

SKILL-BASED GAMING IN THE U.S. (2023)

EMERGING TRENDS AND REGULATORY INSIGHTS IN THE EVOLVING LANDSCAPE

AN SCCG RESEARCH PUBLICATION

ABSTRACT: *This brief examines the current state of skill-based gaming focusing on the U.S. It provides an overview of the legal and regulatory frameworks governing this sector, analyzes market dynamics, and identifies key industry players. The document offers insights into the sector's history, emerging trends, and technological advancements in skill-based gaming, as well as potential areas for growth. Aimed at industry leaders and regulators, this brief is intended to inform decision-making and facilitate a comprehensive understanding of this evolving market.*

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EXECUTIVE SUMMARY: A RESEARCH BRIEF ON SKILL BASED GAMING FOCUSED ON THE U.S.

This brief offers an overview of the skill-based gaming landscape, tailored for industry leaders and regulators. Our aim is to equip you with a nuanced understanding of this dynamic sector, enabling informed decision-making and effective dialogue in professional settings.

Legal and Regulatory Landscape: A pivotal aspect of skill-based gaming is its legal definition, which significantly varies across jurisdictions. We delve into key regulatory highlights, presenting a detailed overview of how different states like Pennsylvania and Virginia approach these games. This section is crucial for navigating complex regulatory environments.

Market Dynamics: The market for skill-based games is rapidly evolving, driven by technological advancements and changing player preferences. We provide an in-depth analysis of current market trends, including player demographics and technological innovations, offering a clear picture of the market's direction.

Industry Players: Recognizing the significant entities in this domain, we introduce major players in skill-based gaming. This segment is designed to acquaint you with the competitive landscape, highlighting how these companies are shaping the future of gaming.

Future Trends and Opportunities: Looking forward, we explore emerging trends and potential opportunities within the skill-based gaming sector. This forward-looking perspective is intended to prepare you for upcoming developments and potential areas of growth.

We hope this research brief serves you as an essential guide, offering clarity and insight into the rapidly evolving sector of skill-based gaming.

JACOBELLIS V. OHIO AND ITS RELATIONSHIP TO SKILL-BASED GAMING'S LEGAL DEFINITIONS

"I know it when I see it."

I imagine it was a tense day at the movies when Nico Jacobellis, a movie theater manager in Cleveland Heights, Ohio, was arrested on two counts of possessing and exhibiting an obscene film, the French movie, "Les Amants." Jacobellis appealed the conviction by a three-judge panel to the U.S. Supreme Court, and on June 22, 1964, Justices Brennan, Goldberg, and four other Justices reversed the lower

courts' decisions in *Jacobellis v. Ohio* 378 U.S. 184 (1964), concluding that "Les Amants" was not obscene under the applicable standard.

Included in this obscenity decision was a concurrence from Justice Potter Stewart, who wrote:

"I shall not today attempt further to define the kinds of material I understand to be embraced within that shorthand description, and perhaps I could never succeed in intelligibly doing so. But I know it when I see it, and the motion picture involved in this case is not that."

Federal obscenity law would remain ambiguous until *Miller v. California* 413 U.S. 15 (1973) introduced the Miller test, a three-pronged obscenity test for obscenity.

Unfortunately, the legal test for skill-based gaming won't be as simple as a few federal-level Supreme Court decisions because individual U.S. States have traditionally owned responsibility for laws and gambling regulations. Furthermore, the states' opinions on the legality and definitions of skill-based gambling vary widely and are highly resistant to the common sense "I know it when I see it" test.

THE LIMITATIONS OF COMMON SENSE AGAINST REALITY

Some companies have worked with mathematicians to define skill-based gaming through statistical analysis – the same way we often test for randomness – by measuring the outcomes of many games and seeing if differing skill levels changed the results. This seems immensely reasonable and intuitive. At one end of the spectrum, you have skill-based games like chess, for which there is no randomness in the game rules apart from the benefit of going first. Alternatively, you have outcomes for traditional casino games, like Slots, solely determined by random number generation and are clearly gambling.

