ANALYSIS OF RECOMMENDATION ALGORITHM ON THE INTERNET : AS A TOOL TO CURB INFORMATION OVERLOAD

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CANDIDATE CODE

12818132045

12818132032

12918132022

12818132054

12818132053

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DECLARATION

We hereby declare that the dissertation entitled **Analysis of Recommendation Algorithm on the Internet : As a tool to curb Information overload'** is a record of research work carried out by us at the Department of Mass Communication and Journalism, Sree Narayana College, Kollam, under the guidance of Mrs Siva mol and submitted to the University of Kerala in partial fulfillment of the requirement for the award of the Degree of Bachelor of Arts, First Degree Programme in Mass Communication, Journalism and Video Production under CBCSS system**.**

1	Sreekutty.S.Anilkumar	12818132045
2	Gayathri.J.S	12818132032
3	Anandhu.B.Nalinakshan	12818132022
4	Nijin.R.Vijay	12818132054
5	Jithin Geroge	12818132053

Place : Kollam

Date :

Department Of Mass Communication,

Sree Narayana College, Kollam

CERTIFICATE

This is to certify that the project entitled,'**Analysis of Recommendation Algorithm on the Internet : As a tool to curb Information overload'**submitted for the award of degree of BA Mass Communication and Journalism,University of Kerala, is a bonafide research carried out by Sreekutty S Anilkumar, Gayathri J S, Anandhu B Nalinakshan, Nijin R Vijay and Jithin George under our super vision.No part of this dissertation has been submitted for the award of any other degree before.

Mrs.Radhika B

Head of the Department

Sree Narayana College, Kollam

Mrs.Siva mol

Faculty

Department of Mass Communication

Sree Narayana College, Kollam

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1. Sreekutty S Anilkumar (12818132045)
2. Gayathri J S (12818132032)
3. Anandhu B Nalinakshan (12818132022)
4. Nijin R Vijay (12818132054)
5. Jithin G George (12818132053)

ABSTRACT

On the Internet, where the number of choices is overwhelming, there is need to filter, prioritize and efficiently deliver relevant information in order to alleviate the problem of information overload, which has created a potential problem to many Internet users. Recommender systems solve this problem by searching through large volume of dynamically generated information to provide users with personalized content and services. This paper explores the different characteristics and potentials of different prediction techniques in recommendation systems in order to avoid information overload.

CONTENT

CHAPTER 1
INTRODUCTION

Information overload : Information overload is the difficulty in understanding an issue and effectively making decisions when one has too much information about that issue, and is generally associated with the excessive quantity of daily information.

Recommendation system : A recommender system, or a recommendation system, is a subclass of information filtering system that seeks to predict the "rating" or "preference" a user would give to an item.

Recommender systems are used in a variety of areas, with commonly recognised examples taking the form of playlist generators for video and music services, product recommenders for online stores, or content recommenders for social media platforms and open web content recommenders. These systems can operate using a single input, like music, or multiple inputs within and across platforms like news, books, and search queries.

Recommendation system and information overload

The explosive growth in the amount of available digital information and the number of visitors to the Internet have created a potential challenge of information overload which hinders timely access to items of interest on the Internet. This has increased the demand for recommender systems more than ever before. Recommender systems are information filtering systems that deal with the problem of information overload by filtering vital information fragment out of large amount of dynamically generated information according to user’s preferences, interest, or observed behavior about item. Recommender system has the ability to predict whether a particular user would prefer an item or not based on the user’s profile.

Recommender systems are beneficial to both service providers and users . They reduce transaction costs of finding and selecting items in an online shopping environment .

Recommendation systems have also proved to improve decision making process and quality. In e-commerce setting, recommender systems enhance revenues, for the fact that they are effective means of selling more products. In scientific libraries, recommender systems support users by allowing them to move beyond catalog searches. Therefore, the need to use efficient and accurate recommendation techniques within a system that will provide relevant and dependable recommendations for users cannot be over-emphasized.

The basics of recommender systems were founded by researches into cognition science and information retrieval, and its first manifestation was the Usenet communication system created by Duke University in the second half of the 1970s, where users were able to share textual content with each other. Recommender systems were introduced in the mid-1990s to help people select the most suitable product for them from the plethora of options available with them.

Recommender system is defined as a decision making strategy for users under complex information environments . Also, recommender system was defined from the perspective of E-commerce as a tool that helps users search through records of knowledge which is related to users' interest and preference. Recommender system was defined as a means of assisting and augmenting the social process of using recommendations of others to make choices when there is no sufficient personal knowledge or experience of the alternatives . Recommender systems handle the problem of information overload that users normally encounter by providing them with personalized, exclusive content and service recommendations. Recently, various approaches for building recommendation systems have been developed, which can utilize either collaborative filtering, content-based filtering or hybrid filtering . Collaborative filtering technique is the most mature and the most commonly implemented. Collaborative filtering

