

# **Internet Platforms: An Advantage for Both Cyber Consumer and Internet-Based Businesses**

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## **Abstract**

The purpose of this paper is to evaluate in an objective manner the measure in which Internet platforms provide a more transparent way for customers to express their opinions, while also being an aid for businesses by showing them the aspects that need improvement.

**Keywords:** Consumer Behavior; Cyber consumer; Online reviews.

## **1. Introduction**

As the global economy develops, we are witnessing market changes: from the traditional one-to-one, we have moved to a changing market – the electronic market (e-market space). This informational market is rather a new workspace (many-to-many) that develops into a world based on services, communication tools and a solid information infrastructure. The e-market concept is used to designate the virtual context in which e-business is practiced, having as a correspondent in the real world the marketplace of goods and services. Generally, new emerging technology markets are distinguished by sophisticated products, numerous competitors, disoriented customers and a fast evolution.

The Internet market is a dynamic, open, complex market where demand and supply information is more transparent, the transactions cost less, they can be carried out quickly and without geographical or temporal barriers - new markets can be penetrated. Moreover, markets mean communication.

Nowadays, it is far easier for a customer to express his feelings regarding a specific product or service. Based on the anonymity internet is providing, his reviews are, at least theoretically, more honest. For an enterprise that is part of this dynamic business environment, this honesty translates into ways of improving what they are offering to the society. The tendency of shifting towards the e-market is natural, as it brings a lot of advantages, both for the customer and also for businesses. Internet, Online businesses and Social Media are present now in every aspect of our lives, but in the near future, they will be universal.

Study case: Analysis of the information from the Cyber consumer

This study case evaluates the consumer's behavior of the cyber consumer that has purchased either an iPhone 6 or a Samsung Galaxy S6, in the time intervals 2015 – 2017. The analyzed date consists of 600 records, randomly selected from the Amazon Consumers that have registered an online review, 300 of these reviews for the iPhone 6 and the other 300 reviews for the Samsung Galaxy S6 phone.

The iPhone 6 is a smartphone designed and marketed by Apple Inc that was released on September 2014. The smartphone includes a larger display (120mm), fast processor, improved connectivity as compared to the previous version

Samsung Galaxy S6 is an android smartphone manufactured and marketed by Samsung Electronics. The phone was officially launched in March 2015. The model is similar with the previous models but has some hardware improvements, a 1440p display and an improved finger scanner.

These two smartphones were widely compared and reviewed, Samsung S6 being considered by some, worthy of comparison with the iPhone 6. If we were to compare them physically both of them are 6.9mm thick and weight about the same 138g (Samsung S6) versus 129g (iPhone 6).



*Figure 1. iPhone 6, Samsung Galaxy S6*

If one was to follow the suggestion presented on the internet and base their decision on build quality, then the iPhone 6 is the outright winner, hence one should buy the iPhone 6. However if we were to compare the two phones with respect to their screen capabilities, the iPhone 6 has a great screen, but the S6 is offering something new and innovative, hence Samsung is the winner.

Performance and storage criteria did not reveal a clear cut winner; however software criteria pointed to the Apple phone, while speakers and earphones indicated the Samsung phone. The comparison does not have a clear winner on the camera and photo comparisons, both cameras are great, although one could say that the Galaxy S6 performs better for photos in challenging conditions and has a slightly better front-facing camera. While we can agree with this assessment, it points out that the Galaxy S6 camera, while having more detail in some images, has some problems with overexposure and ranks in second to the iPhone 6 when taking selfie photos.

One could safely state that any cyber customer will investigate the web regarding this reviews and comparisons before purchasing a new phone. In what follows we will present an analysis of the customer reviews posted on Amazon after purchasing one of the above phones. The two data sets (iPhone reviews and Samsung reviews) have equal size; they cover the same period of time and are collected for the three sizes available: iPhone (16GB, 64GB and 128GB) and Samsung (32GB, 64GB and 128GB). The observations collected contain information regarding the date of purchase, the size of the phone purchased, the brand and the ranking of the phone on a scale from 1 to 5, 1 being the lowest ranking and 5 the highest ranking.

