

## Insights Series | Gaming

### Podcast Transcript

Tune in to the Boston Partners Insights Series, going beyond the headlines with our investment team to provide a deeper perspective on the capital markets.

This edition features a conversation with Lawrence Chan, Equity Analyst who covers Gaming, Internet Services, Digital Media and Payment Platforms at Boston Partners. This discussion focuses on Gaming, a \$176 billion industry, where value is still available as the landscape continues to evolve. Listen to the podcast below.

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<b>Chris Villalba</b> <b>Investor Relations:</b>	Welcome to Boston Partners Insights going beyond the headlines with our investment team to provide a deeper perspective on the capital markets. I'm Chris Villalba from Boston Partners Investor Relations Team. On this episode, we take a trip off the beaten equities path into the dynamic world of video games. Do you know these sounds? If you're among the older members of our audience or a true aficionados, you may recognize such bips and bloops from a game of Pong. The digital table tennis game was introduced to arcades in the early 1970s and became a groundbreaking sensation. Today, 50 years after Pong first landed on the scene, gaming is a flourishing entertainment industry that outpaces the revenue earned by movies and music combined to put numbers on it. Gaming generated more than \$150 billion last year and is on pace to eclipse a quarter trillion in 2025. That includes game publishers and platform manufacturers, lucrative divisions of major studios and more.
<b>Lawrence Chan</b> <b>Equity Analyst:</b>	Gaming is just becoming an everyday event and based on market research. Currently, video games is the most common form of entertainment.
<b>Chris Villalba:</b>	Equity analyst Lawrence Chan covers this dynamic industry for us at Boston Partners. He also covers cutting edge sectors such as internet services, digital media and payment platforms, all podcast topics for another day. In this conversation, we hit the start button to hear about his focus on gaming. Lawrence will lead us into an industry that combines tech, entertainment, electronics and even e-commerce. He'll tell us more about business models in the industry and provide information and insights for investors to consider. On this episode of Boston Partners Insights, Lawrence joins us from his office in Los Angeles to enlighten us on the big business of gaming. Lawrence, welcome.
<b>Lawrence Chan:</b>	Thank you for having me.

<b>Chris Villalba:</b>	I don't want to date myself. Let's just say I'm not old enough to remember the gaming industry's relatively humble beginnings, but I grew up playing Nintendo, big Mario guy. What's your game?
<b>Lawrence Chan:</b>	Well, I think my first game was Space Invaders on Atari, and back in those days, I mean, we have big names like Pac-Man, Frogger. Those are my first games.
<b>Chris Villalba:</b>	Classics. OK, so we're recording this the first week of October. My guess is just about everyone in our audience has some experience with video games, even if they've never touched a console or been to an arcade. But I think we should start by talking to the uninitiated. Why does gaming belong in a conversation about business and investing today?
<b>Lawrence Chan:</b>	Well, video games has been a booming industry for the past 20 years, and with the advent of the PC and now, the smartphone gaming has been more accessible to everyone ever before in history. And with 2.9 billion video game players in the world that is slated to continue to grow as more smartphones are shipped around the world. Gaming is just becoming an everyday event and based on market research. Currently, video games is the most common form of entertainment. There's 2.9 billion players every day playing on their smartphones. That's slated to continue to grow at a seven percent year [inaudible] over the next five years.
<b>Chris Villalba:</b>	Why has the industry grown so rapidly?
<b>Lawrence Chan:</b>	I think it's just the next evolution from movies and music. Players are able to essentially live out their adventures in the virtual world, and there is amazing storylines. A lot of the producers on video games were ex-Hollywood producers. With improving graphics, the realism on video games is just phenomenal. For the younger generation, that's their first choice of entertainment.
<b>Chris Villalba:</b>	We're emerging out of some tough times with the pandemic. How did the recession affect the gaming sector?
<b>Lawrence Chan:</b>	Well, last year with COVID, the industry saw a huge boom. With the lockdown, a lot of consumers were stuck at home, and video games was a way for them to get away and to actually still have some form of entertainment. And so gaming is currently the cheapest form of entertainment out there. And for consumers, essentially the costs per hour of entertainment is only \$1.50. Going to a movie at this point is easily ten fifteen \$15 per show, which lasts you an hour and a half. So video games will win out even during a recession.
<b>Chris Villalba:</b>	How do you classify and define the different segments in the gaming industry? And can you compare and contrast the key drivers of business for each segment?
<b>Lawrence Chan:</b>	If we look at the industry today, globally, it's one hundred and seventy six billion of global revenues, and the market breaks down between the PC market, the gaming console market, and also smartphones. And currently the largest market today is actually the smartphone market, accounting for over 50 percent of the market. The smartphone market has very low barriers to entry because most people have a smartphone and most of the games on smartphones are free to play, so it requires less upfront commitment. And so the smartphone mobile games have been growing the fastest and is slated to continue to grow faster than the PC and the console side. Globally, the largest market today is China, followed by the U.S., Japan and Korea.

