Future state of analytics in devices and gaming
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The value of harnessing analytics

It’s game on with the right analytics

Deliver personalized and relevant content to each and every gamer. Know how a customer becomes a fan. The right analytics capabilities, and a platform capable of unlocking the power of data and enabling personalization features, make this—and much more—possible.

With advanced analytics capabilities and multi-dimensional understanding of the customer, content creators and platform providers can guide content decisions, increase customer engagement, and revolutionize customer support. Platform providers with these capabilities are transformed into value architects for both developers and customers, leveraging in-device analytics to analyze customer behavior across all forms of media to make targeted product recommendations. Innovation in profiling and segmenting an increasingly diverse consumer base results in pinpoint accuracy of targeted messaging.

The gaming industry is massive, quickly passing film and TV. This is a huge market, with much to be learned about the rationales and behaviors of its gaming base. At the center of this understanding is analytics—and the future of analytics in the gaming world has never been more exciting.
Your first goal—understand the world of gaming

There are five important tenets key to gaining a better understanding of the world of gaming.

Games Are Everywhere
Mobile and social games have brought gaming to the masses and opened up new analytics channels for gaming companies. Your opportunity? Strengthen your analytics muscle to generate actionable customer insights. Use these insights to create long-term value for the customer by enhancing and customizing their experience on the platform.

Behavioral or Attitudinal Data Is Not Enough
In order to understand the “why” behind customer behavior, it is critical to understand perceptions, attitudes and behaviors of customers. Connecting gaming behaviors with self-stated perceptions is a critical and necessary capability to develop a holistic understanding of the user base.

Social Influencers Do the Work for You
Fans are the most vocal and passionate force that can create viral growth opportunities through social influence. It is critical for companies to recognize social influencers and fans early enough to engage with them and cultivate deep reciprocal relationships. Businesses should consider how best to empower fans with tools and material to share their passion with friends and family.

Customer Lifetime Value (CLV) Is More Important Than Revenue
Building the business around maximizing CLV rather than revenue is critical to the long term success and profitability of games companies; it builds loyalty and brings value to customers. Accurately measuring and tracking CLV is critical to measuring success in marketing and base management.

Analytics in Optimizing Business
With a huge selection of cheap and often free games, services and content, there is a constant pressure to retain customers. Sound data-driven techniques and robust analytical models are necessary to deliver value to customers while remaining profitable and competitive in this dynamic industry.

Analytics is a key differentiator that can generate actionable insights and deliver long-term value for the customers and the business in each of these dimensions.
The power of meeting gamers where they are

The gaming experience is more immersive, involving multiple devices and connecting gamers across multiple media channels. As a result, the gamer base is more mainstream than ever, and there is more data available to understand this group of customers.

Four out of five of your neighbors are gamers

The gaming industry — including software, hardware, and accessories — has grown at a rate of nearly 11% year over year since 2002, and is on pace to surpass $100B in the next 12 months\(^1\). Within the US market, 4 out of every 5 households possess at least one device used to play video games\(^2\).

Gamers connect via multiple devices

80% of gamers reported playing video games on more than one device type (console, PC, and mobile)\(^3\). Connecting gaming across devices brings more immersive and rich experiences to gamers, and increases the number of available data points.

Xbox’s *Gears of War* can be played on Windows 10 PC or Xbox. The gamer can buy it once on either device and then own it / play it on both. Friends will be able to play between Xbox and PC in cooperative modes. Achievements and voice/text chat are cross-device. Xbox has announced that moving forward, most games will have cross-device support via Windows 10 and Xbox Live.
Understanding the building blocks of analytics

Companies seeking proficiency in analytics require a number of basic building blocks. These building blocks help companies make informed market decisions and realize more value from their customers.

Data inputs—Successful data-driven gaming companies cast a wide net in capturing data from a variety of sources. Gather data by engaging customers directly, tracking in-device and in-game behaviors, and mining social media and third-party sites for relevant information that is helpful in building intelligence. Providing data privacy and security will ensure you can gather more data from these sources.
A variety of analytics-driven customer engagement models help smaller developers better understand, manage, and engage with their customer base.

**Use case**

Steam provides content creators with detailed breakdowns of sales by geography, date and time, as well as recommendations on pricing strategies for different markets. This provides a real benefit to smaller developers who do not have the resources or expertise to properly segment and target.

**Customer engagement & intelligence**—A variety of analytics-driven customer engagement models are at your disposal. These models help you better understand, manage, and engage with your customer base. Driven by analytics, you can segment your customers in different ways, based on a variety of dimensions. Staying informed about your customer base means you will better target users’ products/services and create a personalized, delightful experience for your customers.

