

Monte Carlo Simulation for Library Acquisitions

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Introduction

Library Acquisitions refer to a library response for the selection and purchase of materials or resources. While collection development focuses primarily on selection, acquisitions makes that selected, paid-for content available to authorized uses. Thus, acquisitions cannot be simply explained as “buying books.” Acquisitions should be considered all the process of the purchase, ordering, receiving, establishing access, and paying. Also, acquisitions should be considered a library’s physical space, budget, and their collections they house.

We create A Monte Carlo Simulation for Library Acquisition focusing on printed books and e-book. Each library has different patrons preference between two different formats. Based on patron’s needs and preference in a certain format of resources, each library consider to purchase a certain format more than the other format. Also, depending on preference of the two formats, variables a library should consider might change. For example, in terms of printed books, a library considers budget, available space for new materials, labor costs for cataloging and circulation, and preservation. Unlike printed book, a library should consider budget, aggregators, access contract, cataloging cost, etc.

Our primary goal of the simulation is to suggest better acquisitions to purchase new materials based on these variables.

Hypothesis

Annual budget and a library space is stable, although budget might be changed year by year. Also, a total library space is fixed, available space is gradually decreased because of new physical materials.

We simulate probability of that a library purchases only physical books as a preliminary simulations. Next, we simulate probability of that a library purchases both physical books and e-books.

In terms of the preliminary simulation, available space and budget may not remarkably impact on a library’s annual plan to purchase of books. However, e-book may crucially impact possible purchased number of titles, because to purchase e-book has more variables such as prices depending on access condition and contract with aggregators. Accorden to Jesse Holden, “options for the acquisition of eBook bundles tend to be more numerous and varied” than printed books.¹⁾

1) Holden, Jesse. Acquisitions: Core Concepts and Practices. Chicago: Neal-Schuman, 2017: 61.

Method

Parameters

There are six parameters: budget, total storage space, current collection volumes, available space, a number of titles to be purchase, and ratio of purchasing book format (printed books, e-books, and both printed and e-books.)

Variables

- Price Decision
 - if printed books:

random total page number * random price per page
 - elif e-books:

printed book cost = random total page number * random price per page

if one person access:

printed book cost * 1.3
 - elif three person access:

printed book cost * 1.3. * 1.5.
 - elif unlimited access:

printed book cost * 1.3. * 2.0
- elif both purchase:

printed book cost + e-book
- Thickness Decision
 - random total page number * random thickness per page
- Cataloging Labor Cost
 - total working days = total number of purchased books / 12 (a system wide standard labor speed)
 - total cost = total working days * 8 (working hour per day) * labor cost
- Maintaining Cost
 - maintaining cost = total volume of collections * random maintaining cost
- Repairing Cost
 - number of books needed to repair = total volume of collections * random circulation rate
 - repairing cost = the number of books (random repairing costs)

Simulation Process

Expected Result

Printing and Laminating

Document Services will print and laminate posters in the dimensions of this template and provide a mailing tube for transportation at these prices:

\$60.00 printing
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\$5.00 proof (12.6" x 16.8")
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Conclusions

We have created this template with scientific researchers in mind and with the help of feedback we have received.

Reference

Check to make sure you’ve acknowledged partner and funding agencies, either with text or with their logos.

Template for a 48”x36” poster

Presenter name, Associates and Collaborators

Department of XXXXXXXXXXXXXXXX, College of XXXXXXXXXXXXXXXX, University of Illinois at Urbana-Champaign

Introduction

This editable template is in the most common poster size (48” x 36”) and orientation (horizontal); check with the conference organizers for specific conference requirements regarding exact poster dimensions.

Writing Style:
The writing style for scientific posters should match the guidelines for your particular research discipline. Use the campus [Writing Style Guide](#) for general guidance with academic titles, names of campus buildings, the correct way to refer to the campus, etc.

Campus Guidelines
Authors should be aware of and follow the guidelines of the [Institutional Review Board](#) and the [guidelines for campus copyright](#).

Aim

How to use this template
Highlight this text and replace it with new text from a Microsoft Word document or other text-editing program. The text size for body copy and headings and the typeface has been set for you. If you choose to change typefaces, use common ones such as Times, Arial, or Helvetica and keep the body text between 26 and 32 points.

The text boxes and photo boxes may be resized, eliminated, or added as necessary. The references to the department, college and university, including the logo, should remain.


Refer to the next page for logos commonly used on campus posters. You can drag and drop them to your personal PowerPoint scrapbook for use in subsequent posters; refer to PowerPoint help documents for more specific information regarding how to use the scrapbook.

Method

Text
Be sure to spell check all text and have trusted colleagues proofread the poster. In general, authors should:

- Use the active tense
- Simplify text by using bullet points
- Use colored graphs and charts
- Use bold to provide emphasis; avoid capitals and underlining
- Avoid long numerical tables

Authors should re-write their paper so that it is suitable for the brevity of the poster format. Respect your audience—as a general rule, less is more. Use a generous amount of white space to separate elements and avoid data overkill. Refer to Web sites or other sources to provide a more in-depth understanding of the research.