<b>Chris Villalba:</b>	Thanks for that breakdown of the industry. Very helpful. Traditionally, when I think about video games, my mind goes straight to consoles and controllers. Let's start there and dive into the hardware.
<b>Lawrence Chan:</b>	The console market has been around for over 20 plus years, and currently the console market counts for about 30 percent of the global gaming market. Historically, a console cycle would last anywhere from eight to 10 years, and right now in 2021, we're entering a new cycle for the PlayStation 5 and the Xbox X. The console market is a market that's skewed more towards the Western markets. In places like Asia, Latin America, players tend to favor mobile gaming instead of the console market. For North America and Europe, the predominant platform is consoles.
<b>Chris Villalba:</b>	You mentioned Xbox and PlayStation. Are they the biggest players or are there other players in the space?
<b>Lawrence Chan:</b>	Yeah. Currently, the biggest players within the console market is Sony with the PlayStation 4, which has 125 million installed base, followed by Nintendo Switch, which has 90 million installed base and then the Xbox with 60 million.
<b>Chris Villalba:</b>	So it's a huge market. With the rapid increases in computing technology year after year, will the console cycle persist or will it eventually be replaced by some other delivery technology?
<b>Lawrence Chan:</b>	Well, we believe the console market will be around for at least another five to seven years. The evolution with video games is that eventually. All of the upfront hardware costs to buy a console will eventually come down and all the processing power will be on the cloud. And some of the biggest companies like Google, Amazon, Microsoft are all pursuing this vision.
<b>Chris Villalba:</b>	Interesting.
<b>Lawrence Chan:</b>	With video game consoles, usually, when there is an upgrade cycle, they use the highest, most powerful chips that's on the industry. And so initially during the manufacturing process, there are very limited supply to begin with. And currently globally, we're facing a supply shortage just across the board within chips. Video game console manufacturers have not been able to to escape this, this challenge in the near term. And so currently we are supply constrained for both the Sony and the Xbox, and the supply of chips will not likely improve until 2022.
<b>Chris Villalba:</b>	You don't really think about video game consoles as being part of the chip issue. Most of the media coverage has been around the auto industry. What about new technology that's coming out, such as 5G? You talked about the cloud a little bit. Seems like this industry is changing at such a rapid pace. You know, as an investor, how do you even keep up?
<b>Lawrence Chan:</b>	There's definitely a lot of technological improvements to come, and the cost of the technology keeps coming down. Currently, the cost of a console is around \$500. And for high end gaming PC, it's like a \$1,000 easily. As technologies improve, the cost of the hardware continues to come down. And as we move into the cloud gaming, the costs of the hardware will come down below \$200, and there will be more accessible to people in the emerging markets, which will even allow a greater expansion in the number of players. Again, we're at 2.9 billion players around the world today. We think that number could grow to four billion easily in the coming years.

<b>Chris Villalba:</b>	And what about VR, virtual reality for our listeners? Do you see anything coming from that?
<b>Lawrence Chan:</b>	VR is definitely a new technology that's been around for the past, say, five to 10 years, and it's very exciting and interesting and allows you to essentially live in a virtual world and to experience these games as if you're living in that world. Now the issue with VR is that a lot of players will get motion sickness, so the duration of play tends to be limited to 20 to 30 minutes. I think until the industry can overcome the issue of motion sickness, the industry is still going to be a very niche market at this point.
<b>Chris Villalba:</b>	Let's switch gears over to the publishing side. Can you take us through the big players there? And does each have their own specialty?
<b>Lawrence Chan:</b>	Sure. Within North America, the top video game companies are Activision, Electronic Arts and Take-Two. Now each of them are known for their individual strengths. So a company like Electronic Arts, they dominate the sports genres and essentially sports drives over 50 percent of their revenues, and they pretty much dominate FIFA soccer and NFL football, NBA hockey, golf. They are known for their sports franchises, and the key strength for EA is that they've been able to sign up all the top leagues and the team players. As long as they have a connection on the licensing side, they continue to be the dominant producer on the sports titles. Activision has their own strengths. They're good at creating their own franchises. All their video games have been developed in-house with unique storylines and characters. They are very strong in Role-Playing Games, games such as Warcraft, Starcraft, Diablo, and they're also very strong on first person shooters. Call of Duty, which is the number one title within this category. Take-Two, they're known for Grand Theft Auto, which is a unique title in that it allows players to become a criminal and live in an ultra realistic life simulation. Take-Two has a very concentrated revenue in this category, but they have a very loyal fan base that continues to spend on a daily basis. So it's a very sticky business.
<b>Chris Villalba:</b>	Now let's talk about what's on most investors minds. How do these companies make money? Can you dive into their revenue models?
<b>Lawrence Chan:</b>	On the console side with improving broadband speeds, a lot of players are starting to just download their games directly on day one rather than going to the store and picking up a disk. Currently, 80 percent in the industry have shifted to an online model where most of the consumer spending is done online instead of buying a packaged disc. Historically, retailers would earn a 15 percent gross margin on the sale of these discs and by moving to an online model, the software publishers are essentially recapturing that margin structure. So as the industry continues to shift online and eventually at 100 percent online, the game publishers will continue to see margin improvement.
<b>Chris Villalba:</b>	What about the in-game purchases? How is that built into the revenue model? Is that significant for these publishers?