Other frequently referenced tests include:

Predominance	If skill is the dominant factor in outcomes, it's skill-based, and if the outcome is predominantly random, it's a chance-based game and gambling – the most liberal test.
Material Element	If chance is a material element in determining an outcome, even if skill is also significant, it's chance-based, and gambling – a stricter test.
Any Chance	If chance plays <i>*any*</i> role in the outcome, the game is chance-based, and gambling – a very strict test.

It is widely accepted that among typical gambling activities, Poker is considered a game of skill. However, some states have specifically listed Poker and other specific games in their definitions of gambling. So, unless and until things change, logical tests don't matter for those states.

Suppose it's a skill-based game that was explicitly defined as gambling. In that case, there's no variant of that game you can develop and deploy for the skill-based gaming market that isn't at risk of being targeted by regulators or law enforcement. So, in some states, a game determined to be skill-based by the Material Element test could be legal, while a game determined to be skill-based by the stricter Any Chance test could be prohibited.

In far fewer words, we could have said, "Regulators gonna regulate," – especially when policymakers see measurable, material losses of taxable income for the State. This is how it's supposed to be. Industry leaders can be proactive and reasonable and work towards self-governance, but any self-governance policy exists within what is permitted by law and regulation. The most effective developers of industry self-governance policies work hand in glove with regulators and policymakers before they put new products into the market. We're not saying that gamblers can't be winners. We're saying it's a gamble.

Some operators are doing neither of these things. They're punting and generating revenue while they can. Some of these skill-based gaming platform operators put the responsibility for compliance with local gambling laws and regulations on their users. They use "clickwrap" terms and conditions and indemnification language in terms of service that consumers never read.

Users are expected to proactively understand and adhere to their local laws – somewhat unreasonable given the complexity of the scenario. These platforms, while providing the means for gaming, clearly distance themselves from legal accountability and act as if they were mere "carriers for gambling," assuming no responsibility for the gambling itself.

Skill-based gambling has a huge grey market in the U.S. The American Gaming Association made the following critical observations in a press release on August 23, 2023:

"While most Americans see "skill" games as similar to traditional casino slots, AGA findings show for every dollar bet by consumers, regulated machines in Pennsylvania keep 7.7 cents on average, while unregulated machines across the country keep 25 cents."

"Americans wager \$109 billion each year with unregulated "skill" machines according to AGA estimates, at an annual cost of \$8.7 billion in state taxes and \$27 billion in legal gaming revenue."

Platform operators, regulators, and legislators are all looking at this murky area of the industry. Many investors are already placing bets in the hopes that they will be the next FanDuel or DraftKings in this next phase of expansion of the U.S. gaming market, and we're going to watch it intently and with great interest.

THE COMMERCIAL VALUE OF THE SKILLS-BASED GAMING MARKET

The current annual value of the U.S. gaming industry is estimated at over USD 100B in GGR, with over USD 40B coming from tribal gaming and over USD 60B from commercial gaming in 2022.

We have this information because of the highly regulated nature of commercial and tribal gaming.

However, because of the largely unregulated and privately held nature of skill-based gaming, attempts to estimate the market size could be more reliable in the totality. We do know, however, that individual leaders in the skill-based gaming market are generating not millions but billions of dollars in revenue while they can, and at much more favorable tax rates, where even applicable.

Their largely unregulated and undertaxed nature is beginning to draw the attention of state governments, regulators, and attorneys general. Still, the present-day value of those businesses clearly and overwhelmingly outweighs these associated risks.

SKILL-BASED GAMING: REGULATORY HIGHLIGHTS

A full review of all federal and State laws and regulations is outside this brief's scope. Still, we include some of the more interesting elements of skill-based gaming regulations from leading gaming states, Nevada and New Jersey, as they give us insight into how regulators view skill-based games and their concerns regarding their use by operators and players.

WHAT ARE SKILL-BASED GAMES? IT DEPENDS.

