

Efficiency of email communication

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EXECUTIVE SUMMARY

1. Instruction
2. Method
3. Outputs
4. What do we find

Introduction

Instructions

Method

Results

Description of Dashboard

Statistical methodology

Basic

Uncertainty

To relax the assumption of a fixed read time, we simulate read times from appropriate Gamma Distributions, where the mean is based on the input value. To allow Good Directions to provide their uncertainty we allow the user to input a ‘best guess’ (aka mean) and a range of possible values (aka 95% interval). Assuming the user is imaging read times as approximately normally distributed, the 95% interval provided is converted to a standard deviation via $(U - L)/3.92$.

By first observing the number of emails of each type, we simulate and then sum the read times. We conduct this process 1000 times and then summarise the distribution of the total read times using medians and quantiles.

Visualise

Case studies

References

Appendixes

Deterministic

First, let there be N employees in the company, where each employee sends an average number of emails per day. Any given email falls into one of three *types* such that the number of emails a single person sends in a specified period (e.g., one day) is equal to

$$S_1 + S_2 + S_3 = S_T,$$

where S_1 is the average number of emails of type 1 sent. Moreover, for a given email of type t , we represent the average number of recipients as R_t .

For each type, the average read time, T_t , and probability of being relevant, P_t , are varied.

To derive the total number of emails recieved by a single employee, we simply multiple the the number of emails sent by each person by the number of recipients. This procedure is complete separately for each type and then summed.

$$TotalEmails = (S_1 R_1) + (S_2 R_2) + (S_3 R_3)$$

Next, the number of emails recieved for each type is multiplied by the reading time for the given type. This procedure is complete separately for each type and then summed to derive the total reading time for the specified period.

$$TotalReadingTime = (T_1 S_1 R_1) + (T_2 S_2 R_2) + (T_3 S_3 R_3)$$

Consider the following example:

- $N = 15$
- $T_1, T_2, T_3 = 10$ seconds
- $S_1, S_2, S_3 = 10$
- $R_1, R_2, R_3 = 10$

In this instance:

$$TotalEmails = 3(10 * 10) = 300$$

$$TotalReadingTime(mins) = 3(10 \times 10 \times 10)/60 = 50$$

In this report we describe an interactive email efficiency dashboard created for Good Directions. The dashboard enables Good Directions management to explore current and future email communications.

Deliverables

Objectives

- Report that describes the email communication model, including methodologies used, exemplar outcomes, description of the dashboard and illustrations of outputs from the dashboard (approximately 10 pages)
- Interactive email efficiency dashboard (software tool)

Background

<https://www.marketingsherpa.com/article/average-email-open-time-is>

<https://www.radicati.com/wp/wp-content/uploads/2015/02/Email-Statistics-Report-2015-2019-Executive-Summary.pdf> states that “In 2015, the number of business emails sent and received per user per day totals 122 emails per day. This figure continues to show growth and is expected to average 126 messages sent and received per business user by the end of 2019.” - Article states that on average a person sends 30 emails a day and receives about 96

Fantastic article with lots of statistics <https://hbr.org/2019/01/how-to-spend-way-less-time-on-email-every-day#:~:text=The%20average%20professional%20spends%2028,120%20messages%20received> states “The average professional spends 28% of the work day reading and answering email, according to a McKinsey analysis. For the average full-time worker in America, that amounts to a staggering 2.6 hours spent and 120 messages received per day.”

Chronic emailers “These are the people that copy everyone on everything they do. It is usually done as a vain attempt to look important or busy. What these people are really doing is wasting a LOT of other people’s time. Company emails should be limited and should conveyed on a “need to know” basis. That means ONLY the relevant information is disseminated, and ONLY to those that need to know it.” ”

Methodology

In this section, we describe the formula used to derive the key outputs of the dashboard:

- number of emails received
- total reading time
- staff cost