Vizio

Date: 18-Oct-21

Ticker: VZIO (NYSE)

Current Price: US$ 19.17, **MarketCap**: US$3,542.41 , **EV:** US$3,183.71

Introduction:

Based out of California, Vizio is a designer and seller of TVs and sound bars. Vizio holds a top 3 market share in the TV space, and has a wide selection ranging from their lower-end D-Series all the way to their 4K UHD P-Series 85" sets and high-end OLED models. The company was founded in 2002 by William Wang, a fascinating entrepreneur who has had several setbacks in his career (including almost dying in a plane crash) but has persevered to create a market leader in the TV industry. The company is now on the precipice of completely changing their business model from one where growth was driven by hardware sales to one where growth will be accelerated via selling ads on their smart TV platform, SmartCast OS.

Industry Background:

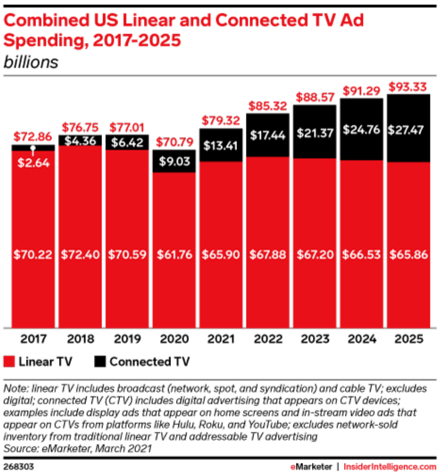
The TV business is competitive, to say the least, with over 100 global players competing for the attention of a consumer who only purchased the product every ~5-7years (although this tenure will come down as prices fall). Further, the price of TVs has come down significantly as innovation and manufacturing processes improve. In fact, this study (see footnotes) shows televisions costing $300 in the year 1950 would cost $2.71 in 2021 for an equivalent purchase[1]. Put another way, in 1997 when flat screen TVs hit the market, the Philips plasma TV model went for around $22,924 or $30.45/square inch. Just last month, Vizio's 55" OLED 4K UHD Smart Tv was selling at less than $1/square inch.

As of now, the US market (where Vizio competes) has several key competitors, which include Samsung (largest market share – 32% - by significant margin), Vizio and TCL (tied for #2/#3 places at around a ~13-15% market share), LG, Hisense, Insignia, Sharp, Sony, and many other smaller players. Around ~75% of the market is already penetrated with Smart TVs.[2] Thus, the TV hardware business itself is not too attractive, with EBITDA margins (for Vizio) being in the high single-digit percentage points.

Thus, TV brands have had to find new ways to monetize their business via the software on their devices. This concept is the backbone behind Roku's business model, which popularized the notion of

[1] https://www.in2013dollars.com/Televisions/price-inflation
[2] https://www.nexttv.com/news/smart-tv-penetration-in-north-america-to-surpass-90-of-homes-by-2024

monetizing TV platforms via advertising. Currently, TV advertising on linear TV (in the US) is roughly a $60bn market[3], whereas OTT (over-the-top) advertising on platforms is just $9bn. This is despite linear TV only making up less than 50% of TV viewing time among younger generations (40 and younger), and only ~65% for all generations.[4] In a slightly dated conversation (from 2019), Roku's SVP of the Platform Business said "Today 30% of TV is spent streaming, but only 3% of TV advertising budget is spent on streaming ads"[5]. While these stats are improving, partly due to a covid-related bump, there is still a long way to go before ad spend parity is reached between linear and streaming. Further, streaming should continue to gain greater market share of hours watched as cord cutting continues.



Intro to Vizio's Platform:

All Vizio TVs now come with the SmartCast operating system, an image of which is to the right. This operating system allows Vizio TV owners to watch any number of popular streaming applications as well as browse and view Vizio's WatchFree+ channels (over 100 free channels).

The platform is monetized in a few ways.