Nevada defines a "Game of skill" as a game in which the skill of the player, rather than chance, is the dominant factor in affecting the outcome of the game and a "Hybrid game" as a game in which a combination of the player's skill and chance affects the game's outcome.

New Jersey defines skill-based games as "any Division approved casino or online game where the theoretical return to player (RTP) cannot be determined by a precise mathematical model based on chance, but is instead determined by player's physical dexterity and/or mental ability.

IDENTIFYING SKILL-BASED GAMES IN THE WILD

In Nevada, games may use an identifier to help players determine games they may play, which include games of skill, facts related to the skill of the player relative to the game, and the skill of the player relative to the skill of other players playing the same game.

Players must be able to identify Skill-based games through a DGE-approved logo, which clearly indicates to the player that it is not an RNG-based slot machine, how the game is played, and how game features and decisions affect payouts.

GAMEPLAY

In Nevada, if games have progressive jackpots that can be influenced by skill, operators may use indicators to let players know that is the case and how skill affects the outcome to promote the game and provide clarity to the player.

In New Jersey, no aspect or function of skill-based gaming features may be altered during gameplay to make an event more or less likely to occur. In practical terms, the game can't put its thumb on the scale if it identifies a highly skilled player.

In New Jersey, players must be told when computerized or skilled house-sponsored opponents participate, and the patron must be allowed to elect whether or not to play against those opponents.

PAYOUTS

In New Jersey, regulators do not require skill-based games to guarantee an 83% theoretical RTP like their slot machines. Instead, the player's skill level determines outcomes and payouts. However, games that use a random number generator and have skill-based features must comply with the 83% minimum RTP and explain to players how to use the skill-based feature to optimize the player's payout.

In New Jersey, skill-based games may also provide an adaptive feature to increase the payback percentage to improve the actual RTP.

SPEED TO MARKET

Skill-based products brought to New Jersey before or simultaneously with other jurisdictions will benefit from the "New Jersey First" law and be tested, approved, and available for placement within 14 days.

The Nevada Gaming Commission adopted amendments to Regulation 14 to facilitate the introduction of innovative gaming concepts under their "New Innovation Beta" (NIB) process, allowing operators to deploy gaming devices under a limited field trial status pending complete development, testing, or final regulatory approval.

COLLUSION AND MONEY LAUNDERING

In New Jersey, operators must monitor peer-to-peer skill-based gaming for collusion and money laundering activity using an automated feature as provided for by the internal controls of the casino licensee.

THE RISE: MOBILE AND ONLINE SKILL-BASED GAMING

The gaming landscape has significantly transformed in recent years, with skill-based gaming emerging as a formidable segment. This evolution is primarily driven by the advent of innovative mobile and online platforms, which have revolutionized how users engage with games.

The growth in this sector can be attributed to companies that pushed the boundaries of content, platform, and marketing. Companies like Arkadium, Avia, Big Fish Games, and Skillz -- each of these entities has played a pivotal role in shaping the skill-based gaming arena. For instance, Arkadium has focused on intuitive game designs that appeal to a broad demographic, while Avia has carved a niche in offering customizable gaming experiences. Similarly, Big Fish Games has been a frontrunner in providing diverse gaming options, and Skillz has established itself as a leader in competitive eSports for mobile gamers. Each found and targeted significant segments of casual and avid gamers, providing them with a product that spoke to them and gave them what they wanted: highly engaging and satisfying on-demand experiences.

These platforms have continuously evolved, offering immersive and engaging experiences to users. They incorporate sophisticated algorithms to ensure fair play and skill matching, enhancing the competitive

aspect of gaming. The seamless integration of social features has also been a critical development, allowing players to connect and compete with peers globally, adding a communal dimension to the gaming experience.

Monetization models in skill-based gaming have seen innovation, with platforms adopting various strategies ranging from in-app purchases and advertisements to entry fees for competitive tournaments. These models have sustained the platforms' growth and opened up new revenue streams for developers and players alike.

