



AD599 TERM FINAL PROJECT

EMPLOYEE PROMOTION ELIGIBILITY ANALYSIS & IDENTIFICATION OF KEY BUSINESS METRICS

FLYING MANATEES.

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01 EMPLOYEE PROMOTION ELIGIBILITY ANALYSIS



THREE COMPONENTS TO ASSESS PROMOTION ELIGIBILITY

- 1. SALES PERFORMANCE**
 - 2. CUSTOMER RELATIONS**
 - 3. TENURE**
- 

SALES PERFORMANCE COMPONENT

Total Sales = Sum OF Sales By Each Employee

	EmployeeId	EmployeeName	TotalSales
0	3	Jane Peacock	833.04
1	4	Margaret Park	775.40
2	5	Steve Johnson	720.16

CUSTOMER RELATIONS COMPONENT



Customer Relations Score = (w1 X Customer Count) + (w2 X (Customer Count / Total Sales))

	EmployeeId	EmployeeName	CustomerRelationsScore
0	3	Jane Peacock	22.120457
1	4	Margaret Park	21.304800
2	5	Steve Johnson	20.402133

CRS score identifies employees who are not only handling a large number of customers but are also efficient in generating revenue from those interactions, making it a valuable metric for promotion evaluation.

TENURE COMPONENT

$$\text{Tenure} = (\text{JULIANDAY('now')} - \text{JULIANDAY}(\text{Hire Date})) / 365$$

	EmployeeId	EmployeeName	HireDate	Tenure
0	3	Jane Peacock	2002-04-01 00:00:00	22
1	4	Margaret Park	2003-05-03 00:00:00	21
2	5	Steve Johnson	2003-10-17 00:00:00	21

WEIGHTED SCORE AND RANK

Sales Performance (60%)

Customer Relations Score (20%)

Tenure (20%)

Weighted Score = $0.6 \times (\text{TotalSales} / \text{MaxTotalSales}) + 0.2 \times (\text{CustomerRelationsScore} / \text{MaxCustomerRelationsScore}) + 0.2 \times (\text{Tenure} / \text{MaxTenure})$

	EmployeeId	EmployeeName	TotalSales	CustomerRelationsScore	Tenure	WeightedScore	Rank
0	3	Jane Peacock	833.04	22.120457	22	1.000000	1
1	4	Margaret Park	775.40	21.304800	21	0.751110	2
2	5	Steve Johnson	720.16	20.402133	21	0.703162	3

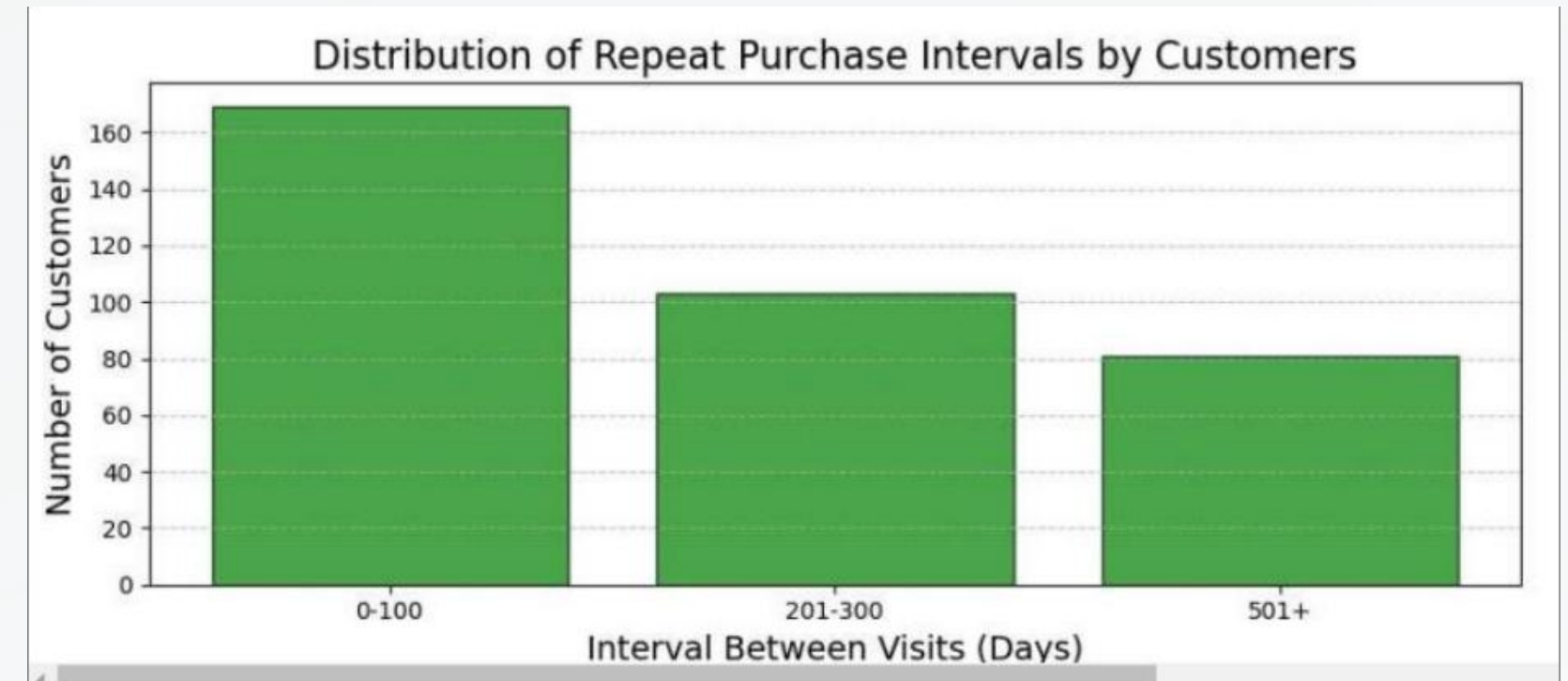


02 REPEAT PURCHASES FREQUENCY ANALYSIS

REPEAT PURCHASES FREQUENCY ANALYSIS

Findings:

