

PROBLEM STATEMENT

- The lack of supervision from the parent had increased the numbers of missing child. Nowadays, there are many cases of lost child occurred at the public area such as at the mall, amusement park and even at the playground. In such crowded places, parents are unable to constantly control the whereabouts of their child.
- According to American Demographic Society, we can save 16 minutes to one hour a day if we are more organized. Studies have been carried out to highlight the issue of lost and misplaced items, and results show that now this issue is very common all around the globe. As life becomes busier, the issue of lost and misplaced items also increases significantly. This creates the problem of unfocused to a particular task and overall we become unorganized.

OBJECTIVES

- The proposal presented herewith is to enable and gain experience in designing and developing prototype of tracking system. It is to introduce the technology behind innovative tracking device which would benefit people including end customers, commercial owners to keep in track on their moving assets, identify one's location whereabouts, increase operational efficiency and automate its day to day operations.
- To countermeasure and benefit families by preventing missing children when they are out of sight and providing parents with a constant awareness of their children's whereabouts. With establish simultaneous data, the security and safety of kids are constantly measured.

PRODUCT FEATURES

In order to produce high quality and long-lasting product, several key features have been chosen. As the product is not only for indoor, we have decided to equip it with water and dust resistance so it can be used in wet conditions and dusty places. It is also very durable and high resistance to wear and tear. To make it easier to be found, it can produce sounds and emit light. SWAG also comes with GPS for long distance tracking or Bluetooth for in-house tracking. It compatible with Android & iOS devices with USB-C port. List of features are as follows:

- IP67 Water & Dust Resistance
- Durable Material: Fibre Reinforced Polymer
- Equipped With LED Light And Sound Alert
- GPS & Bluetooth Connection
- Mobile Application
- Charging Port (USB-C)

PRODUCT BENEFITS

There are few benefits users can gain from this product. Not only, it helps to locate misplaced or missing items, the product itself is portable and lightweight. It can be used almost anywhere and all you need to do is clip or attach it to your belongings such as keys, wallet and etc. Other than that, it is also affordable and easy to use. Your SWAG will be automatically paired and registered when you bring it close to your smart phones. Some key benefits:

- Portable
- Lightweight = 20 g
- Handy And Attachable
- Affordable = RM 139
- User-friendly

COSTING

- **FIXED COST**
 - ✓ RAW MATERIAL
 - ✓ HARDWARE (SENSORS, BLUETOOTH, GPS, BATTERY)
 - ✓ SOFTWARE DEVELOPMENT
 - ✓ PACKAGING
 - ✓ FACTORY AND MACHINE RENTAL
 - ✓ SALARIES

COSTING

- **VARIABLE COST**
 - ✓ ELECTRICITY AND WATER BILLS
 - ✓ DELIVERY CHARGES
 - ✓ SALES & COMMISSIONS
 - ✓ ADVERTISING & PUBLICITY

COSTING

FIXED COST = RM300,000 PER YEAR

VARIABLE COST = RM 145,000 PER YEAR

TOTAL COST = FIXED COST + VARIABLE COST = RM 445,000 PER YEAR

ESTIMATED COST PER UNIT = RM89

ESTIMATED PROFIT PER UNIT = RM 50

SALE PRICE = RM 139 PER UNIT

BREAK-EVEN POINT = $300,000 / (139 - 89)$

BREAK-EVEN POINT = 6000 UNITS SOLD

Break Even Units Formula

$$\text{Break Even Units} = \frac{\text{Fixed Costs}}{\text{SP} - \text{VC}}$$

SP = Selling price per unit

VC = Variable cost per unit

COSTING

PRODUCTION CAPACITY PER YEAR = 5 000 UNITS

TOTAL PROFIT = RM 50 X 5 000 = RM 250 000

RETURN OF INVESTMENT (ROI) =

ROI = 250,000/445,000

ROI = 56%



CONCLUSION

From the calculation shown in previous slides, we are able to achieve high ROI which is 56%. When compared to average ROI of other investments, our model yields much higher investment return.

In addition, we only need to produce 6,000 units of SWAG in order to reach break-even point which can be realized in less than 2 years. At this point onwards, we will be able to attain 100% profits.