Figure 2 presents a barplot with the vertical bars representing the iPhone 6 ratings by year of the purchased phones, without differentiating between the different sizes. One could see that every year since the launching there was a significantly larger number of positive reviews of the iPhone 6 phone comparing to the negative ones, the customers being happy with the purchase in 72% of the cases in 2015, 60% of the purchases in 2016 and 44% of the purchases in 2017 (the data has 100 recordings for every single year). One could note that there is an increasing trend in unsatisfied customers from 2015 to 2017, mainly the percentage lost in 5 star ratings, going towards the 1 star ratings.

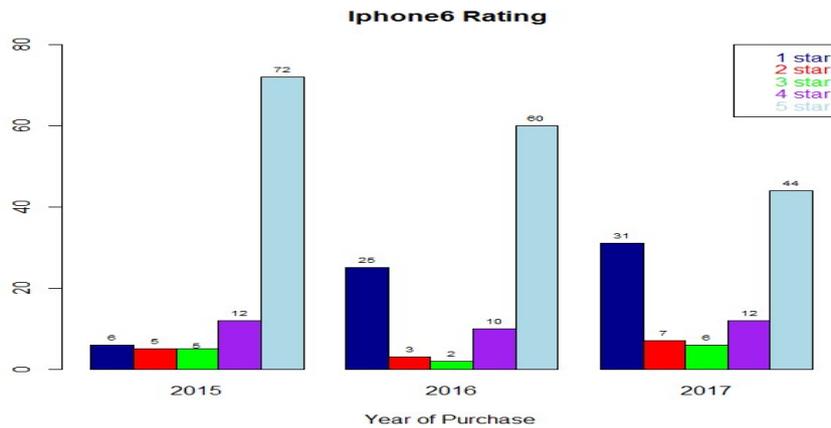


Figure 2. iPhone 6 ratings by year

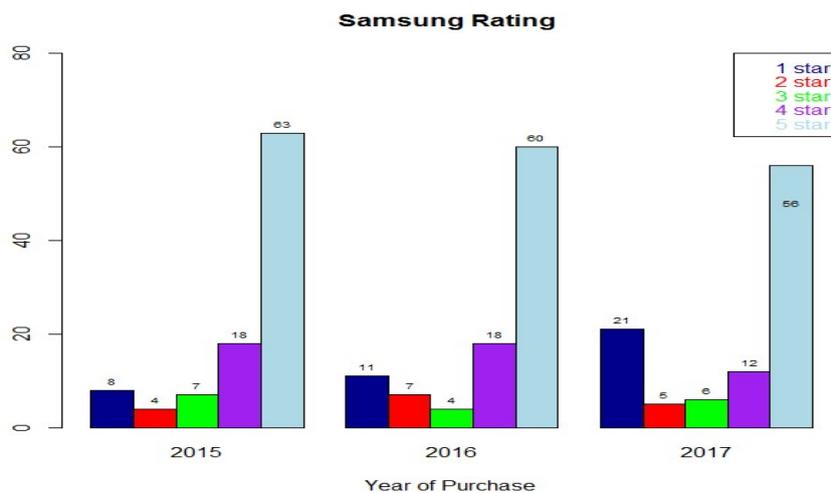


Figure 3. Samsung Galaxy S6 ratings by year

Figure 3 presents the purchases for the Samsung Galaxy S6 and the ratings received. As compared to the ratings in Figure 2, one should note that although we also have a decrease in the 5 star ratings, the trend is not as accentuated as for the iPhone phones. Considering the fact that we are only half way through 2017, we may end up having more 5 star reviews by the end of 2017 that we had in 2016, see 56 ratings versus 60. The middle ratings – 2, 3, 4 starts are not varying to much in the analyzed period, however one should also note and increasing in negative ratings, possibly due to the release of new phone versions, with better and newer capabilities.

