

Regional analysis Gaming sector

Great potential in an early stage

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Industry highlights

While the 2000s was a decade characterized by the growing share of PC games due to increasing market penetration of personal computers, the last decade represented a shift towards mobile gaming with smartphone invention and ubiquity. Moreover, that shift was led by lower barriers to entry for mobile games. **With that being said, Adria region game companies produce predominantly mobile games, hence the focus of this regional report will be on mobile game industry and its characteristics.** However, within the highlights section, we will address the industry revenue split between mobile games and other types of game distribution, together with its pros and cons.

Mobile gaming is now a dominant force within the gaming industry, as shown by the graph. Mobile grossed USD 93.2 billion in revenue according to Newzoo, followed by consoles and PC with USD 50.4 billion and USD 36.7 billion respectively. As for the consoles, the most popular ones in the market are Sony's Playstation with the dominant market share of 46%, followed by Nintendo with 29% and Microsoft's Xbox with 25%. Each of the three platforms have their own set of characteristics with pros and cons from the players' or developers' perspective, as follows:

Mobile games

Pros: mobile games are easier to develop using engines such as Unity or Unreal, have easier distribution via app stores, are easier to advertise on other mobile apps and have ease of access

Cons: poorer quality of video games compared to ones published for PC and consoles, saturated market due to thousands of new games being uploaded daily

PC games

Pros: best performance in terms of graphics quality, games are often cheaper than console games

Cons: game quality is dependent on the quality of the hardware and hardware is constantly being upgraded, therefore consumers need to make continuous upgrades

Consoles

Pros: high quality and exclusivity games, and affordable prices with consoles normally being more affordable than smartphones or PCs

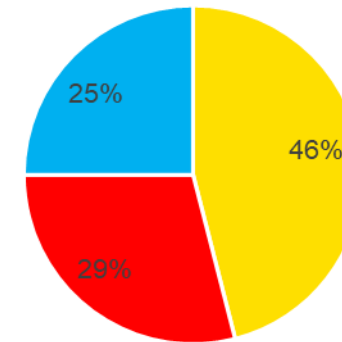
Cons: consoles are being dominated by AAA games that require significant investments and take long time to develop, also advertising on consoles is less convenient



\$93.2Bn
Mobile game revenues in 2021 will account for 52% of the global market

Our revenues encompass consumer spending on games: physical and digital full-game copies, in-game spending, and subscription services like Xbox Game Pass. Mobile revenues exclude advertising. Our estimates exclude taxes, secondhand trade or secondary markets, advertising revenues earned in and around games, console and peripheral hardware, B2B services, and the online gambling and betting industry.

Consoles market share - 2021



■ Playstation ■ Nintendo ■ XBOX

Source: Ampere Analysis

Source: Newzoo, Global Games Market Report

Monetization models

There are three most common ways of mobile game monetization:

- 1) In-app purchases
- 2) Advertising
- 3) One-time payment.

Nowadays, the most widely used monetization model is a mix of in-app purchases (the so-called microtransactions) and advertising. However, in-app purchases are the leading monetization model, being used by 70-80% of the games.

On **in-app purchases**, game development companies sell consumable and non-consumable products within the game in order to monetize the user base. Consumable consists of in-game products that are being used within the game and need to be repurchased again such as coins, boosters and extra lives for example. On the other hand, non-consumable products can be used indefinitely once they have been purchased such as game characters.