recommends items by identifying other users with similar taste; it uses their opinion to recommend items to the active user. Collaborative recommender systems have been implemented in different application areas. GroupLens is a news-based architecture which employed collaborative methods in assisting users to locate articles from massive news database. Ringo is an online social information filtering system that uses collaborative filtering to build users profile based on their ratings on music albums. Amazon uses topic diversification algorithms to improve its recommendation. The system uses collaborative filtering method to overcome scalability issue by generating a table of similar items offline through the use of item-to-item matrix. The system then recommends other products which are similar online according to the users' purchase history. On the other hand, content-based techniques match content resources to user characteristics. Content-based filtering techniques normally base their predictions on user's information, and they ignore contributions from other users as with the case of collaborative techniques. Fab relies heavily on the ratings of different users in order to create a training set and it is an example of content-based recommender system. Some other systems that use content-based filtering to help users find information on the Internet include Letizia. The system makes use of a user interface that assists users in browsing the Internet; it is able to track the browsing pattern of a user to predict the pages that they may be interested in. Pazzani et al designed an intelligent agent that attempts to predict which web pages will interest a user by using naive Bayesian classifier. The agent allows a user to provide training instances by rating different pages as either hot or cold. Jennings and Higuchi describe a neural network that models the interests of a user in a Usenet news environment.

Algorithm in recommendation system

Collaborate filtering (CF) and its modifications is one of the most commonly used recommendation algorithms. We call it a “user-user” algorithm because it recommends an item to a user if similar users liked this item before. The similarity between two users is computed from the amount of items they have in common in the dataset

Collaborative filtering technique works by building a database of preferences for item by users. If then matches users with relevant interest and preference by calculating similarities between their profiles to make recommendations .Singular value decomposition also known as the SVD algorithm is used as a collaborative filtering method in recommendation systems .

Netflix, You Tube, Tinder and Amazon are all examples of recommendation systems in use.

CHAPTER 2

REVIEW OF LITERATURE

Recommender system - Charu C Aggarwal

Charu C. Aggarwal is a Distinguished Research Staff Member (DRSM) at the IBM T.J. Watson Research Center in Yorktown Heights, New York. He completed his B.S. from IIT Kanpur in 1993 and his Ph.D. from the Massachusetts Institute of Technology in 1996. He has published more than 300 papers in refereed conferences and journals, and has applied for or been granted more than 80 patents.

This book comprehensively covers the topic of recommender systems, which provide personalized recommendations of products or services to users based on their previous searches or purchases. Recommender system methods have been adapted to diverse applications including query log mining, social networking, news recommendations, and computational advertising. This book synthesizes both fundamental and advanced topics of a research area that has now reached maturity. The chapters of this book are organized into three categories:

Algorithms and evaluation: These chapters discuss the fundamental algorithms in recommender systems, including collaborative filtering methods, content-based methods, knowledge-based methods, ensemble-based methods, and evaluation.

Recommendations in specific domains and contexts: the context of a recommendation can be viewed as important side information that affects the recommendation goals. Different types of context such as temporal data, spatial data, social data, tagging data, and trustworthiness are explored.

Advanced topics and applications: Various robustness aspects of recommender systems, such as shilling systems, attack models, and their defenses are discussed.

In addition, recent topics, such as learning to rank, multi-armed bandits, group systems, multi-criteria systems, and active learning systems, are introduced together with applications. Although this book primarily serves as a textbook, it will also appeal to industrial practitioners and researchers due to its focus on applications and references. Numerous examples and exercises have been provided, and a solution manual is available for instructors.

Building a recommendation system with R

Suresh K. Gorakala is a blogger, data analyst, and consultant on data mining, big data analytics, and visualization tools. Suresh holds a bachelor's degree in mechanical engineering from SRKR Engineering College, which is affiliated with Andhra University, India.

Michele Usuelli is a data scientist, writer, and R enthusiast specialized in the fields of big data and machine learning. He currently works for Revolution Analytics, the leading R-based company that got acquired by Microsoft in April 2015. Michele graduated in mathematical engineering and has worked with a big data start-up and a big publishing company in the past. He is also the author of R Machine Learning Essentials, Packt Published.

A recommendation system performs extensive data analysis in order to generate suggestions to its users about what might interest them. R has recently become one of the most popular programming languages for the data analysis. Its structure allows you to interactively explore the data and its modules contain the most cutting-edge techniques thanks to its wide international community. This distinctive feature of the R language makes it a preferred choice for developers who are looking to build recommendation systems.

The book will help you understand how to build recommender systems using R. It starts off by explaining the basics of data mining and machine learning. Next, you will be familiarized with how to build and optimize recommender models using R. Following that, you will be given an overview of the most popular recommendation techniques. Finally, you will learn to implement all the concepts you have learned throughout the book to build a recommender system.

Overload! - Jonathan B. Spira

Jonathan B. Spira is CEO and chief analyst of Basex, a research firm focusing on issues companies face in the knowledge economy. His points of view and commentary have appeared in Time, the New York Times, Business Week, and the Wall Street Journal. Mr. Spira is a founding board member of the Information Overload Research Group, an industry consortium.