Pie Chart star distribution reviews of iPhone6

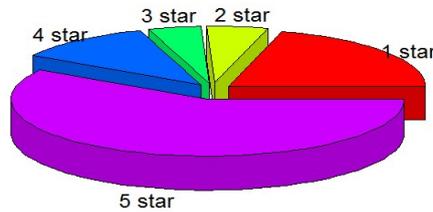


Figure 4. Distribution of reviews iPhone 6

Pie Chart star distribution reviews of Samsung Galaxy S6

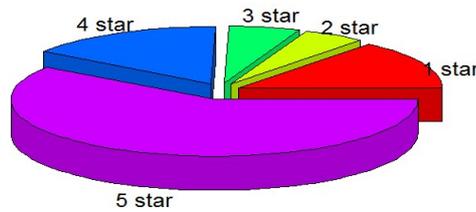


Figure 5. Distributon of reviews for Samsung Galaxy S6

Figure 4 and 5 illustrate the proportion of reviews in each of the 5 categories and one can see that overall the two phones were registered similar customer satisfaction with the purchase, with a slightly better satisfaction for Samsung Galaxy S6 where we have more reviews in the 4 star category and less in the 1 star category, while for the iPhone 6 we have the opposite.

Pie Chart star distribution reviews of Iphone6

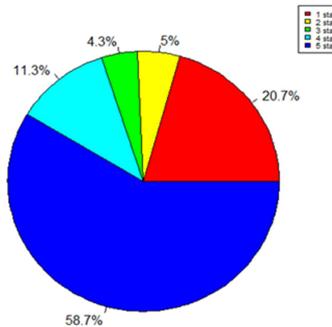


Figure 6. Star distribution reviews of iPhone 6

Pie Chart star distribution reviews of Samsung Galaxy S6

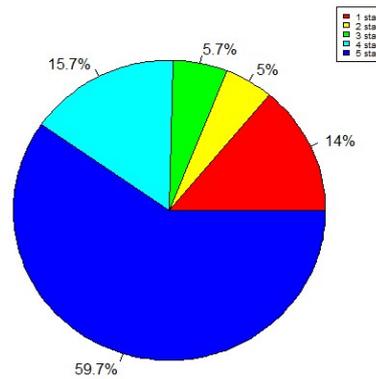


Figure 7. Star distribution reviews of Samsung Galxy S6

The findings in Figure 4 and 5 are supported and better illustrated in Figure 6 and 7 where one can see that the reviews in the 5 star categories are comparable (58.7% versus 59.7%), and we can see the difference between the two phones in categories 1 and 4.