**Business optimization**—While companies can gather limitless data and segment their customers in dozens of ways, a business-focused analytics toolset is required to realize the actual value of this knowledge. How can you use data effectively to maximize the lifetime value of your customers? By managing costs and inventory based on informed sales forecasts, tracking the effectiveness of marketing campaigns, accurately gauging the cost of customer acquisition, and optimizing marketing ROI.

**Platform capabilities**—Certain analytics-driven capabilities will feed into stronger customer intelligence and more effective customer engagement. The key is using the right instruments to conduct point-in-time tracking and capture a holistic view of device telemetry and customer behavior. Monitor what customers are doing anywhere inside of a platform; you’ll be able to directly impact the value you can offer them by making targeted content recommendations. This type of information can be useful to developers seeking to better understand how customers interact with their games. Platform providers who provide these types of analytics to content creators as a service will elevate their brand.

**Customer lifetime value (CLV)**—CLV quantifies the relationship (both present and future) a business has with a specific customer by helping companies predict the total net profit a particular customer will bring them. CLV becomes the primary metric by which analytics are measured—how to maximize the lifetime value of your customers by providing them the right content, messages, and support at critical junctures in their journey.
No gender dominates the gaming world—46% of gamers are female.

The importance of knowing your gamers

An even gender playing field in gaming

As the industry continues to grow explosively, there are more gamers playing than ever before. This large customer base is diversifying rapidly, and traditional segmentations no longer capture a deep enough view of the gamer. No gender dominates the gaming world; 46% of gamers are women.

Video games, once considered a secondary form of entertainment, are rapidly capturing the largest share of leisure time.

32% of female gamers plan to play more on their console. Only 12% will play less.

Multi-dimensional customer model

- Age
- In-game behavior
- Genre preferences
- Social interactions
- Purchasing patterns
- Support requests
- Subscription renewal rate
- Gender
- Average session length
- Device played on
At the platform level, providers can track behaviors as users play games, use other platform apps, and link to social media activity.

Using multiple dimensions to profile your gamers

The video game consumer base continues to diversify as it grows, creating new challenges for game companies. In order to profile these customers more appropriately, companies need to take a multi-dimensional approach to segmenting and understanding their customers.

A wealth of data beyond demographic information is now available. Using analytics, platform providers can track things like purchasing and usage behaviors, social interactions with other players, the types of games they play, and the average session lengths of those games. Different devices can yield additional behavioral information that strengthen customer understanding and discover device limitations. Attitudes and perceptions can be captured from third party sites and social channels. Customer support logs can be analyzed to identify patterns in behavior.

Thinking about customers in this way will help companies identify valuable patterns and think about customers in unique ways. Do gamers that call support spend more? Do high and low engagement patterns congregate in certain genres? Gathering user data will help companies find the answers to compelling business questions like these.

Using analytics to capture this kind of data, game companies can engage with their customers on a highly personal level and accelerate insights to actions.

Historical data (aggregated + diagnostic)

At the platform level, providers can track behaviors as users play games, use other platform apps, and link to social media activity. Being able to quickly analyze these different pieces of information helps companies figure out how engaged these users are across the platform and what the best approach to increasing (or sustaining) that engagement might be.

Much of this depends on where in the lifecycle that customer sits. For example, if a customer is new to Xbox, Microsoft will engage that customer frequently, guiding them through the platform and suggesting pieces of content that may interest or delight. Microsoft can then track that user and refine its recommendations and marketing campaigns based on what the user plays. Understanding franchise or genre loyalty, for example, is an effective way to think about users, and create opportunities for cross-selling similar content. For example, bundling Halo 5 and Gears of War can reach shooter loyalists and platform loyalists—those who engage most deeply with Xbox exclusives.

Art of the possible

Playtime does not accurately capture engagement. Consider users’:
- friend count
- frequency of friend addition
- average party size
- chat usage
- forum activity
- bug reporting
- time-to-purchase after product release
- community commendations
- community reports
Demystifying the motivation of the gamer

What motivates a gamer? Understand this or it’s game over.

Uncovering what drives gamer behavior is the payoff for combining behavioral data with attitudinal insights. These insights tap into the emotional relationship a gamer has with products and provides a more comprehensive understanding of the pleasure/pain points a customer experiences.

What delights them and evokes positive emotions? What troubles them and sours their gaming experience? Pinpointing these data points, the content creator can tweak design and play style to create a more emotionally compelling game. This type of data can be gathered not just from in-game prompts, but by asking gamers themselves (through surveys) and mining the social media sites in which they participate.

