

# Cash Flow Analysis

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## Assumptions

The cash flow analysis will consist of computing the present value of the future revenue of all projects that the company will generate in the following 5 years making the following assumptions:

- Risk free annual effective interest rate of Mexican economy: 0.1.
- Sustained price annual increment ratio of technology: -0.02.

The company will work on 5 types of projects at the same time:

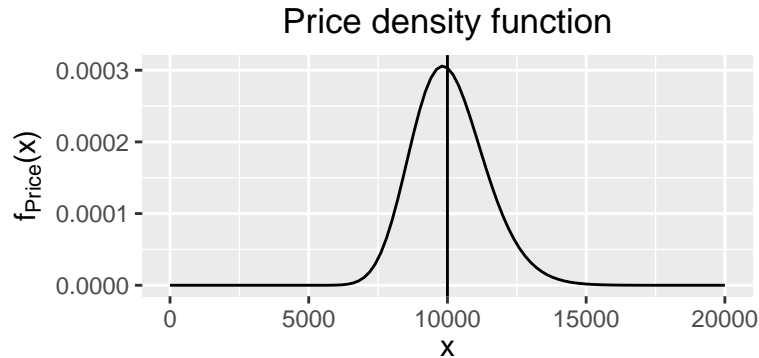
1. Landing pages (only images, company description, contact, almost no functionality),
2. Small projects (basic functionality, manage users, blog, order, e-commerce),
3. Large projects (adding complex functionality, complex back-end computations),
4. Enterprise projects (thousands of users, complex back-end operations), and
5. Inhouse projects (EVA like projects).

Each type of project will arrive to the company according to a Poisson point process with a given ratio  $\lambda$  per year. In other words, the company will arrange contracts with frequency in such a way that it will have development start points randomly distributed in the timeline with a given average. For example, we will consider that the company will develop an average of  $\lambda = 24$  landing pages in a year (two each month). We will make these kind of assumptions for each type of project the company wants to develop and the average of contracts in a year will depend on the size of the project.

## Landing pages

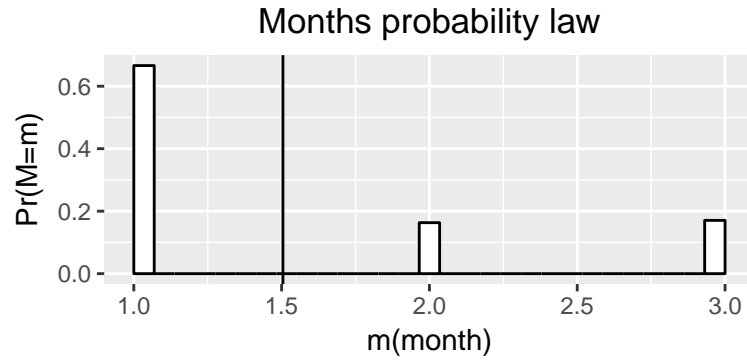
These type of projects will arrive to the company with a ratio of 24 per year and will consider the following assumptions:

- The price of the project will be \$10000 MXN in average with a standar deviation of \$2000 MXN and will have the following distribution:



The vertical line in the graph above represents the average price of the project.