Iphone star distribution by date

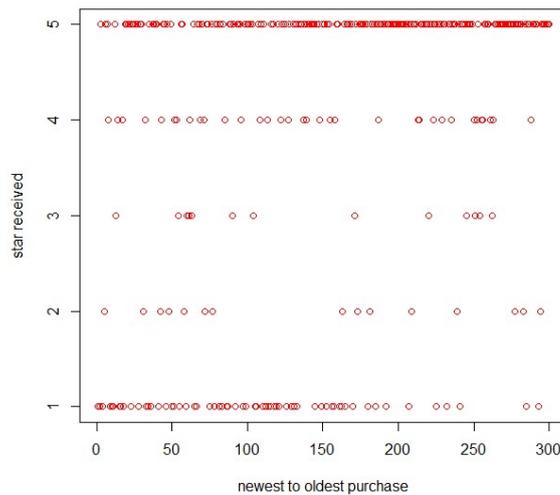


Figure 8. Star distribution by date iPhone

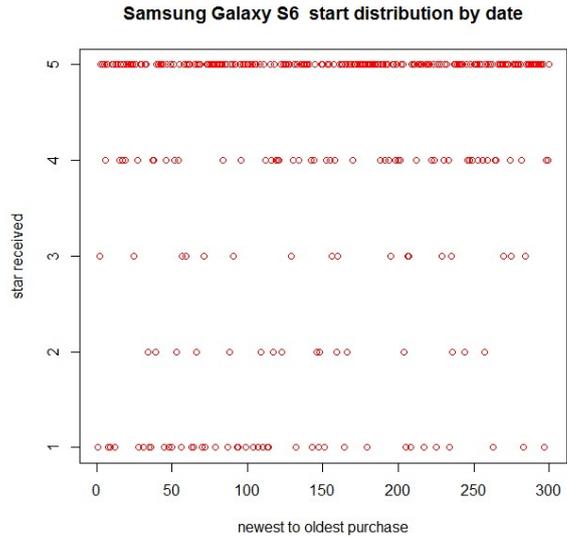


Figure 9. Star distribution by date Samsung

From Figure 8 and 9 one can see that for iPhone 6 the newest reviews have mostly either 5 stars or 1 star, while for Samsung Galaxy S6 the newest reviews seem to be mostly 5 stars. We are interested in investigating, especially for the iPhone 6 why we identify these trends and for this we are looking into the size of the phones the customers seems to buy.

We can see from the first diagram in Figure 7 that the reviews that received 5 categories are in a significantly higher percentage coming from customers that have purchased iPhone 6 with 16GB, followed by customers that purchased iPhone 6 with 64 GB. However, we observed that the customers that bought iPhone 6 with 128GB tend to give 5 star ratings, among the 22 customers that purchased iPhone 6 with 128GB, 16 of them gave a 5 star rating and 3 of them a 4 start rating.

