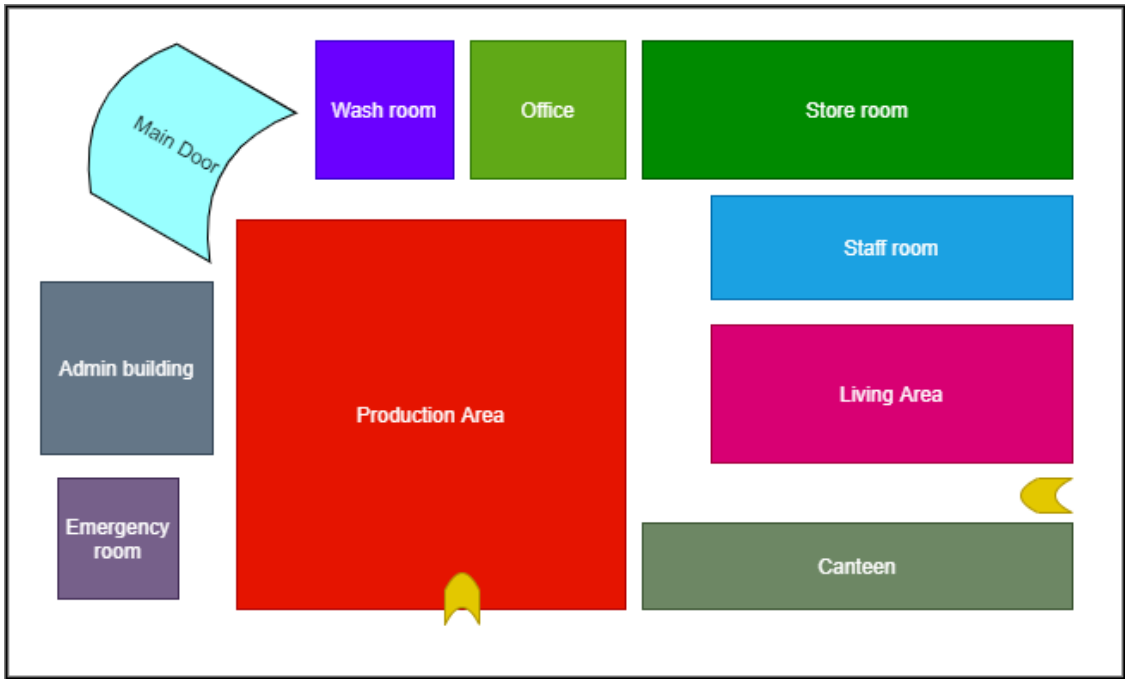
Safety and Compliance
- Strict adherence to safety regulations and industry standards.

- Regular safety drills and training programs for employees.
- Compliance with environmental regulations for waste disposal and emissions.

Quality Assurance
- Comprehensive quality control procedures at each production stage.
- Continuous improvement efforts to enhance product quality.

Efficiency and Sustainability
- Implementation of lean manufacturing principles to optimize production processes.
- Efforts to reduce waste and energy consumption.

Business premises



d. New Equipment, Plant and Machineries Needed and Cost

Equipment row materials:

- **Arduino uno R3 = Rs:2100**
- **Ultrasonic module= Rs:500**
- **Led= Rs:20**
- **Jumper wires= Rs:600**
- **Mini gear servo motor= Rs:625**
- **Dustbin= Rs:1000**
- **Flexible wire 15cm = Rs:30**
- **9V Battery = Rs:400**
- **Cap/holder= Rs:300**

Row material Total cost per one dustbin = Rs:5575.00

Row material Total cost per 100 dustbins per one month=557500

Row material Total cost per one year=6690000

Equipment cost

Laptop = RS: 3 00 000

Soldering iron=20,000

Soldering wire 3ocm=20,000

Hot melt glue gun=23,000

Glue stick two=25,000

Total Equipment cost per dustbin=Rs:388000

Per one month=38800000

Total* Equipment *cost per one year= 465600000

Employee cost

Electrical Engineer= 45000 LKR

Storekeeper= 35000 LKR

Software Developer=40000 LKR

Tester=35000 LKR

Manager(me)= 45000 LKR

We are targeting to create 100 dustbins for one month.