The accessibility of mobile and online platforms has significantly expanded the audience for skill-based games. These platforms have successfully tapped into a diverse user base, from casual players looking for entertaining ways to pass the time to serious gamers seeking competitive and skill-based challenges. This wide-ranging appeal has been instrumental in the growth of the sector.

The rise of mobile and online skill-based gaming platforms has also fed into the growing eSports phenomenon. Platforms like Skillz have allowed mobile gaming to enter the eSports arena, providing opportunities for gamers to compete in high-stakes tournaments and leagues.

The evolution of mobile and online skill-based gaming platforms represents a significant shift in the gaming industry. These platforms have redefined gaming experiences, paved the way for new business models, and expanded the gaming market's reach. As these platforms continue to evolve, they promise to influence the gaming landscape further, introducing innovations and capturing the interest of an ever-growing audience of gamers.

SKILL-BASED GAME CATEGORIES ARE AS DIVERSE AS THEIR AUDIENCES

Skill-based games have carved out a significant niche in the online gaming world. Unlike games of chance, where luck predominates, skill-based games hinge on a player's abilities, strategies, and knowledge. This vast genre encompasses many game categories catering to different skills and interests.

- Arcade Games are a throwback to childhood gaming; arcade-style games like Tetris Burst and Bejeweled continue to thrive online. These games offer a blend of nostalgia and modern-day competitiveness, often involving tournaments with cash rewards. Their enduring appeal lies in their straightforward yet captivating gameplay.

- Skill-based card games like Rummy and Solitaire involve strategic thinking and quick decision-making. Rummy, especially, has gained global recognition for its skill-intensive play, where players must create valid sets and combinations of cards.
- Puzzle games test the player's logical reasoning and problem-solving skills. From classic examples like Rubik's Cube and Sudoku to modern digital versions like Bejeweled and HexTwist, these games require players to use their intellect to overcome challenges within set time limits.
- Word Games involve deciphering word puzzles and are often based on mathematical or logical problems. Popular online word games like Bookworm and Word Mojo provide entertainment and engage players in intellectual contests, sometimes with opportunities for winning cash prizes.
- Trivia games are knowledge-based competitions covering various subjects. They challenge players' depth of knowledge and quick recall abilities. Online trivia games like HQ Trivia have gained popularity, offering real-money rewards for skilled contestants.
- Fantasy Sports blend sports knowledge and strategic planning, requiring fantasy sports players to assemble teams based on real-life players' performances. Popular in sports like cricket, football, and basketball, fantasy sports have a significant following due to their reliance on sports expertise and strategic team management.
- Even the classic game of Dominos has become strategic content serving specific skill-based gaming audiences. The well-known and hyper-social game of Dominoes requires strategic placement of tiles and keen observation of opponents' moves. Online platforms have transformed dominoes into a skill-based challenge, offering varied formats and cash prizes.
- Backgammon is one of the world's oldest board games, combining strategy with an element of chance from dice rolls. The objective is to move all one's pieces off the board before the opponent, requiring strategic foresight and tactical maneuvering.
- Chess, a timeless game of strategic mastery, demands high levels of concentration, planning, and adaptability. Online chess platforms have brought this classic game to a global audience, offering various challenges and competitive opportunities.
- A game of skill and psychology, Poker involves forming the best hand and outmaneuvering opponents. Online poker variants have expanded the game's reach, allowing players to engage in tournaments or cash games.

SKILL-BASED GAME DEMOGRAPHICS ARE AS DIVERSE AS THE GENRES THEY SUPPORT

TL;DR: It's Everyone

The largest demographic, young adults between 18 and 35, predominantly engage in games that combine skill with high-octane action. This group gravitates toward eSports titles battle royales like Fortnite and Call of Duty, where strategic thinking, quick reflexes, and competitive gameplay are paramount.