- Banner Ads: Like the ad for "Bad Batch" shown on this image, these ads for shows are on the home screen and are the most lucrative real estate for Vizio.
- AVOD (ad-supported video on demand): Vizio monetizes this in a few ways a) they have an owned and operated service, WatchFree+, where their business development team sources content. Here VIZIO controls all the ad inventory and will do a revenue share with content providers b) They also have branded VIZIO channels where they control all the ad inventory and c) they also have relationships with third-party AVOD services (mix of rev share and inventory agreements).
- Partner Marketing: Images of content and available apps on Vizio television cartons or branded buttons on remote controls.
- Inscape (platform owned by Vizio): Data licensing fees from ad technology companies, ad agencies and networks to aid ad buying decisions or to enable dynamic ad insertion (DAI) capabilities.
- Revenue Share: SVOD revenue share from subscribers activated via SmartCast (ie if someone signs up for Netflix via Smartcast) as well as from PVOD and TVOD services.

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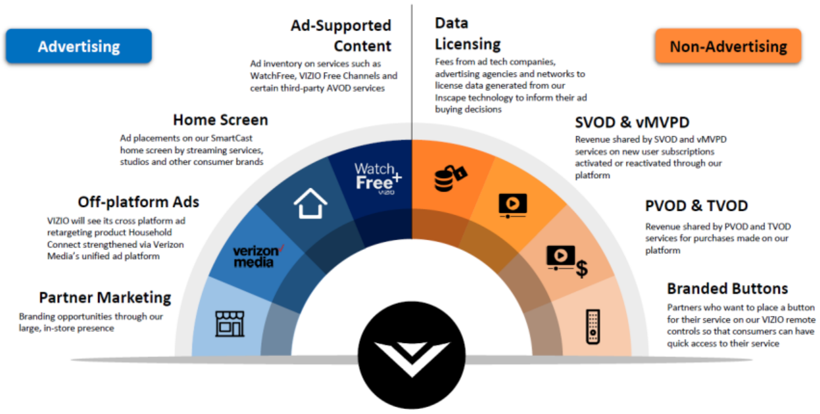
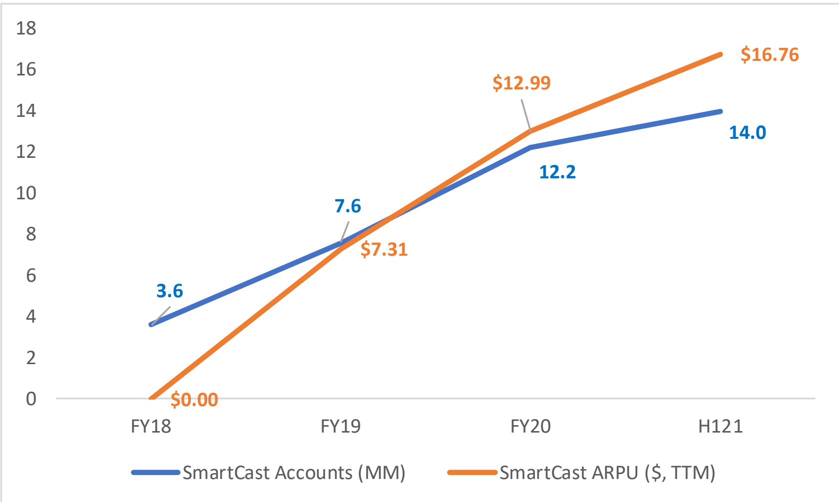
[3] https://www.nexttv.com/news/us-tv-ad-spending-to-drop-4-in-2021-as-digital-video-booms
[4] https://www.forbes.com/sites/bradadgate/2021/06/17/nielsen-streaming-video-audience-share-is-higher-than-broadcast-tv/?sh=517f0b082c0e
[5] https://www.youtube.com/watch?v=WiIEagnfPbA



The SmartCast system is in early stages of its rollout and accordingly, so is its monetization. Going into 2020, for example, the company only had a handful of people responsible for ad sales and partnerships, yet despite this we've seen a rapid growth in ARPU and revenue from this side of the business.