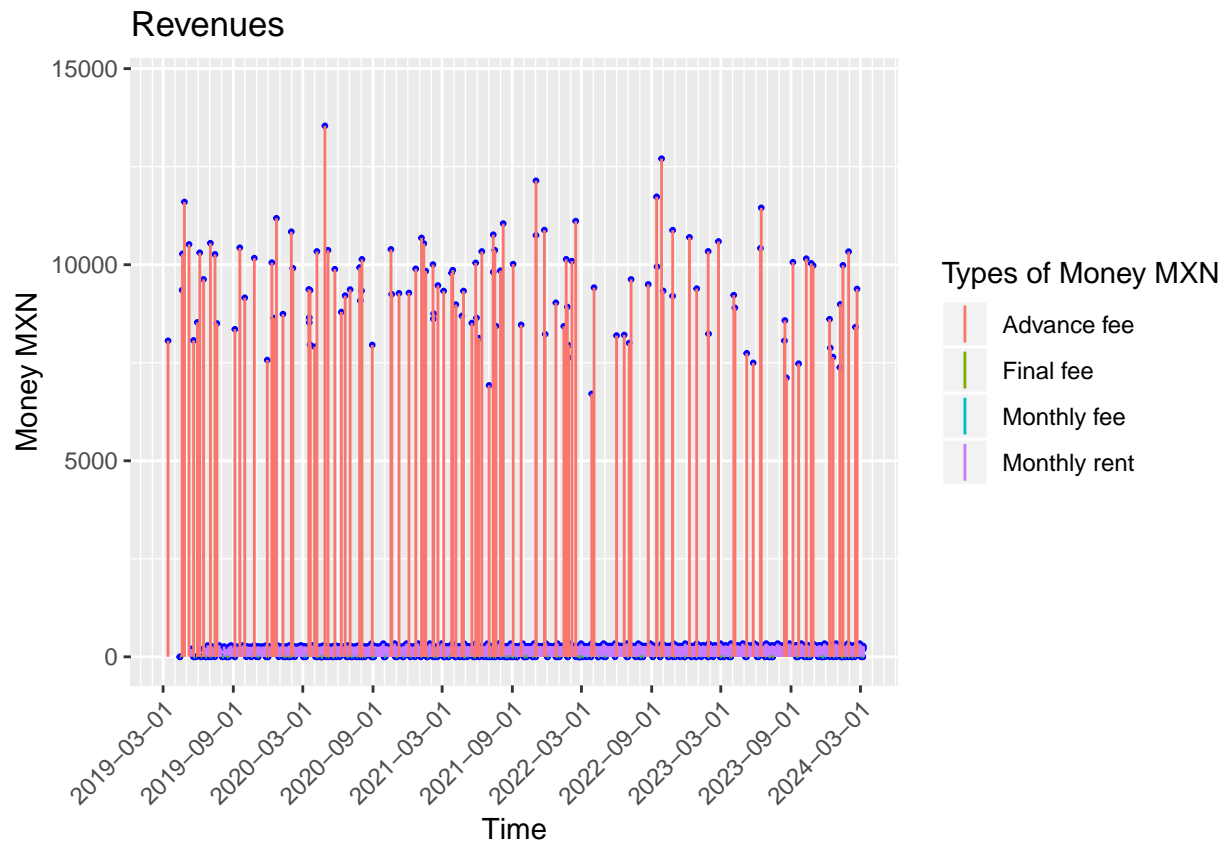
- The development time measured in montsh of the project will have the following discrete distribution:



The vertical line in the graph above represents the average development time of the project measured in months.

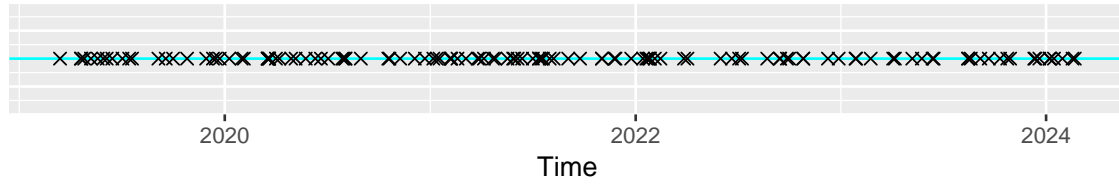
- $1 \times 100$  percent of the project will be charged in advance.

The positive cash flows that the company will obtain during the following 5 years due to the development of these type of projects will look similar to the following graph:



Project arrivals to the company will look like the following graph:

## Project arrivals

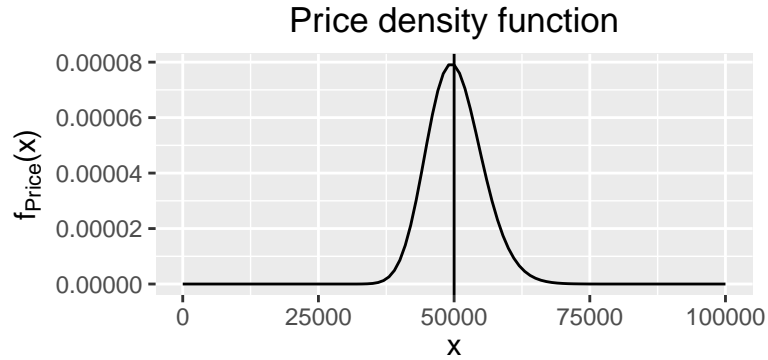


Given the previous future cash flows, the present value of the revenues of these projects is worth \$1596901.2615062 MXN.

