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Here's How Big Data is an Advantage for Gaming Industry

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A B S T R A C T

Ever since the video gaming industry has invaded the online space, this fast-paced industry is almost bursting on its seams. This paper presents and assesses a revolutionized gaming industry under big data. It offers detailed analytics on how this prolific gaming industry is rapidly embracing Big Data technologies to drive customer engagement, make more money on advertising, optimize the gaming experience and enhancing the end-user experience. Consumers are producing more data in online gaming than ever before. As the volume of data increasing at an exponentially faster rate, the need for big data is essential to satisfy end-user demand. In this note, we proposed how big data is proving personalized service to the customers. The requirement of people, especially in a sector where has an obvious advantage as gambling industries can then make a profile on who plays what and at which time interval which in turn allow the developers like Microgaming, Playtech, NetEnt make informed choices and decisions.

Keywords: Cloud gaming, data analytics, Big data, End-user optimization, Game tracking console.

1. INTRODUCTION

As per the reliable market reports and statistics, a large, video game manufacturer has the potential to generate around 50 terabyte of data each day. Bringing in the notice, the gaming industry in 2017 does $18.4 billion in annual revenue in the United States, and this revenue is forecast to reach $230 billion by 2022. There are above two billion video game players around the world in which 275 million users are alone of Electronic Arts. The mobile gaming rises with almost 50% of the money generated by video games accounted for by mobile products.

As with any organization, 360-degree consumer view is important. Fortunately, gamers leave massive data when they play. Whether it is an online game connected via Facebook or Gmail, or, an offline laystation game or a multiplayer XBOX game a large bunch of data is created based on the customers gameplay and behaviour such as on which level they are, how they interact, how long they play, with whom they play, how they spend money on virtual products and virtual game accessories etc. If the gaming profile of a user is linked to the social media profile or if a gamer is asked to enter his/her demographical data then this information can be enhanced with what the gamer likes thereby suitable end-user gaming method and tactics are applied on him satisfying the demand. Recommending the products that the other user also bought based on the level of the gamer. This can increase upsell or cross-sell ratio and additional revenue.

Data is needed to find congestion within the game, where many players fail the task at hand, or it can also be used to find the areas that are too basic and needs to be improved. Analyzing millions of the gamer player patterns give the idea which elements of game is popular. Constant engagement is vital an with the right tools the right reward can be provided at the right moment for the right person within the game to keep a player engaged.

Big Data helps in optimizing game performance and end-user satisfaction. When the database and server of the online multiplayer game have to cope with many gamers playing in the same room, then it is essential having a sufficient memory capacity. With big data, it is possible to forecast the peaks in demand to anticipate the required capacity and scale accordingly.

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2. BI on game data

Business Intelligence (BI) helps in gathering gamer data from several types of external resources and comparing that data with internal data to reach a conclusive decision about consumer spending strategy and his level of satisfaction.

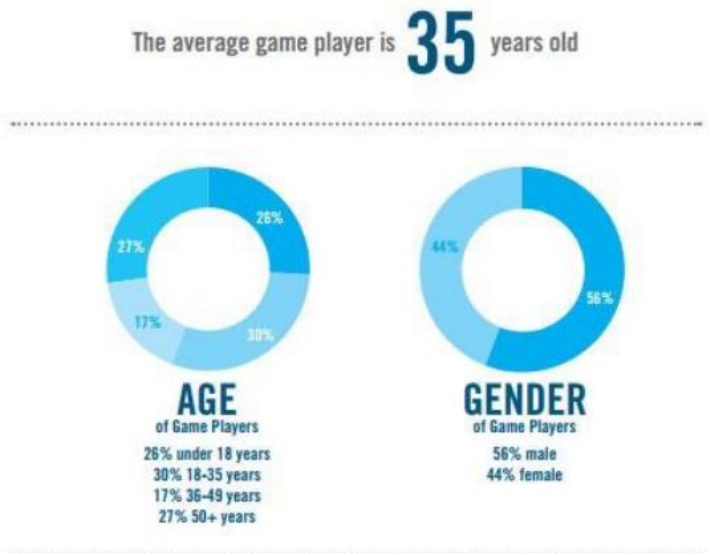

Fig. 1 - (a) first picture; (b) second picture.

3. Big Data modifications in the gaming industry

3.1 Real-time data monitoring

Big Data enables real-time data monitoring tools that can convert data into powerful marketing strategies for generating revenues from several systems.

3.2 Behavioural Analytics

The major perspective of companies is to increase, retain and engage the customers for business profits. The company, called Datameer offers a product to identify and manage behaviours. The key objective of behavioural analytics is to target the gaming population and entice them with appropriate advertising placement and content. Many times, portending analytics can provide valuable insight into customer's behaviour through careful monitoring of customer choices over a long period of time. A major challenge in examining external data is that it is usually multi-format and mainly unstructured.

4. Big Data advantages in the Gaming industry

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4.1 Sustained gamer engagement

Since in this time a large pool of unstructured data can be analyzed through either through cloud-based Big Data analytics or through on–premise Big Data analytics infrastructure. The data congregate from game stations can easily be integrated with information revealed on social media profiles of gamers, so that game designers can suitably enhance the gamers to more closely match the gamer expectation.

4.2 Increase in selling and cross-selling ratio of freemium Business models

Big data-driven in-game advertising that speaks to the individual player is a highly effective strategy to woo customer segments. Five years ago, gaming companies were forced to introduce their games as 'free' products as a way of generating interest and support among people in the absence of market capital. By providing their games for free, they expected income via in-app advertisements or microtransactions as players made in-game purchases to gain extra advantages. Recently the use of big data has enlarged the profitability of the freemium business model to such an extent that it's

now seen as the best route to success, even for incumbent firms. Additionally, through Big Data, game companies can use recommenders to offer virtual products based upon customers purchase habits.