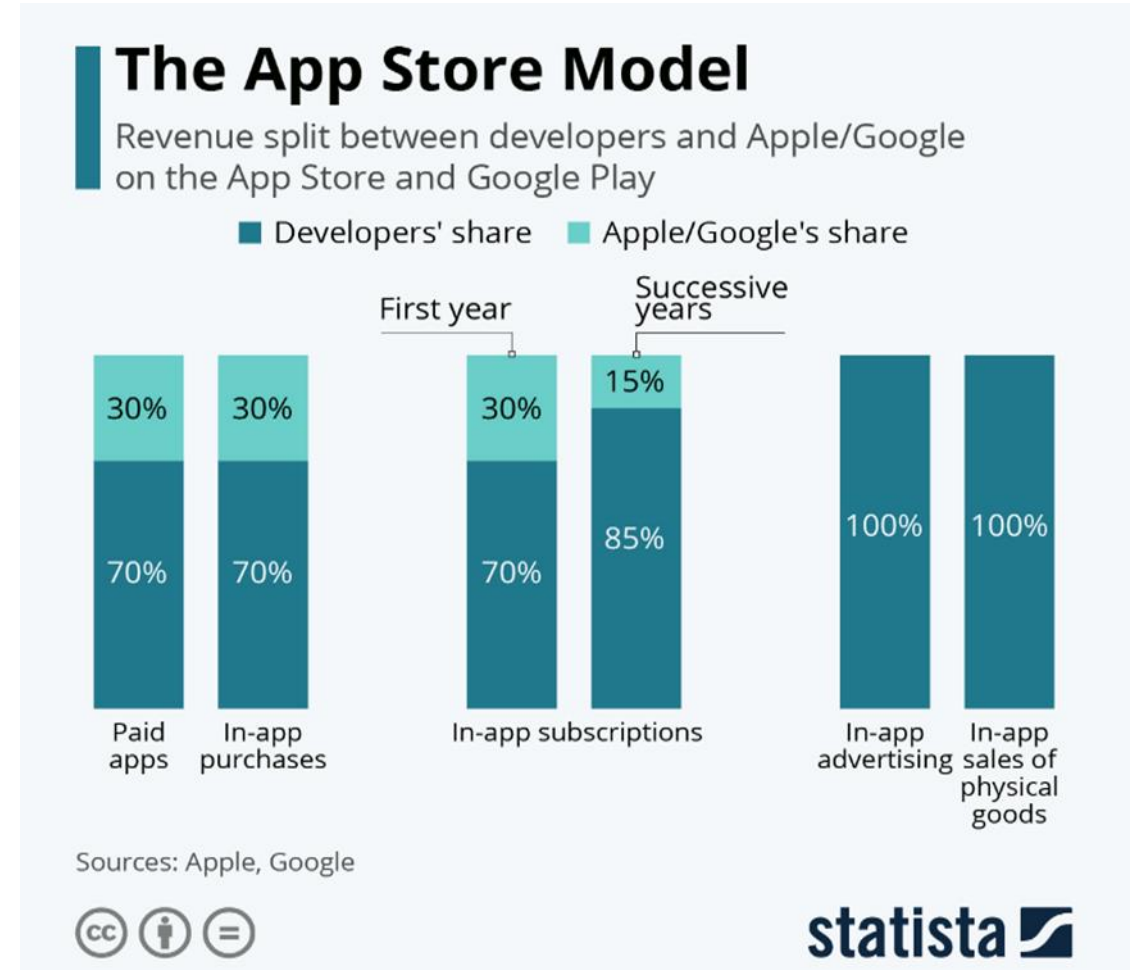
Advertising is performed via an ad network, i.e., companies that connect publishers (app developers) and advertisers. Publishers reach out to the ad network with the ad slot they want to fill and then advertisers bid on the slot, with the highest bidder winning the ad space. The most widely used metric to measure ad performance is eCPM, which stands for effective cost per mille and measures the amount of money advertisers earned for a thousand ad impressions – $(\text{Total ad revenue}/\text{total impressions}) \times 1000$. Average eCPM can range anywhere from 4-10\$, however it depends on a variety of factors such as publisher's location, seasonality, user engagement, advertising format, etc.

As for the formats, advertising has many forms in which it appears, such as:

- 1) **Interstitial ads** are the ads that take over the whole mobile phone screen. Those kinds of ads have solid eCPM, however, game players usually dislike them and find them annoying.
- 2) **Reward ads** are the favourite form of ads for game players because they consume them voluntarily, while on the developers' side they are attractive due to strong eCPM, but also in terms of boosting players' engagement with rewarded in-game items.
- 3) **Playable ads** are ads similar to interstitial ads, with only difference being the fact that there is a mini version of another game that can be played. As a result of being more interactive than interstitial ads, it brings higher eCPM for publishers.
- 4) **Banner ads** are the traditional banners that appear on almost any website across the internet. They are the least effective way of ad monetization and are not considered as annoying as interstitial ads by game players.
- 5) **Offerwalls** are usually a list of actions a player can complete in order to get rewards. They usually require a player to install another game, complete a survey, etc. Those ads have the highest eCPM, are not considered annoying due to their voluntariness, however, game players rarely engage with those ads.