The above two metrics have led revenue growth for the platform growth to hit 146% in the latest quarter, making the platform business ~16% of total revenues from just 3% at the end of 2019.

Valuations (As of 19th Oct 2021):

It's rare for us to jump into valuation but part of the reason why Vizio is a compelling buy is due to the market completely ignoring Vizio's platform business. On a consolidated level, growth looks very average for the company.

$ 000s	**FY18**	**FY19**	**FY20**	**Q220**	**Q221**
Total net revenue	1,780,730	1,836,799	2,042,473	393,500	401,200
growth %		3%	11%		2%
Device Revenue	1,744,353	1,773,600	1,895,275	366,900	335,600
growth %		2%	7%		-9%
Platform+ Revenue	36,377	63,199	147,198	26,600	65,500
growth %		74%	133%		146%

However, as we look under the hood we can see that the Platform revenue is growing at a rapid pace. Further, despite tepid overall growth, margins have been improving with the Platform+ business boasting gross margins of over 78% versus around ~10% for the Device business.

$ 000s	FY18	FY19	FY20	Q220	Q221
Total net revenue	1,780,730	1,836,799	2,042,473	393,500	401,200
growth %		3%	11%		
Total gross profit	110,261	165,165	296,358	58,000	79,500
Margin %	6%	9%	15%	15%	20%

With regards to valuation, the company currently trades at an enterprise value of $3.26bn or at a roughly a 1.3x forward sales multiple. If we break the two businesses apart and value them separately, we can back out how the market is valuing the platform business.

1) Valuing the Hardware Business

We believe 1 year forward revenues will come in at $2.015bn, with a mid-single digit growth rate. We believe that a 1x multiple on this figure is appropriate given comps (see table on the right). This would value the hardware business at ~$2bn.

	Rev Comps (1Y fwd multiple)
Samsung Electric	1.62
Sony	1.49
Panasonic	0.41
LG Electronics	0.58
Hisense	0.42
TCL	1.80
Avg	1.05

This implies that the rest of the business is being valued at around $1.26bn.

2) Backing out value of Platform business

If the rest of the business is being valued at $1.26bn, we assume 1 year forward revenues are close to $440MM for the Platform business. This implies the platform business is valued at less than 3x sales. Roku, as a comparison, is valued at 14x sales, with slightly lower growth rates (although ARPU is double that of Vizio). Thus, we think at minimum the platform business should be valued at 7x sales, implying an upside of 55%. Put another way, if we value the Platform business at 7x, we are essentially getting the hardware business for free.

How Vizio has been successful in Hardware and why they will continue to be

Baked into our valuations is the notion that Vizio will stay in its Top 3 leadership position in connected Tvs. Afterall, TV sales are the top of the funnel, i.e. if consumers don't buy Vizio TVs then they will not end up using SmartCast. We were informed by the company that they hold a #1 or #2 shelf-share in the United States in most major stores (except with Best Buy). We decided to hire a consultant to go into stores in the US, interview salespeople and verify what the company was telling us. This was the result we got.

Store	Top TV Brands
Target	Samsung, then Vizio & TCL
Walmart	Samsung, then Vizio & Philips
Best Buy	Samsung, Toshiba & Sony
Sam's Club (part of Walmart)	Samsung, then Vizio and LG
Walmart (location #2)	Samsung, Vizio & TCL

It seemed that our qualitative research lined up well with both public data and what the company provided us with. Further, Vizio spends almost nothing on marketing (just 1.5% of revenues in 2020) implying that most of the shelf-share has been maintained via good vendor relationships, product, and the ability to maintain inventory at big box retailers. That said, this is just a snapshot of the current situation, and to maintain market share, the company needs to have a strong strategy.