Artificial intelligence (AI) and machine learning (ML) are helping to drive the shift in all forms of commerce towards highly targeted, personalized adverts. AI helps to match our desires with the products that we need, and the gaming industry has plenty of data it can mine. Data scientists can shift through big data to uncover hidden patterns of behaviour and decide which in-game ads would be most effective.

Think about it. How many apps and mobile games have you used that require you to sign in to your Google + profile or log in to Facebook in order to save your progress? Users love the convenience of being able to save their game data in the cloud, particularly if they need to reinstall the app on a new or different device. But in doing so, they are handing over a treasure trove of their personal data to the gaming companies. According to research by Venture Beat, almost three-quarters of users expect to see personalized ads within games now and 'think a lot less' of brands that fail to provide them. The rules of the gaming industry are being reshaped by the possibilities offered by AI and ML-driven advertising solutions.

4.3 The Tailored game design pattern is adapted

Let us understand it with an example –

If Big Data analysis reveals that players are abandoning at an early stage, then this could signal that early stages are too difficult to master. In this case, companies can take a strategy to dilute the difficulty level at the early stages of the game to encourage playing on. Similarly, data analysis can help game designers which stages of the game should be tuned to make them more challenging.

4.4 Optimized gamer experience across game platforms

Through the judicious use of predictive analytics, game companies can guarantee uninterrupted play sessions by identifying peaks sessions if future and making scaled arrangement to meet the demand of those peak sessions.

4.5 Employment growth in gaming industries

It has been a 29 % increase in Data scientist over the past years. The trend is even more significant if you look at it over a long time. There has been a 344% increase since 2013 which was only 7yrs ago. Unfortunately, those who have the skills set grew at a substantially lower pace, only 14%. This obvious gap between the supply and demand for these professionals has let a lot of money being spent on high salaries and great benefits packages to fill the demand. This means that people that can crunch datacan realize a very lucrative for some. Of all major industries, the online gambling industry has probably benefited the most.

4.6 Cloud-based Gambling

Cloud-based architecture has proven to be able to uniquely address the technical challenges posed to the gaming industry. A cloud offering may be the only feasible option if a company needs terabyte-scale storage and availability to billions of records for immediate streamed analysis (i.e. click streaming), at minimal investment.

Taking it one step further, Big Data Analytics database vendor SQream Technologies has identified a combination of values aspired for in a single analytical platform – speed, scale, capacity and cost, offering gaming companies a fully-managed cloud-based Analytics-As-A-Service data warehouse platform on the cloud. The platform enables near real-time analytics on massively ingested online data analyzed against years of historical, stored data, in a cost-effective manner.

Cloud GPU databases like SQream DB on AWS enable smaller gaming companies to compete with giants such as Sony and Microsoft, by providing them with access to unlimited event logs; scalability flexibility, high compression ratio leading to savings in storage space; and real-time actionable analytics, at minimal investment.

5. Live streaming

Gaming has always had the potential to be a social pursuit, but the sustained growth of live streaming is taking that communal element to the next level. Live streaming has also created bona fide celebrities from the world of gaming, which feeds into the lucrative nature of the industry. In January, Business Insider reported how Tyler 'Ninja' Blevins earns $500,000 each month for streaming games of Fortnite from the comfort of his bedroom. That kind of earning power would have been unthinkable even just a few years ago.

While Ninja may be the most extreme case, live video streaming is hardly an exclusive phenomenon. Newzooanalyzed data from January of this year, uncovering that 63,700 streamers hosted videos on Twitch and 22,000 people streamed video game content through YouTube. Those streams can focus on any form of gaming. While Fortnite and other trending games may dominate, many streamers venture into retro titles or simulation games. Other parts of the gaming industry have found this trend towards live streaming impossible to ignore. Some online casinos have made a concerted effort to introduce more live streaming games, partly driven by a desire to tap into a more communal form of casino gaming. Betway now has a dedicated live casino page, with games ranging from roulette to blackjack streamed in high definition with real-life dealers. Mobile apps have also got in on the live streaming action. Quiz apps used to be a way for individuals to pass the time and engage their mind in some spare time, but HQ Trivia changed the playing field. Thousands of people across the world logged into the app at the same time to compete for prizes, with the quizzes hosted in real-time by presenters and celebrity guests.

Live streaming looks destined to continue to expand throughout the coming years. After all, so many different games are attracting huge audiences that there is no reason to slow down. As those audiences swell, so do marketing options. If the gaming industry can use big data to track both streamers and audiences, it can tailor and sell advertising packages for a much greater profit.

It is natural that the video game industry would want to use all of the available information in order to improve its products. Data will be created by players' actions anyway, so it makes sense to log and track patterns to ultimately enhance the gaming experience. With eSports and live streaming propelling the video game industry to new heights, the usage of big data may become even more widespread.

6. CONCLUSION

Now that the gaming industry is rapidly embracing big data technologies, the industry is expected to make waves in novel methods of customer engagement, optimized and targeted advertising, and enhance the end-user experience.

The Cloud-based solution could be the key to the development of video games. By replacing more complex, expensive alternatives that require heavy IT involvement with high performing, scalable service-based analytics solution, Big data is being harnessed more quickly and effectively by both established gaming companies as well as newcomers.

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