the art of boring™

EP76 | Game on: A deep-dive into the gaming industry

Disclaimer	**00:25**	This podcast is for informational purposes only. Information relating to investment approaches or individual investments should not be construed as advice or endorsement. Any views expressed in this podcast are based upon the information available at the time and are subject to change.
Andrew Johnson	**00:40**	All right, welcome to the podcast, guys. Thanks for joining me.
Joshua Samuel	**00:44**	Thanks for having us.
Justin Anderson	**00:45**	It's great to be with you, Andrew.
Andrew Johnson	**00:46**	Just for our listeners' sake, the two voices that they just heard were Justin Anderson and Josh Samuel, both equity analysts on our research team here at Mawer. And they are joining me to talk about, at least relatively speaking, a "not-so-boring" industry, but certainly one that displays, I think, some of the boring characteristics that we prefer to see in the investments that we make.
	01:07	So broadly speaking, the industry is called "interactive media," but I think more relatable would be the gaming industry. So, video games and mobile games in particular. Just before we dive in, I think some quick introductions would be great. Justin—you've been on the podcast before, but maybe just a quick refresher on you and your role on the team.
Justin Anderson	**01:25**	Sure, Andrew! Yeah. Thanks for having me back. It's great to be here, from a distance this time. I'm used to doing this in the studio, but yeah, great to be back. In terms of my background, I'm active on the Canadian and Global Equity Fund teams here at Mawer. So, I'm actively helping the team find new ideas and monitor those ideas.

01:43 And I'm also active in the Mawer Lab, which is a tool or team that we have that looks at technology and tries to leverage the technology to improve, speed up, increase the quality of our existing investment process. And we also use the Mawer Lab to look at technology stocks in a deeper way, try to get a little "under the hood" on some of those more technical stocks. So, that's a little bit of background on myself.

Andrew Johnson **02:09** Thanks, Justin. And Josh, I guess I should say good morning. We are recording this in the late afternoon here in Calgary, but it's morning for you in Singapore. So, I guess that's the first bit of background on you, but maybe just provide us with some more on yourself.

Joshua Samuel **02:22** 7:00 AM, to be precise. So, I work with the International Equity team and also the Emerging Markets Fund. I've been with Mawer for about four years now. But I think, in essence, I feel I've been with the firm longer—I kind of knew Peter Lampert when he came to Singapore in 2013. I've been following Mawer since I was in university.

02:44 And so, it's my privilege to be finally on a podcast or website. So, thanks for having me here! Because I used to check Mawer a lot since I was in school. And so finding out, "Hey, I'm on a podcast," is great. So yeah, I knew about Mawer in 2013. I tried interviewing for the firm in 2014.

03:01 Somehow, it didn't work out, but kept in touch, and in 2016, (I think Mawer had set up an office in Singapore) tried again. And this time, thankfully, I got the job.

So, that's a long story of how I got here. But I'm really happy to be here.

Andrew Johnson **03:13** Oh, thanks for that, Josh. And I'm happy that we were able to make all your podcast dreams come true today. And thanks to both of you again for the background there. I think that's great context on your roles and your background.

03:24 So, the three of us have been chatting a little bit over the last couple of weeks...the gaming industry is been an area that we've been taking a closer look at. We've just felt like it was a natural thing to do to talk about it on the podcast. So, let's start with maybe, helping me understand how this shows up on the radar, first of all. And then perhaps, what happens after that?

Justin Anderson **03:46** Sure, Andrew. I can jump in on that. So, in terms of why we're looking at this, this was part of a process that we call a reverse roadshow. So, maybe I'll start by giving you a little context of, what is a reverse roadshow, at least from Mawer's perspective.

04:01 So, if you're familiar with the investment industry, there's this concept of a roadshow, which is when, typically, a management team will get a list of investors and they'll go through their list and they'll go talk to each of these investors to try to pitch their company or explain their company to the investor.

04:16 A reverse roadshow flips those roles around. So, instead of a manager going through a list of investors, it's an investor going through a list of managers—of different people running companies. And so, that's what we do at Mawer—we like to concentrate a lot of our discussions with a list of management teams so that we can compare them and say, "Okay, we just talked to this management team, and now the next hour, we talk to this management team, and next hour we talk to another."

04:39 And it makes them a lot more comparable when you concentrate those discussions. And then you layer on top of that "industry reverse roadshow." And that's the concept of, "Okay, well, let's concentrate not just the managers, but also concentrate by industry, so that we can get a lot of learnings about that industry.

04:55 So, that's a little bit about the process of the reverse roadshow that we went through in the video game industry. Listeners will remember that maybe five or six podcasts ago, we did a podcast on the payments industry, and that was very similar. It was concentrating a bunch of payment companies together and going through with those companies and then getting the learnings.

05:15 We shared those learnings on the payments industry [and then] we thought, "Hey, we just did this with the video game industry, we may as well come back to our listeners and give them a little piece of the action," as it were.

Joshua Samuel **05:24** What I would add is that, perhaps, the process of getting to the reverse roadshow actually started quite a while back ago. So, IEF made a first pure-play investment in a pure-play gaming company back in the start of the year, which was NetEase. Before this, we've owned Tencent for years.

