Data Monetization in the Age of Big Data

By Astrid Bohé, Montgomery Hong, Craig Macdonald and Nigel Paice

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Harnessing the potential of Big Data seems to be on the agenda of every mobile operator—and rightly so. In today's climate of convergence, in which new technologies and networks are blurring industry lines, the mobile phone has become the hub of insight into consumer behavior.

The volume and richness of the data now uniquely accessible to mobile providers—whether in the form of transactions, inquiries, text messages or tweets, GPS locations or live video feeds—offers a veritable gold mine of insights and applications. And even as mobile phones have become the primary device through which consumers get their information, those very same devices have begun to facilitate new types of information, including extremely precise, real-time, geolocation information.

Not surprisingly, operators today are talking about when and how to tap into this data and what to do with it. In particular, they want to know how to monetize it: how to sort, analyze and manipulate the data and put it to use. This holds true not only for internal applications, but increasingly for building new revenue streams or collaborating on external applications with third parties as well.

How can mobile operators best approach this new territory? What are the opportunities and challenges? And how can operators shape new business models to monetize their Big Data?
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The Data Opportunity

Analyzing and employing customer data is nothing new. Traditional sources of data have been used to improve sales and marketing performance since the first mail-order catalog was produced and distributed more than two centuries ago. From monthly sales reports to predictive business intelligence, tapping into customer data is a well-known way to enhance efficiency, build customer relationships and generate new revenues.

In recent years, however, the nature of the data environment has changed. Digital technologies now enable massive data collection, as the cost of data storage has fallen. Other technology advances facilitate real-time data analysis and personalized communication. Simultaneously, there has been a realization that an enormous amount of the data being produced could offer additional value if enhanced and analyzed to tap its potential (see Figure 1).

Mobile operator advantages

Mobile operators have many advantages as they approach this changing data market. They have the advantage of customer micro-segmentation data and other valuable customer information about application and mobile website usage. And in particular, they have the advantage of data sets that are very specific to the mobile industry, as technologies allow them to pinpoint the real-world geographic location of millions of active mobile users—whether through GPS, Wi-Fi hot-spot usage or network caller-data records (CDRs).

This location-specific data is unique to the mobile world and invaluable to both operators and their customers. It allows operators to enhance their internal systems, drive loyalty programs and stem attrition. Their mobile customers, in turn, can receive location-specific data such as restaurants and events in their area, enhanced with behavioral- and location-targeted advertising and information services. And there is no more popular smartphone application than maps.

FIGURE 1. A Number of Forces Are Converging to Create Conditions ripe for Data Monetization

Source: Accenture analysis

Internal opportunities

Mobile operators have a number of opportunities to utilize their unique data sets. Looking internally, a range of marketing, customer service and network management applications are available before mobile operators even begin to derive new revenue streams from third-party businesses. Just looking at customer activity across the mobile network in a more analytical way, for example, can improve a mobile operator’s infrastructure management and save costs across the organization. In addition, Big Data technology and analytics can build cross-sell and up-sell efforts, enhance internal network management, and support customer service in general.
Looking externally, mobile operators can add value to a range of other industries, including retail, advertising, marketing, the public sector, financial services, healthcare and other customer-facing businesses.

The wealth of external opportunities is illustrated through the data pyramid (see Figure 2), which overlays the stages of data processing and types of output (orange) onto the value that data creates (yellow). At the bottom of the chart, mobile operators can, if they choose, sell only the raw data they have in hand. A good example is the collaboration of Ford Motor Company with INRIX, a leading provider of traffic and navigation services, which now provides Ford with real-time traffic information and enhanced routing for all Ford vehicles with Ford SYNC, an in-car communications and entertainment system developed by Ford and using Microsoft technology.

Of course, being a pure data provider is a relatively low-value option, minimizing the opportunity to provide enhanced services.

Moving up the pyramid as data is further processed, operators begin to create applications and insight products that sit on top of the data. These offerings help generate new value-added services and create platforms for data-driven transactions such as ad targeting, retail payments and the provision of customer insights. The recent launch of Telefónica Dynamic Insights is a good example; this service collects and aggregates anonymous customer data in real time to understand how segments of the population behave as a group, thereby helping local governments and businesses make better decisions. A retailer thinking of opening a new store, for example, can see how many customers visit a given location each day by time, gender and age.

In addition, Precision Market Insights from Verizon generates analytics-driven behavioral insights based on mobile engagement, location and demographics information, creating a 360-degree view of the consumer. For outdoor advertisers, for example, such insights can measure the effectiveness of outdoor advertising units, validating the impact and reach of specific ad campaigns.

At the top of the pyramid, mobile operators create platforms on which customers become part of a transactional ecosystem. 02’s Priority Moments application, for example, provides tailored, exclusive offers to its mobile customers based on detailed data provided with the customer’s consent.

