
MOBILE LEARNING: TRANSFORMING EDUCATION, ENGAGING STUDENTS, AND IMPROVING OUTCOMES

Lt. Lydia Marina

Lecturer, Dept. of Comp. Sc, St. Ann's College for Women,
Santosh Nagar, Mehdipatnam, Hyd, Telangana
Email: marinadimple@gmail.com

Amtul Saleha

Student, Sc, St. Ann's College for Women, Santosh Nagar, Mehdipatnam, Hyd, Telangana
Email: amtualsaleha4@gmail.com

Sofiya Syed

Student, Sc, St. Ann's College for Women, Santosh Nagar, Mehdipatnam, Hyd, Telangana
Email: sofiamohiudd@gmail.com

Received: Oct. 2019 Accepted: Nov. 2019 Published: Dec. 2019

Abstract: This paper explores the analysis of online education system with web analytics or mobile app analytics. How web analytics is used to promote the growth of app? Analytics is the discovery, interpretation, and communication of meaningful patterns in data. Considering the emerging of the two most commonly used learning apps i.e. Byju's and Meritnation. This study helped reveal the educational value of mobile app design activities and the web-based visual programming tool, and the possibility of learning mobile app design online. The findings can also encourage educators to explore and experiment on the potential of incorporating these design learning activities in their respective settings, and to develop mobile apps for their diverse needs in teaching and learning. E learning company BYJUS that has changed the way of learning by visualising and making it more effective. Now let us look at the background working of this success story.

I. Introduction: "Time is-changing" – a phrase that we often hear which holds specific relevance in today's digital world. The online education industry, has seen its emergence from being a nascent market to one of the leading industries across the globe within a very short span of time.

The rise of digital mediums and increased penetration of portable digital media has expanded its reach in areas that were earlier cut-off from the benefits of elearning. This has directly resulted in an increasing number of edupreneurs coming to the fore – educational entrepreneurs such as Aakash Institute, Byju's Classes and Meritnation have tapped into the dynamic online atmosphere to create vibrant learning communities that can mutually benefit both education providers and learners.

We know that there are thousands of applications available in the market, but only handful of them make a mark. Slowly but surely, everyone is becoming a tech freak. People are becoming accustomed to new learning apps and are enhancing their knowledge and skills. With education being the goal of 51% parents for their children in India (As per an education survey conducted by HSBC not so long before), it is not very astonishing that EdTech startups are going to witness a bright future in 2017. Not only in terms of funding, the concept of Education startups is rising in terms of expectations and changing preferences of people. Educational companies seem to use different methodologies to change the way how tuitions and coaching are delivered to students.

The numbers reflect the growing demand for online learning. While the total business in the online self-paced education industry was worth around \$35.6 Bn in 2011, it has grown steadily over the years and is

expected to be close to \$70 Bn in 2015. This marks an astonishing rise of nearly \$35 Bn in the industry – all in the space of just four short years



Figure 1: Positive Impact of E-learning

II. App Analytics: Installs – not just how many times your app is installed, but the path that leads people to installing an app is just as important.

Opens –when are the app being opened, at what time of day. Is it opened directly or through other source (like through Pinterest or face book YouTube)

Purchases – When people purchase something within the app (or when do they purchase the app itself).

Registration –The app requires a registration, it's important to know why people decide to register and more importantly why the people that drop out do so.

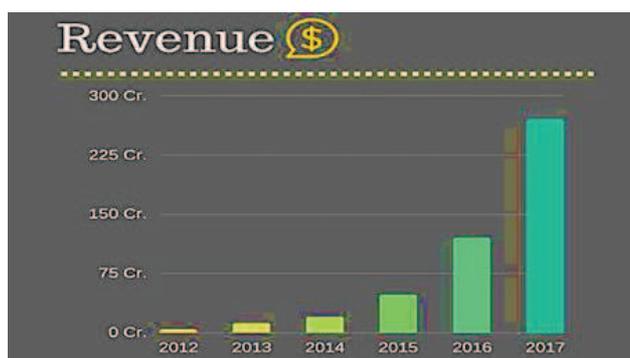
Content Viewed – Self explanatory, as it tells you what you should do more of.

Shares – is the app being shared, for what reason is a link to your app, or its content, shared?

Invites – Not only how many invites, but also who invites and who gets invited is key to reaching those demographics.

Custom Events – These are metrics set by you, for example to find out when people have followed the “Customers who bought this also press the like button.”

