الكلية الجامعية
للعلوم التطبيقية
نحو جامعة العلوم التطبيقية

ECOMMERCE CUSTOMERS

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Subtract

An Ecommerce company based in New York City that sells clothing online but they also have in-store style and clothing advice sessions. Customers come into the store, have sessions/meetings with a personal stylist, then they can go home and order either on a mobile app or website for the clothes they want. The company is trying to decide whether to focus their efforts on their mobile app experience or their website.

Introduction

E-commerce (electronic commerce or EC) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the
internet.
E-Commerce or Electronics Commerce is a methodology of modern business, which addresses the need of business organizations, vendors and customers to reduce cost and
improve the quality of goods and services while increasing the speed of delivery.

There are some examples of e-commerce are:
• **Online shopping:** Online shopping is the most popular example of e-commerce, it involves buying and selling of goods on internet.
• **Online payments:** when a buyer get product they can make his payment through net.
• **Internet banking:** In today's time banks can offers you internet banking which is the easiest way of making online payments.
• **Online Ticket:** We can book our ticket through net whether it is bus ticket, train ticket, or movie ticket internet can reduces efforts for it.

Our Dataset

data link: https://drive.google.com/file/d/1ZoNyx_zbpYBE5N9vTYsXwC79scg0h6l9/view?usp=share_link

A brief overview of the dataset:

We'll work with the Ecommerce Customers csv file from the company. It has Customer info, such as Email, Address, and their color Avatar. Then it also has numerical value columns:

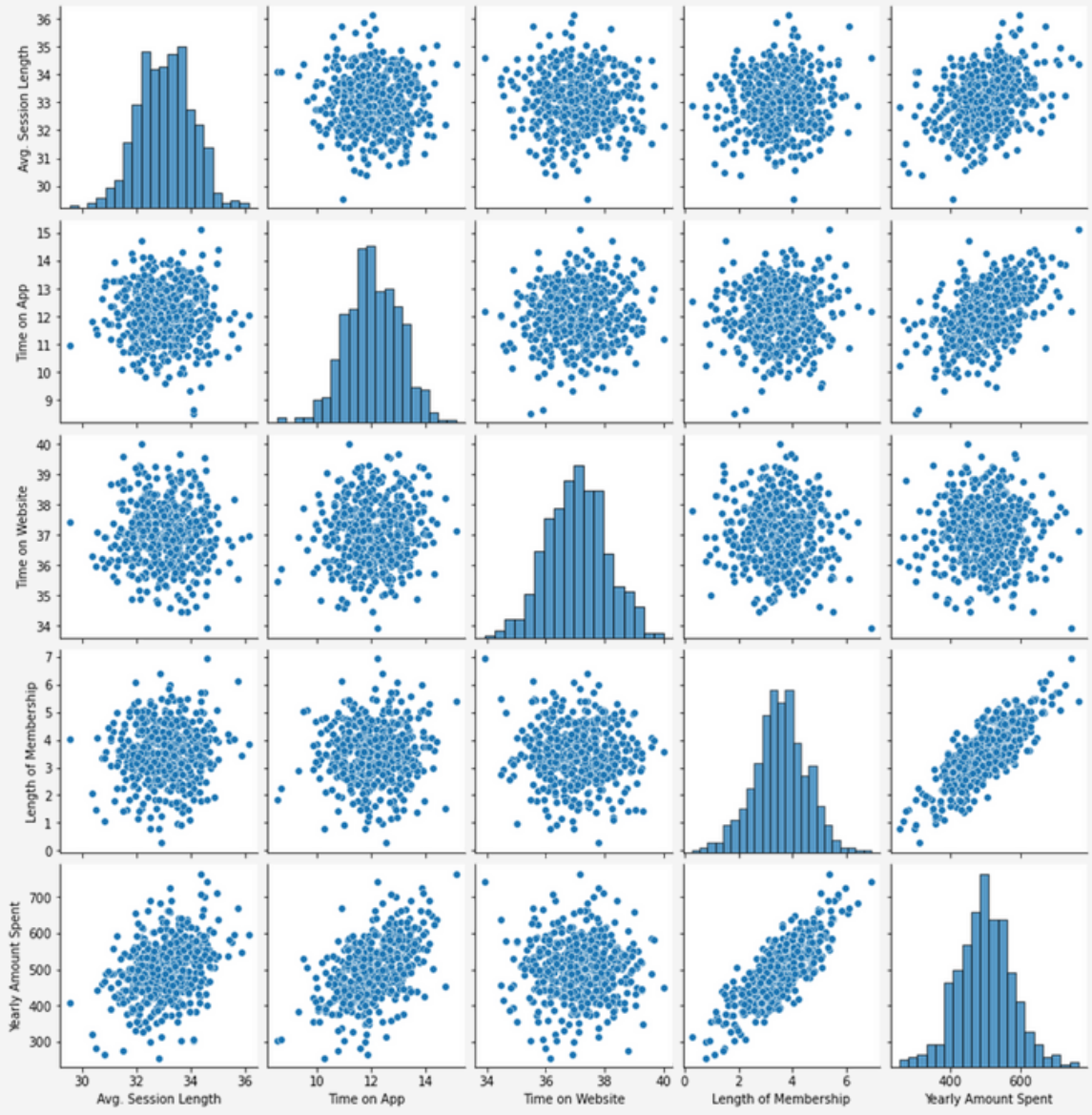
- Avg. Session Length: Average session of in-store style advice sessions.
- Time on App: Average time spent on App in minutes
- Time on Website: Average time spent on Website in minutes
- Length of Membership: How many years the customer has been a member.