Therefore, total employee cost per one month =200,000

Total employee cost per one year=2,400,000

Total cost per one month=714500 LKR

Total cost for one month=8574000 LKR

e. **Production Cost *Calculation***

Direct Cost	***Last Year***	***Year 1***	***Year 2***	***Year 3***
A. Material	6,690,000	6,690,000	7,000,000	72,000,000
B. Labor	2,400,000	2,400,000	2,400,000	2,400,000
C. Other	465600000	465600000	565600000	575600000
D. Total Direct Cost (A + B + C)	**474,690,000**	**474,690,000**	**575,000,000**	**650,000,000**
E. Production Overheads				
F. Electricity	150 000.00	150 000.00	180 000.00	180 000.00
G. Water	150 000.00	150 000.00	180 000.00	180 000.00
H. Fuel & Energy	100 000.00	100 000.00	100 000.00	100 000.00
I. Transport	345 000.00	345 000.00	400 000.00	400 000.00
J. Other	100 000.00	100 000.00	200 000.00	200 000.00
K. Total Overheads (F + G + H + I + J)	**845 000.00**	**845 000.00**	**1060 000.00**	**1060 000.00**
Total Production Cost (D + K)	**475,535,000**	**475,535,000**	**576,060,000**	**651,060,000**

5. Administration & Management Plan

a. Location of the Business

Location of the main business and location branches / factory if any

Main Business Location

1. Colombo: Colombo, being the capital and the largest city in Sri Lanka, is a logical choice for your main business location. It offers access to a large population of potential customers, business infrastructure, and transportation networks.

2. Colombo Suburbs: Consider locating in the suburbs of Colombo to potentially reduce operating costs while maintaining proximity to the capital market.

3. Industrial Zones: Investigate industrial zones or parks around Colombo, which may offer incentives, infrastructure, and a supportive business environment.

Branches/Factory Locations

1. Colombo Suburbs: If your main business is in Colombo, placing branches or a factory in the nearby suburbs ensures efficient logistics and distribution to the capital city.

2. Kandy: Kandy is the second-largest city in Sri Lanka and a significant urban center. It could serve as an excellent location for a branch, as it represents a distinct market with its own waste management needs.

3. Galle: Located in the southern part of Sri Lanka, Galle is another key city with growing urban areas. It might be suitable for expansion due to its distinct market characteristics.

4. Hambantota: Hambantota, located in the south, is experiencing infrastructural development, making it an emerging market. It could be a strategic location for future expansion.

Export Processing Zones

Sri Lanka has several Export Processing Zones (EPZs) across the country. These zones offer favorable conditions for manufacturing and export-oriented businesses, which could be ideal for setting up a factory.

- Strategic Ports
  If your business involves importing components or materials, consider locating near major ports such as the Port of Colombo or the Port of Hambantota for efficient supply chain management.

- Transportation Hubs
  Choosing locations near transportation hubs, like railway stations or major highways, can facilitate product distribution.

- Regional Deman
  Analyze regional variations in waste management needs and customer preferences to strategically place branches or factories in areas with high demand.

- Regulatory Considerations
  Ensure that your locations comply with local zoning and regulatory requirements related to waste management and manufacturing.

- Infrastructure and Utilities
  Assess the availability of essential infrastructure, such as electricity, water, and telecommunications, when selecting factory locations.

b. Organization Structure

1. Senior Management

At the top of the organizational hierarchy would be senior management, which includes executives responsible for strategic decision-making and overall direction of the business. This may include roles such as Chief Executive Officer (CEO), Chief Operations Officer (COO), and Chief Marketing Officer (CMO). Their primary responsibility would be to set the vision, goals, and strategies for the Sri Lankan market entry.

2. Sales and Marketing Department

The Sales and Marketing department would play a pivotal role in promoting and distributing the ultrasonically operated dustbins. It would consist of professionals responsible for market research, advertising, branding, and sales. Local marketing experts who understand Sri Lankan culture and consumer behavior would be crucial to tailor marketing campaigns effectively.

3. Research and Development (R&D)

R&D would be tasked with product development and improvement. Given the need to adapt the product to local preferences and conditions, this department would work closely with the local team to ensure that the ultrasonically operated dustbins meet Sri Lankan market requirements.