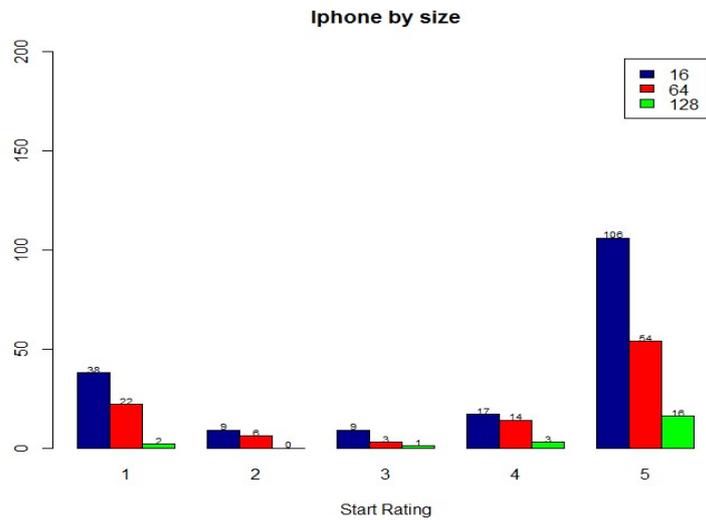


Figure 10. Star rating iPhone

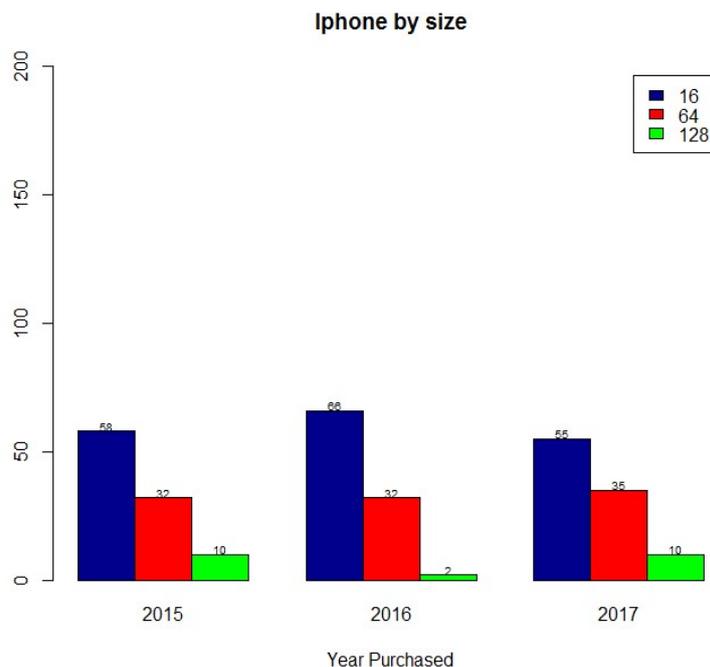


Figure 11. Year purchased iPhone

We have tested the null hypothesis that score ratings are independent of the size of the phone (a Chi Square test of independence) and as the p-value = 0.6647 is greater than the 0.05 significance level we do not reject the null hypothesis that the rating category is independent of the size of the phone the buyer purchased, hence the observation made.

From Figure 11 we see the distribution of different sizes the customers purchased. Performing a chi-square test of independence of size of the phone versus the year of purchase, as the p-value = 0.0006941 is less than the level of significance of 0.05 we reject the null hypothesis that the two variables are independent and we conclude that there is a relationship between the size of the phone and the year purchased. One can note that close to the launch on the market the customers bought smaller size phones and fewer large size phones, however two years after launch the customers are changing their behavior, buying more large size (128GB) phones.

We can see from Figure 13 that the reviews that received 5 categories are in a significantly higher percentage coming from customers that have purchased Samsung Galaxy S6 with 32GB, followed by customers that purchased Samsung Galaxy S6 with 64 GB. However, we observed that the customers that bought Samsung Galaxy S6 with 128GB tend to give 5 star ratings, among the 20 customers that purchased Samsung Galaxy S6 with 128GB, 13 of them gave a 5 star rating and 3 of them a 4 star rating.

We have tested the null hypothesis that score ratings are independent of the size of the phone (a Chi Square test of independence) and as the p-value = 0.2278 is greater than the 0.05 significance level we do not reject the null hypothesis that the rating category is independent of the size of the phone the buyer purchased, hence the observation made.