<b>Lawrence Chan:</b>	Yeah. For a lot of publishers, the new model has been to sell you a game up front, but then also follow up with game updates every three to four months. They'll create new characters, new weapons, new storylines to keep you engaged. And because of the network effect of being able to play against other players, there was a big community where players continue to spend money above and beyond the initial purchase of the game, so it becomes a recurring revenue model where after the initial purchase of the game, people will continue to spend 20, 30 dollars every quarter.
<b>Chris Villalba:</b>	So that brings us to demand. I mean, it looks like there is demand for the video games and these, these upgrades, if you will. Is that demand really more localized or is it more universal?
<b>Lawrence Chan:</b>	The gaming demand, I think it's universal. The popularity of games carries across countries and cultures. And so with a lot of competitions that go on now globally, there's just a lot of cross-pollination of interests from different countries. A title that works in North America are starting to also work across Asia, and so the potential for video games is really increasingly global.
<b>Chris Villalba:</b>	You mentioned mobile earlier as being a significant part of the industry. How does, how does it fit into the mix?
<b>Lawrence Chan:</b>	Right. For the North American video game publishers historically, they've really just participated on the console and the PC side. For the mobile business, it's still a very fragmented industry where a lot of game developers are small teams, one game studios, and so it's a highly fragmented industry where nobody has more than like a five percent market share. So mobile has been growing fast because it's tied to the adoption of smartphones, and smartphone games are typically free to play. So it makes it very attractive for emerging markets where incomes are not as high as developed markets and the barriers are low. The only time they need to spend is when they try to progress through the game. In order for you to progress, you might have to buy a new weapon or upgrade to a new map. So all these features are built into the game to incentivize gamers to spend money. There's a reward system that's built in to get players to to spend money over time. There are a lot more titles within the mobile gaming space, so you know, players will choose from hundreds and thousands of games, and they might switch from game to game. Quite often there's less of a commitment, whereas on the console side, most people are required to pay upfront. So it's a more predictable business for the game publishers.
<b>Chris Villalba:</b>	On the complete other end of the spectrum from mobile is the recent emergence of e-sports, gaming competitions played in packed arenas and televised events. Is this just a fad or do e-sports have legs to run within the segment?
<b>Lawrence Chan:</b>	Well, the e-sports industry is still at a very nascent stage. Globally, it's generating about a billion dollars of revenue, and I imagine that we're starting the professional sports league from ground zero. A lot of the e-sports teams are based on first person shooters and very competitive games. A lot of the NFL owners have decided that in order to hedge longer term, that videogames becomes the dominant form of entertainment, and a lot of the NFL owners have decided to own teams. We're really just at ground zero at this point, and EA Sports, I think it's here to stay. But right now, from a revenue standpoint, it's very limited for the game publishers. It's more of a marketing event to drive marketing and loyalty to those titles.
<b>Chris Villalba:</b>	What are the gaming trends outside of the U.S. and where are the biggest markets?