4. Manufacturing and Production

This department would handle the actual production of the dustbins. It includes skilled workers and technicians responsible for assembling the product, quality control, and ensuring that the manufacturing process runs smoothly. Local sourcing of materials should also be considered to optimize costs.

5. Supply Chain and Logistics

Efficient supply chain and logistics management would be crucial for the timely delivery of products to retailers and customers. This department would coordinate with suppliers, distributors, and transportation services to ensure a seamless flow of goods.

6. Customer Service and Support

To provide exceptional customer experiences, a customer service and support team should be established. They would handle inquiries, troubleshoot issues, and ensure customer satisfaction.

7. Regulatory and Compliance Department

Navigating local regulations and ensuring compliance with Sri Lankan standards is vital. This department would be responsible for obtaining necessary permits and certifications and ensuring that the product complies with local safety and environmental regulations.

8. Finance and Administration

The finance and administration department would manage budgeting, financial forecasting, and accounting. They would also handle administrative tasks such as payroll, office management, and legal matters.

9. Local Sales and Distribution Team

Given the specific nature of the Sri Lankan market, it's essential to have a dedicated local sales and distribution team. This team would establish relationships with retailers, manage inventory, and ensure efficient distribution throughout the country.

10. Technical Support and Maintenance

To address technical issues with the ultrasonic dustbins, a technical support and maintenance team would provide on-site or remote assistance to customers and partners.

11. Training and Development

This department would be responsible for training employees, partners, and customers on the proper use and maintenance of the product, ensuring its longevity and optimal performance.

12. Sustainability and Environmental Impact Division

Given the growing emphasis on sustainability, an organizational unit focused on the environmental impact of the product would be beneficial. This team would work to minimize waste and assess the product's overall ecological footprint.

c. Legal & Environmental Requirement related to the Business

Introducing an ultrasonically operated dustbin with an automatically open and close lid to the Sri Lankan market entails compliance with legal and environmental regulations. Firstly, adherence to Sri Lanka's environmental laws is crucial. This includes obtaining the necessary permits and approvals related to waste management and electronic waste disposal, as well as ensuring the product's compliance with local environmental standards. Proper waste disposal and recycling practices should

be implemented, and strategies for the responsible disposal of electronic components at the end of the product's lifecycle must be in place to minimize environmental impact.

Secondly, the business should comply with Sri Lanka's consumer protection and safety regulations. This involves ensuring the product meets safety standards and certifications, as well as providing clear instructions for safe operation and maintenance. Additionally, intellectual property laws should be respected to protect innovations and patents related to the product. Engaging with relevant regulatory bodies and seeking legal counsel to navigate the complex regulatory landscape will be essential to establish a legally compliant and environmentally responsible business in Sri Lanka.

d. Brand names/ Copyrights/ Patents

Introducing an ultrasonically operated dustbin with an automatically open and close lid to the Sri Lankan market is a promising endeavor, and it's essential to consider intellectual property aspects such as brand names, copyrights, and patents.

Brand Names

Choosing an appropriate brand name is crucial for establishing recognition and trust in the market. It should reflect the product's features, values, and appeal to the Sri Lankan consumer base. Conduct thorough trademark searches to ensure that the chosen brand name is not already in use and can be registered. This name will be the face of your product and company in the Sri Lankan market, so it should resonate with your target audience and convey the innovation and convenience associated with your ultrasonically operated dustbin.

Ex :-

- EcoWave Bins
- SriLid SmartBins
- UltrasonicEase Bins
- GreenWave Automations
- EnviroLid Solutions
- TechBin Innovations

Copyrights

While copyrights typically apply to creative works like literature, music, and art, they might not be directly applicable to the ultrasonically operated dustbin itself. However, consider copyright protection for any unique software, user manuals, or marketing materials associated with the product. These can be important for safeguarding your intellectual property rights and ensuring that your materials are not used without authorization.