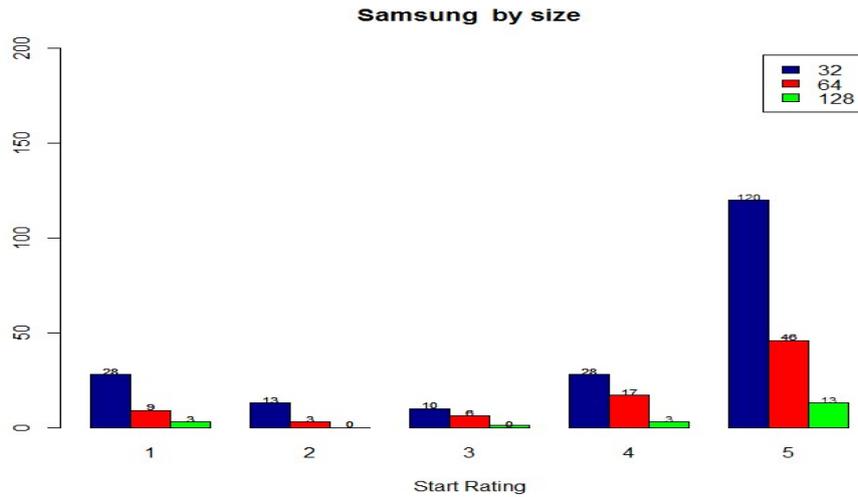


Figure 12. Star Rating Samsung

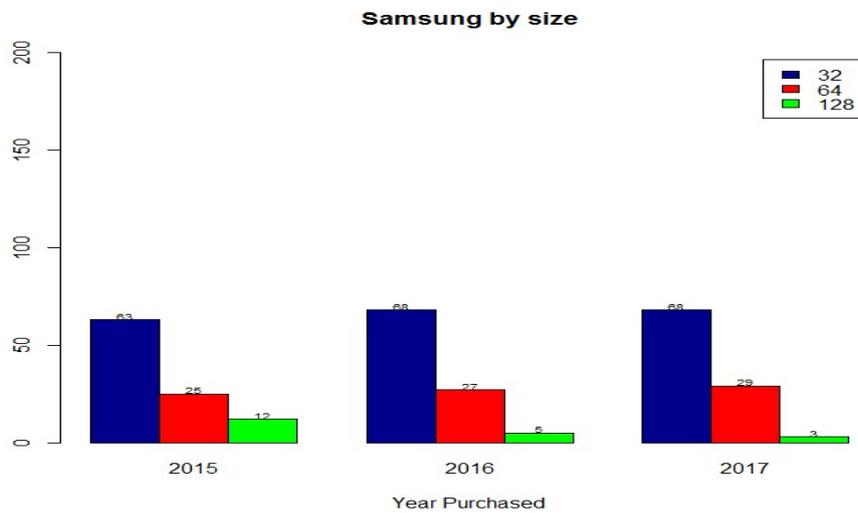


Figure 13. Year Purchased Samsung

From Figure 13 we see the distribution of different sizes the customers purchased. Performing a chi-square test of independence of size of the phone versus the year of purchase, as the  $p\text{-value} = 0.7598$  is greater than the level of significance of 0.05 we do not reject the null hypothesis that the two variables are independent. One can note that for 32GB and 64GB phones the customers same similar tendency in their purchasing behavior in 2015 and 2017, while the 128GB phones were purchased more in 2015 and exhibited a decrease since then (12- 128GB phones in 2015, 5 – 128GB phones in 2016 and 3-128GB phones in 2017).