Timely advice for getting a grip on information overload in the workplace. This groundbreaking book reveals how different kinds of information overload impact workers and businesses as a whole. It helps businesses get a grip on the financial and human costs of e-mail overload and interruptions and details how working in an information overloaded environment impacts employee productivity, efficiency, and morale.

Explains how information? often in the form of e-mail messages, reports, news, Web sites, RSS feeds, blogs, wikis, instant messages, text messages, Twitter, and video conferencing walls? bombards and dulls our senses.

Social network -Based recommendation system - Daniel Schall

This book introduces novel techniques and algorithms necessary to support the formation of social networks. Concepts such as link prediction, graph patterns, recommendation systems based on user reputation, strategic partner selection, collaborative systems and network formation based on social brokers are presented. Chapters cover a wide range of models and algorithms, including graph models and a personalized Page Rank model. Extensive experiments and scenarios using real world datasets from GitHub, Facebook, Twitter, Google Plus and the European Union ICT research collaborations serve to enhance reader understanding of the material with clear applications. Each chapter concludes with an analysis and detailed summary. Social Network-Based Recommender Systems is designed as a reference for professionals and researchers working in social network analysis and companies working on recommender systems. Advanced-level students studying computer science, statistics or mathematics will also find this books useful as a secondary text."

Practical recommender system – Kim falk

Practical Recommender Systems explains how recommender systems work and shows how to create and apply them for your site. After covering the basics, you'll see how to collect user data and produce personalized recommendations. You'll learn how to use the most popular recommendation algorithms and see examples of them in action on sites like Amazon and Netflix. Finally, the book covers scaling problems and other issues you'll encounter as your site grows.

Overcoming information overload – Tina Konstant

TINA KONSTANT is a coach, researcher and professional speaker on human potential and learning skills. She has taught speed reading across all business sectors and has produced and presented a series of television programmes on effective learning.

Information is unlimited, but our ability to manage it is not. But while overload can come from any number of sources and affects every individual differently, the root cause of information overload is the same for everyone—the shift in perception from being in control to chaos. This book is for anyone who feels helpless and frustrated as a result of information overload. It is also essential reading for anyone who has more work than time, is reluctant to speed-read in case vital information is missed, or regularly deals with difficult, dull, or technical information. Each chapter will include top tips for immediate results, answers to key questions on how to get out of overload (and avoid it happening again), and strategies that work.

Recommender system an overview – Robin Burke, Alexandar Felfering, Mehmet.H.Goker

The aim of the article is to give a brief overview of the history and current status of recommender system research to describe the current state of recommender system in practical use, and to highlight new direction in recommender system research.

The paper has been chosen to illuminate the state of the art in recommendation and to illustrate some of the challenges that must be faced in extending current techniques in recommendation to meet new domains and new requirements.

The purpose of the issue is to take a stock of the current landscape of recommender system. The authors describe how the standard one-size-fits-all web search can be made more personalized by using information about searches done by peers or collaborators. Enhancing search with this social aspect increase the quality of the result and make them more relevant.

CHAPTER 3
RESEARCH AND METHODOLOGY

Research

Research is a process of systematic inquiry that entails collection of data; documentation of critical information; and analysis and interpretation of that data/information, in accordance with suitable methodologies set by specific professional fields and academic disciplines.

There are two different approach to research Viz quantitative approach and qualitative approach.

Quantitative research is applicable to phenomena that can be expressed in terms of quantity. It is the generation of data in quantitative form. This method emphasizes objective measurements and the statistical, mathematical or numerical analysis of data collected through polls, questionnaires and surveys.

Qualitative research is concerned with subjective assessment of attitude, opinion and behaviour. Generally the techniques focus on interviews projective techniques and case studies.

This research is a quantitative research.

General Objective

Analyzing the recommendation system to curb information overload.

Specific Objective

- To analysis the people are familiar with information overload and recommendation system.
- To examine the recommendation system helps to curb information overload.
- To analysis the recommendation system helps to get correct and accurate information .

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Research Design

Research design refers to the overall strategy utilized to carry out research that defines a succinct and logical plan to tackle established research question through the collection, interpretation, analysis, and discussion of data.

Data can be interviews, articles, news stories and other case studies.

Method of Study

Research method and survey was chosen as the method of study. In this study we closely examined the relation between recommendation system and information overload. We also followed the books and articles related to recommendation system and information overload.

Field of Study

The study is conducted among the mobile users.

Period of Study

The study was conducted from 2020 December to 2021 April .This span of time is mainly focused on collecting the data, analyzing the presentation of stories in different channels and reading relates books and reviews.

Hypothesis

Hypothesis is a principle instrument in research. Simply speaking hypothesis is an assumption or some supposition to be proved or disproved. But for a researcher, it is formal question that the researcher intends to resolve.

3.10 Specific Hypothesis

- Recommendation system help us to quickly access the information on internet.
- Recommendation system filter information on the basis of user's preference, interest, or observed behavior about them.
- Recommendation system beneficial to both service providers and users.
- Recommendation system is acknowledged about the interest.
- Recommendation system propose the recommendation properly.

