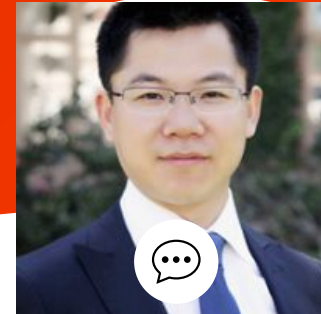# "The only dataset with the depth and breath for powering quantitative analysis at USC Marshall"

Nandini Rajagopalan
PhD, Professor

Lori Qingyuan Yue
Associate Professor

Alex Wang
PhD Researcher

Before using MixRank, what was your research process like?

Before using MixRank, we had significant challenges in obtaining quality mobile app data.
Our research required us to build databases about both iOS and Android platforms.

Historically we utilized two methods to build the databases. The first was through web crawling from sources such as the iTunes website. The second approach was through acquiring data from mobile analytic companies. We contacted several data companies, but found we were limited in options. Hence, we had to rely on our own data collection efforts often by hiring computer science students as research assistants

The issues however:

There are very few open sources for mobile app data. Most companies do not publicly disclose data, and among the several that showed such data publicly, accuracy of information was a serious issue. On the other hand, when we first checked the MixRank data, we were quickly convinced of its accuracy and quality

Although cross-sectional data of mobile apps can be obtained, very few companies can provide historical data. We found the historical depth and breadth of MixRank to be extremely helpful

To collect and clean app data takes a great effort and time. The mobile app space is a good example of the challenges in managing big data, with millions of observations and many app metrics, all of which vary over time. It is a challenge to build such a relational database and ensure accuracy in data management. Fortunately, MixRank has built a clear structure that greatly simplifies the task of organizing such large and complex data.

What is your process like now with MixRank?

It has been a wonderful experience! First of all, we are very thankful to MixRank's willingness to help with our research team. We are working with the company in two modes. First, we worked with data scientists to construct the data that we intend to design.

In this way, we have successfully completed the first task that we started with MixRank's support. The second mode is through accessing MixRank's API products, a task that we have just started. This is a very powerful and efficient way of building data based on MixRank's rich database.

For instance, right now the key focus of our project is to build a complete list of app portfolios of Play Store developers. MixRank's app level and developer level data are complete and readily available, thus making it easy for us to continue with this process. Otherwise, we would have to collect data from multiple sources and face the concerns that other sources' data may be incomplete and or poorly organized. In short, MixRank's existing API product has saved us a lot of our effort and time in data collection!

Can you share some of the results you've had?

We are about to finish a research project with quantitative analysis. In this project, we looked at how acquisitions related to iOS app developers influence subsequent market entries by other developers. The project utilizes data of iOS apps that is of the same structure as MixRank's.

We have combined iOS app data with hand collected acquisition events to study developers' responses to acquisition signals. Our preliminary conclusion is that the greater the extent to which a category has experienced acquisitions in the recent past, the stronger the likelihood that developers will be deterred from subsequently entering that category. Building on this general conclusion, we further investigate how different developers respond to the same market signal (acquisitions) differently in making category -entry decisions, and how they perform once they chose to enter a category following market signals

So far we've found strong evidence of a general pattern which we refer to as the "fools rush in"— which is where app developers who are more likely than others to enter a new category following acquisition signals tend to perform worse (based on the metric of app failure) after they enter the category. We will be publishing our formal research summary and sharing our findings as this is an ongoing project.

Why do you ultimately recommend MixRank?

We would highly recommend MixRank for academic researchers because the company provides data with depth, breadth, accuracy, and wide time span. The data that MixRank provides has helped us immensely by allowing us to conduct very fin -grained analysis to understand how the market structure and competitive dynamics of the mobile app industry have been evolving. MixRank also stands out for its prompt service and ability to provide quick turnaround to resolve researchers' data needs

We intend to build a long term collaborative relation with MixRank especially due to their expertise and understanding of the mobile app industry and the associated ecosystems. At the same time, we believe that our theoretical perspectives, rigorous model building, and analysis could also contribute to MixRank's deeper understanding of this industry. We hope that our mutually beneficial collaboration will help bridge academic research with industry relevant knowledge and lead to insights that meet standards for academic excellence as well as practical business value.

Questions? Please reach out to:

Aswin Shibu
VP Sales
aswin@mixrank.com