Main challenges for Adria region companies

- 1) Despite the highly talented engineering workforce in the Adria region, there is a lack of highly experienced game developers. Game development requires a diverse skillset encompassing code writing, analytics, storytelling, audio expertise, psychology, etc. Adria countries are far too small and underdeveloped to produce a big number of professionals with such diverse skillsets and previous experience in game development. Therefore, local companies are sometimes required to headhunt experienced professionals from western countries and with the scarcity of such professionals often comes the high price tag.
- 2) The industry in the region is also hampered by double taxation given the non-existence of double tax treaties with the USA in Serbia, B-H and North Macedonia. That was also one of the reasons Adria companies have established holding companies in countries such as UK, Ireland and others where that is not the case.
- 3) Main distribution platforms for mobile games are Google's Play Store and Apple's App store, where every transaction is "taxed" with up to 30% commission fee. Alongside employee expenses, commission fee is the largest expense in the P&L structure of gaming companies. While there is more scrutiny from regulators towards Google and Apple in recent years - primarily in the European Union – that is not going to change meaningfully going forward. New platforms may emerge in the future with US companies such as Facebook investing significantly in development of Metaverse, however single domination of a new platform may result in even worse outcomes for developers. Still, in the long-term, we anticipate a brighter future with the decentralization of distribution platforms offered by cloud gaming. Platforms for watching movies and TV shows such as Netflix for example may become platforms where gamers will be able to play video games. In fact, Netflix in cooperation with Nanobit is working on the development of a life-style game "Too Hot to Handle" which is expected to be released in 2023 on Netflix.



Source: Statista

Peer comparison

Our selection of Adria region companies has been done based on the fact that these companies are market leaders for game development in their respective countries.

Vigorous M&A market in the gaming industry

The global gaming industry has been undergoing some vigorous consolidation in recent years. Due to its globalized characteristics, the consolidation trend has involved Adria region companies as well. Main drivers on a macro level were (i) cheap money given the low interest rates and (ii) high popularity of gaming whose growth rates were additionally fueled by stay-at-home COVID policies. On a micro level, the key reason was a long game development cycle that often lasts from 1-2 years and whose success on the market after commercialization is always questionable. Indeed, during its lifecycle, Nanobit has developed over 20 games, out of which only a handful of those were successful. That alone was a good enough reason for global game development companies to acquire popular game franchises instead of trying to build new ones from scratch.

Game development normally consists of six phases. It starts with the idea (market research, defining target population, market saturation testing), followed by concept development (game design document), pre-production (defining budget, development time, technology and KPIs), production, beta version and final commercial version.

Certain companies have an expertise in PC or console gaming and M&A was a way to acquire peers that have expertise in mobile gaming, or certain types of games (e.g., arcade or sports), or even certain target population (e.g., female population). Such behaviour was also driven by the capital market's focus on "growth at every cost", where top-line growth was awarded with higher multiples and valuations than bottom-line growth.

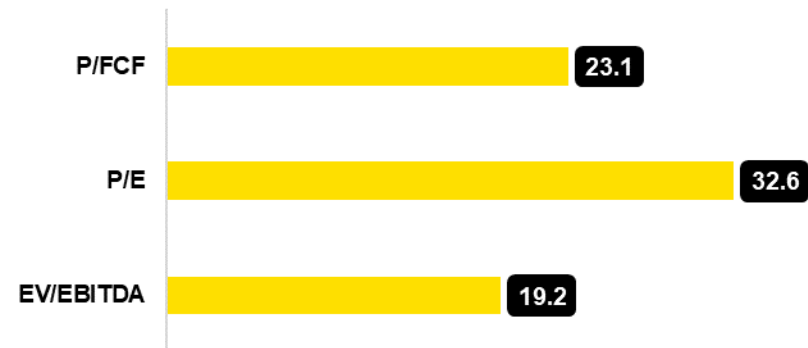
Sellers were incentivized to sell given the unrealistically high multiples for which it was evident that it wouldn't last forever. Also, given the highly competitive gaming market environment, local companies are incentivized to sell in order to remain relevant in the market. Becoming part of global corporates with vast resources allows Adria region players to use the already established network of offices and sales representatives and know-hows in order to further expand its reach on a global scale. Local presence after acquisition has not disappeared, quite the opposite, we expect these companies to remain active in terms of hiring in future periods due to (still) affordable local workforce and talented engineers able to adapt to new development tools/technologies.