CHAPTER 5

FINDINGS AND ANALYSIS

From the detailed analysis and study on 'Recommendation system as a tool to curb information overload'. It is observed that the majority of people use a smartphone daily and they are familiar with the word recommendation system and information overload. A good percentage of people have difficulty with information overloading as well as recommendations system helping to collect information. sometimes multiple suggestions of browser links make it difficult in getting accurate information. The majority of people agree that the recommendation system is acknowledged about the interest. By analysing the survey result we can find that the recommendation system can propose the recommendation properly.

Research question 1:

Your age

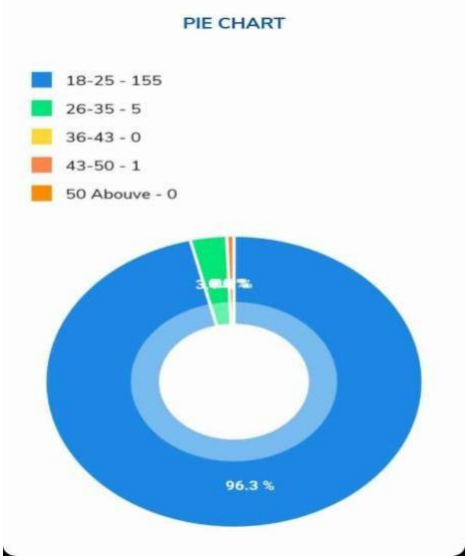


Fig: 1

From Fig:1 we can understand that most(96.3%) of the people that attend the survey are belongs to the age between 18-25,3% of people are belongs to the age between 25-35 and 0.7% are belongs to the age between 43-50

Research question 2:

Do you use smartphone daily?

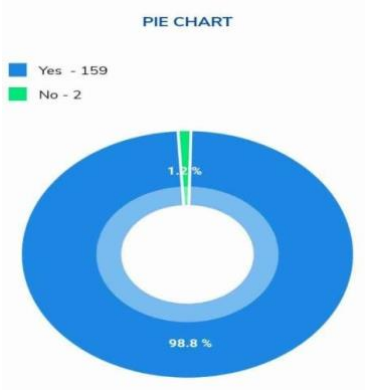


Fig: 2

From the fig:2, it is clear that 98.8%of people daily use smartphone and 1.2% of people not using smartphone daily.

Research question 3:

How far do you use smartphone in a day?

Fig: 3

From the fig:3,it is clear that 77.7% of people using smartphone more than 3 hours, 18% of people using smartphone almost 3 hours.

Research question 4:

Are you a social media user?

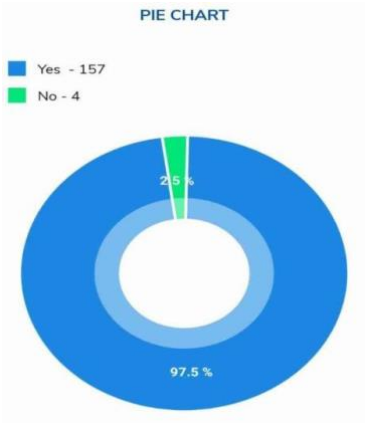


Fig: 4

From fig: 4, it is clear that majority(97.5%) of people are social media users and few peoples are not using social media.

Research question 5:

Are you familiar to the word information overload? (You will find a lot of information while browsing a particular content, that is known as information overload)

Fig: 5

From the fig:5, it is clear that majority(83.85%) of people are familiar with the word information overload and few people(16.15%) are not familiar with that word.

Research question 6:

When you search for a certain information in google, have you come across multiple browser links?

Fig :6

From the fig:6,it is clear that 57.1% of people come across with multiple browser links while searching a certain information 37.3% of people says sometimes and 5.6% of people says no.

Research question 7:

Will the multiple suggestion of browser links make it difficult for you to get to the accurate information?

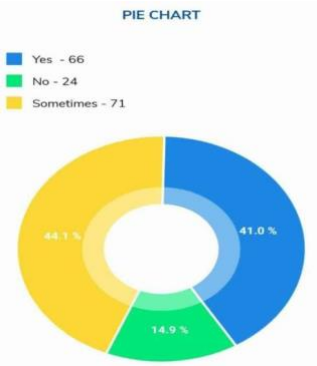


Fig:7

From the figure majority of people(44.1%) says that sometimes this multiple suggestion of browser links make if difficult for them to get to the accurate information. 41% of people agrees and a few people (14.9%) disagrees the statement.

Research question 8:

This information overload is annoying.

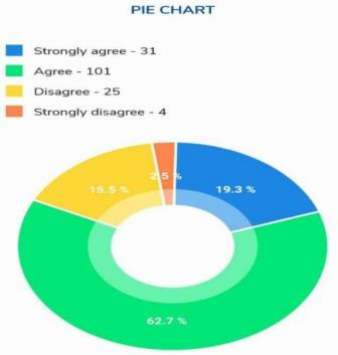


Fig:8

From this figure majority (62.7%) of people agrees that information overload is annoying also 19.3% of people strongly agrees that information overload is annoying and a few people (2.5%) strongly disagrees and 15.5% of people disagrees that information overload is annoying.