1) **Good products lead to repeats:**

Overall, if we look at Vizio's ratings on both Amazon and Walmart's websites, we find that Vizio's ratings are quite in line with the rest of its competitors (hovering around 4.5-4.7 out of 5). These ratings make sense to us as we were informed by the company that they believe that 80-85% of Vizio customers will buy a Vizio TV again when they replace their old TV. Now the obvious question here is that if other brands have similar ratings, then what gives Vizio the right to maintain its market share? The reality is typically when customers change from a brand that's working well for them it's because the alternative is significantly cheaper or significantly better. It doesn't appear from the ratings that any one brand is particularly better than the other (although Samsung does seem to have slightly higher ratings than competitors), and Vizio (along with Hisense and TCL) sells some of the cheapest models amongst the major brands. Thus, given the various dynamics, we don't think there's any real reason that Vizio should lose market share (although we don't think they are necessarily going to gain it).

	2018	2019	2020	TTM 6M21
Smart TV Shipments (MM)	4.4	5.9	7.1	7.4
Growth		*34%*	*20%*	

2) **Maintaining Quality and Supply**

One of the ways Vizio managed to find its success is by building close relationships with its suppliers and outsourcing all its manufacturing. This allowed the company to stay light on working-capital. Further, by making its suppliers and manufacturers shareholders, the company was able to ensure best pricing and preferential treatment when receiving finished goods. Pre-IPO, Foxconn/HonHai owned ~26% of the class A shares, Innolux (makes LCD panels) owned ~10% and AmTRAN Technologies (manufacturer of TVs) owned 20% (AmTran was a previous manufacturer of Vizio TVs, however Foxconn handles the bulk of it now).

Vizio Plan for Platform Business

While we think it's important for Vizio to maintain its market share, we don't think it would be the end of the world if they were to slip or if shipments were to decline for a short period of time. This is because we feel there could be significant growth in the ARPU of the Platform customer, that even if new TV sales were to fall to zero, the company would still be able to grow their revenues at a fast clip (obviously in this scenario, the market would discount the terminal value of the company, but we're just using this as an extreme hypothetical).

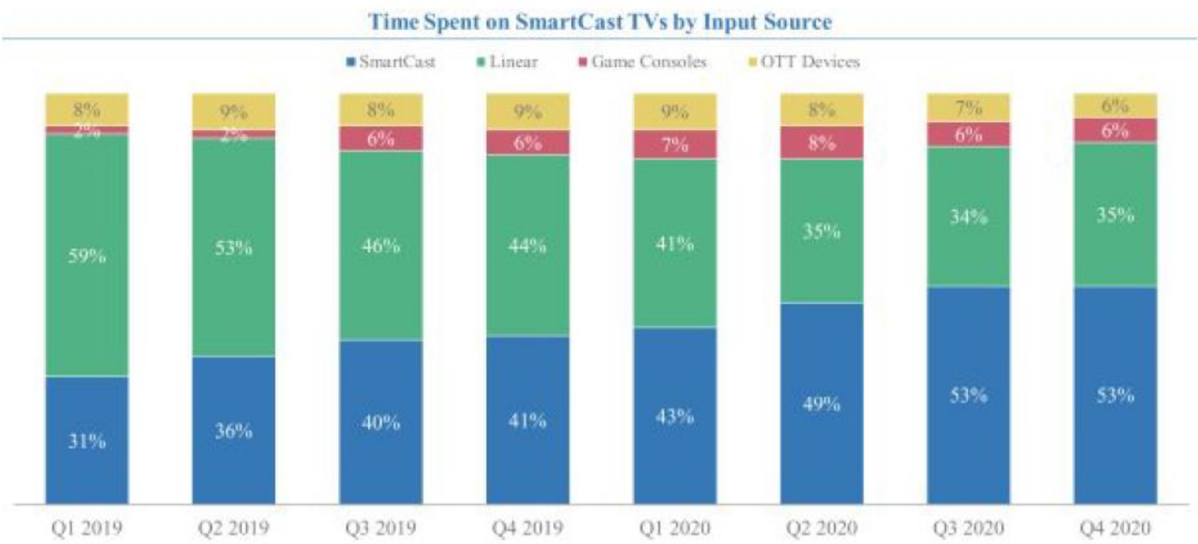
We've discussed the monetization opportunities that are currently on hand – but can also see potential for significant growth. As of now the Platform business has TTM ARPUs of around $16, whereas Roku has ARPUs of around $36. In our discussion with Vizio management, they mentioned there were multiple ways to get ARPU to this level including revenue share from subscription services, additional revenue from TVOD (transaction) services, free channels that are its own (currently WatchFree is a partnership with Pluto.TV) as well as a direct sales model (Vizio is not planning to sell ads via programmatic channels because of the amount of demand they are seeing).