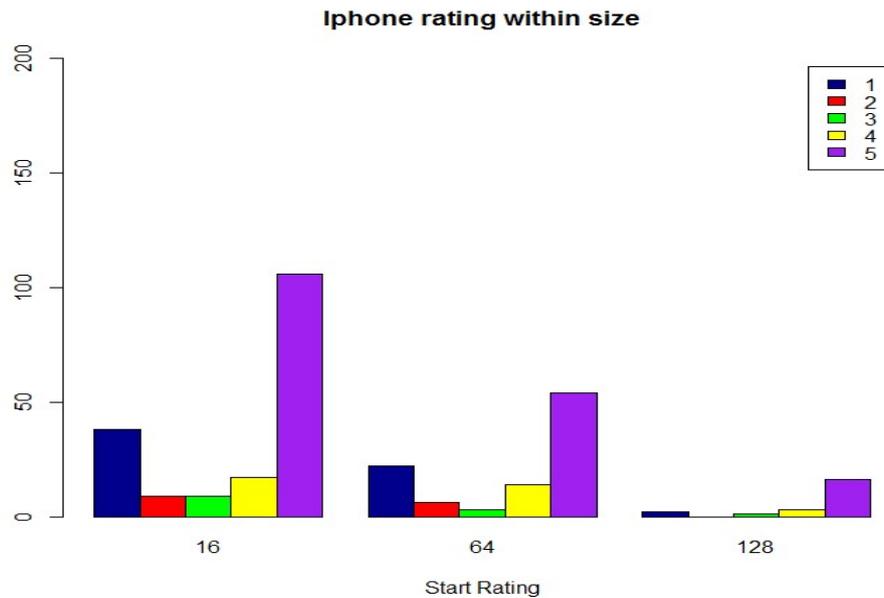


Figure 14. iPhone rating within size

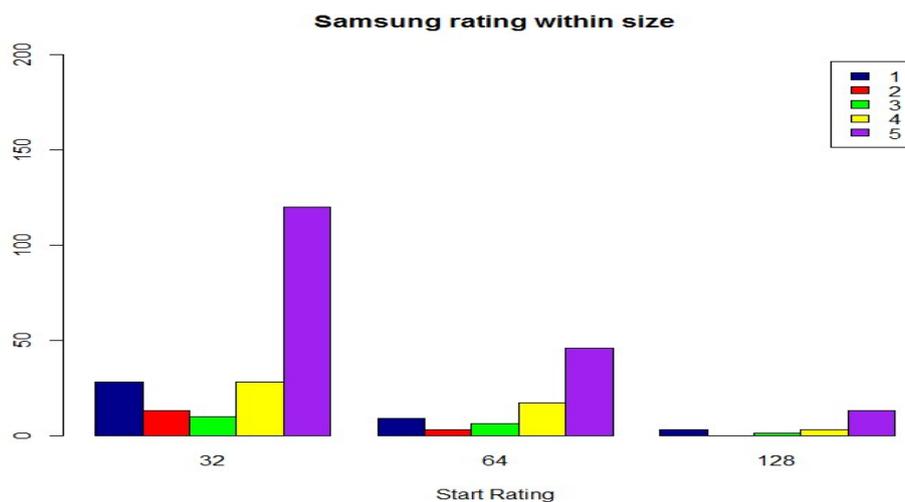


Figure 15. Samsung rating within size

From Figure 14 we can see that customers that purchase the iPhone 6 are happy with their purchase regardless of the phone storage size. For the 16GM and 64GB , 60% and 55% respectively find the phone an excellent purchase (5 stars), with about 21% unhappy customers in each size category. For the 128GB the satisfaction rate is higher, about 73% of the customers are happy with the purchase (5 stars), with only 9% unhappy customers (1 star). 85% of the customers are happy with iPhone 6, giving 4 or 5 stars; hence we can state that the plus storage iPhone 6 is a phone that the customers consider an excellent purchase.

Also we can see from figure 15 that customers that purchase the Samsung Galaxy S6 are happy with their purchase regardless of the phone storage size. For the 32GM and 64GB , 60% and 57% respectively find the phone an excellent purchase (5 stars), with about 14% and 11% unhappy customers in each size category. For the 128GB the satisfaction rate is higher, about 65% of the customers are happy with the purchase (5 stars), with 15% unhappy customers (1 star). 80% of the customers are happy with Samsung Galaxy S6, giving 4 or 5 stars; hence we can state that the plus storage Samsung Galaxy S6 is a phone that the customers consider an excellent purchase. One could note, that based on the analyzed data in 2015 and 2016, the iPhone 6 had a smaller percentage

of customers that ranked the phone with 5 stars, as compared to the Samsung Galaxy S6, while in 2017 the iPhone 6 has a larger percentage of 5 stars.