05:41 I think what was helpful, is that through our Delta Process or our bathroom-list process with Tencent—which we've held for, I think even before I joined the firm—we've slowly built up our knowledge base on the mobile gaming sector. And through the bathroom list that I've doing on Tencent, I've built up a scuttlebutt network in China, speaking to competitors and industry experts in the gaming field.

06:07 And so, towards the end of last year was when I think NetEase became on our radar, because people in Tencent, people in onshore Chinese game developers—everyone's telling me the same story that, "Hey, this company is very good with innovation. They're best in class." And so, [in] IEF, we decided to take a look at NetEase.

06:25 That really opened the door; at least, it made us more comfortable with understanding the industry. And then I think from there on, as we built our confidence in pure-play game developers, that kind of opened the door to looking into the whole industry and saying, "Hey, is there anything else out there that could fit our investment process?"

Andrew Johnson **06:42** That's great, guys. And I'll just unpack a few things, because Josh, you mentioned the IEF. So, what you're referencing there is the [Mawer] International Equity Fund, or our international equity strategy, our portfolio (non-North American). You also mentioned the bathroom list and the Delta Report. So, maybe just briefly describe those two items.

Joshua Samuel **06:59** I think they're kind of the same, we just have two different names for them. (At least that's my view.) So, what happens is, once a year, we do what I consider to be a "reinvestment" thesis. So, just like how you have a checklist on the bathroom to make sure that it's clean, we have the same kind of process for our stocks.

07:15 Once a year, we'll revisit the stock and see that, "Okay, is the investment thesis on track? Is management doing the right thing? Does the company's competitive advantage still stand strong? And is the company trading at a discounted to intrinsic value?" So, this is just our annual process. We revisit the company and basically it's a reinvestment thesis: should we remain invested?

: **07:35** And so in this process, it's like a full due diligence that we do on a company. And so that's why you always build up the knowledge base.

Andrew Johnson **07:42** Very much highlights the importance that this is an ongoing thing in the monitoring of our holdings. This isn't just a buy…we are buy and hold, to some degree, but we have to constantly keep our eye on how the industry is changing, the economy is changing, the businesses itself and how they're reacting. So, that's very much important part of our investment process.

07:59 Just coming back to the topic of industries—industries are typically not as narrow as maybe they are perceived sometimes. Usually it's a broad ecosystem of interconnected parts, serving very different purposes. Can you give me a high-level overview of what the gaming industry looks like today? And maybe I'll start with Josh on this one.

Joshua Samuel **08:19** The game industry in terms of market size is about 160 billion U.S. dollars. So, we're talking about revenue here. And this excludes, you could say, hyper casual games. Or games that are being monetized through advertising. So, what we're talking about here (160 billion U.S. dollars), is mainly people who are purchasing the games upfront. And number two, it's in-app purchases. So, that alone is $160 billion.

08:46 Just for some context, this is by far the largest, you could say, entertainment industry. The television industry is probably about 105 billion [USD]. And in both of these, we won't use 2020, because that's unfair. But if you look at 2018, for example, it's 41 billion [USD]. So, this just gives you some context as to how large the gaming industry is. And then within that, I think Justin can probably bring us through the whole value chain of what companies are within it.

Justin Anderson **09:15** I think it is important—I appreciate you mentioning that Josh, to bring up the value chain, because it's something that we're noticing is changing, and there [are] shifts happening. And that's part of the story of why we've become more attracted to actually exploring this industry and trying to understand it a little bit more than our historical positions in some of the platform businesses like Tencent that Josh mentioned.

09:37 The traditional value chain is you start by creating a video game. And how do you create a video game? Well, you start with an engine, which is a tool that developers use to build the game. So, most common engines that are out there are something like Unity. That's a very popular one. Unreal, which is built by Epic Games, is another very popular one. And so, that's what the developer uses to build the game.

09:57 Okay. Now you've built the game. You're pretty happy with your game. You think everyone's going to buy it, but now you've got to go and sell it. And it's like, well, that's hard to do, especially 10 years ago. Because if you wanted to sell it, well, it means you need to get your game on the shelves at the stores where gamers go to buy games. So, that means you need to have a relationship with thousands of these stores, if you want any kind of distribution.

10:17 So, that's where publishing came into play; it would give you the ability to market the game to a broader audience. So, they would come in, they'd help you to market the game. Very common or popular names in there: people know about Activision Blizzard, NetEase was mentioned; EA would be a popular well-known publisher; Nintendo is a publisher, they publish games.

10:36 And then there's distribution. So, distribution is...think of it as the final step where the gamer is actually playing the game. So, you might buy a Nintendo Switch. In this case, you're playing on a Switch. That's the distribution. The console is the distribution mechanism.

10:51 You might download the game on an app store, like on your iPhone. So, that might be Apple who's controlling the distribution there. You might use an Xbox, so that would be Microsoft.

So, those are the different players in the ecosystem: engines, developers, publishers, and then the distribution platforms. And then just to what I alluded to at the beginning, is there's a lot of shifts happening in this industry that we're paying attention to.

11:13 And I'm sure we'll get more into this, but the bottom line of what we're seeing is a business model that is emerging that seems to be more and more consistently wealth creating. And so, one of the first principles that we do as investors is we try to be unbiased and we try to say, "Okay, let's look at the landscape of industries and companies out there, and let's focus our energy where we're hunting for the good companies in those industries that are the most wealth creating."