Research question 9:

Have you heard about the recommendation system?

(Recommendation system is a information filtering system that gives specific recommendation in accordance with the interest of audience

Fig:9

From the figure majority (67.7%) of people have heard about the recommendation system

and a few peoples (32.3%) haven't heard about the recommendation system.

Research question 10:

Recommendation system helps me in obtaining accurate information

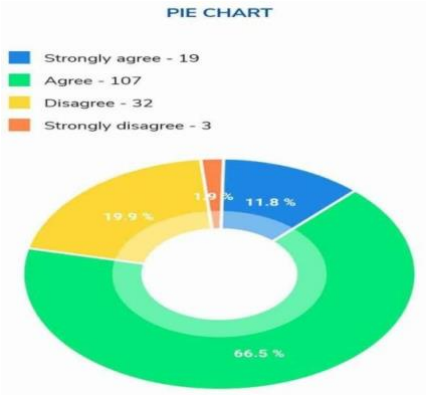


Fig:10

From the figure it is clear that majority (73.3%) of people agrees and also 12.4% of people strongly agrees that recommendation system helps them in obtaining the accurate information and a few people (0.6%) strongly disagrees and 13.7% of people disagrees that recommendation system helps them to obtain the accurate information.

Research question 11:

Recommendation system is acknowledged about my interest

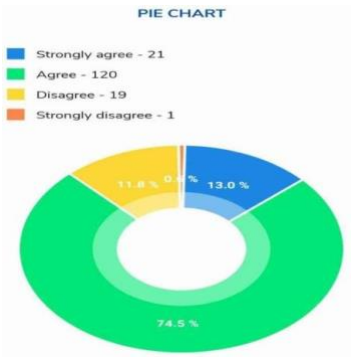


Fig:11

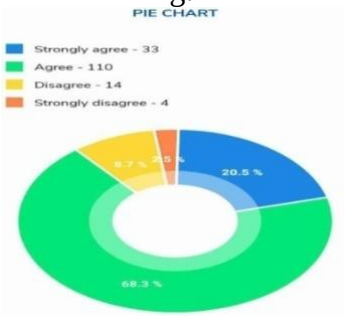
From the figure it is clear that majority (74.5%) of people agrees and also 13% of people

strongly agrees to the statement that recommendation system is acknowledged about their interest and a few people (0.6%) strongly disagrees and 11.8% of people disagrees to the statement.

Research question 12:

When I watch a certain content regularly recommendation system notices it and prefer to keep me engage by recommending contents related to my interest.

Fig:12



From the figure it is clear that majority (68.3%) of people agrees and also 20.5% of people strongly agrees to the statement and a few people (2.5%) strongly disagrees and 8.7% of people disagrees to the statement.

Research question 13:

By knowing my interest the recommendation system is able to propose the recommendation properly.

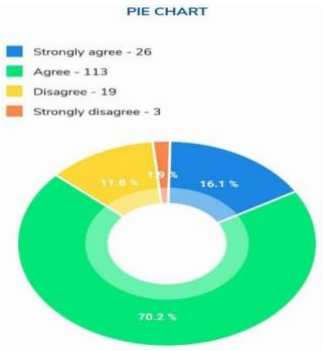


Fig:13

From the figure, it is clear that majority (70.2%) of people agrees and also 16.1% of people strongly agrees to the statement that by knowing interest recommendation system is able to propose the recommendation properly and a few people(1.9%) strongly disagrees and 11.8% of

people disagrees to the statement.

Research question 14:

Recommendation system helps to keep me away from information overload.

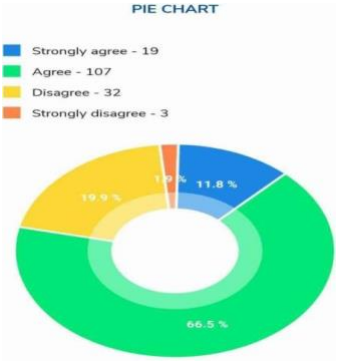


Fig:14

From the figure, it is clear that majority (66.5%) of people agrees and also 11.8% of people strongly agrees to the statement that recommendation system helps to keep away from information overload and a few people (1.9%) strongly disagrees and 19.9% of people disagrees to the statement.

From the above findings and analysis on recommendation system as a tool to curb information overload,it is understand that

- Majority of the people use smartphone daily more than 3hours and daily use

social medias.

- Most of the people is familiar about information overload.Also this information overload is difficult to accurate correct information and this is annoying for most of the people.
- A good number of people is heard about the recommendation system but few people is not familiar with the word,but actually they know the system but they are not familiar with the word.
- The recommendation system is helpful to obtaining accurate information and the recommending contents are related to the interest of people .
- So, the recommendation system helps to keep away from information overload and helps to get correct information.