	Email	Address	Avatar	Avg. Session Length	Time on App	Time on Website	Length of Membership	Yearly Amount Spent
0	mstephenson@fernandez.com	835 Frank Tunnel\nWrightmouth, MI 82180-9605	Violet	34.497268	12.655651	39.577668	4.082621	587.951054
1	hduke@hotmail.com	4547 Archer Common\nDiazchester, CA 06566-8576	DarkGreen	31.926272	11.109461	37.268959	2.664034	392.204933
2	pallen@yahoo.com	24645 Valerie Unions Suite 582\nCobbborough, D...	Bisque	33.000915	11.330278	37.110597	4.104543	487.547505
3	riverarebecca@gmail.com	1414 David Throughway\nPort Jason, OH 22070-1220	SaddleBrown	34.305557	13.717514	36.721283	3.120179	581.852344
4	mstephens@davidson-herman.com	14023 Rodriguez Passage\nPort Jacobville, PR 3...	MediumAquaMarine	33.330673	12.795189	37.536653	4.446308	599.406092

Data description:

	Avg. Session Length	Time on App	Time on Website	Length of Membership	Yearly Amount Spent
count	500.00	500.00	500.00	500.00	500.00
mean	33.05	12.05	37.06	3.53	499.31
std	0.99	0.99	1.01	1.00	79.31
min	29.53	8.51	33.91	0.27	256.67
25%	32.34	11.39	36.35	2.93	445.04
50%	33.08	11.98	37.07	3.53	498.89
75%	33.71	12.75	37.72	4.13	549.31
max	36.14	15.13	40.01	6.92	765.52