11:38 And so, the video game industry was no different, in the sense that we applied that process. We looked at the returns on capital in this industry. We compared it to normal returns of capital, and we saw a big differential there. And we said, "Hey, there's a lot of wealth being created here. We need to pay attention."

Andrew Johnson **11:53** That's a great segue into my next question, actually. I'm assuming that if you're allocating time and resources to this, then it's likely that there's at least that potential for wealth creation, and you've alluded to the fact that that's the case. So, what does make it wealth creating?

Justin Anderson **12:06** Where I would start with it, is it's software. Software has this great advantage of having a near a hundred percent contribution margin. So, every additional unit that you sell, it's almost a hundred percent margin. And that is a great starting point [laughs]; a lot of businesses don't have that to begin with. So, that contributes to it.

12:23 We also mentioned how distribution is getting more efficient. A good example is EA. So, if you remember 10 years ago, if you would buy a video game, you would go and you'd pick up the physical disc and you would purchase that physical disc. Now, you've got to imagine what goes into producing that physical disc. Somebody has to make the disc, somebody has to put it on a shelf. It takes up inventory. It takes up space and real estate and all the heating that goes into that. All that cost—that's a huge amount of expense to bring that physical disc to your home.

Well, now you go on and you click a button and you download the game to your console. And so, you just imagine the amount of cost that is essentially eliminated through directly being able to download a game to whatever digital platform that you're using. So, that's one of those shifts that we're seeing, where the costs are coming out and a lot of the benefit and the profit is being retained by the publishers.

13:11 We're seeing these trends upward. And EA's business is a really good example of this, where, 10 years ago, they were really struggling to create wealth. They were not generating a lot of returns relative to their cost of capital. And today, fast-forward 10 years, we see significant wealth creation coming out of that company and many others like it.

Joshua Samuel **13:29** So, just to add to that—I think as you go digital, even within digital, there are different ways of monetizing. What Justin mentioned was firstly downloading: you can pay for a download. But what's increasingly happening is that you have in-app purchases. So, you buy a virtual costume; you can even buy a virtual Tesla, and it cost a hundred bucks (in China in one of the most popular games).

13:50 And this is pure, a hundred percent margin. There's almost no cost associated with a developer building a visual model for an item or a Tesla car. And you can sell it to millions of people. So, the drop-through on this is really extremely high. And on top of that, because of the franchises that have been developed in gaming, you can think of yourself having a longer product life cycle where you are continu[ally] able to sell to gamers. I think these are some elements that improve the wealth creating potential.

Justin Anderson **14:19** Let me just add to that, Josh. So, I think where Josh is going with that is this alignment between engagement and monetization that we're seeing in the industry. Let's go through an example. So again, 10 years ago—I like [how] everything's 10 years ago—but you might buy a game, Andrew; I might buy the same game...let's say it's SimCity or something like that.

14:35 You pay $50 for the game, I pay $50 for the game. You play it for one hour, I play it for a hundred hours. So, I spent a hundred times more amount of time on that game than you did, and we paid the same amount for the game. Who wins in that transaction? Well, obviously the consumer wins [laughs]. Publisher loses, because they're not getting the game monetized relative to the amount of usage of the game.

14:57 Whereas now what's happening is, as Josh was mentioning, we're seeing more and more of this in-app purchases and monetization mechanisms that are more aligned and correlated with the amount of engagement that the gamer has in the game. If you spend a hundred hours and I spend one hour, you might be spending maybe not a hundred times as much, but a lot more than I would be spending for the same amount of game.

15:19 So, that monetization efficiency—publishers are getting more and more smart about how they go about monetizing the users of the games. And so, that's also causing the industry to become more attractive.

Andrew Johnson **15:32** What I'm going to pick up there, Justin, and anybody can come in on this, is that when you said it's becoming more and more attractive, do you mean becoming more and more attractive from an investor standpoint? Or more and more attractive for other competition to come in and play?

Justin Anderson **15:46** It's definitely both, because competition is a very important discussion point as well. The point is that I think it's getting more attractive for the producers of the game content, because whereas before they weren't able to efficiently monetize the user, today, they're building in mechanisms into the game that make it so that they can capture more of the value that they're providing to the gamer.

16:07 One of the struggles we had with this industry in the past—there was a couple struggles—but one was that misalignment. It's like you produce a hit game, but you don't necessarily monetize relative to how successful the hit is. And then, the other element to this industry that we always have struggled with that makes it very difficult, is, historically it's been a very hit-driven business model.

16:29 Essentially what that means is it's very hard to predict; a little bit like a drug company or something like that, where they're producing a new drug and you don't know if it's going to be a hit or not, [and] spend all this money. So, it's not that recurring cash flow that we tend to be more attracted to at Mawer—for the stability that that offers. But one thing we are seeing, again, similar to that engagement monetization effect is we are seeing a more recurring business model emerge.

16:52 It's certainly still hit-driven. I wouldn't say that it's a hundred-percent-recurring business model by any stretch, but the shift in the industry is definitely into that direction of more recurring cash flows based on how the monetization is changing and how these longer-lived franchises are emerging.

Andrew Johnson 17:09 I think that's another great segue into my next topic, and I want to come back to the competition topic as well—that we can address later. But the timeline of things that I'm familiar with is that the gaming industry really took large steps forward in terms of, I guess, growth probably in the late '80s—when the consoles arrived and the cartridges arrived and all of those things. So that's 30+ years ago at this point.