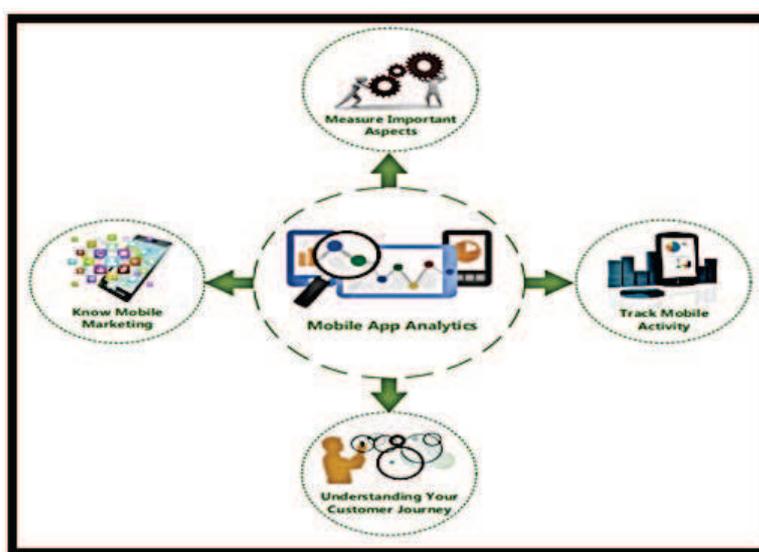
III. Success of Byjus: Founded in the year 2008 by Mr. Byju Raveendran on whose name the app is based on, the BYJU app aims to offer training for preparation of different entrance and competitive examinations like CAT, JEE, IAS, GRE, and GMAT. Since then, it had left a mark on the list of suppliers of school curriculum supplemental classes between grades 6 to 12.



The company got in the limelight in September 2016 for making an announcement of raising \$50 million from The Chan Zuckerberg initiative (CZI) and Sequoia Capital along with other investors. In June 2016, the firm was reported to be in profits with revenue which stood at INR 30 crore.

As on September 2016, the app crossed the 5 million download watermark, reaching a high of 5.5 million downloads with over 2.5 lakhs paid subscribers.

IV. Success of Meritnation: Launched in the year 2009 by **Mr. Pavan Chauhan**, Meritnation is known for making school studies easy for students up to class XII. Meritnation is an online portal for school children and it continues its journey by catering to the learning needs of students in school. It has content aligned and updated to the curriculum of various state boards, ICSE and CBSE. At Meritnation, users have the option to learn through live video lectures and interactive recorded videos. Not only the learning and self-study courses, Meritnation also has a strong focus on conducting regular tests and giving time-bound assignments to check the preparedness of students.



With the fresh **funding** of INR 25 crore from Info Edge (India) Limited, the company has now raised roughly **around INR 96.5 crore** from different sources. Meritnation is creating a doubt free environment for school students with the help of online videos of tutorials.

With over 95 lakhs happy users, as claimed by the company, Meritnation application has been successful in gaining **5 million downloads** on play store since its inception.

V. What is Mobile Analytics?

Mobile analytics is the practice of collecting user behavior data, determining intent from those metrics and acting to drive retention, engagement, and conversion. The field includes the mobile web, but tends to focus on analytics for native iOS and Android applications.

Analysis that used to happen in Excel and SQL has largely been replaced by a handful of tools that make adhering to analytics best practices significantly easier. Consumer and business applications tend to face the same set of challenges in their mobile marketing and retention, so this guide is designed to address both.