A significant and often overlooked segment in the skill-based gaming sphere is the mature female demographic, typically aged 35 and above. This group has shown a remarkable affinity for casual skill-based games. Titles such as Candy Crush, Bejeweled, and word puzzle games resonate with this cohort, offering them engaging, stress-relieving experiences. These games appeal due to their ease of access, short play sessions, and the mental stimulation they provide.

The 36 to 55-year-old demographic often prefers games that challenge the mind and utilize their experience. Puzzle games, strategic board games like chess, and card games like Poker are prevalent in this group, offering a deep, thought-provoking engagement.

Comprising a significant segment, older adults and retirees are attracted to games that provide cognitive benefits and a chance to engage with a community. Classic board games, card games, and trivia quizzes are among their preferred choices, allowing for leisurely yet stimulating gameplay.

Teenagers and adults up to 24, part of Gen Z, are an emerging force in skill-based gaming. Known for their adaptability and tech-savviness, they are quick to embrace new gaming trends, including mobile eSports and interactive puzzle games.

REVENUE TRENDS AND MARKET EXPANSION

The skill-based gaming sector is experiencing a remarkable upward trajectory in revenue, with a compound annual growth rate exceeding 30%. This growth is largely propelled by the burgeoning popularity of mobile and online platforms, which have made skill-based games more accessible to a diverse audience. Notably, games that merge skill with monetary rewards, such as those in mobile eSports, show significant revenue generation promise.

In response to this growth, gaming platforms are adopting innovative strategies. A primary approach is diversifying game offerings to cater to varying player preferences and skill levels. These platforms are broadening their appeal to a broader demographic by expanding into genres like puzzle games, strategy games, and interactive sports simulations.

Integrating advanced technologies like augmented reality (AR) and virtual reality (VR) enhances gaming experiences, making them more immersive. Additionally, the application of artificial intelligence (AI) for personalized gaming experiences and blockchain technology for secure, transparent transactions are emerging as significant trends.

Looking beyond traditional markets, skill-based gaming companies are exploring opportunities in emerging markets across Asia, Latin America, and Africa. These regions, with their growing middle-class populations and increasing internet penetration, offer fertile ground for expansion. Tailoring content to regional preferences and cultural nuances is crucial to this expansion strategy.

As the sector grows, navigating the complex regulatory landscape becomes increasingly vital. The industry proactively works with regulatory bodies to develop policies that foster innovation while ensuring fair play and responsible gaming.

Central to sustaining growth is the development of a loyal and engaged community. Gaming platforms invest in community-building initiatives, including hosting tournaments, offering loyalty programs, and engaging with players via social media and live-streaming events.

Moreover, collaborations with established gaming companies, content creators, and even industries outside gaming, like music and entertainment, are becoming more common. These partnerships are instrumental in reaching new audiences and keeping game offerings fresh and relevant.

The skill-based gaming sector is not merely riding a wave of growth but actively shaping its trajectory through innovative strategies. From technological advancements and global expansion to proactive regulatory engagement, the sector is well-positioned to expand its market footprint and redefine the interactive entertainment landscape.

THE EXPERIMENT: INTEGRATING SKILL-BASED GAMING IN U.S. BRICK-AND-MORTAR CASINOS

Around 2017, collective thinking in the industry held that there was a problem with their long-range customer funnel. According to a Las Vegas Convention and Visitors Authority survey, 38% of Las Vegas visitors identified as Millennials.

The average Baby Boomer set aside almost USD 800 for gambling, and the average Gen X'er budgeted a little under USD 600 for gambling; the average Millennial was gambling around USD 260.

Parallel with updating amenities in destination resorts, casinos began introducing skill-based games to appeal to different demographics, especially newer players who might not be interested in traditional slot machines. These games include physical or mental skill components such as puzzles, trivia, strategy, or dexterity.

Operators often placed these games in specific areas designated for skill-based games. To diversify the appeal of casino gaming to a broader range of demographics, these dedicated areas had a distinctly different vibe, often similar to the feel of arcades or social gaming spaces.