17:32 How would you describe the growth profile of the industry now? Is it more cyclical? You did mention that it is a little bit still hit-driven, so, that alerts me that maybe it's still cyclical. Or is there something secular happening here? Because you've also alluded to that.

Joshua Samuel 17:46 I think there is both elements. So, if you look at the mobile gaming industry right now, probably something more like 50% is smartphone and tablet games. If you think about that...so, of the $160 billion, half of that is going on smartphone and tablets. Those two items didn't exist 10 years ago. So, I would say a large portion of the growth has come from new platforms that are available.

18:10 We've got 3.5 billion active smartphone users, and each smartphone is potentially a gaming device. And I think a lot of the growth over the past decade at least has been driven by firstly having new platforms, so, smartphones; and number two, I think, connectivity. When we first started playing games in like, the '90s, it used to be mainly single-player. You have your 56K modem setup [and] it's a horrible experience trying to play multi-player games.

18:37 Fast forward to today: I don't know what's my broadband speed here, but it's not a bottleneck anymore. The games that we play now are much more interactive and are much more social. I can call my friends. And during lunchtime, when I'm free, we can play a bunch of games—a few sessions.

18:50 It's made the games much more interactive than they were in the past, because firstly you have better graphics, but more importantly, because of, I guess, your connectivity, you're able to connect with other people in a virtual world. And so, these factors I believe have helped to really expand the gaming industry in quite a significant amount.

Justin Anderson

19:07 And just to add to that, I think it's really important to make this point that the producers of the games are getting smarter. They're learning about what attracts and retains the user. There's a framework that is very common in the mobile gaming side and becoming more common on the other side of the Gulf, which is the ARM Framework: acquire, retain, engage, and monetize.

19:28 So, there's a cost to acquire a customer, then you try to retain and engage them, there are certain metrics that you can measure around that, and then, how efficient are you at monetizing them? And I bring up the framework just to talk about how the industry is going through this shift I call "from art to science."

19:44 The art of the past is a little bit of...okay, you hire this amazing artist who's able to discover this great new game and attract [gamers], but there's no way to really predict how systematic he's going to be able to do that (he or she). And then as this becomes more science, it's more like, no, you apply this process and you systematically figure out what is working, what is not working, using big data.

20:06 We do scuttlebutt, which is a process that we use internally to really go beyond just talking to the management team and talking to different industry players. We actually spoke to an industry player here that is a developer who runs a local development company. And what we learned from him was that they spend half of their resources, their people are being spent on developers.

20:28 The other half are on data scientists who are figuring out what is working and what is not working with the gamer. So, there's this hyper tight feedback loop that's happening between the gamer engagement and the developer producing content. And what that's causing, that connectivity, is taking us away from this sort of hit-driven uncertainty to this world where the developer or the producer is producing content that is much more relevant for the gamer.

20:55 So, the quality is going up. And that is also driving up the growth in the industry, because where quality goes, you're going to see demand.

Joshua Samuel

21:01 Maybe how you can link this—what Justin just said—to [the] wealth-creating potential of the businesses, it's actually a simple formula. If you think about it, whether or not a game developer is able to create value or create wealth in terms of the investments they're making, it's going to be a function of a few factors.

21:18 There's the hit rate. So, what is your percentage probability of success when you launch a new game? What is your customer acquisition costs? What is your average revenue per user? And, what is your long-term retention rate? These are basically just tied into whatever Justin just said because we use data to basically optimize for all four of these factors.

21:38 And they're constantly trying to improve and get the equation in their favour such that they're not spending too much on customer acquisition costs that is beyond what the lifetime value of a gamer will be. And even the lifetime value of the gamer—that's going to be determined by the use of data science to improve their retention rates.

21:54 So, let's join up the thought here, because probably later when we talk about our investments, I think this has been a useful framework to think about how we invest in developers.

Justin Anderson

22:03 And just one other point I would add to the growth comment is, humans...we're getting a lot more leisure time. If you look at the really big picture of how much time people spend working versus how much time they spend in leisure, there's a very explicit trend from 1850—over 150 years ago until today—where people used to work every waking hour essentially to survive.

22:27 And that number has come down to the point where...and it continues to come down through automation and through technology that there's a lot more available leisure time. People are getting more productive, getting more wealthy. And so the question is, well, what are you going to do with that leisure time?

22:40 And there's lots of options for people, lots of different entertainment avenues, but gaming is a very compelling one because it is interactive media as you mentioned at the outset, Andrew. It's a two-way experience. It's not just consuming a movie or music, you're inputting something. They have this ability to make that experience more attractive over time.

Joshua Samuel

22:59 And so, to add to what Justin just said—this is quite interesting on mobile, specifically (talking about increase in leisure time). Mobile allows for people to play games in shorter divisions of time. So, what I've heard from developers is that people are thinking that toilet [laughs]; they're playing when they're with their kids or family in the living room.

23:17 This was previously inaccessible periods of time. You couldn't play a PC when you're with family in the living room. So, this is one of the other reasons why perhaps there's more time being allocated—because you have these new platforms that allow you to bring the game wherever you are.

Andrew Johnson 23:30 I do want to pick up on a couple of things that, well, both of you said. Josh, you mentioned long-term retention rates as being a key piece or piece of information that the developers look at. And then Justin, you mentioned the growth of leisure time available to us as human beings at this stage in society. So, what do we know about the demographics of the consumers themselves or the players of the games?