Patents

Patents are particularly crucial for protecting the innovative technology behind your ultrasonically operated dustbin. This technology likely involves the ultrasonic sensor system, automation mechanisms, and possibly other proprietary components. Securing patents in Sri Lanka will grant you exclusive rights to use, make, sell, and import your patented technology within the country. This not only safeguards your investment in research and development but also provides a competitive advantage by preventing others from replicating your technology without permission.To effectively navigate the patent process in Sri Lanka, it's advisable to consult with a local patent attorney or intellectual property expert. They can assist you in conducting a thorough patent search, preparing and filing patent applications, and ensuring compliance with all legal requirements.

In conclusion, branding, copyrights, and patents are integral elements of introducing an ultrasonically operated dustbin to the Sri Lankan market. Carefully selecting a brand name, considering copyright protection for associated materials, and securing patents for innovative technology will help protect your intellectual property rights and position your product for success in this market.

e. Insurance

Product Liability Insurance

One crucial aspect is product liability insurance. This type of insurance safeguards your business against potential claims arising from injuries or damages caused by your product. In the case of your ultrasonically operated dustbin, product liability insurance can cover situations where a malfunction or defect in the dustbin results in harm to a user or their property. Ensuring you have adequate product liability insurance is essential to protect your business from legal and financial consequences.

Property Insurance

Protecting the physical assets of your business, including manufacturing facilities, warehouses, and inventory, is also vital. Property insurance can provide coverage in case of natural disasters, fire, theft, or other unforeseen events that could damage or destroy your assets. This coverage is essential for maintaining business continuity and ensuring you can continue producing and supplying your innovative dustbins to the Sri Lankan market.

Business Interruption Insurance

In the event of a disruptive incident such as a natural disaster or fire, business interruption insurance becomes crucial. This type of insurance can help cover the loss of income and additional expenses incurred during the downtime caused by such incidents. It ensures that your business remains financially stable and can continue operations or recover more quickly after an interruption.

Customized Insurance Solutions

Working with an experienced insurance broker or provider in Sri Lanka is crucial. They can assess the specific risks associated with your product, market, and operations and help tailor insurance solutions to your unique needs. Customized policies can provide comprehensive coverage that aligns with your business goals and the potential risks you might encounter when introducing an innovative product like an ultrasonically operated dustbin.

f. Employee Motivation/ Rewards

To effectively introduce an ultrasonically operated dustbin with automatic open and close lid to the Sri Lankan market, it's crucial to establish a motivated and engaged workforce. Employee motivation plays a pivotal role in ensuring the success of your product. Firstly, it's essential to foster a sense of purpose and belonging among your employees. Communicate the significance of the product in addressing local environmental and sanitation challenges, emphasizing how their work contributes to a cleaner and more sustainable Sri Lanka. This sense of purpose can inspire intrinsic motivation and a shared commitment to the product's success.

Secondly, implement a comprehensive rewards and recognition system. Recognize and celebrate achievements, both individual and team-based, related to the product's development and market launch. Consider offering performance-based bonuses or incentives tied to sales targets or customer feedback. Additionally, create a culture of continuous learning and growth by providing opportunities for skill development and career advancement within the company. Employees who feel valued and see opportunities for personal and professional growth are more likely to be motivated and dedicated to the product's success. By combining purpose-driven work with tangible rewards and opportunities for growth, you can effectively motivate your workforce to contribute their best to the successful introduction of your innovative dustbin in the Sri Lankan market.

g. Employee Welfare, Health & Safety Management

Introducing an ultrasonically operated dustbin with an automatically open and close lid to the Sri Lankan market can have a positive impact on employee welfare, health, and safety management. Firstly, this innovative product can enhance employee welfare by streamlining waste management processes. With the automated lid mechanism, employees tasked with waste disposal can avoid physical strain and potential injury from manually lifting and closing heavy lids. This can reduce the risk of workplace injuries and musculoskeletal problems, contributing to better overall employee well-being. Moreover, the convenience of the automated system can lead to higher job satisfaction as employees may find their tasks more efficient and less physically demanding, improving their overall work experience.in terms of health and safety management, the ultrasonically operated dustbin can contribute to a cleaner and more hygienic workplace environment. The automated lid minimizes physical contact with waste and reduces the risk of exposure to germs and pathogens, particularly in settings where proper waste disposal is critical, such as healthcare facilities or food service establishments. This enhanced hygiene can lower the chances of illness among employees, improving their health and well-being. Additionally, the product's technological components should adhere to

safety standards, ensuring that employees are working with equipment that meets necessary safety requirements, further enhancing health and safety management protocols within the workplace.

