HOLLYWOOD'S MONEYBALL MOMENT

WHY ENTERTAINMENT LEADERS NEED BIG DATA NOW

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First, big data changed baseball. Now it's transforming entertainment. And Hollywood needs to learn the new rules of big data to stay competitive in the content business.

For over a century, major league baseball's general managers followed the same script: buy the best players you can afford, put them on the field, and hope to win.

That changed in the late 1990s. Increases in computing power and data-storage capacity had made it possible for the first time to analyze how the skills of individual players might combine to produce what was really important: runs. Famously, the first manager to embrace this approach was Billy Beane, the cash-strapped general manager of the mid-market Oakland A's.

The team that Beane put on the field in 2002 looked pretty silly to the traditionalists. He had signed no superstars. Instead, on his roster were such players as Scott Hatteberg, a catcher with nerve damage in his throwing arm who was learning to play first base; David Justice, a designated hitter in the twilight of his career; and Chad Bradford, a pitcher with an 85 mile per hour fastball and a near-underhand delivery. Individually, these players seemed broken, old, or just plain awkward. But what Beane and his data geeks recognized was that when you bundled them together, their unique attributes combined to produce an offense that could score runs, and a defense that could prevent them. The A's that season set the record for the longest winning streak in the history of the American League (20 games) and finished first in the AL's Western Division with an overall record of 103-59.

Beane's approach, it turned out, wasn't so silly after all. Other managers started to follow suit, and the game was changed forever.

> “ *Hollywood needs to learn the new rules of big data to stay competitive in the content business.*

We see an analogous transition occurring in today's entertainment industry. For nearly a century, industry executives have relied on the same script: use industry experience and gut feel to pick the right products, sell these products to customers in a series of staggered release windows, and hope to win by creating blockbusters. For movies, this meant first selling high-priced tickets for single viewings of films in the theaters, selling DVDs three months later that could be watched repeatedly at home, and then—six months to two years after that—licensing films to cable TV where they could be watched for free. This method of selling content wasn't arbitrary. In an analog world it represented the most profitable way to make money from consumers who placed very different values on the movie.

The music and book publishing industries adopted similar approaches, and for a long time this model worked for everybody. Content was king. The key to winning was controlling how it was created, distributed, and consumed. The big players in all of the industries controlled the scarce financial and technical resources necessary to create content. They controlled access to the scarce capacity on distribution channels. And they used copyright law to create an artificial scarcity in when, how, and where content was consumed.

In recent years, however, a perfect storm of technological change has hit the entertainment industries. It involves the convergence of user-generated content, long-tail markets, and digital piracy, and it has diminished the profitability of these industries' traditional business model.

At first glance, none of these changes seems to pose much of a threat. User-generated content, after all, is amateur fare: videos of cats riding Roombas and kids playing Minecraft. Long-tail markets, for their part, are full of products that can't compete: old, failed films and television shows, say, that don't stand a chance against new blockbusters such as *Avatar* or *The Sopranos*. And digital piracy, while certainly harmful to sales, impacts all of the studios equally and therefore shouldn't upset the competitive balance.

But in fact this perfect storm has changed everything. Content is no longer hard to produce or easy to control because of the technological revolutions in hardware and software that we're now witnessing. Distribution is also much easier now: long-tail markets make it possible to allow everything to be put up for sale, a big shift from the limited capacity in movie theaters and limited space on television broadcast channels. And thanks to digital piracy, it's much harder to maintain the profit from the staggered release windows that are fundamental to all of the entertainment industry's existing business models.

At the same time, two other important shifts have combined to create a new business model: the rise of on-demand platforms for selling content, which allows content to be bundled and consumed with a scale and flexibility far beyond what was previously possible; and the gathering of detailed customer data generated by those platforms, which allows personalized content recommendations based on individual viewing habits.

Bundling relies on a statistical characteristic that economists refer to as the "law of large numbers." The challenge of selling individual entertainment goods is that different consumers can place radically different values on the same piece of content—making it hard to profit by setting a single price. When movies and other entertainment content are bundled together, the law of large numbers means that the different values consumers place on the individual products tend to average out. This makes the value of the bundle similar across consumers, even though what's valuable to them individually is very different.

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Of course, cable companies have been using a form of bundling to sell content for years, but bundling 10,000 shows on a single on-demand platform generates new economic efficiencies and new creative opportunities that weren't available from a bundle of 100 linear broadcast channels.