Joshua Samuel 23:52 I don't have the numbers off-hand, but my best guess is that it depends on which genre and which platform. So in Asia, say for more of the hardcore games—which is what we are invested in—they tend to be older demographics. Because basically, people who are in their 30s or 40s tend to have more money and they will pay for the games.

24:12 And so, that tends to be the case in Asia. But I would say that the younger demographics play more casual games at the moment, but I suspect that as time progresses, they will just eventually migrate from Roblox to something more like Fortnite or PlayerUnknown's Battleground. So, I think it's in transition. I don't really have an answer, actually, to be honest, on what's the demographic split.

Justin Anderson 24:34 The only thing I would add is that, definitely relative to movies and other entertainment, it definitely skews young. There's no question about that. And it does depend on the genre and title and all that. But yeah. That's actually one of the reasons you do want to pay attention to it, is because it is skewing to a younger generation.

24:51 The younger generation is spending a disproportionately higher amount of their time on this type of entertainment. So, is that a signal of the future? It's very hard to predict the future—it's not really the game we try to play here—but it's definitely something you want to pay attention to. Where more and more young minds are spending time on these things.

Andrew Johnson 25:06 I want to come back to the topic of competition like we were talking about—we touched on it briefly earlier. What does competition look like, currently, in the industry?

Justin Anderson

25:15 In a word, it's fierce. This is an extremely competitive industry. It does a little bit depend on where you are in the value chain. So, when we talked about the value chain at the outset, on the distribution side, it's actually relatively non-competitive, because there's only a handful of companies that control that.

25:31 So, your big three on the consoles would be Sony, Microsoft, and Nintendo. That would be the trifecta that's really going to control the console market. Mobile is Apple and Android, which would be Google. And then on PC, it's more fragmented, but the biggest player is Steam. (Valve is a private company that owns Steam.) But it's much more fragmented, because the direct distribution is easier to accomplish.

25:55 On the engine side, it's also a relatively concentrated duopoly to the two engines that we mentioned at the outset: Unity and Unreal. Where there's a lot of competition is in the developer publishing side. There are a handful of AAA publishers that would be the publishers that put out the highest quality content. That group would be in the dozens.

26:13 Whereas, something that you hear in the gaming community a lot is called the “indie developer,” and that stands for independent developer. It's a very long tail of people who...you, Andrew alone could go and make a game tomorrow. It might take you more than a day to build it, but the point is it's becoming more and more accessible for a long tail of people.

26:33 And I think that's a really important aspect of the industry that we're really (in this research that we're doing recently) spending a lot of extra time on. We are worried about the competitive element, especially within the development side of it. Because the platforms like Unity and Unreal are significantly reducing the cost to develop a game by standardizing and streamlining a lot of the processes that go into making a game.

26:56 So, for example, now you can leverage Unity. They'll help you do your graphics; you can buy assets from their asset store. So, if you need images and things like that. You can use them to run your services, to host your games and to run all this stuff that before you'd have to actually code that and hire a big team to do all the development work for that. Whereas now, you can just outsource it to Unity.

27:17 So, that makes it much faster to develop a game. So, it is becoming increasingly competitive in that core content development side.

Andrew Johnson **27:23** When I hear that, I hear the barriers to entry at least on the game development side have come down. So, in my mind, the two broad scenarios that could unfold from here—and you guys can correct me if I'm wrong—is that, one, competition just continues to increase and continues on the path that it's on.

27:41 Or, this becomes an exercise in consolidation within that industry, and some of the bigger guys start buying up some of these independent developers. [Are those] the two ways that this could go?

Joshua Samuel **27:53** On competition, I will say it's already intense—there's 950,000 gaming apps on the app store alone, just to give you a context. And just for mobile games. So, you can imagine that on the developer and publisher side, there's already an insane amount of competition. I'm not sure which way it goes, but I think the recent data I've been looking at...the customer acquisition costs, just because of the fact there's a flood of people coming in, I think the number was something like...customer acquisition costs has gone from (so, cost per install) has gone from 25 cents in 2014 to now $4.85 in 2019. That's a massive increase in cost per install.

28:36 If you look at revenue per install...probably the top 10 percentile—or probably even less—of games would make more than [that] $4.85 number right now. It means that yes, there's a huge amount of competition, but it means that a lot of companies have basically been priced out of the market.

28:53 Or, perhaps they're trying to acquire customers, but their revenue model is just not up to the cut when it comes to, do they get ROI back on their marketing investments?

My personal opinion was that this is just how the market dynamics work. And by market, I don't mean the stock market. Just economics. You have a low barrier to entry, you have a flood of people coming in, and now you're getting to the point where the economics is becoming unsustainable for many in the industry. And so, what I suspect could happen—and Justin I think probably has a different view—is that you may get consolidation.

29:25 And this may benefit existing players who have already built up strong franchises, who have a very strong base of users. And it just makes the base a bit more difficult for new entrants, just because of how high customer acquisition cost is in mobile.

Justin Anderson

29:38 I agree with that. I think there's a few points to add: first of all, we use the drug company business model, pharmaceutical, as an example. And within the content producers and the publishers, you can think of it similarly—where there might be a lot of competition and churn going on on the production side of the new content.