## Small projects

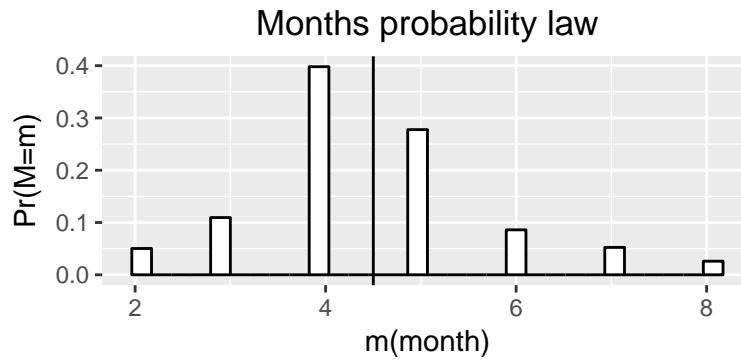
These type of projects will arrive to the company with a ratio of 5 per year and will consider the following assumptions:

- The price of the project will be \$50000 MXN in average with a standar deviation of \$20000 MXN and will have the following distribution:



The vertical line in the graph above represents the average price of the project.

- The development time measured in monthsh will have the following discrete distribution:

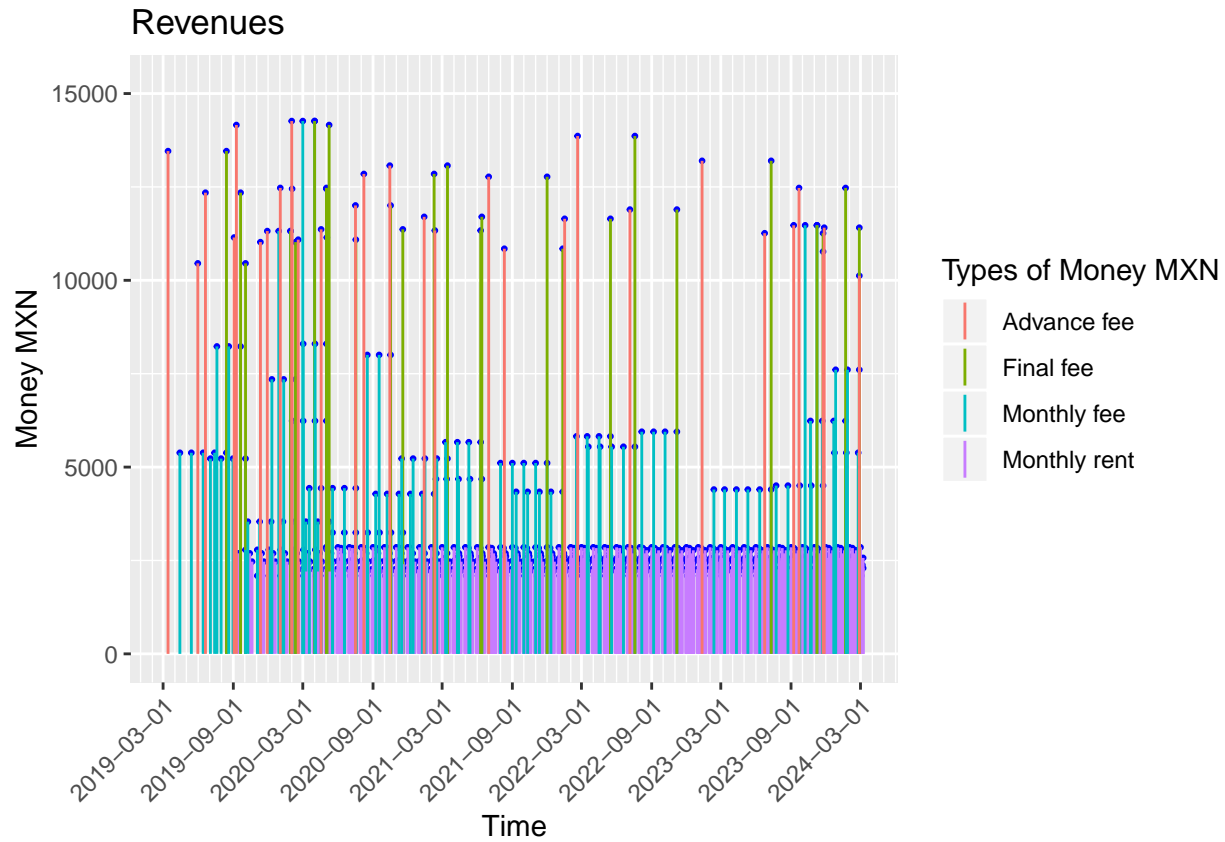


The vertical line in the graph above represents the average development time of the project measured in months.