In those circumstances, Nanobit was acquired by Stillfront in September 2020 for a purchase consideration of USD 100m for the 78% of the Nanobit shares, payable with a combination of cash and Stillfront shares (70-30). Share value has been calculated based on the volume weighted average price during the 10 days preceding the defined date. The second tranche for the remaining 22% was dependent on the EBITDA development, but however not exceeding USD 48m, again payable with the same 70-30 combination of cash and newly issued shares of Stillfront. The fair value of the contingent consideration has not been disclosed. Given the EBITDA of less than 6m EUR achieved in Nanobit's - so far - best year i.e., 2020, it is evident that purchase consideration comes from the expectations of high growth in the upcoming periods. According to numbers achieved in 2021, high expectations were not proven realistic and Nanobit delivered lower sales and margins.

Nanobit was an important target for Stillfront due to its niche success in fashion/lifestyle games which captivated primarily female population's interest. In that niche category Nanobit with its games such as My story and Hollywood story has captured an important market share and successfully competes with global licences such as for example, Love Island, more popular for its TV shows streaming in the UK.

As for Nordeus, it was acquired by one of the largest global gaming companies - Take Two Interactive Software. Acquisition value for Nordeus paid by TakeTwo amounts to 289.8m USD, consisting of 132.9m USD in cash, 0.5m shares issued by TakeTwo (fair value of 94.2m USD) and contingent earn-out consideration of up to 153m USD in case Nordeus achieves certain performance measures in 12-24 months following the closing period. The contingent consideration has a fair value of 61m USD based on Monte Carlo simulation model.

Median multiples - US listed large caps



Source: Bloomberg

Peer comparison

Regarding the financials, Adria region companies have displayed the same positive trend as the companies from the west and have delivered average sales growth of 41% in 2020. Growth was driven by stay-at-home government policies, with the exception of Nordeus, which has experienced a decrease in sales of 11%. The sales decline was accompanied by the growth in employee expenses of 16%, therefore Nordeus displayed negative profitability in 2020. In 2021, top-line result was improved, with the sales growth of 12%, however, once again employee expenses have risen by double-digit, i.e., 17%.

On the other hand, Nanobit was a largest beneficiary of COVID pandemic, with the triple-digit sales growth of 102.5%. Nevertheless, cost of services with 96% and cost of employees with 32% yoy growth culminated with declining EBIT and EBITDA margins. Nanobit margins kept declining throughout 2021 as well, driven primarily by the 24.4% sales decline. A major drop in ROE in 2021 is due to large net profit result (large operating result additionally boosted by one-off investment income in the amount of ~ EUR 6m) achieved in 2020 and not being distributed to shareholders, thus increasing outstanding equity amount.

Average sales growth for the global peers has slowed to 3.5% in 2021, unlike 26.2% average decline in sales for the Adria region companies. Although, a decrease was driven by the large weight of Nanobit as its sales is the highest among the peer group, while both Nordeus and Ekipa 2 displayed sales growth. In fact, Ekipa2 is a single company among the peer group that has managed to deliver sales growth across all three observed periods, coupled with stable profitability margins and great returns on equity and invested capital. Regarding the cost structure, employee expenses normally account for the majority of expenses (e.g., Nordeus - 86%, Ekipa2 - 74%), although that number may be distorted from time to time due to capitalization of development costs.

Average and median margins and returns on equity and invested capital are not comparable between Adria peers, nor with global peers since AI Interactive and Furious Avocado are virtually still start-ups and numbers achieved thus far – although impressive – are still small-scale. If we take the average margins of larger scale businesses such as Nanobit, Nordeus and Ekipa2 – they lag their global peers significantly with an average EBITDA of 11.3% compared to the average EBITDA of 34% achieved by global gaming companies.

