

Citrus: Case Study - Data Science

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Introduction

Electronic commerce or E-commerce is the trading of goods and services on the world wide web. E-commerce uses technologies such as mobile commerce, electronic fund transfer, online transaction processing, etc. Example of E-commerce websites include -

- Online Shopping
- Business-to-Business buying and selling
- Marketing and launching new products and services, to name a few.

India had an estimated 345 million internet users in July 2015, and is expected to cross 500 million by the end of 2016. The E-commerce market in India is growing at an unprecedented rate adding 6 million people per month. 70% of the E-commerce market is travel related whereas electronics and fashion apparels have the highest sales numbers ^[1]. The key factors for the growth of the E-commerce market are –

- Large percentage of the population having access to broadband services
- Growth of smartphone users
- Rising standard of living
- Evolution of startups which provide all sorts of services and goods online
- Competitive pricing as compared to the old brick and mortar shops

E-commerce also provides the users the option to pay their bills electronically, that is, using a host of online payment service providers. A payment gateway is one such service provided by an e-commerce application service provider that authorizes the credit cards and direct payments for online retailers, businesses etc. The payment gateway facilitates the transaction between a payment portal such as a website and the customer's bank or a financial institution that processes the card payments on behalf of the merchant ^[3].

Citrus Pay, founded in 2011-12, captured the market and became one of the top payment gateway providers within a year. Citrus wants to perform the activity of targeted marketing on its existing customers and provide them with exclusive offers. For this, we can profile Citrus customers on the basis of their transaction frequency and history. Websites receive more traffic during the festive season, for example, Snapdeal received a growth of 500% during the Diwali festive sale ^[2]. Moreover, during the holiday and festive season, IRCTC and other ticket booking portals receive more traffic than usual ^[4].

Indian economy has a booming E-commerce phase and more and more customers are making transactions online ^[5]. Current trend analysis will reveal what websites Citrus should focus on and offer exclusive deals to Citrus Pay customers on those websites.

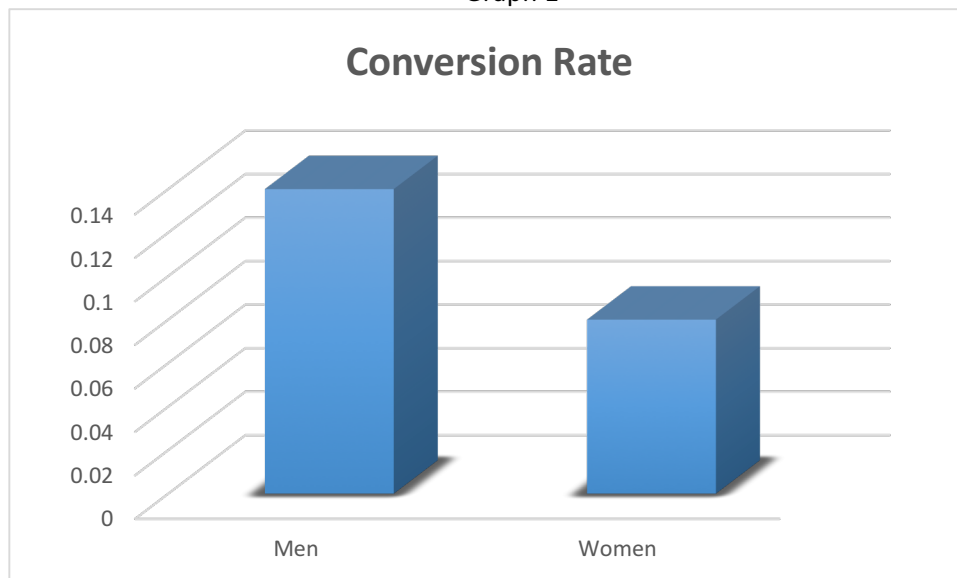
Analysis

According to a trend analysis, in India, men prefer to shop more than women online, men shop thrice as much as women. The sales or transactions happen more during the work hours, that is, 9 AM to 5 PM, and this peaks on Wednesdays and Fridays^[6].

