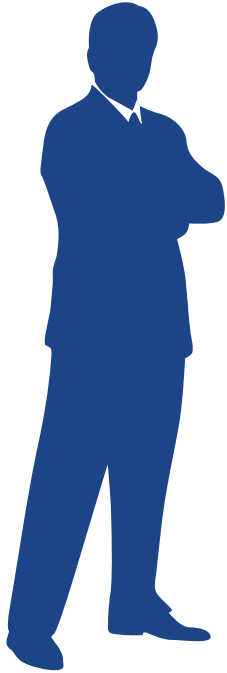


A Novel Recommendation System: A Page Turner



Team DSC:

Nimo Man, Zoila Joyo,
Meenu Ravi, Beca Wang,
Teresa Wang, Maggie Wu

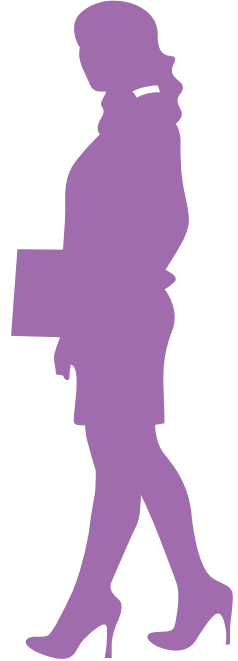


CMO

From Bookstore BSE

We recommend best sellers to all our customers. The strategy helped us increase our sales by approximately 5%

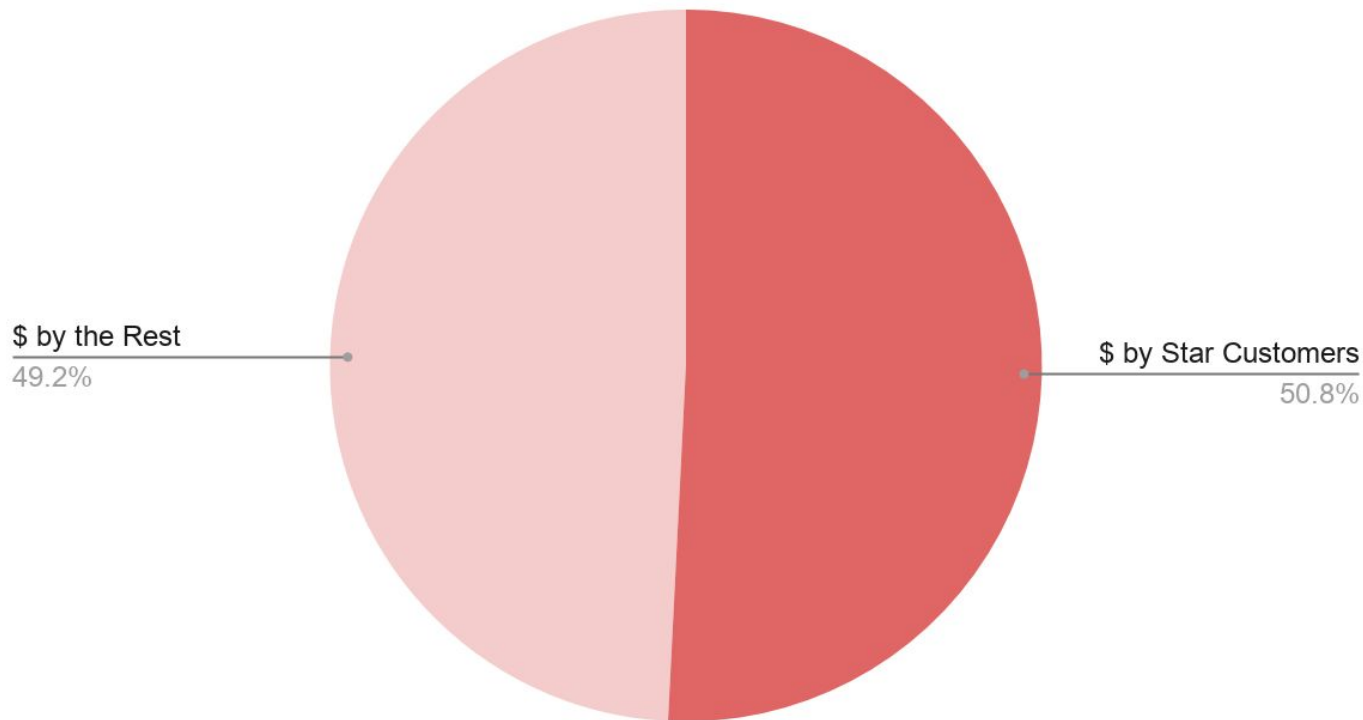
What if there is a better recommendation engine that can generate approximately \$500,000 of additional annual revenue?



