Survey

2023-04-05

Abstract

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

Background

You can also embed plots, for example:

Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

Research Question

Hypothesis

Experiment Design

Project Timeline

Measurements

Communications

Enrollment and Recruitment ?

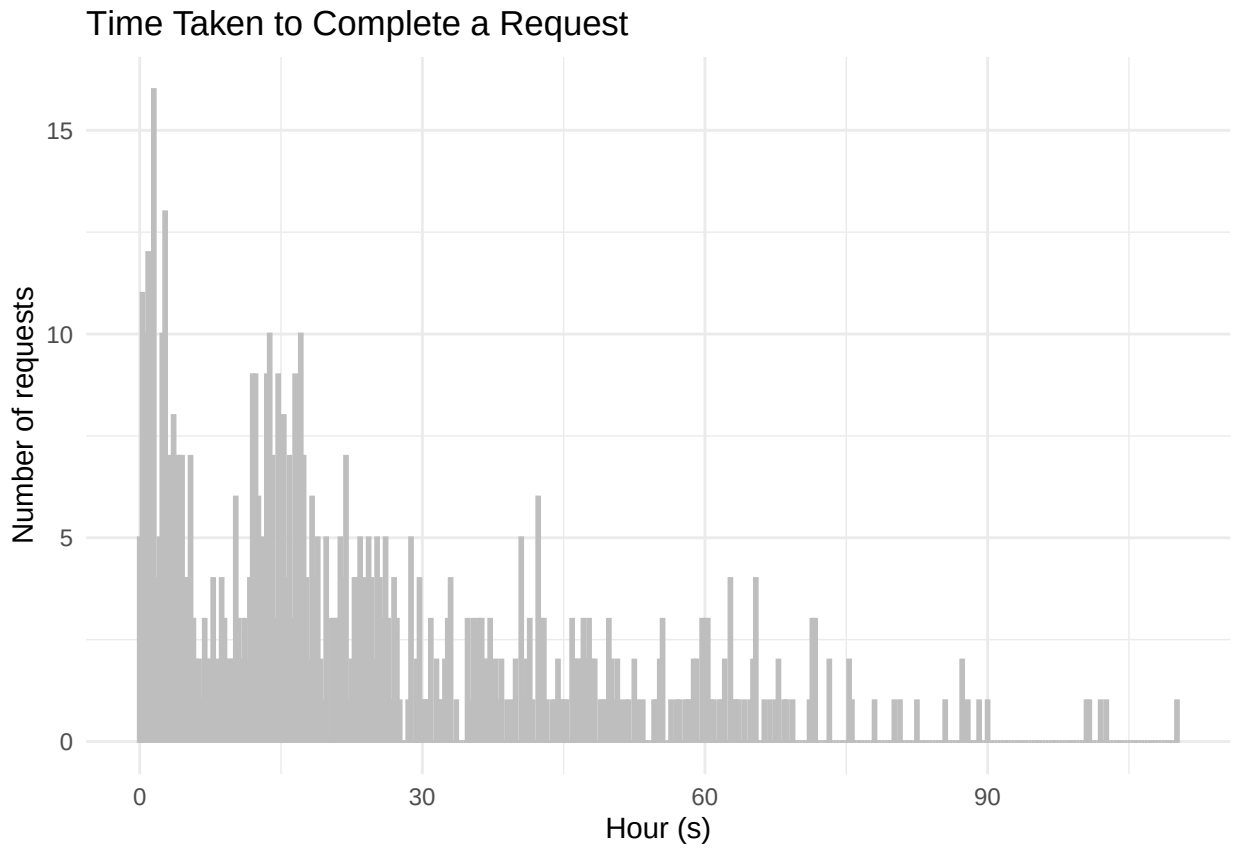
Randomization

Observations and Outcome Measures

We monitored various outcome measures, including the respondents' engagement with the survey, which is determined by their participation or lack thereof. Given the internal nature of the employee surveys, we recorded several key attributes: the employee's department, their salary grade, and the duration required to address the issue outlined in the ticket. Additionally, we took into consideration two treatment factors - the quantity of survey questions and the response scale utilized. The following table provides a detailed breakdown of the outcomes in relation to the two treatment aspects.

Response Scale	Number of Questions	Total Count
binary	One	107
binary	Three	112
binary	Five	113
likert	One	116
likert	Three	121
likert	Five	103