The report is as follows^[12] –

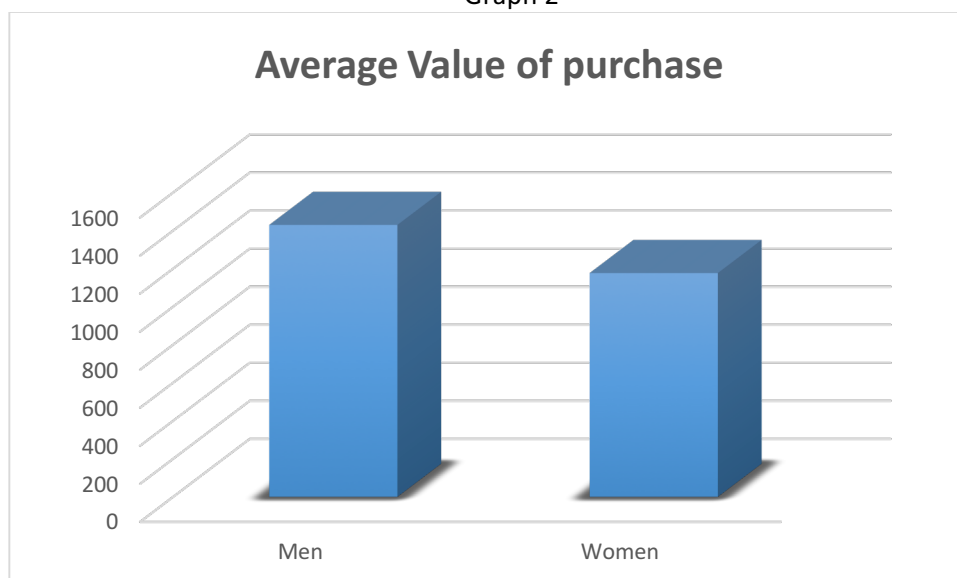
- Indian men shop thrice as much as women

Graph 1



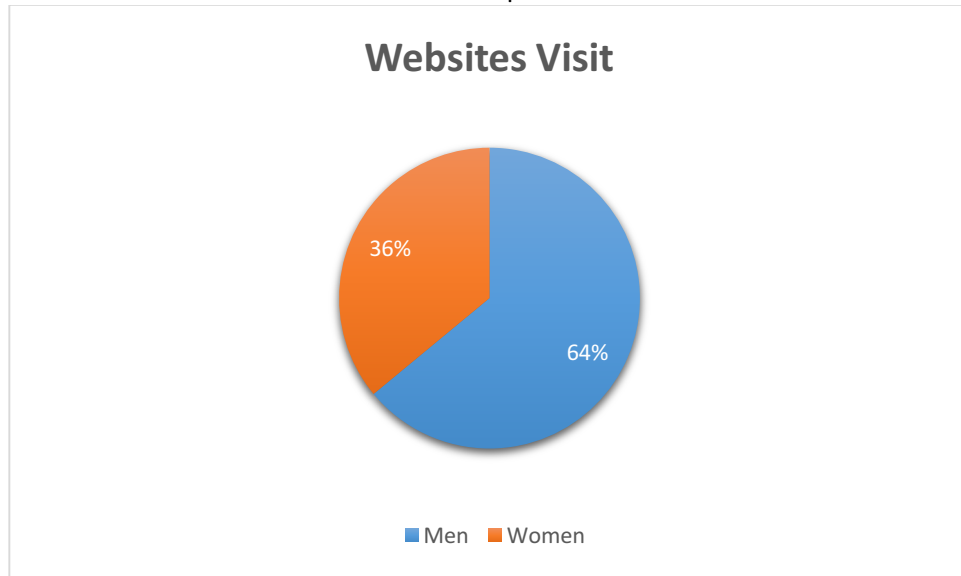
The graph above shows the average comparison between a customer buying a product online. The rates are 0.14 and 0.08 for men and women respectively.