The above is underpinned by the fact that Vizio only started building its sales team recently. For most of 2020, the sales team consisted of just a few people. We are seeing an effect of this addition to the sales force, as going into 2021 the company had a pre-commitment of $25MM of ad sales and we think the company will do nearly $324MM in Platform revenue (so 13x the initial commitments). For the calendar year of 2022, Vizio already has $100MM committed. We conservatively assume they will do ~$630MM in Platform+ revenue in 2022.

If we come back for a second on Vizio's ARPU, currently the Platform business has 14MM active accounts sporting an ARPU of $16.76/year. At a similar number of active users (14.2MM) for Roku, ARPU was only $10.04 (Q1 2017) – reflecting Vizio's strong execution compared to Roku. Secondly, streaming hours for Roku was around 3.3billion hours/quarter or 2.52 hours/user/day whereas for Vizio it is currently at 3.5 billion hours or 2.8 hours/user/day – indicative of Vizio's strong value proposition to advertisers.

Increased Engagement:

One of the benefits of owning both the software and the hardware is that Vizio can track what TV owners are always doing when using the hardware. As we can see below, the share of SmartCast has been steadily rising as more apps and content has been added to service. Most of that market share has been taken away from Linear TV which further gives credence to the notion that we should start seeing connected TVs take more of the market share of TV advertising.



One of the reasons that we believe that Vizio will be able to serve up high quality and relevant ads is due to their Inscape tool. Acquired in 2015, Inscape is an Automatic Content Recognition platform. According to the company Inscape *"identifies most content displayed on the Smart TV screen regardless of the input. We aggregate this viewing data to increase transparency and enhance targeting abilities for our advertisers. Additionally, we are a leader in driving the innovation and* *development of Dynamic Ad Insertion (DAI). We launched Project OAR (Open, Accessible, Ready), an industry consortium working directly with many of the largest television networks to establish a technology standard to advance the adoption of DAI and addressable e-advertising. The adoption of our DAI technology is in its early stages and is an example of our innovation in the marketplace."*

Essentially, what this means is that Inscape allows for Vizio to have greater insights on their users than typical TV OEMs and can offer that data to advertisers in the form of both clearer attribution as well as targeting (something social media platforms are having difficulty with the iOS 14 update). We also know that unless otherwise agreed to, Inscape can capture granular data including what the Vizio user is doing while on a particular app. As one expert put it:

"But what people respect the most, I think, out of VIZIO is their data that they've been collecting for a long time. And think of it as two layers. I don't know if they owned or they merged with Inscape Data, so again, tracking who has their products. And again, it's hardware and software, which is the same like LG and Samsung. So who has their products? So tracking who they are, where they are geographically, psychographically what they can do. They also do a tremendous job, VIZIO does, and they take kind of a partnership mindset with a lot of different areas."[6]

Future Optionality

There are a few initiatives that the company has discussed which we believe could be able to ramp up ARPU quickly.