Company name	Sales EUR in millions			Sales growth %			EBITDA margin %			EBIT margin %			ROE %			ROIC %		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
Adria																		
Nanobit	26.1	52.9	40.0	43.1	102.5	(24.4)	11.9	11.1	7.8	10.4	7.6	3.3	50.7	97.6	8.6	47.5	37.2	7.2
Nordeus	16.8	14.9	16.7	(2.3)	(11.1)	12.1	9.5	(6.8)	5.1	5.9	(11.0)	(6.4)	5.5	(6.9)	0.0	3.7	(8.9)	(5.3)
Ekipa2	20.3	21.4	23.4	22.9	5.3	9.2	21.4	21.0	21.1	13.2	12.8	13.3	53.7	35.7	31.5	39.3	22.9	20.2
AI Interactive	0.1	0.3	0.1	n.a.	112.1	(47.2)	94.1	91.7	84.7	94.1	91.4	83.8	n.a.	133.3	67.9	n.a.	136.4	65.1
Furious Avocado	n.a.	n.a.	2.3	n.a.	n.a.	n.a.	n.a.	n.a.	89.4	n.a.	n.a.	89.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Median	18.5	18.1	16.7	n.a.	(2.1)	(8.0)	16.6	16.1	21.1	11.8	10.2	13.3	50.7	66.7	20.1	39.3	30.0	13.7
Average	15.8	22.4	16.5	n.a.	41.2	(26.2)	34.2	29.2	41.6	30.9	25.2	36.6	36.6	64.9	27.0	30.2	46.9	21.8
Global																		
TakeTwo Interactive	2,080.7	2,868.7	3,048.6	52.4	37.9	6.3	11.7	22.1	30.2	0.7	13.7	22.6	18.9	17.7	20.1	18.0	16.5	17.8
Stillfront	185.9	380.8	537.7	43.9	104.8	41.2	38.4	43.1	39.0	27.0	29.1	33.1	22.4	14.4	7.4	14.7	11.0	6.1
Activision Blizzard	5,797.2	7,093.0	7,447.0	(8.8)	22.4	5.0	36.5	41.4	43.8	26.8	35.0	37.9	12.4	15.8	16.5	10.2	13.8	14.3
Electronic Arts	4,277.0	4,983.0	4,830.5	(2.9)	16.5	(3.1)	23.9	30.8	24.0	21.0	26.8	19.2	20.5	47.5	10.9	15.7	45.7	11.7
Median	3,178.9	3,925.9	3,939.6	n.a.	23.5	0.3	30.2	36.1	34.6	23.9	27.9	27.8	19.7	16.7	13.7	15.2	15.2	13.0
Average	3,085.2	3,831.4	3,966.0	n.a.	24.2	3.5	27.6	34.3	34.2	18.9	26.1	28.2	18.6	23.8	13.7	14.6	21.8	12.5

Source: Financial statements, Bloomberg Adria analysis

Monetization in the Adria region

Local game developers rely primarily on the freemium model, i.e., they launch free games and monetize the user base with in-game purchases and advertisements, with the main focus on in-game purchases that are more sustainable and have less cyclical revenue stream. Although, to be fair, both revenue streams are cyclical. Mobile gaming has only recently become popular, i.e., its popularity has been rising over the last decade, following the increasing smartphone penetration. Therefore, its cyclicity has not yet fully been tested given the expansive economic activity experienced across the world in the past 12 years.

Freemium monetization models are brimming with difficulties and challenges. How to sell in-game features and meanwhile not demotivate existing users that are not willing to make purchases but are important for the advertising revenue stream? Aggressive advertising that interrupts the game is also not an effective way to keep users engaged and to deliver the effect that ads are expected to deliver, i.e. promotion of the product. These are just some of the questions and issues to which game developers need to find a solution. At the same time, users need to be constantly engaged to keep returning daily.

Nordeus was extremely creative and successful in creating a model that is balancing those needs proven by the growing and highly engaged user base in their Top Eleven game. Advertising is on-demand, meaning that players actively seek to watch ads when they want to obtain tokens (the so-called reward ads) which could later be used for in-game purchases. On the other hand, players' success in the game is not dependent on the depth of their pocket. In-game purchases serve to obtain certain features such as official football kits and crests of famous football clubs, construction of facilities such as stadium or training center, etc. Certain in-game purchases may have an effect on the performance of players, but wisely it has never become a dominant characteristic due to which many games fail in the market.