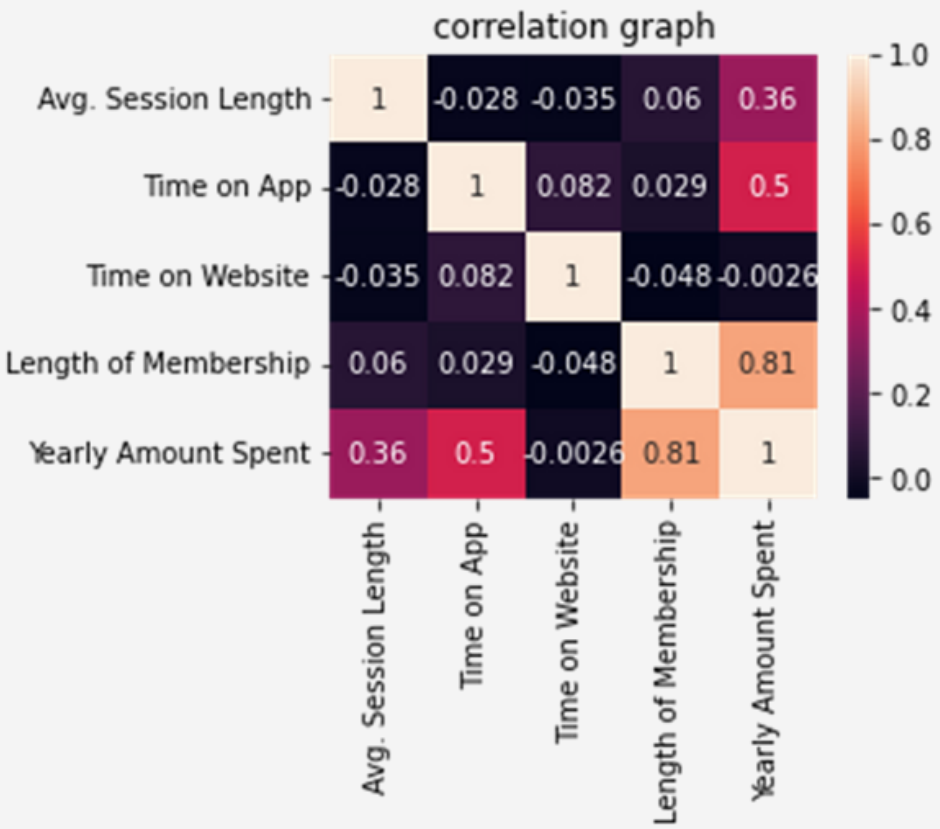
By looking at the data for the first time before analyzing it, we notice that customers spend the most time on the website whither the application. It is assumed that the most profit will be from the website (initial assumption).
Let's make our integrated analysis to explain whether this hypothesis is true and this initial view is correct or not? It's time to let statistics play it's role !



relationships across the entire data set.

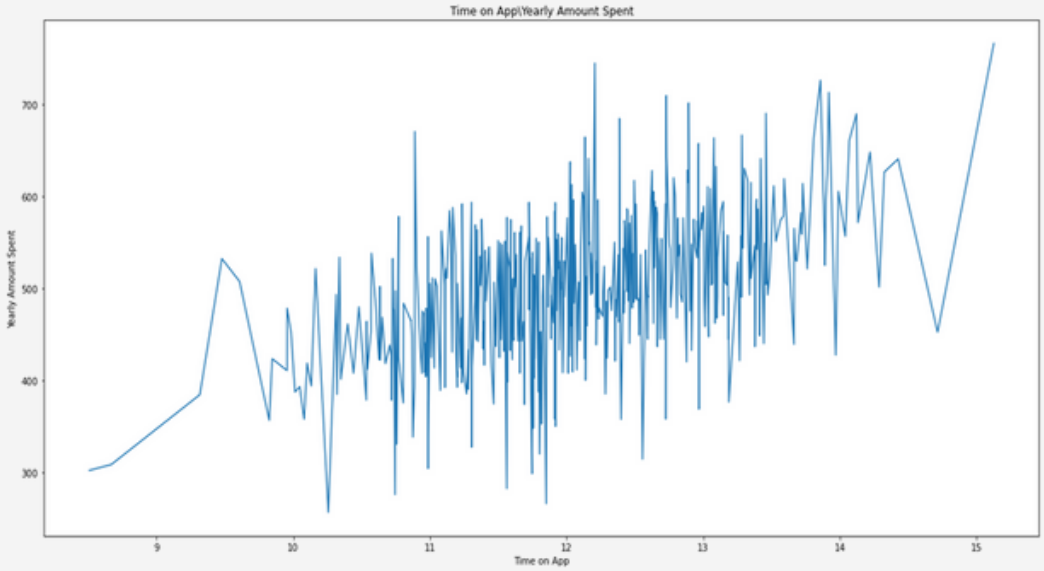
We note that there is no regular relationship between all columns except for the Length of Membership column and the Yearly Amount Spent column. There is a clear and apparent relationship between them. The customer's membership period column has a clear impact on the amount that the customer spends annually. The relationship between them is direct as the customer's membership period increases, whether on the application or the website is increasing the amount that the customer spends annually. But this information does not benefit us greatly in statistics, because the goal is to find the place where the customer spends the largest amount of money, so we made another conception of the variables.