- Vizio Pay: As of now, Vizio TVs do not have a wallet, and transactions are completed by users manually entering credit card information. If you've ever tried to do this on your TV you know how lousy the user experience is. Vizio is heavily investing (via engineering resources) in getting their wallet up and running. This will allow them to monetize SVOD and TVOD services much better as they would then be the gatekeeper in the customer payment journey.
- Online Ordering/Purchasing: Considering how much time users spend on the SmartCast system daily (nearly 3 hours/day), it makes sense to ramp up the feature set beyond just streaming. For example, with the wallet installed, SmartCast could be used as a hub to order food, shop, and make an array of transactions. While most of this is theoretical, there is no reason a "super-app" can't exist on a television set. The wonderful thing about a connected TV is that action can be taken immediately with a click of the button, just like browsing a website.

[6] Tegus Transcript "Former Director Brand Communications, Advertising Sales at Disney" 23-Nov-21

Modelling it out

$MM Except ARPU	2020	2021E	2022E	2023E	2024E	2025E
Units Shipped	7.1	5.68	5.11	4.96	5.45	6.27
Growth	*20.3%*	*-20.0%*	*-10.0%*	*-3.0%*	*10.0%*	*15.0%*
Active Accounts	12.2	15.89	19.21	22.44	25.98	30.06
Growth	*60.5%*	*30.3%*	*20.9%*	*16.8%*	*15.8%*	*15.7%*
ARPU	12.99	25.26	32.84	39.41	47.29	54.38
Growth	*77.7%*	*94.5%*	*30.0%*	*20.0%*	*20.0%*	*15.0%*
Device Revenue	1,895,275	1,879,561	1,533,600	1,487,592	1,636,351	1,881,804
Growth	*6.9%*	*-0.8%*	*-18.4%*	*-3.0%*	*10.0%*	*15.0%*
Platform	147,198	303,927	630,983	884,190	1,228,682	1,634,706
Growth	*132.9%*	*106.5%*	*107.6%*	*40.1%*	*39.0%*	*33.0%*
Total Revenue	2,042,473	2,183,488	2,164,583	2,371,782	2,865,033	3,516,510
Growth	*11.2%*	*6.9%*	*-0.9%*	*9.6%*	*20.8%*	*22.7%*
Device COGS	1,710,776	1,710,401	1,395,576	1,353,709	1,489,080	1,712,442
Platform+ COGS	35,339	97,256.70	201,915	282,941	393,178	523,106
Total COGS	1,746,115	1,807,657	1,597,491	1,636,650	1,882,258	2,235,547
Device Gross Profit	184,499	169,160	138,024	133,883	147,272	169,362
Margin	*9.7%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*	*9.0%*
Platform+ Gross Profit	111,859	206,670	429,069	601,249	835,504	1,111,600
Margin	*76.0%*	*68.0%*	*68.0%*	*68.0%*	*68.0%*	*68.0%*
Gross Profit	296,358	375,831	567,093	735,133	982,775	1,280,962
SG&A	130,884	349,358	389,625	426,921	515,706	632,972
Marketing	31,279	54,587	54,115	59,295	71,626	87,913
D&A	2,296	4,367	4,329	4,744	5,730	7,033
Total Expenses	164,459	408,312	448,069	490,959	593,062	727,918
EBITDA	134,195	(28,114)	123,353	248,917	395,443	560,078
Growth	*300.3%*	*-121.0%*	*-538.8%*	*101.8%*	*58.9%*	*41.6%*
Op Income	131,899	(32,481)	119,024	244,174	389,713	553,045

Key Assumptions:

- ARPU catches up to current Roku numbers in ~3 years time. This is roughly the equivalent time it took Roku to hit its current number from Vizio's current ARPU base. (Remember Vizio is further along w.r.t ARPU at this point than Roku was in its history)
- Expect Device shipments growth to fall in 2022E if supply issues don't ease or if there is a tough comp from 2020/2021 Covid years
- Model ignores sound bar business, which if included would be upside.