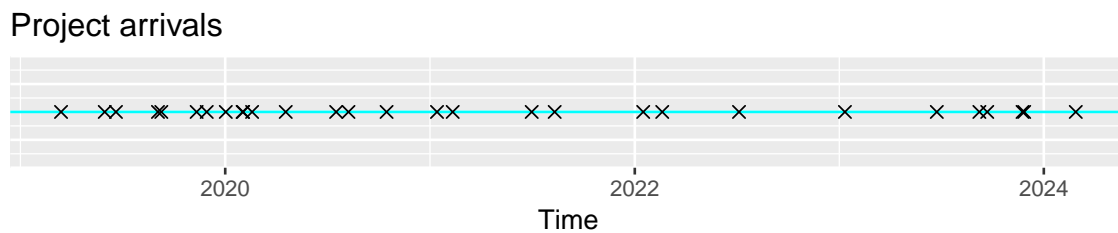
- $0.25 \times 100$  percent of the project will be charged in advance.
- $0.5 \times 100$  percent of the project will be charged monthly during the development.
- $0.25 \times 100$  percent of the project will be charged when the project is finished.

- $0.05 \times 100$  percent of the total price will be charged monthly for project maintenance.

The positive cash flows that the company will obtain during the following 5 years due to the development of these type of projects will look similar to the following graph:



Project arrivals to the company will look like the following graph:

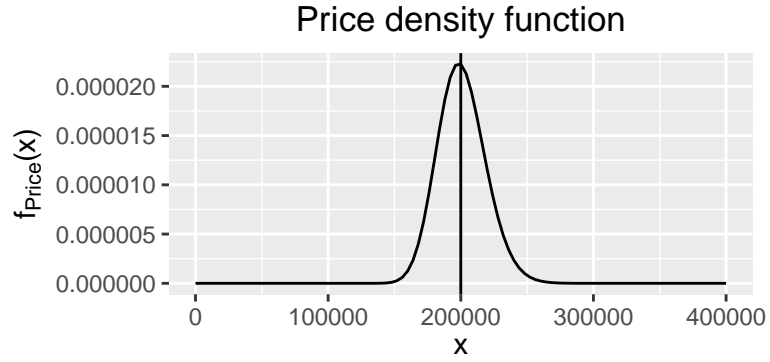


Given the previous future cash flows, the present value of the revenues of these projects is worth \$2657227.0608459 MXN.

## Large projects

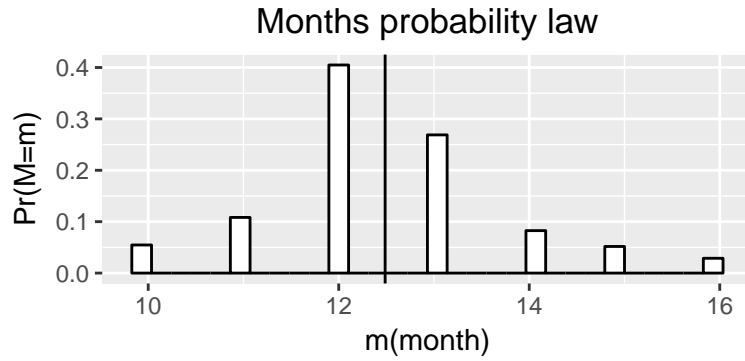
These type of projects will arrive to the company with a ratio of 5 per year and will consider the following assumptions:

- The price of the project will be \$200000 MXN in average with a standar deviation of \$70000 MXN and will have the following distribution:



The vertical line in the graph above represents the average price of the project.

