**Sample Only**

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**Document Type**: User Guide

**Revision Number**: 1.3

**Project Name**: EZScoot

## Location and meaning of input parameters and input streams

The input parameters and streams in the model are all located in the Inputs sheet.

**Equipment Section**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| Scooter Cost (purchase of 1-5) | The unit cost of purchasing a scooter when less than 5 are purchased |
| Scooter Cost (purchase of 5+) | The unit cost (which contains a quantity discount) of purchasing a scooter when more than 5 are purchased.  |
| Kiosk Cost (incl installation) | The cost of buying and installing a kiosk. A kiosk is an office/location where scooters are stored and available for rent |
| Pick up truck cost | The cost of buying a pickup truck. Pickup trucks are needed for the logistics of moving scooters around |
| ScootersPerPickupTruck | This is the number of scooters whose logistical demand can be met by a pickup truck. |
| Number of Kiosks | Number of kiosks |
| Initial Number Of Pickup Truck | Initial number of pickup trucks  |
| Depreciation Term | Time period where scooters are depreciated. Expressed in quarters |
| Scooter Sale Price | When scooter utilization is low, unutilized scooters are sold off periodically to infuse cash into the business. This input represents the average price that the scooter would be sold for  |

**Electricity Section**

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| --- | --- |
| **Input Name** | **Meaning** |
| Electricity Cost Per Mile | Scooters run on electricity. This is the average cost of electricity per mile the scooter is run. |
| AvgMilesPerRental | Average number of miles driven per rental |
| Electricity Cost Per Kiosk Per Month | Average electricity cost per month for a kiosk |

**Insurance Costs**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| Annual Insurance Cost Per Scooter (1-20) | Annual insurance cost per scooter when total number of scooters being insured is 20 or less |
| Annual Insurance Cost Per Scooter (20+) | Annual insurance cost per scooter when total number of scooters being insured is more than 20. This is used to model a quantity discount for scooter insurance |
| Annual Insurance Cost Per Kiosk (1-5) | Annual insurance cost per kiosk when total number of kiosks being insured is 5 or less |
| Annual Insurance Cost Per Kiosk (5+) | Annual insurance cost per kiosk when total number of kiosks being insured is more than 5. This is used to model a quantity discount for kiosk insurance. |

**Legal Costs**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| Annual Fixed Legal Retainer | A fixed sum of money paid as an annual retainer for legal services |

**Advertising Section**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| Advertising Per Kiosk | Advertising cost per kiosk |
| Upfront Advertising Cost | Cost incurred for the advertising blitz before the business is started. |
| AdvertisingCostIncrease | Extra advertising required to counter bad publicity due to a drop in customer satisfaction. Expressed as a percentage of the preceding quarter’s advertising cost |
| AdvertisingCostDecrease | Reduction is advertising that takes the advantage of good publicity due to desired level (or greater) of customer satisfaction. Expressed as a percentage of the preceding quarter’s advertising cost. |

**Capacity Section**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| DayDuration(hrs)AvgOverheadTimePK (hrs) | Number of hours in day that scooters are available to be rented |
| AvgRentalDuration(hrs) | Average rental duration in hours |
| AvgOverheadtimeperhire(hrs) | Average overhead time per rental. This includes the time to rent, time to move scooters etc |
| ScooterIncrement | Number of scooters to increase by if the demand is not being met at a kiosk |
| ScooterDecrement | Number of scooters to decrease by if the demand is below scooter capacity at kiosk |
| QuarterAvgNumDays | Average number of days in a quarter |
| UnutilCapThresh | Threshold of unused capacity of scooter rentals where scooters will be reduced. Expressed as a percentage. |
| AvgOverheadTimePK (hrs) | Average overhead time per kiosk when scooters cannot be rented. This includes time for opening, closing etc. |

**Financial Section**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| Interest per Qtr | Interest rate input stream for the 12 quarters being modeled |
| Cash Reserve | Amount of cash required as reserves by the company |
| IncomeTaxRate | Income tax rate applied to earnings. Expressed as a flat average rate regardless of income being earned. |
| InitialInvestment | Initial capital investment required to start the business |

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**Customer Satisfaction**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| AcceptableCSAT | Targeted Customer satisfaction level.  |

**Maintenance Section**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| MgrPerKiosk | Input stream for number of managers required per kiosk per quarter.  |
| Administrative Staff Per Kiosk | Input stream for number of admin staff required per kiosk per quarter. |
| Maintenance Personnel Per Scooter | Number of maintenance personnel required per scooter |
| Spare Parts Inventory Per Scooter | The cost of maintaining spare parts per scooter. |
| Annual Mgr Cost (1) | Annual cost to the business of hiring one manager |
| Administrative Staff Costs(1) | Annual cost to the business of hiring an administrative employee |
| Annual Maintenance Personal Cost (1) | Annual cost to the business of hiring one maintenance person |