Graph 2



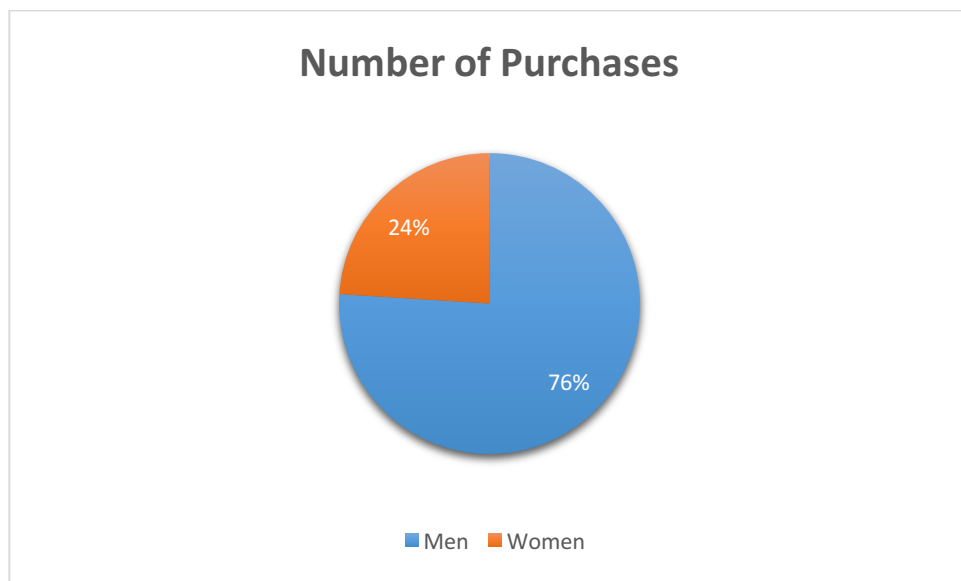
This graph shows the average value of the product. The average price of the product was 1430 rupees for men and 1177 rupees for women.

Graph 3



The graph describes the website visiting frequencies of men and women.

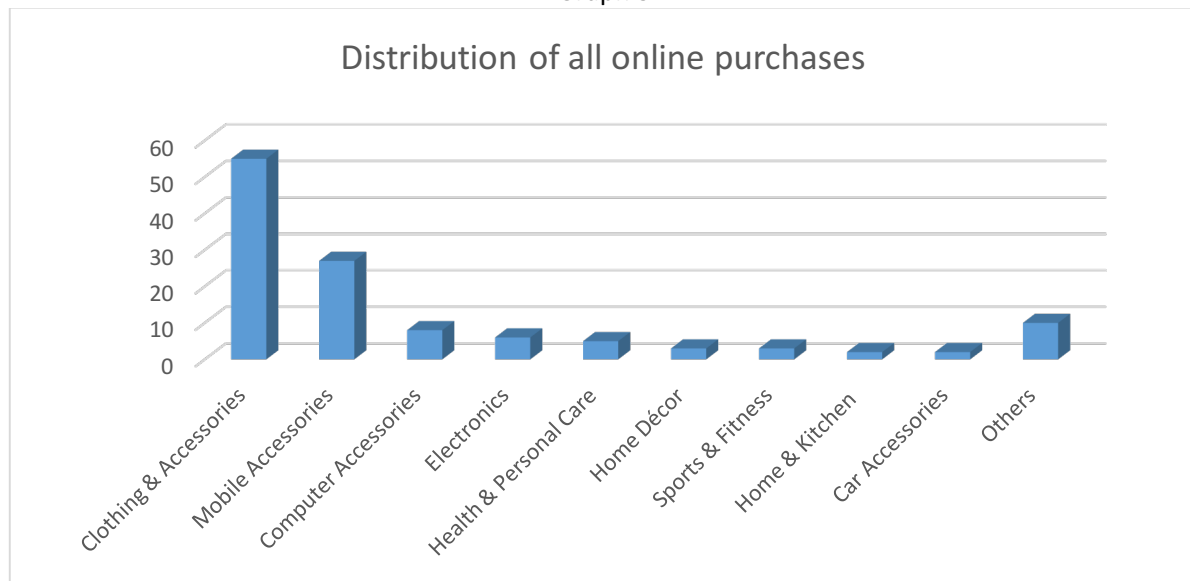
Graph 4



The graph above gives the ratio of purchases of men and women.