1. Most frequent buyers revisit within 100 days (160 customers).
2. Moderate buyers return in 200–300 days (100 customers).
3. Infrequent buyers return after 500 days (80 customers).



- Gaps in purchase intervals (100–200 and 300–500 days) need further investigation.
- Potential to retain frequent buyers and incentivize infrequent ones with targeted offers.

Insights:



03 Key Business Metrics

KEY BUSINESS METRICS

Artist Popularity:

- Iron Maiden leads with 140 sales, exceeding U2 by 33.
- Pros: Helps optimize inventory in real time as per trends and increase in fame of a particular artist
- Cons: Metric is too dynamic and changes can be more volatile

	ArtistId	ArtistName	AlbumCount	TotalQuantitySold
0	90	Iron Maiden	230	140.0
1	150	U2	151	107.0
2	50	Metallica	124	91.0
3	22	Led Zeppelin	124	87.0
4	113	Os Paralamas Do Sucesso	55	45.0

KEY BUSINESS METRICS

Average Purchase Value:

- Helena Holy has the highest purchase value among others in the database
- Explains customer behavior patterns in purchases
- **Pros:** Helps customer segmentation, strategize upselling opportunities, identifies customers that contribute most to the revenue to develop targeted marketing
- **Cons:** Ignores variability, Segmentation challenges with single metric

	CustomerId	CustomerName	AveragePurchaseValue
0	6	Helena Holy	7.088571
1	26	Richard Cunningham	6.802857
2	57	Luis Rojas	6.660000
3	45	Ladislav Kovács	6.517143
4	46	Hugh O'Reilly	6.517143

KEY BUSINESS METRICS

Genre Popularity:

- Rock has highest sales by some margin
- Captures specific trends and customer preferences to align inventory and strategy
- **Pros:** Tailor recommendations based on genre preference, implement targeted licensing agreements, opportunities for market penetration
- **Cons:** Can have seasonal bias, can have presence of outliers, emerging genres can be overlooked

	Genre	TotalSales
0	Rock	826.65
1	Latin	382.14
2	Metal	261.36
3	Alternative & Punk	241.56
4	TV Shows	93.53

KEY BUSINESS METRICS

Sales by Country:

- USA tops the list of countries with highest sales , NA as a region contributes to more than 50% of sales.
- **Pros:** Identify high level performing markets, informs expansion strategy, strategic resource allocation
- **Cons:** Limited context, population bias, lack of account for other external factors

	Country	TotalSales
0	USA	523.06
1	Canada	303.96
2	France	195.10
3	Brazil	190.10
4	Germany	156.48



04 HIGH-SPENDING CUSTOMERS

HIGH-SPENDING CUSTOMERS

Top Repeat Purchasers:

- 2nd: Richard Cunningham
- 3rd: Louis Rojas
- 5th: Julia Barnett
- 8th: Terhi Hamalainen
- 12th (Tied): Luis Goncalves, Francois Tremblay, Bjorn Hansen, Dan Miller, Heather Leacock, Wyatt Girard

	CustomerId	FirstName	LastName	Address	Phone	Email	TotalAmount	SpendingRank
0	26	Richard	Cunningham	2211 W Berry Street	+1 (817) 924-7272	ricunningham@hotmail.com	47.62	2
1	57	Luis	Rojas	Calle Lira, 198	+56 (0)2 635 4444	luisrojas@yahoo.cl	46.62	3
2	28	Julia	Barnett	302 S 700 E	+1 (801) 531-7272	jubarnett@gmail.com	43.62	5
3	44	Terhi	Hämäläinen	Porthaninkatu 9	+358 09 870 2000	terhi.hamalainen@apple.fi	41.62	8
4	1	Luís	Gonçalves	Av. Brigadeiro Faria Lima, 2170	+55 (12) 3923-5555	luisg@embraer.com.br	39.62	12
5	3	François	Tremblay	1498 rue Bélanger	+1 (514) 721-4711	ftremblay@gmail.com	39.62	12
6	4	Bjørn	Hansen	Ullevålsveien 14	+47 22 44 22 22	bjorn.hansen@yahoo.no	39.62	12
7	20	Dan	Miller	541 Del Medio Avenue	+1 (650) 644-3358	dmiller@comcast.com	39.62	12
8	22	Heather	Leacock	120 S Orange Ave	+1 (407) 999-7788	hleacock@gmail.com	39.62	12
9	42	Wyatt	Girard	9, Place Louis Barthou	+33 05 56 96 96 96	wyatt.girard@yahoo.fr	39.62	12



CONCLUSION

1. We identified Jane Peacock as the most promotion-eligible employee based off metrics of Sales Performance, Customer Relations and Company Tenure.
2. Repeat purchasing patterns were discovered and analyzed.
3. Enhance business decision-making

THANK YOU!!