Table 1: Total count of responses by number of questions and response scale

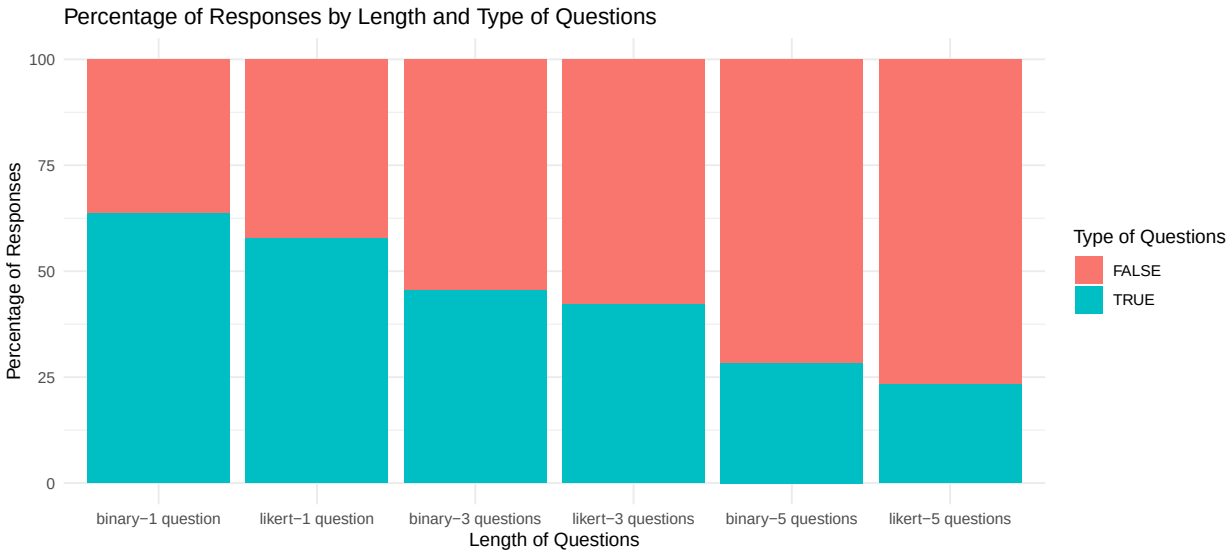


The histogram exhibits a right-skewed distribution, with most tickets being resolved within a day, while some tickets taking about three days to resolve . Therefore, it is recommended to apply a logarithmic transformation to the data for more accurate analysis.

Data Completeness

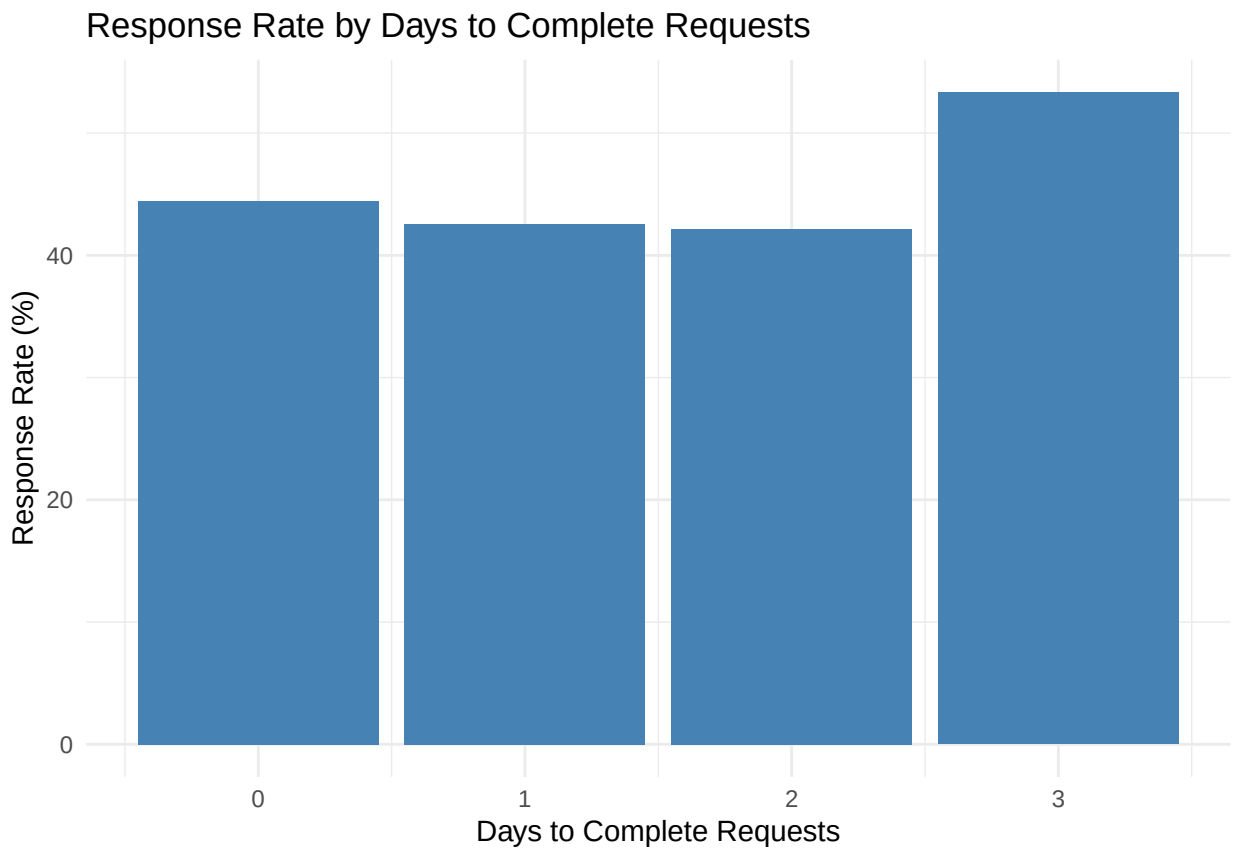
Results

```
## `summarise()` has grouped output by 'survey_response_scale',
## 'survey_number_of_questions'. You can override using the `.groups` argument.
## Joining with `by = join_by(survey_response_scale, survey_number_of_questions)`
```



Our analysis reveals a negative correlation between survey complexity and response rate. The simplest survey type, featuring a single binary question, yields the highest response rate at 63.5%. In contrast, the most intricate survey, consisting of a 5-item Likert scale questionnaire, demonstrates the lowest response rate of 23.3%. This suggests that as the survey's complexity increases, participant engagement tends to decrease.

```
## `summarise()` has grouped output by 'department'. You can override using the
## `.groups` argument.
## `summarise()` has grouped output by 'salary_grade'. You can override using the
## `.groups` argument.
```



Upon analyzing the relationship between ticket resolution time and survey response rates, we observed an inconsistent pattern. Response rates are 44% for same-day resolutions, slightly lower at 42.5% for one-day resolutions, and 42% for two-day resolutions. Interestingly, the response rate significantly increases to 53% for three-day resolutions. This suggests that complex factors influence the relationship, warranting further investigation.

Regressions

Conclusions

Limitations and Future Enhancements

Appendix A