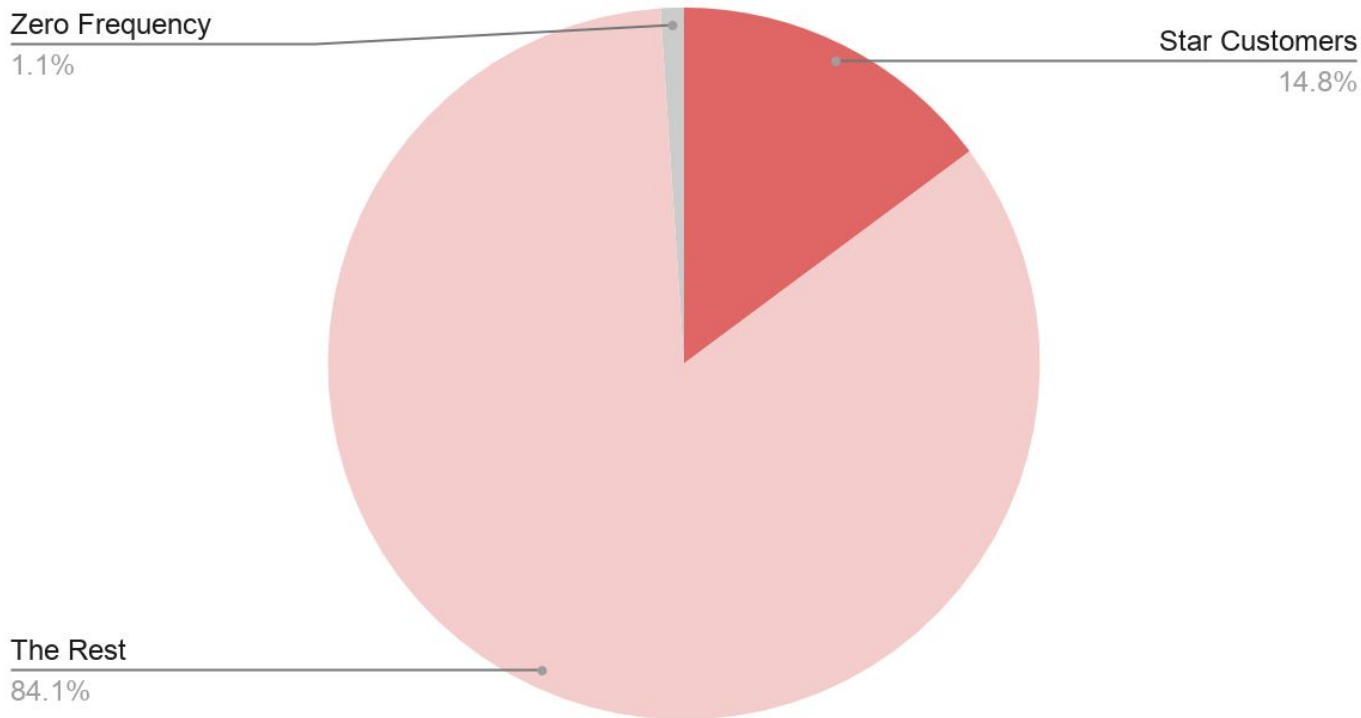
Consultants

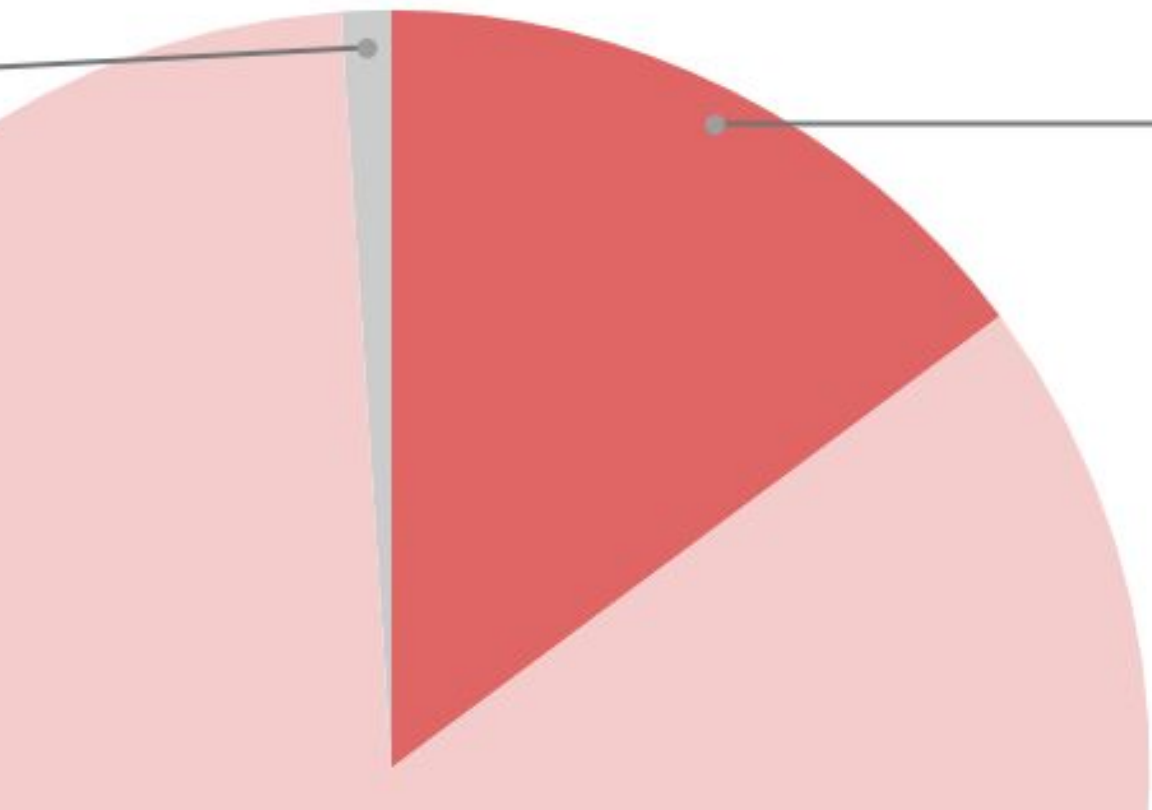
From DSC consulting group

Revenue Generated



Count of Customers







Star Customers


14.8%





The RFM Model

 **1** Preprocessing: Remove outliers(4), frequency=0

 **2** Calculate RFM Score: $\log(F)*M/R$

 **3** Order and slice **top 15%**

 **4** Scale R/F/M scores: quantile

 **5** Customer Segmentation: 3-digit score

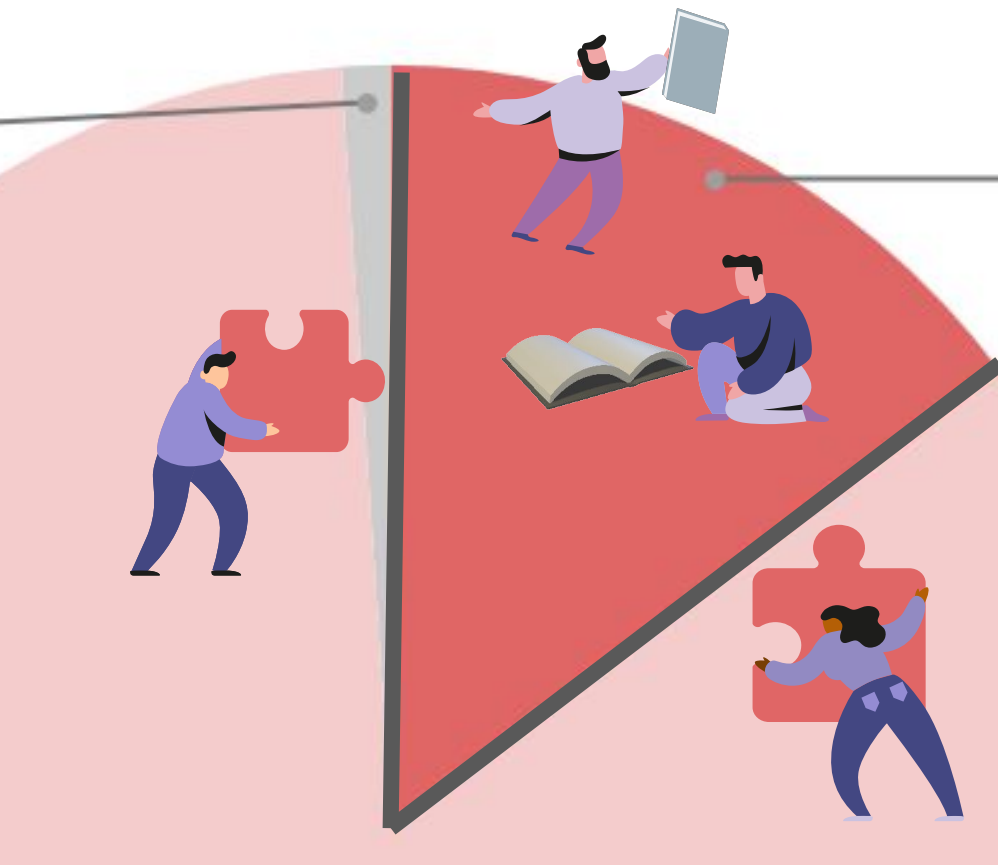
3 Digit Segmentation Score

Worst

Best

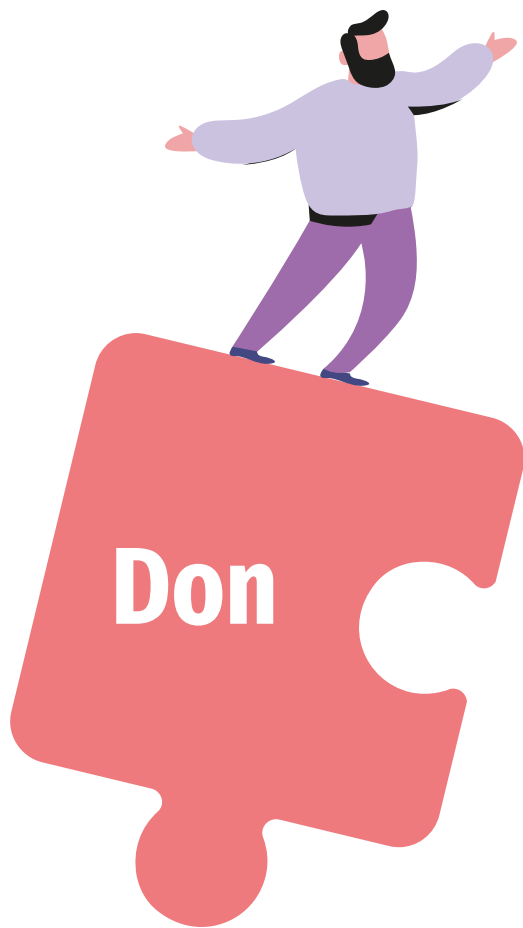


R	4	3	2	1
F	4	3	2	1
M	4	3	2	1



Star Customers

14.8%



Best Customers (R = 1, F = 1, M = 1)

- Recency = 10 days before
- Frequency = 38
- Monetary = \$1,757
- Time on file = 5yr + 8 mth

Story of Don:

Don is 50 years old. He had his career peak in his 40s and now has more disposable income. Don cares about time management. He also has a bookshelf of books and he constantly buy new ones to fill it up. He is artistic and elegant and buys a lot of books to read in his leisure time.