**Rental Section**

|  |  |
| --- | --- |
| **Input Name** | **Meaning** |
| Rental Volume Projection | Input stream of projected rentals. This is a 5 x 12 array for 5 kiosks over 12 quarters.  |
| RentalsIncrease | Increase to be made to projected rentals if target customer satisfaction goal is exceeded |
| RentalsDecrease | Decrease to be made to projected rentals if target customer satisfaction goal is not met. |
| Rental Price (per 0.5 hour) | Price at which a scooter can be rented for a half hour |

**Scooter Demand Projection**

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| --- | --- |
| **Input Name** | **Meaning** |
| Scooters Needed | Input stream of estimated number of scooters needed. This is a 5 x 12 array for 5 kiosks over 12 quarters.  |

## Location and meaning of outputs

The output streams of the model are all located in the Financial State worksheet.

| **Output** | **Meaning** |
| --- | --- |
| Assets | Assets of the business. This is an output stream spanning 12 quarters |
| Liabilities | Liabilities of the business. This is an output stream spanning 12 quarters |
| Equity | The net worth of the business. This is an output stream spanning 12 quarters. The business breaks even if the equity exceeds the initial investment. |
| Total Cash in | Total cash flowing into the business in a quarter. This is an output stream spanning 12 quarters |
| Total Expenses | Total expenses in a quarter. This is an output stream spanning 12 quarters |
| Customer Satisfaction | Customer satisfaction in a quarter. This is an output stream spanning 12 quarters |
| Adjustment to Rental Vol Proj | Shows the adjustments to the initial projections of rental volume based on customer satisfaction. This is an output stream spanning 12 quarters |
| Advertising Cost | Shows the changes in advertising cost driven by customer satisfaction. This is an output stream spanning 12 quarters |

## Guide to visual cues

The following coloring conventions are followed in the model

|  |  |
| --- | --- |
| **Color Code** | **Meaning** |
| Yellow | Used to visually denote an input parameter or stream |
| Lime | Used to visually denote an input parameter or stream that is intended to be changed to accommodate multiple scenarios |
| Light Green | Used to visually denote a calculated field |
| Pale Blue | Used to visually denote and emphasize an important calculated field  |
| Gray  | General background of the workbook. No special meaning |
| White | Generally used for titles |

## Step by step use of the model

The model is primarily used to gauge the feasibility of the business given a specific demand projection and a set of fixed costs. To make adjustments to a scenario (i.e, is the business feasible or not), the following steps can be taken

|  |  |
| --- | --- |
| **Step**  | **Meaning** |
| 1 | Make a copy of your existing model to make your changes. All the following steps are to be made in the copy |
| 2 | Change the initial investment required to start the business (Input Field “InitialInvestment”). A small number here means that the business has to take a larger loan leading to higher interest expenses. This would take it longer for the business to break even |
| 3 | Change the interest rates (Input Stream “Interest Per Qtr”). Changing it up would increase interest expense and would affect the time the business breaks even |
| 4 | Change the scooters needed projection (Input Stream “Scooters Needed”). Changing it down would reduce capital and operating expenses – however, it would also affect the revenues and customer satisfaction level |
| 5 | Change the acceptable level of customer satisfaction (Input Field: “Acceptable CSAT”). Investments & projections for the next quarter are scaled up and down in the model based on whether the customer satisfaction is below or above this input |
| 6 | Control the changes in investments, costs and projections by changing the following input parametersa) Change “ScooterIncrement” and “ScooterDecrement” to control the number of scooters bought, sold and maintained in the next quarterb) Change “RentalsIncrease” and “RentalDecrease” to control the volume projections fro the next quarterd) Change “AdvertisingCostIncrease” and “AdvertisingCostDecrease” to control the amount of extra spend or extra savings for the next quarter |

To move from a positive scenario i.e., one where the business breaks even to a negative scenario, the primary lever is the scooters needed projection. Adjust this downward until the loss in revenue becomes greater than the savings in expenditure. This will take the business to a negative situation.

To counter this, increase the savings in expenditure, aggressively drop the acceptable level of customer satisfaction and additional investments in response to customer satisfaction. This will start moving the business back to a positive situation

If the scooters drop is resumed, at a certain level, the fixed costs of the business kick in. From this point on, further reductions in scooters will increase the losses suffered by the business.