29:59 But the publishers often will buy the successful franchises and they'll convert it. It's like buying the successful drug. And they master the art of monetization and recurring that franchise, getting the most out of the life of that franchise—like a well established drug company would know how to monetize a successful drug most efficiently.

30:18 So, you do have that binary aspect to the industry. The other thing I would layer on to this conversation about competition is, there's definitely a good side of the story on competition that these companies are benefiting from, which is on the distribution side. Tim Sweeney, who's the founder, CEO of Epic Games—he's leading the charge on pressuring these platforms that we talked about, the distribution platforms (the Apples and the Googles of the world), to bring down their distribution cost model.

30:46 Recently, we saw Apple reduce that from 30% to 15% what they charge for distributing a game on their app store. So, that kind of competition is really benefiting. And why we're seeing that competition is because the console market, the mobile market, and the PC market, we're seeing some convergence. And how does that happen?

31:04 So, a popular game right now is a game called Call of Duty. And Call of Duty…you can play it on Xbox, you can play it on PlayStation, you can play it on PC, and you can play it together with people on the other platforms. So, what that does is it starts to merge these different distribution platforms and they have to start to compete to get users. So, that competition is actually benefiting a lot of the content producers in the industry.

31:27 And then the last point I would say on competition is, this is actually really where our Mawer-specific process really shines, which is you have to do a company level analysis. Every company is very different. So, a company like Electronic Arts (EA), is a company that has a lot of these sports franchises. They own the rights to NFL.

31:46 If you want to publish different NFL players in your game, you have to have the license agreement with the NFL to do that legally. They have it. They also have hundreds of licenses with different soccer leagues and teams and stadiums. And so, because they own those licenses, that gives them some competitive edge to continue to produce content. So, it is very much a company-by-company analysis when you're doing this competitive analysis.

Andrew Johnson 32:10 One of the really important parts of our investment process is to take a look at any ESG considerations with the stocks that we're looking at, I think both in terms of opportunities, but importantly, risks as well. Are there any ESG considerations that you discovered along the way to be aware of?

Justin Anderson 32:26 I think first of all, it's a really valid question to talk about ESG. I think some listeners might scoff and say, "Oh, you guys are old-school, why are you talking about ESG and video games? Like, get with it." But I actually think, no, this is a real issue. China, for example, has an example of restricting certain consoles and certain game platforms. For many years, they did that—putting curfews on when people are allowed to game and that sort of thing.

The reason they gave is because they're worried about addiction and people spending too much time on these games. I think most of us remember hearings, or have heard of these hearings, when Mortal Kombat happened decades ago—now I'm really dating myself, whenever that was—how violent these games are.

33:04 So it's like there's issues around addiction, people have concerns about violence...I think these are really important issues. What I would add to it would be to say, I think a lot of entertainment faces similar problems. So, you look at videos, Netflix, for example. A lot of people wonder: are people spending way too much time just watching Netflix and watching these sorts of things?

33:25 Some people argue that the brain development in a video game experience is actually much better than vegetating and watching 10 episodes of something where you're not interacting with the content (on Netflix). So, there's arguments there. Social media right now is facing huge questions around society that we're all facing—addiction. How much people are getting glued to their phones, and how bad is that for our interpersonal relationships?

33:48 There's a lot of concern about that. And I really do think video games are no different, in the sense that they do face these concerns that too much can definitely be a bad thing for you. So, yeah, that's something that we definitely look at. Our ESG process we take very seriously—we want to make sure that the game companies aren't going too far down the path of just trying to addict their users. But yeah, it's definitely an important issue that we do look at.

Joshua Samuel **34:13** Yeah, the social element is probably the biggest risk here. I think in the IEF portfolio, in [the] Emerging Markets portfolio, a lot of our investments we've made [are] in China. And it's probably top-of-mind for the Chinese government; they don't want people to get addicted, as Justin says. And in fact, the companies are even required to have some anti-addiction measures in their phones.

34:34 And this is a protection for minors where you need to verify that you are of a certain age for you to play more than X hours a day. So, that is definitely a concern. And it's probably one of the biggest risks for the industry because the government could come down even further. Although I would say that thus far, all the regulatory clampdown in China has benefitted the incumbents at the expense of the smaller players. So, it's worked out fine.

34:56 The other thing I will say: the other big controversy in gaming is with in-app purchases, and specifically loot boxes. Or, in Asia they call it the gacha-style kind of monetization. Some people will consider it gambling. And so, there is a bit of a risk, where, people just [go] overboard with trying to spend money to get a specific in-game item that they really want.

35:22 I tried it out just for fun. If I only get Thanos, for example, in a NetEase game, I figure you'd probably have to spend somewhere within a hundred to maybe even a thousand bucks—just depending on how much luck you have on your side. Because it's like a slot machine: you just have to spin the thing and then maybe you have a one-in-a-hundred chance or something like that of getting a Thanos.

35:40 So, that in particular is a concern for the industry. But I will say that not many of our companies do that. So, I think the key monetization route is like Tencent, for example. They're selling mainly in-game virtual items. They probably do have in some of their games loot-box stuff, [but] my understanding is that probably most of their revenue is coming from more of the outright sale of a virtual good.

36:01 A Tesla costs I think a hundred U.S. dollars—if I recall. (In their top game.)