But, bundling at this scale creates a new problem: When customers are faced with huge bundles of content, it's hard for them to discover what they'll like best. This is where the second shift comes in. Digital platforms can observe detailed data about what products their customers watch and like, and can correlate this with the behavior of their other customers. For the first time, managers at these companies can use their data to understand very specifically what delights and engages their customers. And, increasingly, the platform firms—Netflix, Amazon, Google—are using their customer information to poach on the protected territory of the studios by creating their own original content.

These technological trends—the weakening of the product-based business model and the rise of the bundled-sales model—have created a seismic shift in entertainment: from content to customer. When content was king, decisions about what to produce needed to be made using a top-down approach: a small group of experts would decide what products were most likely to entertain the audience before the product was made. The focus was on making blockbuster products, and you did that by finding more customers for the products you already had.

With lower production costs and the prevalence of long-tail markets, we are increasingly seeing companies adopt bottom-up approaches, where the content is promoted based on how individual customers respond. In this world, the focus is on engaging customers based on their individual tastes, and the goal is to find more products that will delight and entertain the *customers* you already have. The customer is becoming king.

As with that first data-driven roster of Billy Beane's, the results of selling massive bundles of on-demand content can look pretty silly, at least from the perspective of the traditional marketplace. This has resulted in loud concerns about what platform companies are producing, and ultimately what effect their data-driven, customer-centric approach will have on innovation and storytelling. At the 2016 Television Critics Association summer press tour, for example, the President and General Manager of FX Network, John Landgraf, argued, "There are more shows being made than can be sustained economically." Others in the industry worry that more TV will mean worse TV. Carlton Cuse, the Emmy award winning show-runner, used a sports analogy. If the NFL were to expand to 90 teams, he said, "you would have a lot of football available to you, but the quality of it would be diluted."

These concerns don't take into account the new rules of selling digital content. In a product-based business model, quantity is determined by how much profit individual products can make when distributed through the limited number of screens at movie theaters and the limited number of broadcast slots on a network. But those capacity limitations don't apply to online digital platforms. Firms pursuing a bundling strategy are able to produce content that wouldn't have been profitable in the old business model of individual sales. As a result, what looks like a content bubble to people who are selling content individually could simply reflect "the new normal" in the world of on-demand bundled platforms.

Not only are we optimistic about the quantity of content from the new on-demand platform providers, we are also optimistic about its quality. In a bundle, quality is defined by the engagement of individual audience members, not the total size of the audience. Here's how Roy Price, the head of Amazon Studios, summarized things recently for the Hollywood Reporter. "Let's say you had a show where 80 percent of the people you show it to think it's pretty good," he said. "They might watch it, but none of those people think it's a great show, nor is it their favorite show. But then you have another show where only 30 percent of people like it. For every single one of them, they're going to watch every single episode and they love it. Well, in an on-demand world, show No. 2 is more valuable. That really changes how you approach it, because what you need to do is get more specific. It's less about following generic, general rules for creating television and more about finding a specific voice and a specific artist that people are going to be a fan of."

But this is where the analogy between sports and entertainment starts to break down. In the NFL, everyone agrees on who the winner is—it's the team who scores the most points. But when you sell content in bundles, the audience doesn't have to agree on a single "winning" product. What might appeal to you might not appeal to me, and that's okay. Winning is instead defined based on customer engagement, which for Netflix means what combination of shows will appeal to an individual's taste enough to convince them to continue their subscription next month—and critically, that combination will differ from user to user.

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The analogy breaks down in one other important way. When baseball general managers changed their business model from buying players to buying runs, the Oakland A's were only able to achieve about two seasons of competitive advantage over their rivals. Pretty quickly everyone else in the league was able to copy their strategy. In large part, that's because any MLB team could go to Elias Sports Bureau or STATS Inc. and buy the same data the A's were using to build their algorithms. The situation is strikingly different in the entertainment industry today. Amazon, Netflix, Google and other platform companies own all of their customer data, and they're not sharing it with their partners/competitors in the major studios, music labels, and publishing houses.

Given this handicap, it's going to be difficult for the traditional leaders in the entertainment industry to catch up. But we think they can—if they get into the game now and embrace this new business model. **To succeed, they'll need only what made their earlier successes possible in their industries: a willingness to take big risks on emerging opportunities, a desire to invest in new talent, a passion for finding creative ways of connecting artists with audiences, and the skill necessary to take a grand concept and make it a reality.**

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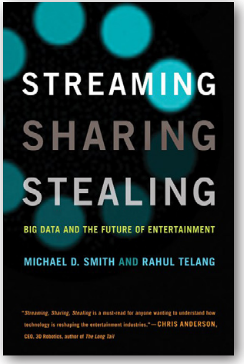

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