Combining behavioral analytics with attitudinal information helps platform providers identify pain points in a game or platform that contribute to churn. The combination also creates a more complete customer profile, enabling companies to better identify high-risk user groups (e.g. customers who complain frequently in forums, or express interest in competing products).

Art of the possible

Ubisoft collected attitudinal data in their game Assassin's Creed: Black Flag by asking after every mission for users to rate it on a 1-5 star scale. This real time data guided future downloadable content development and also identified weak design areas of the game that the team could improve.
Guided by a set of specific business objectives, Xbox utilizes an extensive survey system to add an attitudinal layer of understanding to their behavioral analysis of customers. Connecting these two layers addresses the challenge of separating market noise from the actual feelings of your customer base. Xbox used this approach when exploring Kinect bundling with the Xbox One. By combining behavioral information about usage with attitudinal data gathered from their base, they were able to identify the needs of their core audience and respond with new unbundled products.

Knowing how the most valuable customers felt also guided decisions around Xbox Live Gold app policies. By analyzing behavior and attitudinal data Xbox found they could create more customer value by making entertainment apps like Netflix and Hulu available to all Xbox Live accounts. They went even further and added additional benefits to Gold that they saw gamers asking for: Games with Gold, free games given every month to subscribers, Discounts with Gold, discounts in the game store offered to Gold subscribers.

**Attitudinal + behavioral framework**
Wooing social influencers

The role of the social influencers is huge. The video game industry is largely community-driven, and word of mouth carries heavy weight.

Social influencers—who they are

Platform providers can leverage customer data to identify their most engaged and influential users. These influential customers are known as social influencers. A social influencer is often a high value customer—a dedicated fan with many online friends and a longstanding pattern of moderate to heavy game consumption, and can serve as a gateway to a larger number of untapped customers. Platform providers can identify these social influencers over time, measure their behavior, use this data to attract more social influencers and use their influence to grow the overall customer base.

Microsoft’s Xbox division has created a social influencer index model that helps to identify these customers based on 5 key attributes and behavior-based proxies.

5 Key attributes

<table>
<thead>
<tr>
<th>Activists</th>
<th>Connected</th>
<th>Impact</th>
<th>Active Minds</th>
<th>Trendsetters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influencers get involved with communities</td>
<td>Influencers have large social networks</td>
<td>Influencers are looked up to and are trusted by others</td>
<td>Influencers have multiple and diverse interests</td>
<td>Influencers tend to be early adopters in markets</td>
</tr>
</tbody>
</table>

Behavior-based proxies

<table>
<thead>
<tr>
<th>Gaming</th>
<th>Social</th>
<th>Media</th>
<th>Early Adoption</th>
</tr>
</thead>
<tbody>
<tr>
<td>High level of gaming involvement</td>
<td>• # of active friends (1st &amp; 2nd degree)</td>
<td>• # of active friends (1st &amp; 2nd degree)</td>
<td>• New titles</td>
</tr>
<tr>
<td>• Relative adoption</td>
<td>• # of multiplayer sessions</td>
<td>• # of multiplayer sessions</td>
<td>• New apps</td>
</tr>
<tr>
<td>• Multiplayer initiation</td>
<td>• # of consoles played</td>
<td>• Multiplayer initiation</td>
<td>• Music &amp; video</td>
</tr>
</tbody>
</table>

These attributes are linked to the behavior-based proxies that platform providers can track, measure, and quantify. Using these proxies, Xbox can identify and prioritize their customers based on social influence. These customers can then be provided incentives (such as game discounts or free multiplayer subscriptions) to tap into their social networks and conduct viral marketing campaigns on games and features they like. Doing so creates a symbiotic relationship, wherein customers are given value in the form of special offers, and businesses are given value in the form of greater market penetration.
Enthusiastic fan bases bring more customers to the platform.

When this usage data is combined with attitudinal data, Xbox is able to identify another (perhaps more) valuable customer segment—fans. Fans are social influencers (high usage, high social activity) who have declared an affinity for the Xbox and demonstrated continual loyalty over competitor products. If Xbox can properly identify their fans, they can not only reward them, but study their origin stories to better understand the path that leads to becoming a fan. This, in turn, can help Xbox broaden these paths and engage users with fan-building in mind.

Fans beget fans

Enthusiastic fan bases bring more customers to the platform. The extra data companies can gather from this growing customer base allows them to build and refine personalization algorithms. These algorithms lead to personalized and unique engagement with each user. Users who are personally engaged in this way are more likely to stay loyal to the platform. This in turn increases the number of fans which amplifies the effect and starts the cycle all over again.