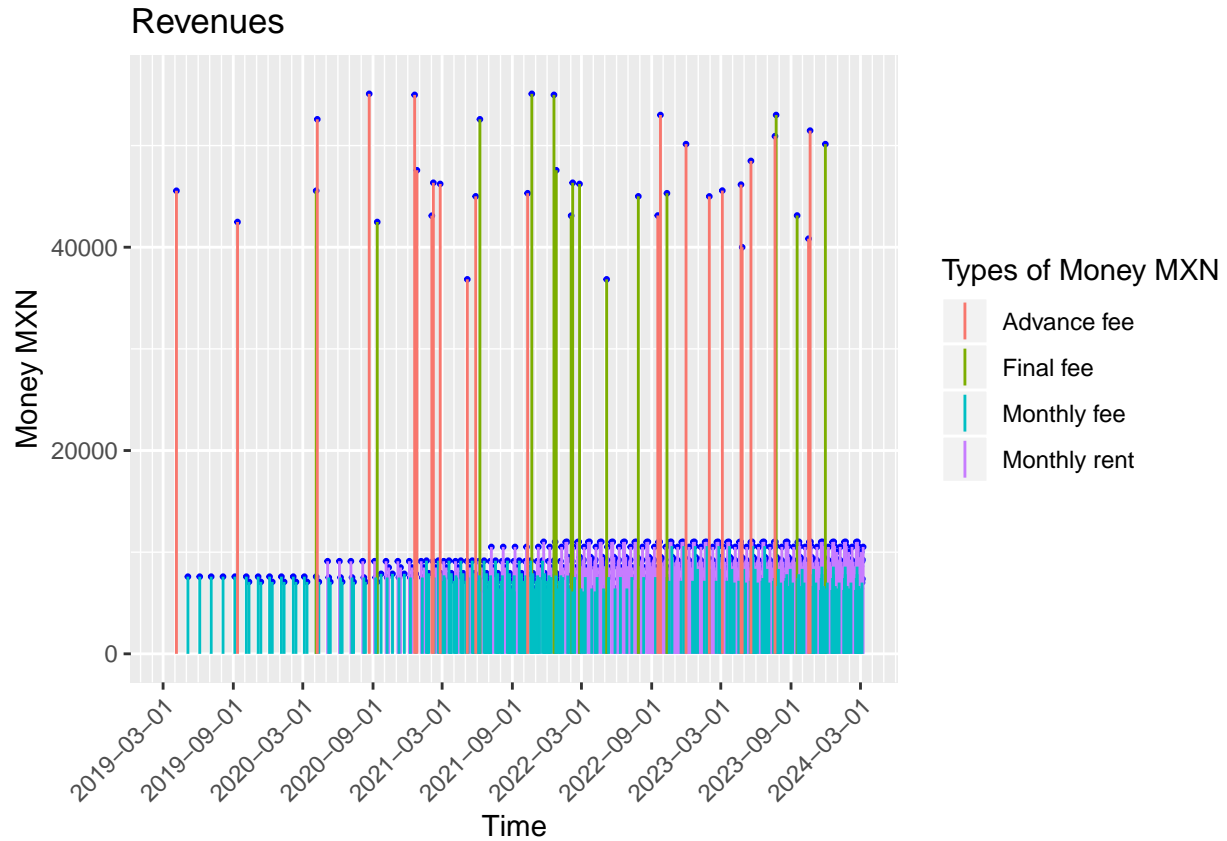
- The development time measured in monthsh will have the following discrete distribution:



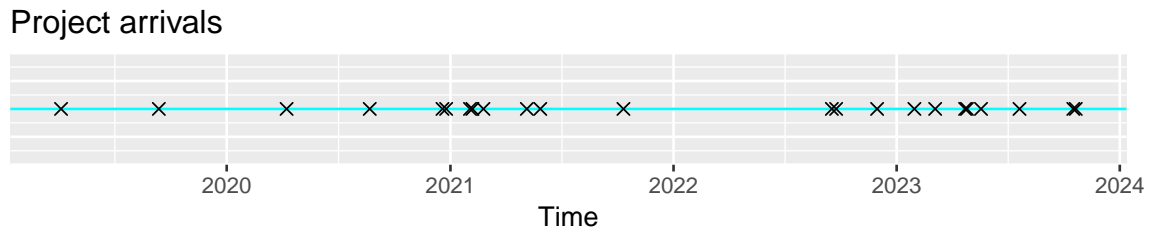
The vertical line in the graph above represents the average development time of the project measured in months.

- $0.25 \times 100$  percent of the project will be charged in advance.
- $0.5 \times 100$  percent of the project will be charged monthly during the development.
- $0.25 \times 100$  percent of the project will be charged when the project is finished.
- $0.05 \times 100$  percent of the total price will be charged monthly for project maintenance.