- Impulsive categories like fashion apparel and mobile accessories count upto 60% of the total online purchases

Graph 5



The graph above shows the ratio of the products sold for different categories.

- 60% of the total sales happen during the peak business hours

From the report above, we conclude that the maximum expenditure of users is in fashion apparel followed by mobile accessories and computer accessories. The consumer spending pattern is thus defined and shows that Citrus should capitalize on the coming end of season sale and give promo offers to its users on fashion apparel websites such as Jabong. Consumer spending is the max during the festive season ^[7]. Customers are bound to shop online as it saves the hassle of going out of their comfort zone ^[8]. Holidays mark the time for people engaging in travel ticket booking and a lot of companies offer plans to attract more customers, for example, Air India ^[9]. Providing users with exclusive offers on ticket booking is also a viable option, considering the fact that Diwali is almost here.

The market demographic indicates that people from the ages of 18 to 60 are the consumers of e-commerce related services, out of which, a majority lie in the age group of 13-35 years. The 18-25 years age group is the fastest growing age segment online ^[10]. Metropolitan cities have more number of consumers of e-commerce services and goods and the products that the consumers purchase often reflect upon their lifestyles. Consumers in the age group of 18-35 are employed and will usually take up on exclusive deals and offers to save money. Keeping this in mind, the marketing to be done should be focused on this age segment.

Its given to us that Citrus maintains a database of its customers and the transactions they make on different products on different websites. Out of these customers, a profile can be made for those who fall in the age group of 18-35 and have a high number transactions using Citrus login or wallet. This covers all the users who are actively purchasing goods and services online. Using the database, a descriptive report can be made and customer profiling can be done using SPSS and R and a subset the technique of transaction profiling ^[11]. Transaction profiling is a subfield of predictive modelling and it involves aggregating and filtering information from transactions involving enterprise software.

Summary

Citrus divides its work revenue and solution stream in four sectors –

- Airlines
- Marketplaces
- Offline to Online payments
- Micro transactions

Citrus customers can be segmented on the basis of the data maintained by the company using transactional profiling. The customers profiled by this will most likely be in the age group of 18-35, employed, have a decent number of Citrus transactions. The market growth and sales of products indicate that Citrus should provide the customers with exclusive deals on fashion apparel websites. The website traffic and volume of transactions increases drastically over the end-of-season sale and festive season sale, increasing the probability that a customer will use the offer provided by Citrus. Moreover, around the holiday season, the booking of tickets on travel portals such as IRCTC, MakeMyTrip etc. increases and these websites receive heavy traffic and have a massive transaction ratio.

Appendix:

- [1] https://en.wikipedia.org/wiki/E-commerce_in_India#cite_note-7
- [2] <http://economictimes.indiatimes.com/tech/ites/how-big-data-analytics-helped-snapdeal-deliver-during-diwali-sales-frenzy/articleshow/49505762.cms>
- [3] https://en.wikipedia.org/wiki/Payment_gateway
- [4] <http://irctc-co.in/indian-railways/tatkal-booking-capacity-doubled-on-irctcs-upgraded-website/3129>
- [5] <http://economictimes.indiatimes.com/industry/services/retail/indias-e-commerce-market-expected-to-cross-rs-2-lakh-crore-in-2016-iamai/articleshow/52638082.cms>
- [6] <https://sokrati.com/blog/current-trends-about-indian-e-commerce-industry/>
- [7] <http://economictimes.indiatimes.com/industry/services/retail/acche-din-despite-mixed-economic-data-consumer-spending-expected-to-hit-a-record-this-festive-season/articleshow/49519219.cms>
- [8] <http://www.thehindu.com/news/cities/Delhi/online-traffic-swells-as-festive-season-begins/article6522496.ece>
- [9] <http://timesofindia.indiatimes.com/business/india-business/Air-India-announces-Diwali-Dhamaka-ticket-sale/articleshow/49647502.cms>
- [10] <https://yourstory.com/2016/01/indias-e-commerce-assoacham/>
- [11] <https://core.ac.uk/download/pdf/4899037.pdf>
- [12] <https://apps.sokrati.com/industry-report>