CHAPTER 6

CONCLUSION

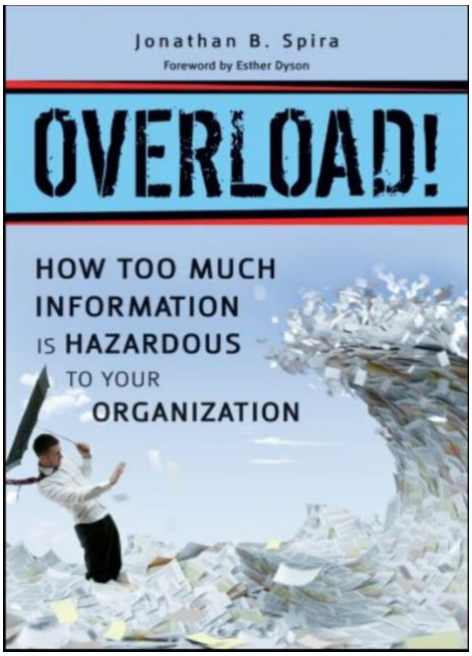
Information overload is the difficulty in understanding an issue and effectively making decision. Recommendation system is an subclass of information filtering system and this recommendation system is used to avoid information overload. The explosive growth in the amount of available digital information and the number of visitors to the internet have created a potential challenge of information overload. Recommendation system has the ability to predict whether a particular user would prefer an item.

The studies finds that the majority of people use smart phone for long time and use social medias daily. The information overload is very annoying and due to this it is more difficult to get correct information. Most of the people familiar with information overload and recommendation system. But they are not familiar with the words and most of the people says that the recommendation system helps to curb information overload and helps to get accurate information without confusion.

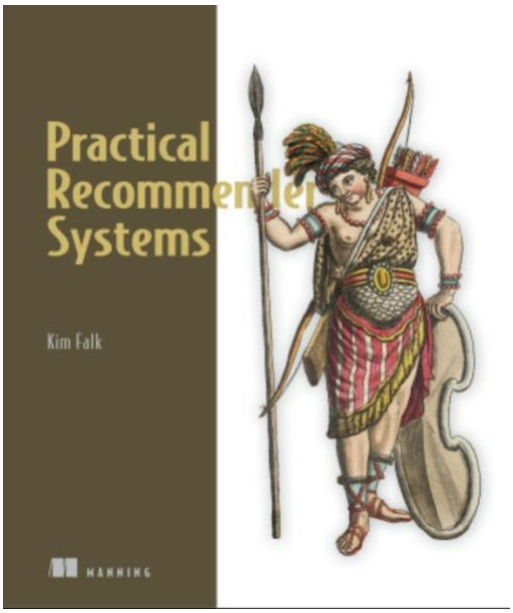
Recommendation system has the ability to predict whether a particular user would prefer an item or not based on the users profile. It is also beneficial to both service providers and users and also it reduce transaction cost of finding and selecting items in an online shopping environment.

CHAPTER 7

APPENDIX



By Jonathan B Spira in the year 2011



By Kim Falk in the year 2019

Recommender Systems: An Overview

Robin Burke[1], Alexander Felfernig[2], Mehmet H. Göker[3]
[1]Web Intelligence Laboratory, DePaul University, rburke@cs.depaul.edu
[2]Graz University of Technology Graz, Austria, alexfelfern@ist.tugraz.at
[3]Salesforce.com, The Landmark @ One Market, San Francisco, CA 94105, mgoker@salesforce.com

Abstract

Recommender systems are tools for interacting with large and complex information spaces. They provide a personalized view of such spaces, prioritizing items likely to be of interest to the user. The field, christened in 1995, has grown enormously in the variety of problems addressed and techniques employed, as well as in its practical applications. Recommender systems research has incorporated a wide variety of artificial intelligence techniques including machine learning, data mining, user modeling, case-based reasoning, and constraint satisfaction, among others. Personalized recommendations are an important part of many on-line e-commerce applications such as Amazon.com, Netflix, and Pandora. This wealth of practical application experience has provided inspiration to researchers to extend the reach of recommender systems into new and challenging areas. The purpose of this special issue is to take stock of the current landscape of recommender systems research and identify directions the field is now taking. This article provides an overview of the current state of the field and introduces the various articles in the special issue.

Introduction

The prototypical use case for a recommender system occurs regularly in e-commerce settings. A user, Jane, visits her favorite online bookstore. The homepage lists current bestsellers and also a list containing recommended items. This list might include, for example, a new book published by one of Jane's favorite authors, a cookbook by a new author and a supernatural thriller. Whether Jane will find these suggestions useful or distracting is a function of how well they match her tastes. Is the cookbook for a style of cuisine that she likes (and is it different enough from ones she already owns)? Is the thriller too violent? A key feature of a recommender system therefore is that it provides a personalized view of the data, in this case, the bookstore's inventory. If we take away the personalization, we are left with the list of best-sellers – a list that is independent of the user. The aim of the recommender system is to lower the user's search effort by listing those items of highest utility, those that Jane might be most likely to purchase. This, of course, is beneficial to Jane as well as the e-commerce store owner.