Justin Anderson **36:06** I think the other thing I would add to that, is we do [have] to be careful when we're making these kinds of judgments about what is right and what is wrong. For example, when you're buying a loot box, some players might actually enjoy that experience—they might enjoy the uncertainty that comes with it.

36:19 I used to buy trading cards when I was a kid—baseball cards—and half the fun was, you open [them] up and see what cards you got. That was an enjoyable experience. I see Kinder Surprises in the grocery store; you go there, and half the fun is you see what toy is inside.

So there's definitely this element that we want to be careful on—that we're not just saying, "Okay, if it has a loot box, that's bad."

36:37 It's more like, "Do they abuse it? Do they take it to an extreme where, you really are just a gambling engine and not making it just a fun experience for the user?"

Andrew Johnson **36:45** I think those both highlight the nuance that is associated with a lot of what we're talking about right now. But also, both of the examples that you brought up fit squarely in that camp of what we call, "stroke of the pen risk," which is essentially they're at risk of government regulation that could either hinder the profitability or the growth profile of the industry to some degree.

37:04 All right, well, let's shift gears a little bit just before we wrap up. I'd love to hear both of your opinions on maybe what we view as the future of gaming.

Joshua Samuel **37:14** Future of gaming—there's a lot of things going on here. I think one super hot topic right now is the topic of the metaverse. Tim Sweeney from Epic bring this up. I would like to point out that, actually, a lot of the components of it I would day are probably already in existence.

37:30 So, I'm going to steal this from Matthew Ball. I think he wrote a very good article on the metaverse. There's a few criteria for metaverse: one, is that it's going to be this thing that is persistent, it's never ending; it has to be something that's synchronous and live, so, it's real time for everyone in it. [Number] three is that there's no real cap to concurrent participation.

37:49 Number four is a fully functioning economy. Number five is omni-channel—like what Justin mention where you can have people in all sorts of platforms playing with each other. And the last one is that it has to have interoperable digital assets, where you can transfer whatever stuff you've bought in one game across to another game.

38:06 I would say, actually, if you look at Asia in particular, a lot of the MMORPG, or massive multiplayer online role-playing games, (there's a lot of stuff to digest), but all these genres really fit. These are basically virtual worlds. They already fit many of these criteria. So, some companies we've looked at, they've operated these games from the '90s.

38:28 And they are basically virtual worlds, where you have a virtual avatar and you interact with other people. These are persistent. They've been around for now…you could say for 20, 30 years already. They are synchronous and live, where, basically you're able to interact with people on the go in real time. And a lot of the other functions—like having an in-game economy are already in existence—but I would say that probably, if there's room for these games to move further in the direction of the metaverse, [is] where perhaps you can have the actual participants create their own content. Because right now, it's the game developers that are creating content and are dropping content into games. But I think the big picture for having this metaverse is having anyone, like, you could be a game player and be able to create content.

39:11 I think it's starting to happen. You can see companies like Roblox, for example, where it's a game, but it's also a game platform where you can create your own games within the game—and stuff like that. And so, I would say we are moving to this direction of, basically, a big virtual world where you can do basically almost anything you do in the real world, but in this virtual setting.

39:32 And I think this is important, because it basically is still an alternative plane of existence, where you can spend your time in a totally different environment and it's more interactive. It just increases the attractiveness of this medium. If you think about it, you compare this versus say, sitting on a TV and watching a show…with where graphics are going, the engines that Justin has mentioned, you can see real-world like graphics where you really can't differentiate if this is a computer graphic or if this is a actual TV show.

40:04 What's more important is you're actually in it! So, I think that is very important—the whole gaming industry has become way more interactive, where you're basically able to go into Star Wars, to some extent. You can be a Jedi or whatever, and it feels so real. So, I think we're moving in a direction where this medium becomes more and more engaging, more and more interactive. And I see long-term structural potential, at least from a revenue-side of things.

Andrew Johnson **40:27** It's incredibly fascinating: there's actually a deep dive piece on Tencent in particular that I read recently by a writer named Packy McCormick. So, I guess for our listeners, they can find him at packym.com, but I should note that we do not have any affiliation whatsoever with him or his work.

40:43 And I say that, because his newsletter is titled “Not Boring,” whereas our tagline is “Be Boring. [Make Money.TM]”, and I want to be very clear that there's no affiliation, I just simply enjoy his writing very much. But he describes the metaverse in this way—and I actually have the quote right here in preparation for this—so, he describes it as…“a participant might walk through a virtual mall, buy a digital Mickey Mouse costume in the Disney Store for his avatar to wear, then pop over to the food court to pick something to eat to be delivered to his physical house via Uber Eats, and then pop into a live Beatles concert on the Spotify Performing Arts Centre.

41:14 He can keep the concert going in his AirPods on Spotify when he wants to go for a run in the physical world. He could race against his friends in an AR Peloton-like experience, and the whole thing feels seamless. His data and purchases carry across and among physical and digital worlds.”

How do you incorporate the potential of something like that into an investment thesis within the companies that we're looking at in the gaming industry?

Justin Anderson **41:40** Well, when you put it like that! It's interesting because it ties back to when we were talking about the growth in the industry and how we compare this interactive media versus other types of entertainment. And Josh alluded to this—about “how much better can movies get?” for example. It's like, okay, well, you can probably improve the storytelling.

