

Short Communication about Usefulness of Some Probabilities

Adib Ben Jebara

Retired Tunis, Tunisia

ABSTRACT

Poisson law for rare events should be used more often.

Estimating a stock of security for items used in maintenance is difficult because it depends on a lot of variables so a probability has to be considered.

If the average per month is 3 used, what is the probability that 5 are needed (stock of security of 2 needed)?

If the probability is very low, no problem will occur during a long time.

The theory is from the 19th century.

After being reminded of the Khi 2 statistical test, we will apply it to an example.

Key words: “Adib Ben Jebara

I. INTRODUCTION

Poisson law for rare events should be used more often.

In

<https://www.onlinemathlearning.com/poisson-distribution.html#:~:text=For%20example%2C%20whereas%20a%20binomial.during%20a%2020%2Dminute%20interval.>

We are reminded (see the big image of the formula)

II. MAIN TEXT

Estimating a stock of security for items used in maintenance is difficult because it depends on a lot of variables so a probability has to be considered.

If the average per month is 3 used, what is the probability that 5 are needed (stock of security of 2 needed)?

If the probability is very low, no problem will occur during a long time.

The lead time for increasing the inventory stock is not a number but a variable because of delays.

The theory is from the 19th century and is more difficult than some theory from the 17th century.

After being reminded of the Khi 2 statistical test which is from the 20th century, we will apply it to an example about warehouses.

<https://www.scribbr.com/statistics/chi-square-tests/>

The chi-square formula

Both of Pearson's chi-square tests use the same formula to calculate the test statistic, chi-square (X^2):

$$X^2 = \sum \frac{(O - E)^2}{E}$$

Where:

- X^2 is the chi-square test statistic
- Σ is the summation operator (it means “take the sum of”)
- O is the observed frequency

E is the expected frequency

III. CONCLUSION

The goal is to have the distribution:

Warehouse A 50 pieces

Warehouse B 12

Warehouse C 8
Warehouse D 6

The observed is:

Warehouse A 47 pieces
Warehouse B 14
Warehouse C 8
Warehouse D 7

Number of degrees of freedom equal the number
of lines minus 1 equal 3

DO WE HAVE AN APPROXIMATION OF THE GOAL?

We have to see the table

FOR RELIABILITY UNTIL 5% the maximum value allowed is 7.8

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Adib Ben Jebara
Retired Tunis, Tunisia