h. Administration Cost

Type of Expenses	**Expenses (Year 01)**	**Expenses (Year 02)**	**Expenses (Year 03)**
Office staff salaries (Annex VI)	5,916 000.00	5,916 000.00	6,057,000.00
Electricity bill	150 000.00	180 000.00	180 000.00
Water bill	150 000.00	180 000.00	180 000.00
Telephone bill	75 000.00	85 000.00	85 000.00
Postage	25 000.00	25 000.00	25 000.00
Office space rent	450 000.00	450 000.00	450 000.00
Insurance	230 000.00	230 000.00	230 000.00
Total	6 996 000.00	6,066,000.00	7,207,000.00

7. Financial Plan

a. **Cost of Project and Means of Finance (All the cost values that I included for 1 year.)**

Description	Existing		Proposed		Total	
	Equity	Borrowed	Equity	Borrowed	Equity	Borrowed
Land	-	-	My own Land value= 30 00 000	-	My own Land value= 30 00 000	-
Building	-	-	My own Building value = 50 00 000	-	My own Building value = 50 00 000	-
Machinery & Equipment	-	-	600 000	465,000,000	600 000	465,600,000
Furniture & Fittings	-	-	600 000	600 000	600 000	600 000
Motor Vehicle	-	-	5,000,000	13,000,000	5,000,000	13,000,000
Other Equipment	-	-	100,000	100,000	100,000	100,000
Sub Total	**-**	**-**	**14,300,000**	**479,300,000**	**14,300,000**	**479,300,000**
Permanent working capital	-	-	100 000	-	100 000	-
Contingencies	-	-	100 000	-	100 000	-
Grand total	**-**	**-**	**14,400,000**	**479,300,000**	**14,400,000**	**479,300,000**

b. **Cost of Project and Means of Finance**

Description	Existing		Proposed		Total	
	Amount	%	Amount	%	Amount	%
Equity	-	-	**14,400,000**	2.91%	**14,400,000**	2.91%
Borrowed	-	-	**479,300,000**	97.08%	**479,300,000**	97.08%
Total	-	-	493,700,000	100%	493,700,000	100%

c. **Permanent Working Capital Computation for one year**				
Item	No of days	Raw material	Fixed and Variable cost	Total
Raw material	365 days	All above 9 raw materials per year **6690000** **(Business plan 3)**		
Work in Progress	365 days	All above 9 raw materials per year **6690000**	15000*100*12= 18,000,000	18,000,000+**6690000** =24690000
Finished goods	365 days	All above 9 raw materials per year **6690000** **(Business plan 3)**	15000*100*12= 18,000,000	18,000,000+**6690000** =24690000
Debtors	One-month debtors=8 8*12=96 days	250,000	23,000	26,208,000
Gross working capital requirement				**75,588,000**
(Less) creditors	One-month creditors=4 4*12=48 days	34,560	0	1,658,880
Net working capital requirement				**73,929,120**

d. **Projected Profit and Loss Account**				
	Note	**Year 01**	**Year 02**	**Year 03**
1. Sales	I plan to sell each unit for 15,000 LKR. Year 1 Sales = 1,200 units × 15,000 LKR/unit Year 1 Sales = 18,000,000 LKR Year 2 Sales = 1,400 units × 15,000 LKR/unit Year 2 Sales = 21,000,000 LKR Year 3 Sales = 1,600 units × 15,000 LKR/unit Year 3 Sales = 24,000,000 LKR	18,000,000	21,000,000	24,000,000
2. Cost of Sales	Cost of Sales (Year) = Number of Units Sold (Year) × Cost of Sales per Unit Cost of Sales (Year 1) = 1,200 units × 10,000 LKR/unit = 12,000,000 LKR Cost of Sales (Year 2) = 1,400 units × 10,000 LKR/unit = 14,000,000 LKR Cost of Sales (Year 3) = 1,600 units × 10,000 LKR/unit = 16,000,000 LKR	12,000,000	14,000,000	16,000,000
(-) Less (1 - 2)				
3. Gross Profit	Year 1 Gross Profit = Year 1 Sales Revenue - Year 1 Cost of Sales Year 1 Gross Profit = 18,000,000 LKR - 12,000,000 LKR Year 1 Gross Profit = 6,000,000 LKR	6,000,000	7,000,000	8,000,000

