PERSONAL FINANCE

FROM JAN 2018-SEP 2019

USING SQL

INTRODUCTION

This project was to Recognize and identifying spending patterns to improve personal finance and to make better spending decisions. For this purpose, data set used is compiled using transactions from Bank and Credit Card Statements to build the dataset for analyzing the financial health to improve personal financial decision-making. Also used a budget to calculate how much money is earned, spent, and saved.

For this analysis we have used SQL and written this report in Microsoft word

KEY FINDINGS

Key Findings #1: Categories with maximum number of transactions were:

- Groceries
- Restaurants
- Credit Card Payments

Key Findings #2: Top three categories spent on were:

- Mortgage & Rent
- Home Improvement
- Utilities

Key Findings #3: Saving throughout this time was reduced by $2069.

ANALYSIS

There is total 806 transactions during this period and these transactions are divided using 22 categories which include:

- Alcohol & Bars
- Auto Insurance
- Coffee Shops
- Credit Card Payment
- Electronics & Software
- Entertainment
- Utilities
- Television
- Fast Food
- Food & Dining
- Gas & Fuel
- Groceries
- Haircut
- Home Improvement
- Internet
- Shopping
- Mobile Phone
- Mortgage & Rent
- Movies & DVDs
- Music
- Paycheck
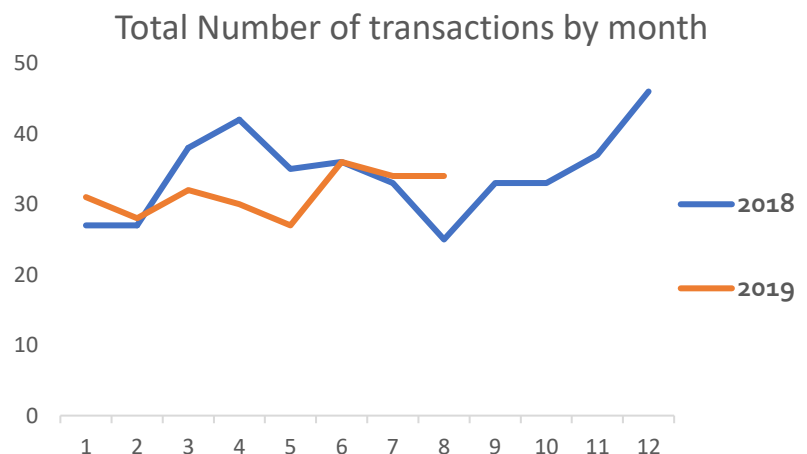- Restaurants

Ideal Budget Set for the month as

Category	Budget
Alcohol & Bars	50.00
Auto Insurance	75.00
Coffee Shops	15.00
Credit Card Payment	1000.00

Electronics & Software	50.00
Entertainment	25.00
Fast Food	50.00
Food & Dining	100.00
Gas & Fuel	75.00
Groceries	150.00
Haircut	30.00
Home Improvement	250.00
Internet	75.00
Mobile Phone	90.00
Mortgage & Rent	1100.00
Movies & DVDs	50.00
Music	11.00
Paycheck	4000.00
Restaurants	150.00
Shopping	100.00
Television	15.00
Utilities	150.00

Total Number of Transactions by month

Total number of transactions by month was mostly less in 2019 compared to the transaction total by month in 2018.

Maximum number of transactions (72) in 2018 was made for groceries whereas in 2019 most of the transaction was for Credit Card Payment.

Total Number of transactions by month

Total number of transactions by categories.

College	New students	Graduating students
Groceries	72	33
Restaurants	49	32
Credit Card Payment	33	38
Utilities	36	27
Shopping	36	24
Gas & Fuel	33	19
Home Improvement	24	12
Coffee Shops	14	17
Alcohol & Bars	14	11
Internet	12	9
Mobile Phone	12	9
Mortgage & Rent	12	9

Music	12	9
Movies & DVDs	18	NULL
Auto Insurance	9	9
Fast Food	16	NULL
Haircut	7	6
Television	NULL	8
Electronics & Software	NULL	4
Food & Dinning	2	NULL
Entertainment	1	NULL

There were no transactions for Television, and Electronics and software categories in 2018. However, these categories have shown considerable increase in the transaction in 2019. On the other hand, transaction for Movies& DVDs, fast food, food & dining and entertainment had zero transactions in 2019.

Top five transactions

Category	Amount	Year	Month
Home Improvement	9200.00	2019	6
Home Improvement	8000.00	2018	5
Mortgage & Rent	1247.00	2018	1
Mortgage & Rent	1247.00	2018	2
Mortgage & Rent	1247.00	2018	3

Saving

If we look at total saving during this time, it is a negative number. This means there was decrease in saved amount.