41:59 We're going to be telling stories in movies—I can predict that a hundred years out, probably. But video games? That's a whole other ball of yarn. It's like, who knows what's going to happen? I think that quote really nails it—just how wacky the world could evolve. And it might not evolve that way, who knows? But it does have this optionality element to it that means that I think we really do want to pay attention to the sector.

42:22 We are seeing so many potential things. When you mentioned the future of gaming and how this could evolve over time…so much stuff hits my mind. You talked about the metaverse; e-sports is a big thing that's evolving—it's over a billion-dollar industry today, which is people actually going and watching other people play games. Which… who would have thought? But I guess that's a thing. And now it's a big thing, and it's a growing thing. Who knows how big it gets?

But you mentioned augmented reality, virtual reality. Those are mediums of entertainment that are just at their early stage. VR is actually, to some degree a bit of a disappointment, I think, to the gaming industry, where it hasn't materialized the way that initial projections thought it would be. And I think that's going to be the case with a lot of this stuff. It's going to be like, "Okay, some stuff hits some stuff doesn't." I think in the case of VR, people are getting dizzy and they're trapped inside their goggles and it's not as nice of an experience. Maybe they'll eventually figure it out.

Augmented reality has maybe more potential, because you're open in the real world, so you're connected. One thing that I really looked at recently is the streaming concept.

43:20 The idea is, today everybody buys these consoles or their phones or uses a computer. But tomorrow, what happens is you're just going to run all of that [on] a server in Azure or in the cloud, and you're just going to pipe the video stream to the gamer who's going to just input commands. And then the signal will go back and all the processing will happen in the cloud rather than on the console locally.

43:42 And that solves all sorts of problems like synchronization. Think about how incredibly complex a multiplayer game of a hundred people is, where they're all running the game on a hundred different consoles and they all have to somehow sync those concepts together through lag and issues. It's just this amazing engineering achievement.

43:57 And if you could actually run it all on a single processor, like a supercomputer, it would be much [easier] to sync. And it would give you a lot more options. Like, instead of having a hundred people...we talk about these Epic Game or Fortnite, they had this concert, but the way this concert actually worked was the instances were maybe a hundred or so people per instance in the game.

44:18 So, you weren't actually with thousands of people, you were with a hundred people. And they spun-up a thousand different instances of the concert and piped the video to them. And what happens with streaming is no, no, you can actually have a game with 10,000 concurrently all in the same instance, or a hundred thousand. The size of the game world can increase a hundred fold.

44:37 What does that do? That starts to become the sort of inputs to the stuff that Josh and you, Andrew, were talking about of the metaverse. It's like, okay, if you can really do this stuff at that kind of scale, imagining the possibilities becomes really difficult. What are the implications for how we invest? Well, what the implication is, is we think in terms of real options a lot more seriously.

44:58 We think that, "This is an investment. Are they positioned to benefit from this?" You may not be able to give that a tangible value, but it might give you some comfort in the quality of the business model to say, "Look, this is a business that does have a long-term tailwind to it." And that might be as far as you can go with it.

Joshua Samuel

45:14 I think just to add to that—to answer your question, in the IEF universe [and] in the Emerging Markets universe, unfortunately we don't have as much of the funky stuff that Justin has. We don't have engines, mainly just game developers. And how we try to deal with this—the upside and the future—is pretty simple.

45:31 I think like what Justin has been saying, this industry is not too different from a pharmaceutical industry. There are many pharmaceutical companies with all sorts of drugs in the pipeline. Some drugs are going to be hits, and some drugs are going to be misses. The same concept of basic gaming. We don't try to predict, “what's going to be the next big hit? Who's going to create the next Metaverse?”

45:50 What we do try to do is just to look at companies and see which developers have the odds of success in their favour. And at least when it comes to developers, that's the framework that we look at. And perhaps I can share: there's just five key success factors when it comes to assessing developers I look at when I'm trying to analyze them.

46:09 Number one, is it a distribution platform? Number two, is there strong IP franchises? Number three, how good are they with live operations? So, like what Justin talked about: the ability to attract, retain, and monetize. Number four, do they have an innovative culture? And number five, is there regulatory barriers to entry?

46:27 You can just think of these five factors as a checklist. So, instead of trying to predict, trying to be very precisely right on the forecast, these are a filters. So, if we find a company that checks off five boxes, great, this company has really good odds of success at being wealth-creating over the long-term. Checks four? It’s still good.

46:44 And so, we just rank or score the companies based on—at least on the developer side—how many of these key success factors it's checking the boxes on, which improves the odds of success that over the long term, they're going to come out with something new, they're going to come out with something game-changing, and they're going to be able to monetize it.

47:00 So, at least in [the] IEF universe, that's how I've been approaching some of the mobile game developers and trying to source for ideas there.

Andrew Johnson 47:07 I think that is a fantastic way to wrap things up and bringing it back to our investment philosophy and our process, in particular. So, thank you for taking the time to talk through this with me today! I found it very helpful in that I think I now have a fuller understanding of the gaming industry, and I believe our listeners will too. So, that's very much appreciated.

47:26 I also think this is something that we can come back to and talk about again, at some point, because there are many layers to this and the range of potential future states seems very wide to me. So, if you're open to it, I would love to have you back. And again, thanks for spending some time with me today.

Justin Anderson 47:44 It was our pleasure, Andrew.

Joshua Samuel 47:45 Cool, welcome.