

User Guide for Model

The information required to complete the model can be worked out by using the following equations.

Input time

1) Annual number of working days

Please enter the number of days of work in a year

Maximum value: 365 days

Minimum value: 1 day

Unit: days

The average number of working days is 260

2) Number of working hours per day

Please enter the number of hours of work in a day

Maximum: 24 hours (average 8)

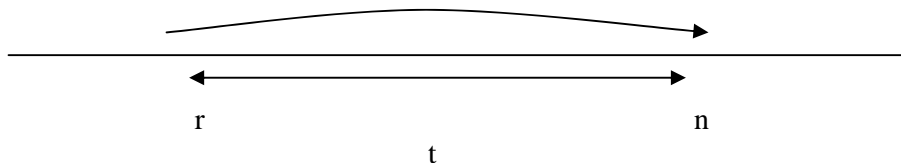
Minimum: 1 hour

Unit: hour

Enter only numerical values

3) Time required for employees to be able to start work again

The time that lapses between a faulty device being installed or repaired and the time the business process becomes operational.



r is the point when a faulty device is finished being installed and n is the point when the normal business operations start. The time (t) between point r and n is the time required to restart the process.

Minimum value: 0.01 hour (example = 1 minute) Unit: Hour

Average time (switch or router is typically 15 minutes)

Input monetary value

4) Annual Gross Revenue

Unit: pounds (the £ symbol is not required)

Enter only numerical value

Minimum Value: 0.01 pounds

5) Percentage of Revenue affected by downtime

For estimation the following three stages needed to be applied:

1. For example a organization has 1360 employees and 75% of the employees are dependent on the IT network. The annual revenue is £15000000. The % of revenue affected can be found by categorising the amount of revenue generated by the IT dependent and the non IT dependent employees:

IT dependent => $(1360(0.75) = 1020 \times \text{£}15000000)/1360 = \text{£}11250000$
Non-IT dependent => $\text{£}15000000 - \text{£}11250000 = \text{£}3750000$

2. The next step is to determine the annual revenue generated by the IT dependent employees lost as a result of downtime:

Revenue generated by the IT dependent employees multiplied by the percentage (x %) of productivity lost by the IT dependent employees during a failure as a result of downtime. For the example below we will assume the percentage of productivity lost by the IT dependent employees is 80%:

$\text{£}11250000 \times 0.8 = \text{£}9000000$

3) Finally the % of revenue affected by downtime can be estimated by:

$(9000000/15000000) \times 100 = 60\%$

Unit: percentage in decimal value, 60% = 0.6

Minimum Value = 0.01

Maximum Value = 1

Input staff details

6) Number of all employees

The total number of employees working within the organization

Unit: employee

Enter only numerical value

Minimum Value = 1

7) Percentage of IT dependent employees

The answer to this question is based on the amount of people who are dependent on the use of computers and need access to the network to perform their roles.

Unit: percentage in decimal value, 60% = 0.6

Minimum Value = 0.01

8) No. of employees required to restore the network

When a network failure occurs, some IT staff are required to work to repair and restore configurations.

Minimum Value = 1

maximum- same or less than total number of employees

Unit: employee

Enter only numerical value

9) Percentage of productivity lost by IT-dependent employees

When the network breaks down, IT operations stop. The answer to this question will vary depending on the organization and vertical market.

E.g. Staff who are unable to continue with work because they are unable to access the network. 70-80% of staff rely on an IT network, but this figure will be specific to your organization.

Unit: percentage in decimal format, 90% = 0.9

Minimum Value = 0.01

Maximum Value = 1

10) Percentage of productivity lost by non IT-dependent employees

There can be interdependencies between departments leading to some non-IT dependent staff being affected by the network downtime. In many scenarios employees can continue to work for 30 -60 minutes without access to a network, after this time work productivity declines.

Unit: percentage in decimal format, 90% = 0.9

Minimum Value = 0.01

Maximum Value = 1

Examples –

Public sector – job sheets can not be produced for maintenance engineers to attend appointments = 100% of non IT dependent staff.

Professional services – a solicitors firm would not be able to locate files to send to court or if they had a VoIP system, phone calls would not be received.

Manufacturing – many manufacturing plants have computerized production lines.

Distribution – job sheets and inventory lists could not be produced for drivers.

Retail – dependent on the type of business this figure can range from 20 – 100%.

A large chain store would be unable to process customers' transactions, or conduct stock inventory, whilst a small bakery would still be able to produce goods and sell to customers.

Input other variables

11) Average hourly cost of all employees

These are the HR costs of an employee i.e. the total of all employee salaries divided by 260 divided by number of hours worked per day.

e.g. $100,000 / 260 / 8 = 45$

Unit: pounds Minimum Value = 1

12) Annual Downtime hours

The annual network downtime. This figure can be sourced from the IT department.

Units: hours

Minimum: 0.1

Enter only numerical value

13) Annual no. of sales/customers

The average number of monthly invoices sent out. These are basically entities that contribute towards the productivity.

Unit: average number of invoices sent out monthly x 12

Minimum Value = 1

14) Duration of downtime

Please insert the number of down time hours you would like the model to calculate, for example if 2 hours is entered then the model will give the productivity loss of 2 hours

Units: hours

Minimum: 0.1