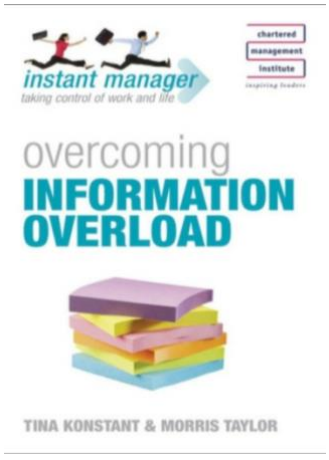
Recommender systems research encompasses scenarios like this and many other information access environments in which a user and store owner can benefit from the presentation of personalized options. The field has seen a tremendous expansion of interest in the past decade, catalyzed in part by the Netflix Prize (Bennett & Lanning, 2007) and evidenced by the rapid growth of the annual ACM Recommender Systems conference. At this point, it is worthwhile to take stock, to consider what distinguishes recommender systems research from other related areas of research in artificial intelligence, and to examine the field's successes and new challenges.

What is a Recommender System?

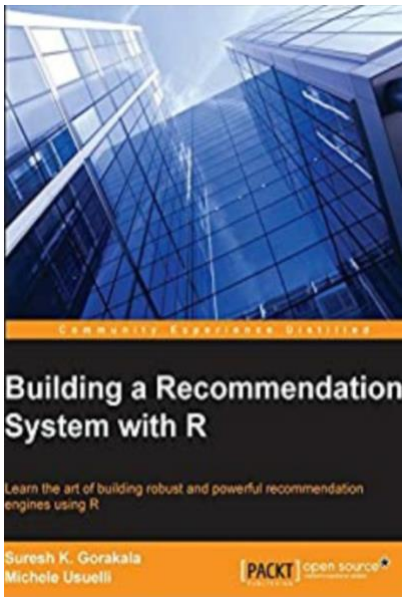
The definition of a recommender system has evolved over the past 14 years. In Resnick and Varian's seminal article, the authors describe a recommender system as follows:

> "In a typical recommender system people provide recommendations as inputs, which the system then aggregates and directs to appropriate recipients. In some cases the primary transformation is in the aggregation; in others the system's value lies in its ability to make good matches between the recommenders and those seeking recommendations." (Resnick & Varian, 1997)

By Robin Burke,Alexander Felfering,Mehmet H Goker is an article in the year 2011

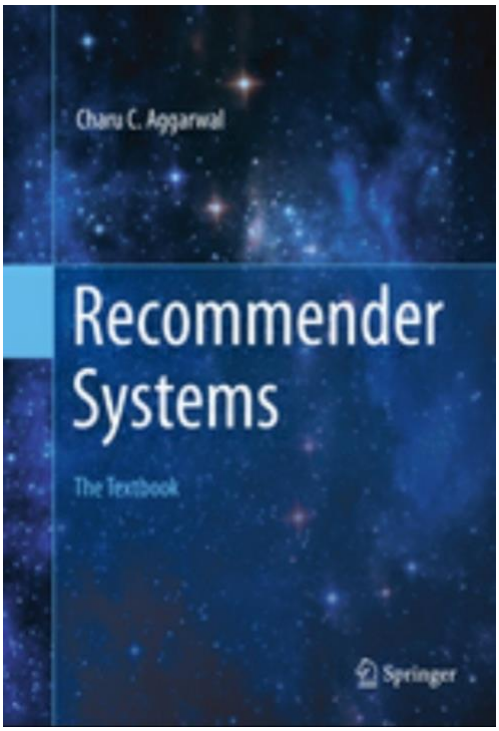


By Tina Konstant in the year 2009



By Michele Usuelli and Suresh K Gorakala in the year 2015

By Guang-quan Zhang,Jie Lu and Qian Zhang in the year 2020



By Charu C Agarwal in the year 2016

Information overload in the information age: a review of the literature from business administration, business psychology, and related disciplines with a bibliometric approach and framework development

Peter Gordon Roetzel[1,2]