The positive cash flows that the company will obtain during the following 5 years due to the development of these type of projects will look similar to the following graph:



Project arrivals to the company will look like the following graph:

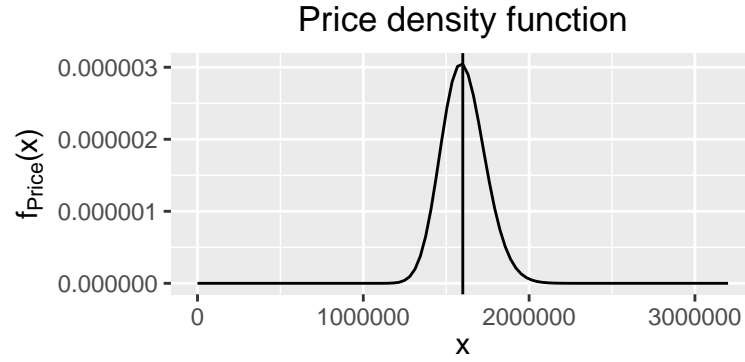


Given the previous future cash flows, the present value of the revenues of these projects is worth \$5060572.892346 MXN.

## Enterprise projects

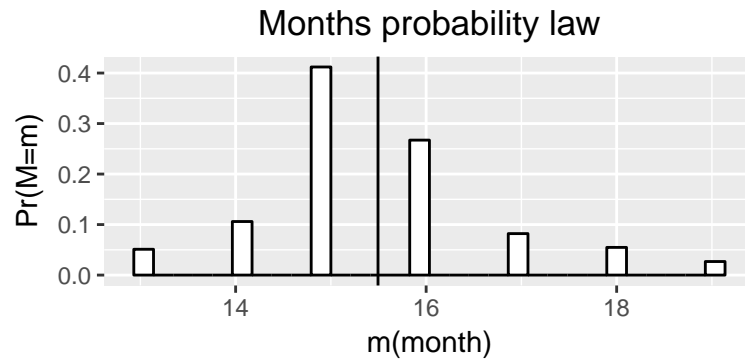
These type of projects will arrive to the company with a ratio of 2 per year and will consider the following assumptions:

- The price of the project will be \$1600000 MXN in average with a standar deviation of \$200000 MXN and will have the following distribution:



The vertical line in the graph above represents the average price of the project.

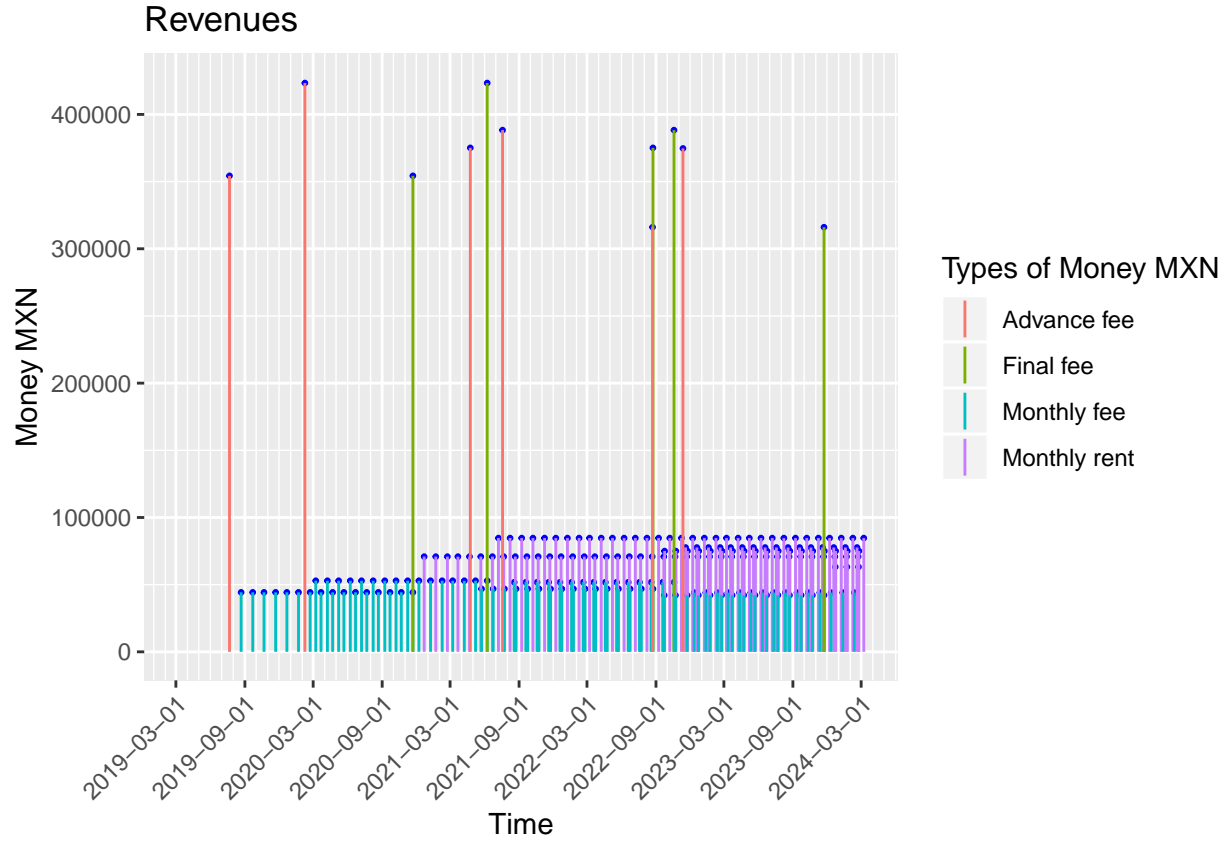
- The development time measured in monthsh will have the following discrete distribution:



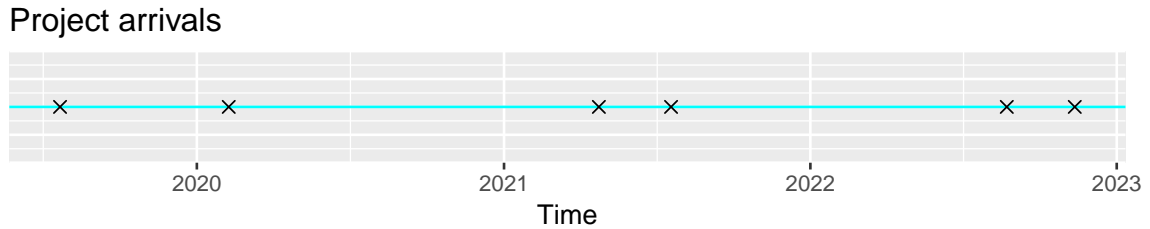
The vertical line in the graph above represents the average development time of the project measured in months.

- $0.25 \times 100$  percent of the project will be charged in advance.
- $0.5 \times 100$  percent of the project will be charged monthly during the development.
- $0.25 \times 100$  percent of the project will be charged when the project is finished.
- $0.05 \times 100$  percent of the total price will be charged monthly for project maintenance.

The positive cash flows that the company will obtain during the following 5 years due to the development of these type of projects will look similar to the following graph:



Project arrivals to the company will look like the following graph:



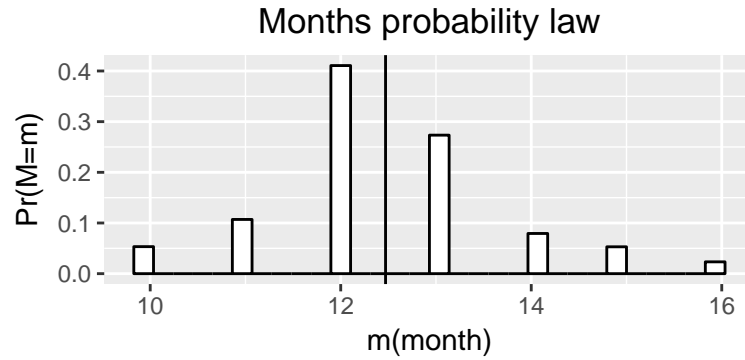
Given the previous future cash flows, the present value of the revenues of these projects is worth \$12438053.2588292 MXN.