Mobile operators may choose where to play in the value pyramid. To determine the appropriate approach, they should make a careful assessment of the local market, the opportunities, the legal and regulatory challenges and their own capabilities. There are no off-the-shelf solutions, and opportunities will vary widely.
The new opportunities to monetize data are as vast as Big Data itself, and no doubt many are still to be identified. Companies such as mobile operators—which sit on large amounts of customer data—have a unique opportunity: With their direct relationships with customers, they are likely to have the most accurate and complete customer information, unlike third-party information providers that must rely on publicly available or purchased customer information. Yet mobile operators still may hesitate to enter the arena for any number of reasons. They may be risk-averse, believing they lack the knowledge, resources or skills to go it alone or the scale to make Big-Data applications worthwhile. They may have privacy concerns as well.

As they approach the data monetization opportunity, therefore, mobile operators will need to ask themselves a number of important questions. Where do they want to play strategically in the value pyramid? What products and services would they like to offer and develop? Do they have the appropriate skills and resources in-house? Do they have the appropriate data in the relevant form for the end user? What are the technology options available and which are the most relevant? How will they go to market and what will the roadmap look like to achieving their objectives?

Getting Started

Determine a strategy

To resolve these issues, players must begin by agreeing on the opportunity, and by defining clear objectives and a strategy, as success will not only be about setting up the appropriate IT solutions or analytics software. They must then identify the appropriate collaborators and define the plan to mobilize for action. Figure 3 outlines the key steps that mobile operators should take when launching a data monetization business.

Once operators understand where they want to play in the data market, they should consider seizing first-mover advantage. Despite the potential risks, the market is changing rapidly and operators need to move quickly. With many applications there may only be room for one or two players in a given application area; sitting back and waiting to see what others will do may mean missed opportunities.

Operators can mitigate the potential risks by testing the waters with small, cloud-based proofs of concept, using lean and agile analytics and product design and trialing the use of various solutions without the need to invest enormous amounts in internal platforms and systems. These cloud-based solutions can be scaled quickly and flexibly and turned off quickly if need be. In addition, relying initially on external resources and suppliers would provide flexibility and speed, allowing mobile operators to access and manage resources and skills appropriately and efficiently as requirements change.

Collaboration

Mobile operators should look for allies to support them in these new business models. Data applications cut across many different industries, requiring a breadth of knowledge to understand all the ways in which data can be applied and marketed in each area. Teaming with other organizations and third-party data providers will help enhance an operator’s offerings and smooth the route to market.

As with any strategic project, negotiating with allies is complex. However, such alliances are often critical to bridging the data gap. Retailers and banks, for example, may provide additional data around demographics, household details, transactions and product consumption that can be packaged with wireless data to make it more valuable to third parties.

Operational excellence

Choosing appropriate collaborators will help mobile operators gain the scale they need to move products and applications from concept to market rapidly, whether through additional subscriber coverage, added resources and skills, or IT infrastructure. Operators should also acquire talent from the marketplace, teaming key internal entrepreneurs with new staff.

Most teams will start small, building up the new platforms as they begin to prove their value. Nonetheless, the eventual scale of business and IT operations required for successful data monetization should not be underestimated, as multiple products based on the same underlying data are typically needed to realize sufficient revenues to support a data monetization business.

Separate and scalable infrastructure

Operators will need to establish a robust technology infrastructure to manage the sheer velocity, volume, variety and complexity of Big Data—whether on their own or through an infrastructure outsourcing partner. While internal technical platforms and standards can and should be used to leverage the purchasing power of the parent organization, there should also be separate, dedicated infrastructure to support the data monetization business, as there will be a requirement in the first 18 to 24 months for quick scalability and flexibility, given the need for agility in the product and go-to-market processes. Service or outage failures in the beginning of the service delivery could harm customer confidence and should be avoided.

In addition, investments should be made to ensure continuous development and improvement of the data and of the algorithms used to translate the raw data from the mobile provider into useful data for the supported applications.

Privacy

Data insights must be combined with a proactive privacy policy that both protects customers and convinces them it is in their best interest to share their data. Mobile operators are often afraid to move into the data monetization arena due to privacy issues, fearing they will compromise the customer experience or lose customer trust. To prevent this, operators should ensure they have the security and encryption necessary to protect their customers’ data, based on the standards and laws of each individual country in which the operator conducts business, allowing them to feel totally confident that customer security cannot be compromised.

Operators should make the customer experience the driver for enhancing permissions and privacy. Most importantly, customers should be able to choose the ways in which their data can be used by the mobile operator—opting in or out according to their preferences. In addition, creating transparency around data sharing can allow customers to know how their information is being used and applied, secure that their personal details remain with the operator and are not being re-sold to other businesses.
**ACTIVITY**

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**OUTCOME**

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- Capex investment justified
- Program start-up mobilized
- Technology infrastructure setup
- Business operations initiated
- Product socialized with customers and ready for launch
- Business and product launched to marketplace
Mobile operators need not be overwhelmed by Big Data, even in today’s competitive and converging business environment. Instead, they should look inward to assess their company’s priorities and the options available, then look outward to identify market opportunities and find the support required to scale up their offerings as needed. One mobile operator overcame its initial reluctance, carefully assessed the opportunities and challenges, and went on to build and launch a new insight product in just nine months, with projected revenues of $200 million over two years. This is likely to be just the start, as the operator is developing new applications for a wide range of industries.
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