	Year 2 Gross Profit = Year 2 Sales Revenue - Year 2 Cost of Sales Year 2 Gross Profit = 21,000,000 LKR - 14,000,000 LKR Year 2 Gross Profit = 7,000,000 LKR Year 3 Gross Profit = Year 3 Sales Revenue - Year 3 Cost of Sales Year 3 Gross Profit = 24,000,000 LKR - 16,000,000 LKR Year 3 Gross Profit = 8,000,000 LKR			
4. Admin Cost	salaries, office rent, utilities, insurance, and more.	1200 000	1250 000	1300 000
5. Marketing & Distribution Cost	TV advertisements, Posters	40,000	430 000	450 000
(-) Less [3 - (4+5)]				
6. Profit before interest & depreciation	Profit Before Interest & Depreciation = Gross Profit - Administrative Cost - Marketing & Distribution Cost Year 1 Profit Before Interest & Depreciation: 4,760,000 LKR Year 2 Profit Before Interest & Depreciation: 5,320,000 LKR Year 3 Profit Before Interest & Depreciation: 6,250,000 LKR	4,760,000	5,320,000	6,250,000
7. Interest Expenses		15000	16000	17000
8. Depreciation		12000	13000	14000
(-) Less [6 - (7+8)]				
9. Profit before tax	Year 1 Profit Before Tax: 4,733,000 LKR Year 2 Profit Before Tax: 5,291,000 LKR Year 3 Profit Before Tax: 6,219,000 LKR	4,733,000	5,291,000	6,219,000
10. Income Tax		20000	30000	40000

(-) Less (9 - 10)				
Net Profit	Year 1 Net Profit: 4,713,000 LKR Year 2 Net Profit: 5,261,000 LKR Year 3 Net Profit: 6,179,000 LKR	4,713,000	5,261,000	6,179,000

Projected Cash Flow

Description	Month 01	Month 02	Month 03	Month 04	Month 05	Month 06	Month 07	Month 08	Month 09	Month 10	Month 11	Month 12	Total - Y1	Total - Y2	Total - Y3
RECEIPTS															
Sales	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	1,500,000	18,000,000	21,000,000	24,000,000
Loan Funds	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	39,833,333.33	465000000+13,000,000=478,000,000	478,000,000	478,000,000
Sub Total (a)	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	41,333,333.33	496,000,000	499,000,000	502,000,000
PAYMENTS															
Purchases	800000	800000	800000	800000	800000	800000	800000	800000	800000	800000	800000	800000	9,600,000	9,700,000	9,800,000
Raw Material	359,500	359,500	359,500	359,500	359,500	359,500	359,500	359,500	359,500	359,500	359,500	359,500	4,314,000	7,441,000	9,653,000
Wages	493,000	493,000	493,000	493,000	493,000	493,000	493,000	493,000	493,000	493,000	493,000	493,000	5,916,000	5,916,000	6,057,000
Fuel	85000	85000	85000	85000	85000	85000	85000	85000	85000	85000	85000	85000	10,200,000	11,200,000	13,200,000
Electricity	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	150000.00	180000.00	180000.00

Water	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	12,500	150 000.00	180 000.00	180 000.00
Packing Material	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	1200 000	1300000	1400000
Transport	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	1200 000	1300000	1400000
Rent	183,333.33	183,333.33	183,333.33	183,333.33	183,333.33	183,333.33	183,333.33	183,333.33	183,333.33	183,333.33	183,333.33	183,333.33	2200 000	2300000	2400000
Sub Total (b)	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	2,810,833.33	34,680,000	40,017,000	44,170,000
Surplus/ Deficit (a) - (b) = (c)	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	461,320,000	458983000	457,830,000
Balance Carried Forward (d)	0	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	38,522,500.00	423,747,500	433,747,500	443,747,500
Cumulative Balance (c) + (d) = (e)	38,522,500.00	77,045,000	77,045,000	77,045,000	77,045,000	77,045,000	77,045,000	77,045,000	77,045,000	77,045,000	77,045,000	77,045,000	885,067,500	892,730,500	901,577,500
Loans Repayments (f)	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	12,341,244.37	148,094,932.48	158,094,932.48	168,094,932.48
Balance Brought Forward (e) - (f)	26,181,255.63	64,703,755.63	64,703,755.63	64,703,755.63	64,703,755.63	64,703,755.63	64,703,755.63	64,703,755.63	64,703,755.63	64,703,755.63	64,703,755.63	64,703,755.63	736,972,567.52	734,635,567.52	733,482,567.52