## Inhouse projects

Inhouse projects will arrive to the company with a ratio of 1 per year and will consider the following assumptions:

- The development time measured in monthsh will have the following discrete distribution:

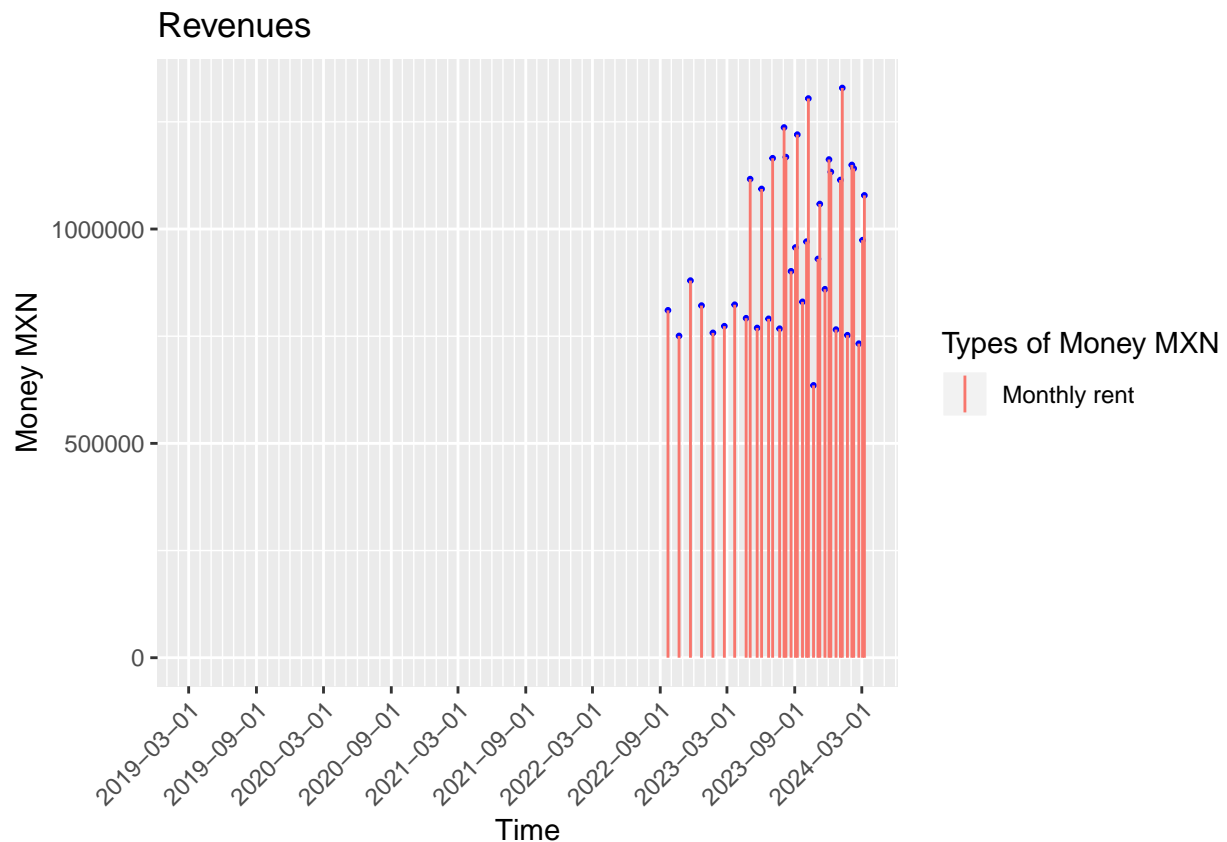




The vertical line in the graph above represents the average development time of the project measured in months.

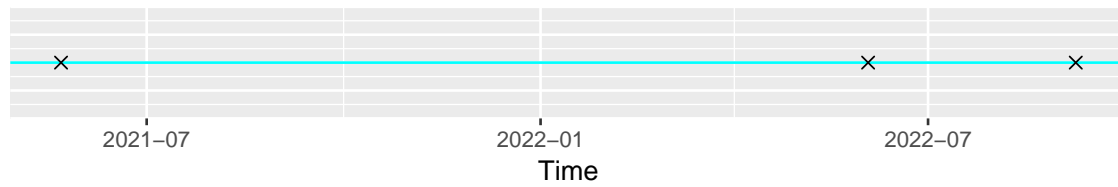
- The monthly revenue generated by an inhouse project will be \$400000 MXN in average with an standard deviation of \$100000 MXN.

The positive cash flows that the company will obtain during the following 5 years due to inhouse projects development will look similar to the following graph:



Project arrivals to the company will look like the following graph:

### Project arrivals



Given the previous future cash flows, the present value of inhouse projects development revenues is worth \$23192187.0172829 MXN.

### Valuation

Summing up the net present value of all company's projects the net worth of the company es given by \$44944941.4908103 MXN.