<b>Lawrence Chan:</b>	Outside of the U.S., the largest market would be China, followed by Japan and Korea. The markets outside of North America and Europe are quite different in that people tend to gravitate towards mobile games. That's partly due to not having the access to consoles because in China, consoles were banned for many years and they only received government approval. Over the past three to five years, so it never really took off. In Asia, the predominant systems were always PC and mobile and consoles are really just a very nascent stage at this point.
<b>Chris Villalba:</b>	That's unexpected because you wouldn't think of China as being the nascent stage of anything today. Now, through your work as an analyst, you come across a lot of good companies, but I'm sure you see your fair share of bad ones. Are there any interesting short ideas in the gaming space right now?
<b>Lawrence Chan:</b>	Yeah. One company that I think would be a potential short is a mobile games company that's focused on casino theme games. The company benefited last year due to casino shutdowns as a result of COVID. And so there was a surge in spending. Now, casino themed games or types of games where there's low barriers to entry and these are games like slot machines, poker and bingo. When the lockdown ends, I think more people are going to return to the casinos and the spending within those types of games would eventually move back into the real world gaming.
<b>Chris Villalba:</b>	You mentioned China as one of the bigger markets. We've all heard or read that China has recently come out with and regulated the amount of gaming that can be done in one week. How does this impact your analysis?
<b>Lawrence Chan:</b>	Right, so the restrictions in China are largely targeted towards minors, so kids under the age of 18. In China, currently, they're restricting gaming to three hours per week on the weekends only. But again, China is a market that's largely free to play on the mobile side, and spending by younger consumers account for only three percent of industry revenues. And so we believe the impact to the software companies in North America are going to be very limited because the more casual games are simply not made by the North American publishers.
<b>Chris Villalba:</b>	As we begin to wrap up, let's apply our Boston Partners loans to the sector that is our three circles investment approach, attractive valuation, strong business fundamentals and improving business momentum. Do certain segments within the gaming industry lend themselves to the three circles more than others?

<b>Lawrence Chan:</b>	Yeah, I would say the big software publishers in North America tend to be more positive in my view, in that the revenue streams are much more predictable compared to mobile games. In terms of industry fundamentals, we are entering a new console cycle and typically we focus on the upcoming pipeline for many of these software publishers, and usually they tend to hold back their game releases until the initial installed base is built up. So as the supply of consoles become more readily available next year, that's when you're going to see more of the bigger titles being released by the software publishers, so their business will improve as these games become available to the market. In a new cycle, the demand tends to be very strong, and what's unique about this new cycle is that this is the first cycle where both the parent and the child have grown up in the world of video games. This is the fifth generation for consoles. The younger generation that's hitting 15 years old, they grew up on smartphones. They grew up on video games. And so this is the first cycle where both the parent and their kids are gamers.
<b>Chris Villalba:</b>	Never thought about it that way. You know, as a value manager, what investment opportunities do you see out there today or do you want to play the console manufacturers or do you want to play it on the publishing side?
<b>Lawrence Chan:</b>	Currently, I see value both in the platform company like Sony and also the software publishers, Activision. Both companies are trading at a 15 to 20 percent discount to the S&P 500 multiple 20 times. They both have strong balance sheets with net cash. They're buying back stock, and the upcoming cycle would be favorable for both the platform and also the publisher.
<b>Chris Villalba:</b>	Lawrence, you're in this every day. Why should an investor be excited about the landscape of gaming?
<b>Lawrence Chan:</b>	Well, we think the technology continues to improve and with the new consoles, graphics are improving, the AI is improving, the whole user experience is improving. And a lot of companies are also looking to expand a lot of their franchises across new forms of media like TV, film, merchandise, e-sports and advertising.
<b>Chris Villalba:</b>	And what about the future? From an investment standpoint, is the gaming industry likely to stay so hot?
<b>Lawrence Chan:</b>	We believe that on the mobile side, there could be a slower spend as more casual playing consumers will move back into travel and other forms of spending. But for video game players on the console and PC side, these tend to be more hardcore players that are very loyal and very enthusiastic about the titles. And so most of these players will continue to spend in the coming years.
<b>Chris Villalba:</b>	Lawrence, appreciate your time today. Thanks for helping us navigate the dynamic world of video games. Thank you all for joining us. For more investment perspectives, check out our web site at <a href="http://boston-partners.com">boston-partners.com</a> . We look forward to having you back for future shows. For now, I'm Chris Villalba. See you next time with more Boston Partners Insights.

## **Christopher Villalba** **Investor Relations**

Mr. Villalba is a member of the Investor Relations team at Boston Partners and joined the firm in 2010. In this capacity, his responsibilities include sales and relationship management of Boston Partners products within financial intermediary channels. Prior to joining the firm, Mr. Villalba was a regional private banker with Wells Fargo Bank, N.A. Before that, Mr. Villalba held the role of investment associate at Morgan Stanley in the firm's Global Wealth Management division. He holds a B.B.A. degree in finance from Pace University and FINRA licenses series 7, 66, and 3. Mr. Villalba has fourteen years of industry-related experience.

## **Lawrence Chan** **Equity Analyst**

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