Fan dimensions

- **Behaviors**
  - Usage frequency and duration
  - Spend (high value)
  - Broad engagement
  - Tenure
  - Social activity

- **Attitudes**
  - Declaration of affiliation
  - Loyalty vs competition
  - Recommendation, advocacy, willingness to promote
  - Social expression of commitment

Proactively providing customers what they need is how winning companies turn customers into fans.
eSports—gamers, not just games, have fans

Competitive gaming is on the rise in a major way, with a 2012-2017 (expected) CAGR of 20% for audience growth. Twitch and other video streaming sites have spurred this growth by bringing viewers, players, and commentators together globally. In August 2015, Valve Software held the largest eSports tournament in history for its game Dota 2 with a prize pool over $18 million. The final stage of the tournament sold out Seattle’s KeyArena within 10 seconds of going on sale. Clearly, as these numbers exemplify, the gaming industry is experiencing a rapid rise in audience popularity. This rising popularity creates more opportunity for companies to expand their brand presence in the minds, and sometimes homes, of these spectators.

Social influencers have an impact on bottom line

When Skate3 took YouTube by storm in 2014, sales jumped 30%. The power of social listening and awareness of the gaming community enabled such a viral marketing event. While it is hard to predict the spread or timing of virality, by attuning to streaming and video chatter, companies can identify these swells of popularity early and position themselves to amplify the effects. Analytic systems can also recognize unexpected usage patterns and notify the team.

Case study

Four years after the release, Skate3 was featured on YouTube streamer PewDiePie’s page. The game’s sales jumped 30% to the top seller charts and Electronic Arts reprinted the game to keep pace with demand.
Use case

Netflix used analytics to guide their creation of *House of Cards* by combining three data insights. Movies directed by David Fincher, movies starring Kevin Spacey, and the British show *House of Cards* were all popular with the same set of viewers. Netflix green-lit a show combining these three preferences and the Emmy Award-winning hit was born.

Art of the possible

CLV models can identify where value tends to congregate.
- Is it around particular franchises?
- Geographic locations?
- Socioeconomic factors?

This all rolls back up to guide marketing and sales efforts.

The importance of data—both historical and predictive

Because CLV is a lifetime metric, it needs to incorporate historical and predictive data. With platform providers, CLV attributes dollar values to past and future customer behavior. CLV also captures the value that platform providers supply to the customer. Historical data captures money that has been spent within or related to platform providers, and predictive data utilizes usage/behavior attributes from the base management framework to determine how much a user is likely to spend in the future.

Aside from digital purchases, historical sales are attributed at the console level. Because multiple users may share one console, this makes it easier to accurately track how much money has been spent. Though some attributes, like purchase of accessories, cannot be perfectly attached to a single console, business rules and telemetry data help platform providers create a 'best guess.'

Furthermore, because consoles and games sometimes sell at discounts, platform and hardware providers should track margin, not revenue, when calculating these historical figures.

Once the gross margin is locked in, it can be built into the predictive half of the CLV. Here, historical information gets combined with behavioral data & customer intelligence in order to ensure the accuracy of the projection model. A feedback loop then constantly back tests the model against new historical data to ensure it is working properly.

Understanding value at the user level vs. the device level

Another consideration when creating the CLV is at what level the value should be attributed (e.g. at the user vs. the device level). Tracking per user is generally easiest because customer events are linked to user accounts. However, user accounts do not paint the complete picture. A user might have multiple accounts or a family might all share a single account and behavioral data from any one of these will be incomplete. Likewise, tracking on a per device basis isn't perfectly accurate either. Multiple users will be on the same device and their data may be blended together, friends borrow consoles, and hardware is sold and traded. Ultimately, in order to build an accurate picture of the individual user, analytics teams need to blend these measures. To do so accurately requires a complex and constantly evolving algorithmic process.
Before any gaming company can be analytics-led, it needs to be able to capture (and collect) the right data on which to perform analysis.

Gaining insights by capturing the right data

Before any gaming company can be analytics-led, it needs to be able to capture and collect the right data on which to perform analysis. Gaming companies face numerous challenges with regard to capturing this data and leveraging the full value of the insights it generates.

**Instrumentation**—You can only analyze the data that you can capture; so it’s important to design the data capture mechanism early in development. In order to ensure the right data is being instrumented into the game content (or platform), product engineers and analytic teams must work together in early phases of development. The events captured need to be both powerful and open to change.

**Big data**—Deeper instrumentation leads to more events being captured, which compounds an already growing data management and storage challenge. Building systems to capture, cook, and interpret hundreds of user event types and trillions of data points is a complex engineering problem that requires massive computing capability.