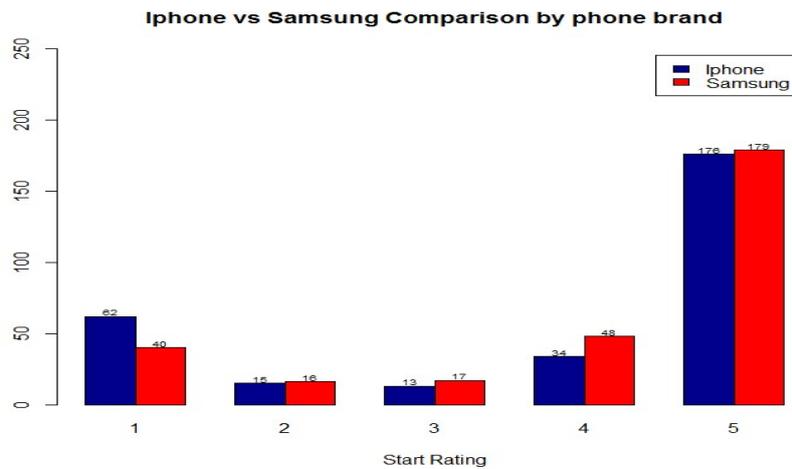


Figure 16. iPhone vs Samsung by star ranking

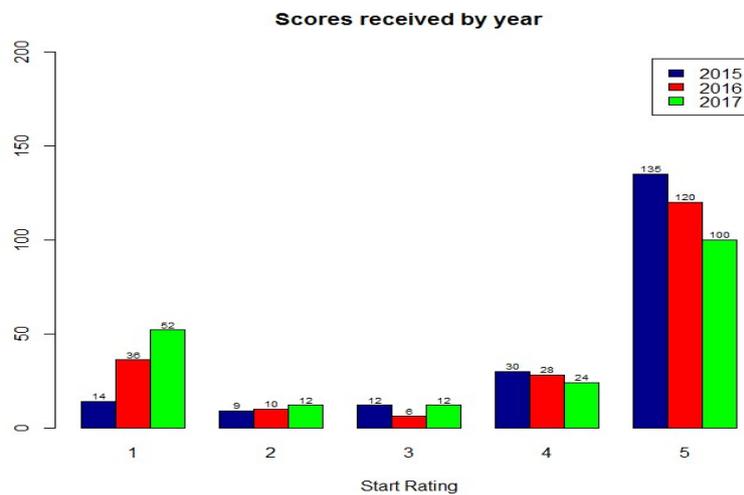


Figure 17. Customer purchase and ranking by year

In summary, from Figures 16 and 17 we can state that customers have similar preferences for the two smart phones compared in this study, the ranking distribution is similar for the two brands, with a slightly larger number of unhappy customers for iPhone (62 versus 40). Over the three years investigated in this study the number of customers unhappy with these two smartphones increased (Figure 17, start 1) and the number of happy customers steadily decreased (Figure 17, 4 and 5 stars), hence we can conclude that the customers happiness with these products decrease over the years. Considering that each brand had new releases and that iPhone 6 is no longer manufactured these results are supported, however they are still appealing to the online customers.

## 2. Conclusions

If we were to build the portrait of the a buyer in the online space as shown in the research, it would have the following characteristics: he predominantly uses the phone or tablet to access online sites, buys mainly ITC and electronic products, prefers foreign websites probably thanks to the much lower prices than those on Romanian sites, makes payment both by cash on delivery in order to avoid possible frauds and with the card and it spends monthly amounts averaging between 25-75 euro. The main reasons for online purchasing preference are the diversity of products that buyers find on e-commerce sites and lower product prices. Among the factors that pose a risk on online

shopping experience is the fact that products are delivered damaged, delivery times are not met or potential frauds.

Entrepreneurs who use Cyberspace as a place for selling their products must first ensure the construction of a quality website to have the biggest impact on consumers. Creating a good image of the site and its products guarantees the efficiency of e-commerce and ensures a good place in the sales rankings.

Online customers, especially the Millennials generation, shop online desiring a comfortable experience no matter what device they use. They are sophisticated users, and companies expect them to buy online more and more using all kind of devices. Retailers also have to offer them the usage experiences they need. Although their interest in mobile shopping is very high, these customers want to improve their user experience. It's obviously easier to buy online using a mouse and a keyboard, to the detriment of a smartphone. The lack of sharp and large images on mobile devices is a problem that needs to be solved.

Customers know that they have leverage over enterprises, as they can choose from a larger variety of products and services, so every business must struggle to cope with the higher expectations of the new cyber consumer. On the other hand, entrepreneurs can benefit from the feedback their clients offer them, as some deficient aspects might go unnoticed in the first place.

As a general conclusion, the cyberspace is a growing environment for selling operations; if sellers want to benefit from the advantages of the internet, they must improve the experience the buyer has.

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