Valuation:

2025 EBITDA	560,078
Multiple	15
Value	8,401,168
WACC	10%
Current Value	5,603,001
Net Debt	-365,380
Mkt Cap	5,968,381
Current Mkt Cap	3,677,520
Difference	1.62
Shares Outstanding	184,790
Target Price	32.3

- We ignore a relative valuation to Roku as Roku's own multiple can change rapidly, instead applying a multiple of future EBITDA.
- Assuming a conservative exit multiple and aggressive WACC, we get a target price of 32.3 which is 62% higher than the current market price.
- Any additional turn in multiple leads to an increase of ~6% valuation, implying a 20x exit multiple would imply a price 2x higher than current.
- It is noteworthy that Vizio has a net cash of $365mln (~10% of Mcap). While this implies an inefficient B/S considering the cash generative nature of the business, it provides a sizeable buffer for management to invest in growth initiatives. Moreover, the cash buffer also serves as a source of working capital as hardware sales increase.

Management

More on William Wang

While we are careful to not attribute a company's success based on stories about the founder, we do find William's story to show an abundance of resilience and thus, worth discussing briefly. William was born in Taiwan but went to University in the US, where he self-admittedly was a poor student (mid-2 GPA). He took a job right out of college paying $1,750/month doing tech support for a Taiwanese company, as it was the only job he could get. However, within 3-4 years he became head of sales and marketing for his division, and the company began supplying monitors to IBM. He felt the product was inferior and hated the refresh rate of the monitors. He believed that people wouldn't look at a screen for more than a few hours in its current state. So left to create his own company building better monitors. While this venture was quite successful, when the PC market took off, he was too focused on building a better product and didn't manage his company well. He later admitted he had never failed up till this point so was arrogant, which led to this poor management. By 1996-97 the company was in significant debt, thus he had to shut it down[7]. Undeterred, William believed he could make TVs both more affordable and of better quality, and in 2002 he started Vizio. Around the turn of the century, a 65-inch TV cost upwards of $15K, but now costs less than $1000 (with much better quality). At first the company was ignored by larger competitors, but as Vizio progressed, and as they entered the smart TV business in 2009, competitors tried to put them out of business via legal challenges and price wars. Despite all this,

[7] Side note – in 2000 when William was returning from Taiwan, he boarded Singapore Airlines 006 which crashed on the tarmac and killed half the passengers. William survived by jumping out of the plane after the initial crash.

Vizio has survived and commands a top 3 position in the US market. (Direct Ownership: ~42%, 90%+ of voting rights)[8]

Other Management:

Ben Wong – COO, and has been at Vizio on/off since 2006, re-joining as COO since 2010. During that gap he worked at AmTran, which is one of Vizio's largest shareholders (Ben Wong ownership - 1.9%).

Adam Townsend – CFO, has been at the company since 2020, previously at Showtime and CBS.

Michael O'Donnell – CRO, has been at the company since 2019, previously at startups relating to connected TV inventory and SmartTV experiences (ownership: 0.05%).

Risks:

- *Poor People Reviews:* Glassdoor reviews show that the company has a bit of work to do when it comes to their culture. Our understanding from ex-employees who we've spoken to is that the culture can be quite top-down, and that the biggest gripe is that middle management is not listened to. This is certainly not ideal; however, we do note that several of the comments were made prior to new management such as Michael O'Donnell and Adam Townsend joining. This could change a few things. The reviews over the last year have been far more positive than negative.

- *Okay but not great:* The company is quick to admit the product up till recently had several issues. The operating system was buggy and slow, and they had a high rate of return. However, it does seem both from the company's point of view and reviews available online that the SmartCast system is now decent. That said the product is not necessarily better (on first glance of the consumer) than say a Roku TV or a Samsung. However, Vizio does produce a high-quality product at a lower price point, and that has helped them maintain their share. Secondly, besides William, the rest of the management is quite new and untested. Michael O'Donnell for example, comes from Connekt, which as we can see is defunct. We will give management the benefit of the doubt, and earnings (see update below) are working in their favour.