Year	Total money spent	Total Income	Savings	Saving running total
2018	48414.00	52000.00	3586.00	3586.00
2019	47405.00	41750.00	-5655.00	-2069.00

Standard deviation and Variation

| Category	Max	Min	standard deviation	Variance
Home Improvement	9200.00	6.00	1991.06649634239	3964345.79285714
Credit Card Payment	1900.00	9.00	386.197295831868	149148.351307847
Electronics & Software	331.00	21.00	169.483529189909	28724.6666666667
Mortgage & Rent	1247.00	1100.00	70.8805836802794	5024.05714285709
Food & Dining	63.00	14.00	34.6482322781408	1200.5
Shopping	212.00	3.00	33.8338245490488	1144.72768361582
Groceries	148.00	2.00	27.2894470338613	744.713919413919
Restaurants	131.00	3.00	23.3100743864372	543.359567901235
Mobile Phone	111.00	65.00	13.9208647788302	193.790476190476
Utilities	65.00	30.00	13.2041941233654	174.350742447517
Alcohol & Bars	49.00	6.00	11.5732450073434	133.94
Fast Food	56.00	7.00	11.4961950227021	132.1625

Gas & Fuel	41.00	4.00	8.04031602299455	64.6466817496229
Movies & DVDs	25.00	6.00	4.70988391958313	22.1830065359477
Haircut	30.00	19.00	3.04032724284569	9.24358974358969
Coffee Shops	12.00	1.00	2.09248527441794	4.37849462365591
Internet	75.00	69.00	1.30018313728349	1.69047619047633
Television	13.00	11.00	1.03509833901353	1.07142857142857
Music	10.00	10.00	0	0
Auto Insurance	75.00	75.00	0	0
Entertainment	9.00	9.00	NULL	NULL

The standard deviation is a measure that expresses how much variance or dispersion there is in a group of numbers. While a high standard deviation suggests that the values are dispersed over a wider range, a low standard deviation suggests that the values tend to be close to the mean (also known as the anticipated value) of the collection. The transaction value for Home Improvement can be seen to vary from $9200 maximum to $6 minimum and had highest standard deviation value.
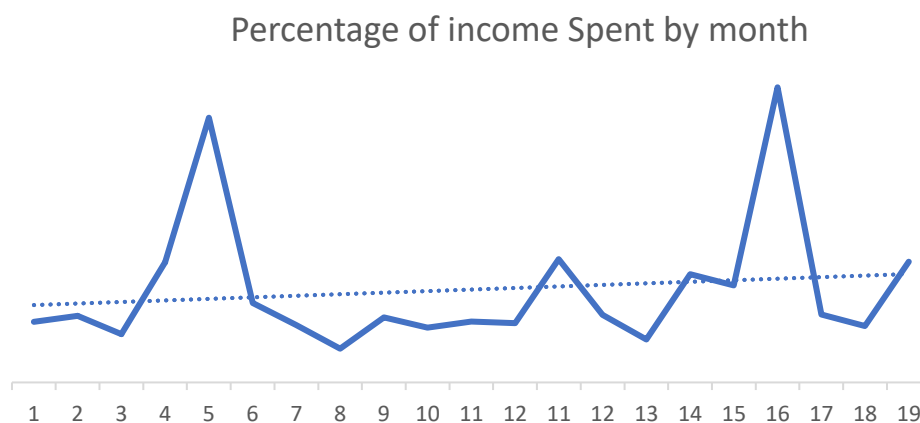
Total Spending by Month

In total $3611 were supposed to be spent out of $4000 earned every month.

If we look at the spending by month in both years. Average spending is high than $4000 and total spending in 2019 is more than 2018.
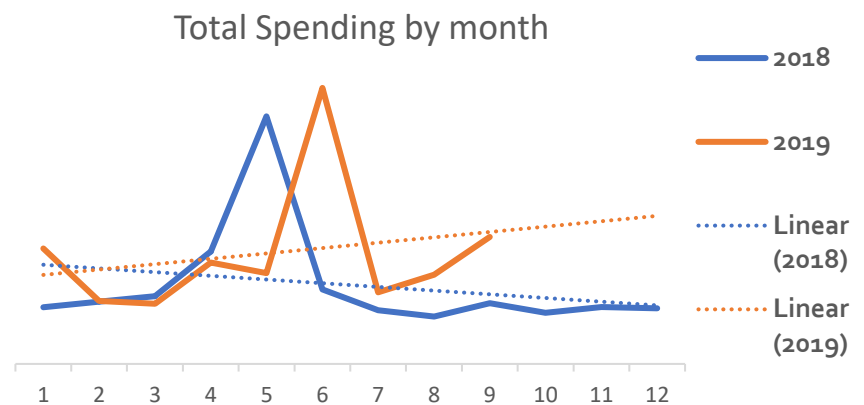
There was a peak in total spending around 5th and 6th month of 2018 and 2019 year. This was due to large transactions in Home Improvement categories.

Percentage of income spent by month was increasing on average.

Top five categories with maximum spendings

Category	Spending By Category
Credit Card Payment	33005.00
Mortgage & Rent	24750.00
Home Improvement	19077.00
Utilities	2776.00
Groceries	2747.00

Categories that have out spent the budget.

Category	Number of times outspent	Maximum Spent	Budget
Mortgage & Rent	12	1247.00	1100.00
Gas & Fuel	8	149.00	75.00
Restaurants	7	289.00	150.00
Shopping	6	225.00	100.00
Groceries	6	327.00	150.00
Home Improvement	5	9200.00	250.00
Alcohol & Bars	4	85.00	50.00
Electronics & Software	2	352.00	50.00
Fast Food	2	97.00	50.00
Utilities	2	160.00	150.00
Coffee Shops	1	17.00	15.00
Mobile Phone	1	111.00	90.00

Conclusion

Regularly keeping track of the expenditures might help to get a clear picture of where the money is going and where you'd prefer it to go. It is clear that most of the money is spent on Mortgage & rent, home improvement and credit card payment.