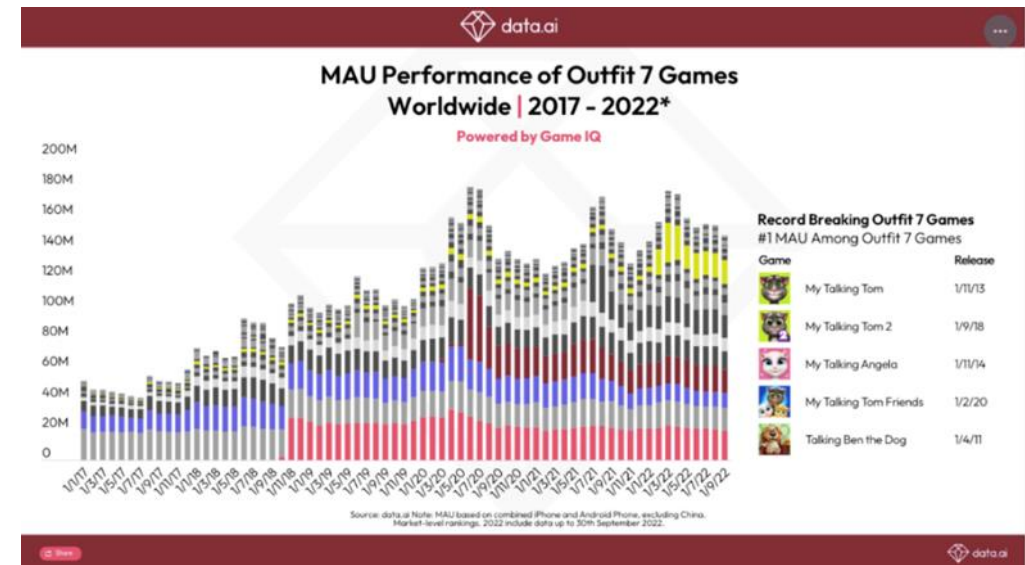
User engagement is constantly tracked through big data analytics and new functionalities are constantly being added and tested.

Macedonian gaming market – although in its very early stages with around 15 game developer studios in total – has given birth to a global success story named Tie Dye. The game from Furious Avocado has reached worldwide popularity after its release in 2020 and it now has over 150m downloads. It was a no.1 game globally by the number of downloads for some time. The company consisting of around 8 employees in 2021 managed to monetize the user base resulting in EUR 2.3m and impressive EBIT margin of 89%.

Peer comparison

Ekipa2, a Slovenian subsidiary of a better-known Outfit 7 Group incorporated in the Cyprus, was founded by two Slovenians, Samo and Iza Login, back in 2009. The company was afterwards sold to United Luck Consortium during 2017, in a deal valued approx. 1b USD. Company has captured world's attention by launching globally popular and humorous Talking Tom game in 2010. Its main targeted population was kids, however, its virality captured everyone's attention. Over the years, Outfit 7 launched 20+ titles in the Talking Tom & Friends universe. These games have a cumulative of over 10b downloads and over 350 million active users and have become one of the most successful mobile gaming IP, together with Angry Birds and Candy Crush Saga. Year-to-date data (up to September) shows that Talking Tom 2 is the No. 9 most downloaded game globally. Its popularity has been converted into financials as well and Ekipa2 is the most successful regional company in terms of absolute profitability. Although, same as for the Nordeus Limited, consolidated financials of the Outfit 7 Limited, holding company incorporated in the Cyprus is not publicly available, therefore full picture is not clear to us.

AI Interactive, a Sarajevo based indie game developer has launched its game The Enchanted World on Apple Arcade platform in 2019, and it was among ~ 70 carefully selected games by Apple, whose number has nowadays increased to over 200. Unlike Nordeus' Top Eleven or Nanobit's Hollywood Story, it is not a free-to-play game that relies on advertising or in-game purchases. Instead, their game is delivered via Apple Arcade - a platform that selects high quality games and for USD 4.99/mo. subscription, players have unlimited access to carefully selected games. However, it is yet unclear the relationship between the game developers and Apple in terms of monetization. Our educated guess is that Apple pays for the development of the game and subsequently it also rewards developers with a royalty fee based on the amount of time their games are being played (engagement fee) on the Apple Arcade platform. While AI Interactive has delivered unbelievably high margins, it is still way too early to judge its financial performance given the low sales amount it is generating.