- *Exodus and Share Selling:* The most pertinent bearish news that came out about Vizio recently was their long-time CTO, Bill Baxter, resigning. Now although there has not been a date for when Baxter would leave and he will likely see through a proper transition, it's an unfortunate turn of events as much of SmartCast was created and developed by Baxter and his team. Further both he and long-time shareholder V-TW Holdings (Ted Waitt's company) have been selling their shares (Ted Waitt and William Wang have a long relationship since 2001 when Wang helped Waitt's company Gateway put together their first TV). Now, we have ascertained that Baxter's share sales are very likely for personal reasons, but Waitt selling his shares is not a great sign. (The COO was also selling, but this appears automated).

[8] Wang owns another ~22MM in Class A shares via various Trusts

- *Google vs Roku:* This is an ongoing issue, but the crux of it is that Google is considering not renewing its contract that allows YouTube to be on Roku powered devices. If Google were to pull their app, it would be a huge blow to Roku. Now, it seems confusing at first as we would suspect that Google would want YouTube distributed as far and wide as possible. However, with certain big players such as YouTube and Netflix, the power is with them, and if they cannot distribute on their terms, they can choose to shut out distributors such as Roku. An expert we spoke to said this is quite reminiscent of Networks vs cable companies, and that it's not a given that a particular app will want to be featured by a certain distributor. One risk mitigant is that we hear that Vizio plays quite nicely with most participants, but with scale, Vizio's negotiating power would increase, and this could cause friction between them and OTT services.

Quarterly Update (Q3 2021):

As usual it takes us a while to complete these writeups, most of which was written before Q3 earnings were released. Here are some of the highlights:

- Net revenue grew 1% yoy, however Platform+ revenue grew 134%
- Gross Profits declined due to additional costs on the device side (supply chain issues) by 56%. However, it seems a lot of this spend was to ensure inventories for the holiday season. Further Platform+ Gross profits were up 88%, and thus net gross profits down 7%.
- ARPU jumped 91% yoy and 18.7% qoq to $19.89.
- SmartCast Accounts were up 35% yoy but only 3% qoq to 14.4MM. This was a bit concerning considering overall TV shipments hit 4MM this year, with only 2.2MM additional accounts. This could imply TVs sitting on shelves but it will take a few quarters to understand the trend (if there is one).
- HBO Max was added to the platform (finally!), so was fuboTV, BET+, PBS, etc.
- Launched WatchFree+ with more channels and greater ad inventory control

Conclusions:

Given Vizio's position as a top 3 OEM in the US, the rapid growth in Platform+ revenue and margins, and its cheap valuation, we think Vizio is a very good bet with regards to risk/reward. There are several execution risks, supply constraints, and competition, but the green field in the connected TV ad space makes us believe that this rising tide will lift all boats. Due to issues with product, management, culture, etc, we feel that Vizio is a good business, but not yet a great business, and have sized our position accordingly.

Final Notes:

- As will be required by MAS, we do assess potential environmental risks in our investments. We feel Vizio has low environmental risk (and low ESG risk) as it does not manufacture its own products (that is outsourced). It is not involved in any sort of high environmental risks such as oil, commodities, mining, waste disposal, etc. On the social side, Vizio is in the business of creating and distributing a common consumer product, and in general, seems to have reasonable relations with employees. The Audit Committee is made up of non-executive directors as is the compensation committee.

- As stated, please do your own diligence when making investments. We may choose to sell out of any of our positions at any time without any public announcement. Further this writeup should not be construed as investment advice and is for discussion purposes only.
- Appreciate this post in SumZero by Tarun Koshy which first gave us the idea to investigate Vizio.