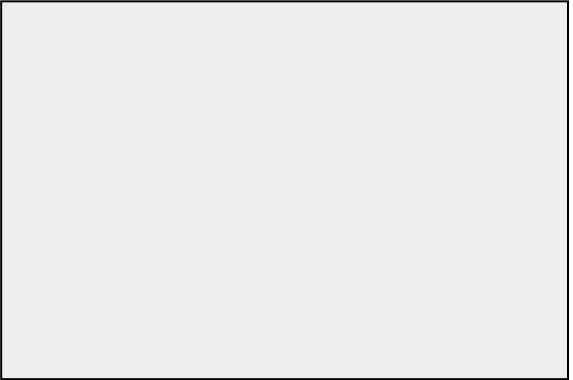


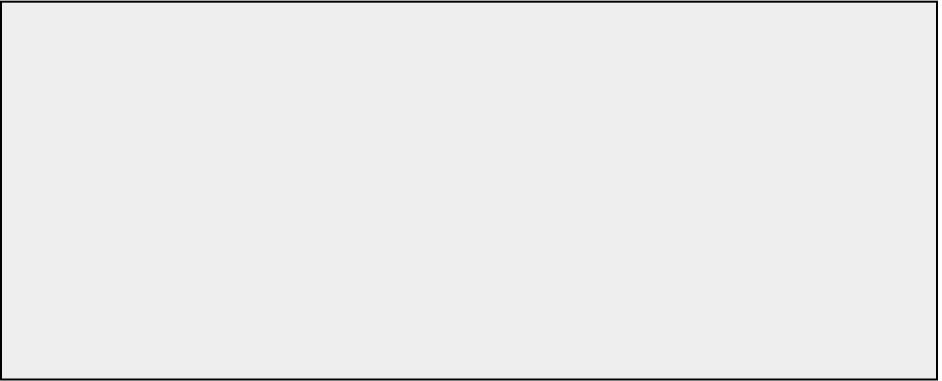
Captions set in a serif style font such as Times, 18 to 24 size, italic style.

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Captions set in a serif style font such as Times, 18 to 24 size, italic style.

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Results

Images
TIFFs are the preferred file format for images appearing in printed posters. Avoid the use of low-resolution jpgs, especially those downloaded from the Internet, as they will reproduce poorly.

In order to insert an image, use the menu toolbar at the top of your screen.

- Select:
- 1 Insert
 - 2 Picture
 - 3 From file
 - 4 Find and select the correct file on your computer
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Be aware of the image size you are importing.

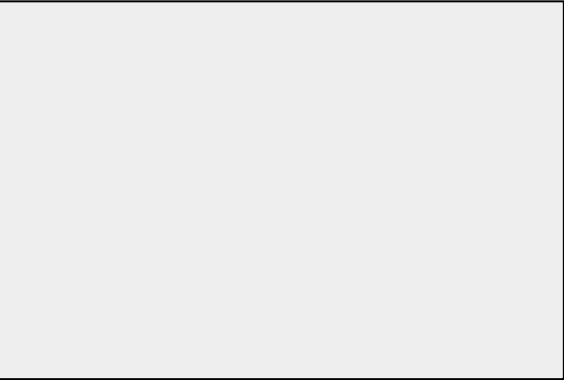


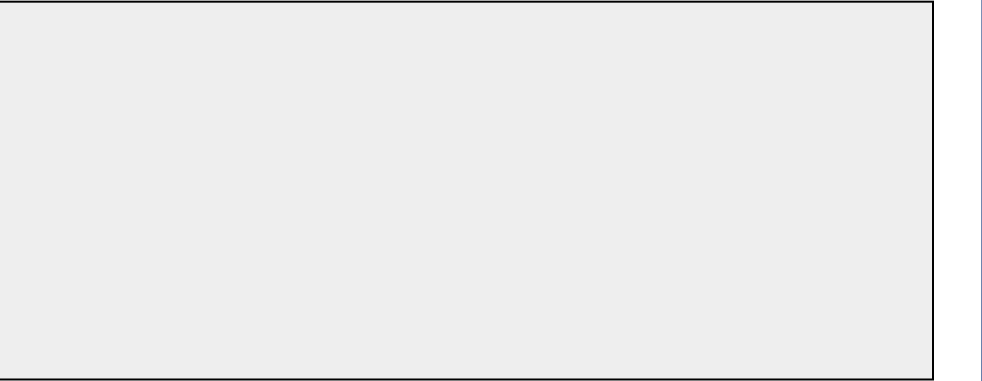
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Conclusions

We have created this template with scientific researchers in mind and with the help of feedback we have received. We encourage any comments or suggestions so that we can continue to update and improve this template. [Visit this page to make a suggestion](#).

Acknowledgments

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