Projected Ratios

Total investment= 82000 000 LKR

Ratio	Year 01	Year 02	Year 03
Gross profit ratio - (Gross Profit / Sales) *100	33.33%	33.33%	33.33%
Net profit ratio (Net Profit / Sales) *100	26.183%	25.052%	25.746%
Return on Investment (ROI) - (Net Profit / Investment) *100	5.75%	6.41%	7.52%

8. Risk Management

Type of Risk	*Method of Risk Management*
Market Risks	• Conduct thorough market research to understand Sri Lanka's waste management practices, consumer preferences, and competition. Identify target demographics and their needs. • Develop a well-defined market entry strategy that includes pricing, distribution channels, and marketing campaigns tailored to local preferences. • Consider diversifying your product line to cater to different segments of the market, reducing reliance on a single product.
Regulatory Risks	• Engage local legal counsel or regulatory experts to ensure that your product complies with all Sri Lankan regulations, standards, and safety requirements. • Obtain any necessary permits or licenses for manufacturing, import, and distribution, and stay updated on changing regulations.
Technology Risks	• Allocate resources to continuous research and development to improve the technology and stay competitive. • Implement rigorous quality control measures to ensure that the technology functions reliably and consistently.
Operational Risks	• Build strong relationships with suppliers and maintain backup

	suppliers to mitigate disruptions in the supply chain.
Financial Risks	• Develop a comprehensive budget that accounts for all expenses and uncertainties. Maintain a financial cushion for unexpected costs.
Market Acceptance	• Conduct extensive product testing and gather user feedback to ensure that the product meets local needs and expectations. • Invest in marketing campaigns that emphasize the benefits of the ultrasonically operated dustbin in improving waste management practices. Educate the market about the product's features and environmental benefits.
Environmental Impact	• Emphasize the environmental benefits of your product in marketing materials to appeal to eco-conscious consumers. • Establish a responsible end-of-life plan for your product, including recycling or proper disposal options.

9. Key Assumptions

- Assumption about the demand for such a product in the Sri Lankan market. This includes estimating the potential customer base, their willingness to adopt new technology, and the overall market size for automated dustbins.

- Assuming the level of competition in the Sri Lankan market, including the presence of similar products or alternative waste disposal solutions. Understanding the competitive environment is vital for market positioning and pricing strategies.

- Assuming the requirements and regulations related to product safety, waste management, and electronic components in Sri Lanka. Compliance with local laws and standards is crucial to avoid legal issues.

- Estimating the costs associated with manufacturing the ultrasonically operated dustbins, including materials, labor, and overhead costs. These costs will directly impact pricing and profitability.

- Assumption about the pricing strategy you'll adopt for your product. This includes setting an initial price point, considering discounts or promotions, and evaluating how pricing might evolve over time.

- Assuming that consumers in Sri Lanka will adapt to using automated dustbins and will be willing to change their waste disposal habits to accommodate this technology.

- Assuming the most effective distribution channels to reach your target market, whether through retailers, wholesalers, or direct sales, and estimating associated costs.

- Estimating the budget required for marketing and promotional activities to create awareness and generate demand for the product. This includes advertising, branding, and potentially educating the market about the benefits of the technology.

- Assuming the reliability and durability of the ultrasonic sensors and automation mechanisms, considering potential maintenance and repair costs over time.

- Consider potential fluctuations in exchange rates, especially if any components or materials are imported, as this can impact production costs.

- Assumptions about the economic stability and growth prospects of Sri Lanka, as this can affect consumer spending and overall market conditions.