Big Spenders (M = 1)

- Recency = 4.5 mth ago
- Frequency = 15
- Monetary = \$1,208
- Time on file = 5yr + 3 mth

Story of Greg:

Greg is an experienced senior consultant. He works with companies from different industries and provide professional solutions for them. To better understand the business in diverse industries, he buys book two to three times a year to cultivate himself and learn latest trends. He is optimistic about his future financials and believe the money he spends on books now will turn out to be his fortune in the future





Loyal ($F = 1$)

- Recency = 3.5 mth ago
- Frequency = 30
- Monetary = \$1,154
- Time on file = 5yr + 8 mth

Story of Marco:

Marco is an academic professor and has multiple advanced degrees. He believes it's never too late to learn and love reading in general. Marco buy books once every two months but is somewhat price sensitive. He refrains from buying books that are too expensive.

High Potential (others)

- Recency = 1.5 mth ago
- Frequency = 10
- Monetary = \$352
- Time on file = 4 yr + 1 mth

Story of Reshma:

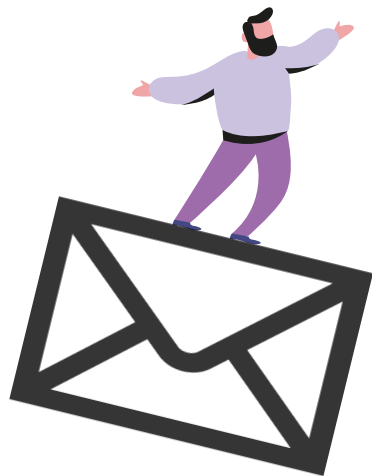
Reshma is a student. She is young and money considerative. She likes exploring new technologies as well as new knowledge. Reshma doesn't care about book texture that much, so she would consider different kinds of book options -- E-books, used books, and rent if possible.



Recommendation Strategies

Best Customers

(R = 1, F = 1, M = 1)



Big Spenders

(M = 1)



Loyal (F = 1)



High Potential (others)



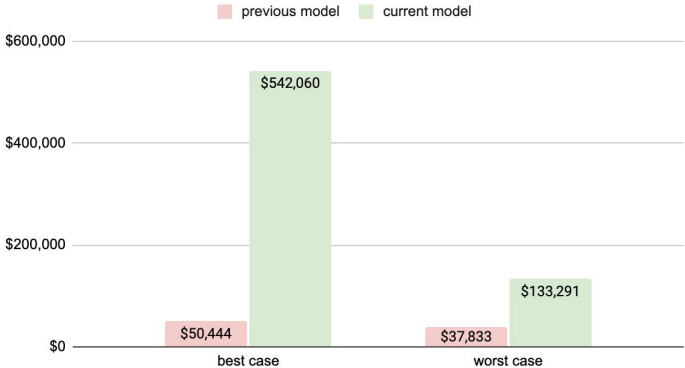
Previous System:

Recommendation based on popular books



	Best Case Increased Revenue	Worst Case Increased Revenue
Total	\$50,444	\$37,833

Increased Revenue Difference



Our System:

Recommendation based on segmentation



	Best Case Increased Revenue	Worst Case Increased Revenue
Best	\$40,682	\$9,993
Big Spender	\$38,655	\$55,382
Loyal	\$326,573	\$14,445
High Potential	\$136,148	\$53,469
Total	\$542,059	\$133,290

THANK YOU