Further clarification on the positive relationship between the Yearly Amount Spent for the customer And the length of membership, and that it has a significant impact on increasing the financial return of the company.

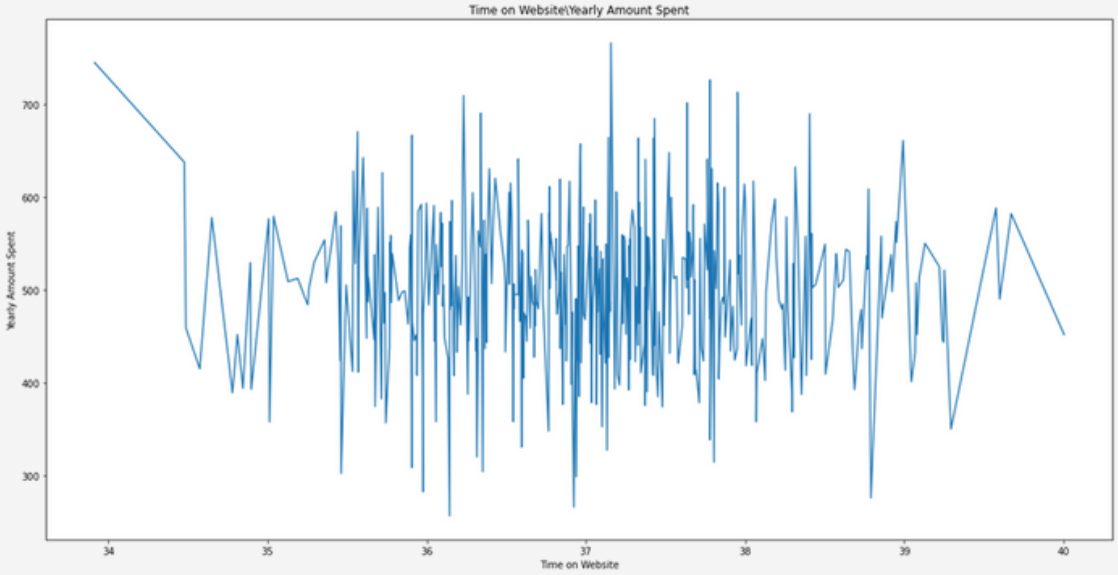


The graph is showing the relationship between the columns in the data (the closer the number is to one, this means that the relationship is very strong between the columns and it affects each other), we notice that the strongest correlation is between Yearly Amount Spent column, and Length of Membership column.

Yearly Amount Spent is the Length of Membership, followed by the power of influence, which is Time on App. This means that the more time the customer spends on the application, the more he spends, and this benefits the company financially. Here we proved that not everything we see is true. When we saw the data for the first time, it was clear that the main profit of the company is the website because people spend more time on it, but when we did the analysis we found that although customers spend a long time on the website, they are not spending much.



We notice through this drawing, the more time the customer sits on the application, the higher the level of money spending.



We note through this drawing that there is no specific relationship between the two columns. It may be that the customer spent more time on the website, but he spent a very small amount of money, and the customer had spent a very short time, but he spent a very large amount of money.

Conclusion

Through this analysis, we concluded that the main and greatest profit for the company is from the application and that they should invest their efforts in developing the application because customers spend more money on the application from the web.

References

Our Dataset:
https://www.kaggle.com/datasets/srolka/ecommerce-customers

Our code:
https://drive.google.com/file/d/19sTOcRycvOSN1HAQL8Xjby8hn-W4GF2v/view?usp=share_link

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