**Latency**—Analytic teams need to focus on reducing the time from data input to business action. Automation and internal systems like the Base Management Framework help groups cut down on latency. Systems need to be built with the goal to create immediate value. Iteration and improvement can happen after they are up and running. Real-time optimization and machine learning help gaming companies remain nimble.

**Data fidelity**—Users may choose to opt out of certain data gathering systems or there may be gaps in data caused by legacy systems. There is an organizational responsibility to share data effectively without hindering other groups and avoiding data silos.

**Customer trust**—Companies should build customer trust by sharing the uses of data and making the benefits clear; customers who know the value of their information are happier to share. Happier customers are more likely to opt-in to future programs, increasing the data reach of analytics teams.
Earning the triple-A rating with analytics

Predicting campaign response, churn, sales, and inventory are all vital to business success. With the advent of advanced predictive analytics, big data management solutions and machine learning, business processes like forecasting are more accurate now than ever before.

The value of analytics

Microsoft’s Xbox marketing team uses analytics engines to scan pre-launch consumer perceptions in order to forecast sales successfully. Weekly panels capture consumer awareness and attitude towards announced, but not yet released products. One to two months prior to launch, metadata components such as the genre of the title, online playability, seasonality, and the age of the Xbox console at release are incorporated into the model. The additional data improves forecasting accuracy. For example, rather than simply comparing the new game with past titles in the franchise, analytic teams can cross-reference non-franchised games with similar design features.
Aside from forecasting, analytics impacts every facet of business operations. Conducting capacity planning more efficiently, pushing migration onto new platforms/products, and rebalancing your marketing mix for sustained growth can all be informed and driven by analytics.

**Cost management**—Dynamic models allow advanced scenario testing to identify problem areas in marketing and other business processes. For large marketing campaigns, dig into the cost components and find where your efforts run into cost issues. In support, identify the common causes of problems and proactively set up solutions for customers.

**Marketing mix**—Attributing customer response to different marketing campaigns means the marketing mix can constantly be updated and refined to focus on the most effective areas. How should your business allocate marketing budgets to social media? Print media? Coverage on popular game sites? Where do dollars best communicate with your customers? Using the rich data sources available, analytics can bring insight from the noise.

**Inventory management**—Build systems that connect social sentiment and customer behavior to the sales and inventory management teams. Predictive models of behavior have a direct impact on inventory management and costs organization wide.

**Forecasting**—Based on current levels of customer awareness and chatter about an upcoming product, analytics can decipher the expected unit sales (to a range, not a point estimate). Knowing this guides decisions about how much marketing boost to give a product to reach sales targets. Market forecasting also can be used to guide future business investments.

**Campaign effectiveness**—Accurately segmenting customers based on predicted campaign response rates allows companies to strategically target marketing. This reduces spend on non-responsive customers and increases marketing ROI. Campaign effectiveness models help close the knowledge gap about which marketing campaign resulted in what behavior.

**Cost of customer acquisition**—Use knowledge about acquisition costs to inform marketing decisions that maximize ROI. This cost should be balanced against the total lifetime value of the customer. Occasionally accepting a large customer acquisition cost will lead to positive results in the future.

**Customer support**—Build support systems that proactively anticipate customers support needs and provide answers, reducing business costs. Turn customer support from a cost center into a value add by focusing on customer needs and value.
The stakes are high—are you in?

Advanced analytics capabilities enable content creators and platform providers to guide content decisions, increase customer engagement, improve customer profiling, and revolutionize customer support. Platform providers with these capabilities become value architects for both developers and customers, leveraging in-device analytics to examine customer behavior across all forms of media to make targeted product recommendations.

As the data captured about customers increases in volume, velocity and density, analytics capabilities will rapidly evolve to keep up.

Analytics will continue to grow in importance as a core capability in guiding value creation at all points of the customer journey. In short, the time to get your analytics right is right now.

Learn your gamer audience, apply a multi-dimensional approach to profiling gamers, target your social influencers, and build long-term relationships with your gamers. Then plan for the payoff—the effort-to-payoff ratio will make you glad you did.

The table stakes are rising and the future belongs to game companies that are able to build:

**Stronger relationships**
- Learn how to persuade the customer who plays games primarily on a console to also be engaged on other platforms
- Introduce customers who have a primary genre to new experiences they will love

**Longer relationships**
- Harness analytics to increase customer loyalty, reduce churn, and keep customers coming back for more
- Convert passive customers to social influencers

**Louder relationships**
- Utilize analytics to identify and push those levers that encourage fan creation
- Identify the most vocal customers and help them communicate the company’s products and designs to the outside world
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