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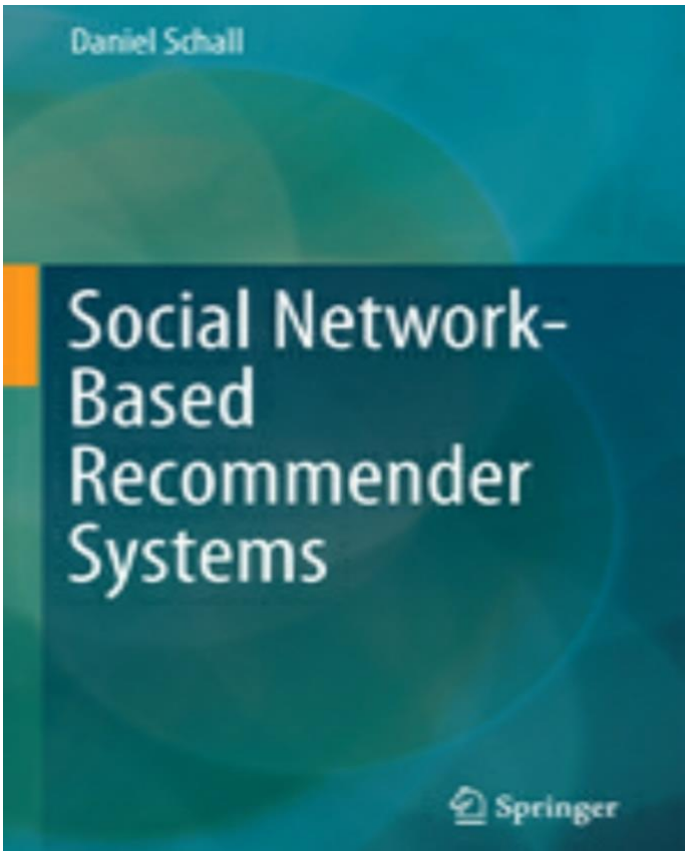
Abstract In the light of the information age, information overload research in new areas (e.g., social media, virtual collaboration) rises rapidly in many fields of research in business administration with a variety of methods and subjects. This review article analyzes the development of information overload literature in business administration and related interdisciplinary fields and provides a comprehensive and overarching overview using a bibliometric literature analysis combined with a snowball sampling approach. For the last decade, this article reveals research directions and bridges of literature in a wide range of fields of business administration (e.g., accounting, finance, health management, human resources, innovation management, international management, information systems, marketing, manufacturing, or organizational science). This review article identifies the major papers of various research streams to capture the pulse of the information overload-related research and suggest new questions that could be addressed in the future and identifies concrete open gaps for further research. Furthermore, this article presents a new framework for structuring information overload issues which extends our understanding of influence factors and effects of information overload in the decision-making process.

Keywords Information processing · Information management strategies · Information overload · Literature review · Bibliometric literature analysis

By Peter Gorden Roetzel in the year 2019



By Daniel Schall in the year 2015

CHAPTER 8

BIBLIOGRAPHY

1. Practical recommender system- Kim Falk (2019)

   Retrieved from:-

   https://books.google.co.in/books?hl=en&lr=&id=FDszEAAAQBAJ&oi=fnd&pg=PT23&dq=practical+recommender+systems&ots=Mj4EuRHgKm&sig=epTw7Aq-2BRZc98gfATrbFzuBMU#v=onepage&q=practical%20recommender%20systems&f=false

2. Social Network based recommendation system – Daniel Schall (2015)

   Retrieved from:-

   https://www.springer.com/gp/book/9783319227344

3. Building a Recommendation system with R – Suresh K Gorakala, Michael Usuelli (2015)

   Retrieved from:-

   https://www.packtpub.com/product/building-a-recommendation-system-with-r/9781783554492

4. Overcoming information overload – Tina Konstant (2009)

   Retrieved from:-

   https://www.goodreads.com/book/show/6911130-overcoming-information-overload?ac=1&from_search=true&qid=vYh8qqsA1t&rank=1

5. Recommender system – Charu.C.Agarwal (2016)

   Retrieved from:-

   https://www.google.co.in/books/edition/Recommender_Systems/GKjWCwAAQBAJ?hl=en&gbpv=1&dq=inauthor:%22Charu+C.+Aggarwal%22&printsec=frontcover

6. Information overload in the information age - Peter Gorden Roetzel (2019) (business research)

   Retrieved from:-

   https://www.semanticscholar.org/paper/On-the-Role-of-Information-Overload-in-Information-R%C3%B6tzel-Fehrenbacher/54d6d14378ce9c0daf42fedcc567c55e7933fe92

7. Overload – Jonathan .B. Spira (2011)

   Retrieved from:-

   https://1lib.in/book/2655449/e1974e?id=2655449&secret=e1974e

8. A paper Recommendation System based on users research interest

   Retrieved from:-

   https://ieeexplore.ieee.org/abstract/document/8508313/

9. Movie Recommendation System with Machine Learning (Project Data)

   Retrieved from:-

   https://thecleverprogrammer.com/2020/05/20/data-science-project-movie-recommendation-system/

10. Internet recommendation systems – Asim Ansari , Skander Essegaier, Rajeev Kohli(2000) (Market research)

    Retrieved from:-

    https://scholar.google.com/scholar?q=related:2hoGcI8fYA8J:scholar.google.com/&scioq=%22Internet+Recommendation+Systems%22&hl=en&as_sdt=0,5#d=gs_qabs&u=%23p%3D2hoGcI8fYA8J

11. Recommendation systems : An Overview – Robin Burke , Alexander Felfering , Mehmet H Goker(Article 2011)

    Retrieved from :-

    https://ojs.aaai.org//index.php/aimagazine/article/view/2361

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