Source: Data.ai

The introduction of Apple’s platform also exhibits the ever-changing market environment in the gaming sector. While on a macro level it does offer a lot of potential having the size greater than the movie and music industry together, on a micro level companies will need to keep adapting to different platforms, new development technologies, more demanding consumers, low barriers to entry, market consolidation, cross-platform engagement, presence of the financially powerful companies such as Microsoft, Apple, Google, Amazon, Facebook, etc.

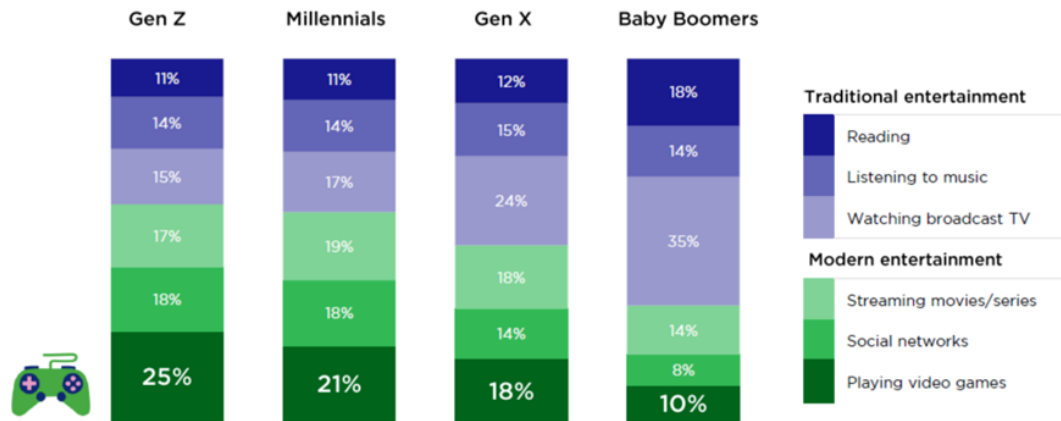
Also, gaming companies are competing for the consumer’s attention, hence their competitors are companies outside the gaming industry as well. Netflix, Instagram, Tik Tok and media companies are just a few of the competitors from a large list of companies trying to capture consumer’s eyeballs. Nevertheless, the trend is skewed in favour of the gaming industry as younger generations spend more time playing games instead of traditional entertainment types such as watching TV or reading. Gen Z spends 25% of their leisure time playing video games against the 21% spent by Millennials and 18% spent by Gen X. In fact, gaming has become a favourite type of entertainment for both Gen Z and Millennials.

We also foresee a bright future for the gaming sector in the Adria region. Dominating factor in favour of the gaming sector is a huge success of companies like Outfit 7, Nordeus and Nanobit which gave rise to a powerful ecosystem of know-how and has put our region on the map of venture capitalists and larger gaming companies. The presence of a talented and affordable workforce will also act as a trigger in attracting larger gaming companies to reap the benefits of our region. Furthermore, there is still a lot of potential in "legacy" players from our list and synergy effects from their sale to global gaming companies are yet to be achieved in the upcoming years.

The ever-changing mobile gamer demographics are also advocating for the shining scenario in the gaming industry. It is garnering more adults and female population, resulting in a larger total addressable market. Indeed, the average age of a mobile gamer according to MoPub is 36 and more than 50% of mobile gamers are older than 34 according to Mediakix – the importance of those facts is that these are gamers which can pay for the whole games or at least specific features, hence reshaping the gaming market from couple of decades ago when most gamers were kids.

Nevertheless, the gaming industry is a consumer discretionary – therefore, certain macro headwinds such as rising interest rates and high inflation will act as a decelerator of growth in the short-term.

% Leisure Time Spent per Entertainment Platform (Outside of Work)
Base: Total sample



Source: Newzoo, Global Games Market Report

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