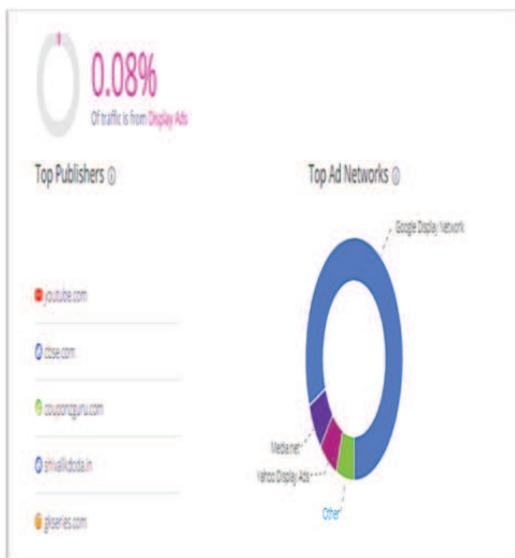


Figure 2: Online Analytics



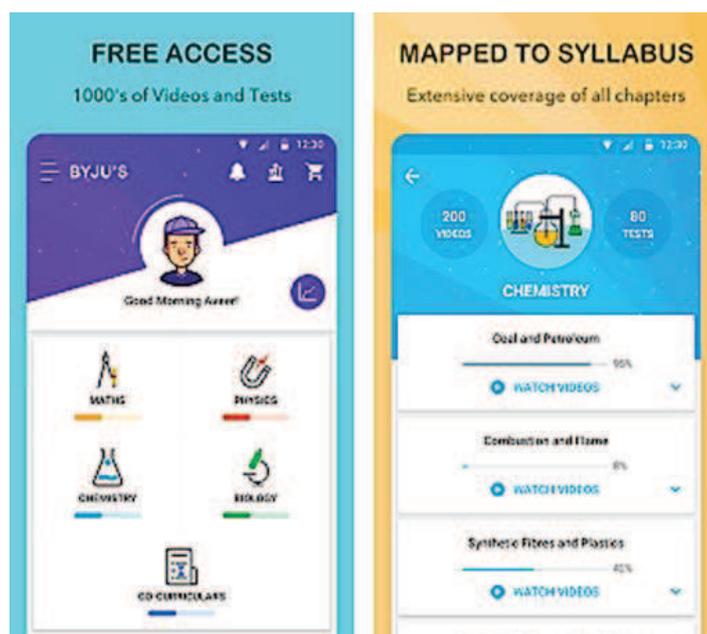
Figure 3: Display Advertising

Figure 4: Website Content





VI. Byju's Personalization Engine: The edtech company is credited for creating a new segment of self-paced learners and its personalized focus has delivered 90% retention year-on-year. Talking about creating personalized learning experience, Radhakrishnan shares, "This is further powered by deep knowledge graphs of over 50,000 concepts and relationships that have been created to design personal learning journeys — videos, questions, adaptive flows, quizzes, flashcards, correctional learning videos etc".



Additionally, the learning content is also tagged to multiple other properties and parameters. Case in point, when a student starts the learning journey, a rich learning profile is built to personalize the experience. "This enables us to customize and personalize the learning experience for students based on their strengths and weaknesses and their specific learning gaps, pace and needs,"

VII. User Experience is at the Heart: The edtech venture uses the app data as the primary data backed by information about logged in web usage to enhance the user experience better. The user's interactions with the websites, emails, etc are tracked in a separate system that is used for bettering marketing automation and behaviour analysis.

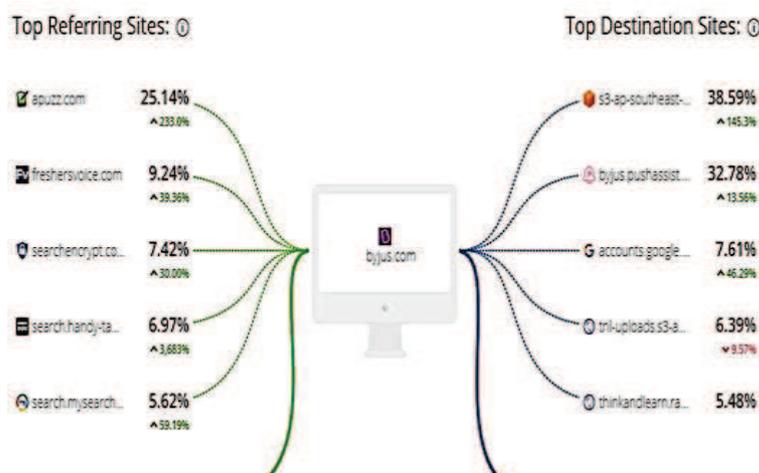


Figure 5: Audience Interests

“And the actions that define the user’s knowledge profile are based on interactions with content pieces,” shared Radhakrishnan. The content is tagged at the sub-micro concept level. This helps the algorithms to create a smooth learning curve for the student so that they feel challenged yet motivated. This app works in a way similar fashion like a personal tutor and addresses the student’s learning gap in a more effective way backed by deep insights. Byju’s built its success on the one-on-one personalized experience that appeals to students as they are guided throughout the learning process in an individualized manner. “We don’t allow learning gaps to fester. Corrections, actionable feedback, recommendations and custom learning paths are created for the user. With technology as an enabler, we focus on developing learning programs that will cater to the unique learning requirements of every student in India and abroad,” Radhakrishnan explained.

VIII. Analytics Driving Better Content Creation: According to Byju’s senior executive, the content creation process is highly influenced by the data analytics at work as a lot of data and insights is generated in house. Case in point – if a large percentage of students are making mistakes in a particular concept, Byju’s add simpler videos, more content formats and easier questions to allow the system to create a smoother learning curve.

Referrals:



“In this way, students end up learning the difficult aspects of the concept gradually without getting demotivated,” reveals Radhakrishnan. The edtech venture also looks at specific learning content tagged to those concepts and constantly updates the parameters so that future learning paths for newer students are smoother. The effectiveness of all content modules and modes are also constantly analyzed for improvement.

Today, the app has over 8 million users and 4,00,000 annual paid subscriptions. And there are over 100 million lessons watched with average time spent on the app being 40 minutes a day.

Conclusion: Mobiles and tablets are becoming popular platforms for e-learning application development. Online academies are set to revolutionize the Elearning sphere and dominate it for a quite some time.

This is how one of the two Elearning apps Byjus and Meritnation used analytics to drastically change their business and to increase number of customers, to personalize the learning experience, web app analytics or mobile app analytics is heavily being used by these elearning apps to bring in more revenue or to customize their content according to the needs of the user, in this way their offerings are becoming better . There is potential that through this analytics the physical environment can also be shifted to the digital environment.

References:

1. https://en.m.wikipedia.org/wiki/Web_analytics
2. <https://elearningindustry.com/5-uses-mobile-technology-in-the-classroom>
3. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2676823
4. <https://www.similarweb.com/website/byjus.com#alsoVisited>
5. <https://elearningindustry.com/elearning-statistics-and-facts-for-2015>
6. <http://www.iamwire.com/2016/10/elearning-market-in-india-challenges-opportunities/120567>