LOOKING BACK: BRICK AND MORTAR BASED SKILL GAMES

The commercial success of skill-based games in brick-and-mortar casinos has been mixed. While they were introduced with high expectations, their performance has varied across different markets and casinos. Here are some things to think about:

When skill-based games first entered the casino floors, there was considerable excitement, particularly with the prospect of attracting younger audiences who grew up playing video games. However, the actual adoption and continuous engagement of these demographics have been less than anticipated.

Skill-based games have yet to generate revenue equivalent to traditional slot machines. Slots remain the dominant revenue generators in most casinos. One reason is the entrenched player base for slots, who prefer classic games' familiarity and simplicity over skill-based alternatives' complexity.

The success of skill-based games has also been dependent on their placement within the casino and the marketing efforts surrounding them. There has been a more positive response in some instances where casinos have strategically placed these games and marketed them effectively. In the need to generate

awareness of the existence of skill-based games in casinos, these layouts could draw attention to the players as much as the games. For many solitary gamblers, this could be uncomfortable.

The popularity of skill-based games is evolving. While nobody expects them to replace traditional casino games, they are finding a niche among players who seek a more engaging and interactive gaming experience. However, unlike many conventional casino games, skill-based games often have a learning curve, hindering some players.

In some jurisdictions, regulatory challenges have impacted the deployment and operation of skill-based games. For example, the minimum return to player percentage in New Jersey slots does not apply to pure skill-based games. These regulations can affect how games are designed and the extent to which skill influences payouts, potentially making them less attractive to both casinos and players.

While it's easy to second-guess the brick-and-mortar casino operators who have attempted to integrate these new experiences into their casinos, we are reminded that we often learn more from losses than wins and that navigating the evolution of an industry requires a certain level of risk-taking and experimentation. These characteristics are widely found in casino gaming leadership, often at the forefront of service and entertainment technology innovation.

CHALLENGES IN SKILL-BASED GAMING

The limitedly regulated nature of skill-based gaming in the U.S. has created opportunities and challenges.

PENNSYLVANIA'S UNREGULATED MACHINE PROBLEM

Skill-based gaming machines, resembling traditional slots but operating under different rules, have created nationwide regulatory headaches. There's confusion about their legality, with law enforcement struggling to police these operators effectively and players questioning their legitimacy. There's been a legal tug-of-war in Pennsylvania, with police and the State's Gaming Commission deeming these games illegal. At the same time, court rulings have varied, leading to ongoing play despite the controversy. The American Gaming Association (AGA) and the Association of Gaming Equipment Manufacturers (AGEM) have partnered to combat the spread of unregulated gaming machines in the U.S. They aim to educate lawmakers, regulators, and law enforcement in Pennsylvania and other states about the downsides of illegal and gray market gambling devices. The AGA has highlighted the lack of testing, consumer protections, and responsible gaming measures associated with these unregulated machines.

An estimated 67,000 unregulated gaming devices are scattered across Pennsylvania in various establishments. One company whose software powers between 15,000 and 18,000 of those unregulated gaming devices claims their games are skill-based, not slots, but their legal status still needs to be improved. The issue of legality is yet to be conclusively resolved by the courts or through legislation.

To understand the perceived scope of this imbalance, there are approximately 26,000 regulated slot games in Pennsylvania's casinos, and they generate around USD 2.4B in annual revenue, of which 54% or USD 1.3B in taxes to the government.

VIRGINIA'S TUG OF WAR OVER THE LEGALITY OF SKILL-BASED GAMING

In 2020, the Virginia General Assembly enacted laws that declared "Skill Games" as illegal gambling devices. These laws made possessing, operating, or playing Skill Games a criminal offense, with civil and criminal penalties for operators of such devices.

The definition of a "Skill Game" under Virginia law includes electronic, computerized, or mechanical devices that require some form of payment to operate and play a game where the player's skill determines the outcome. These games may reward players with cash or cash equivalents, gift cards, vouchers, or other forms of credits. However, amusement devices are excluded from this definition.

Operators of Skill Game devices may face civil penalties, including a fine of \$25,000 per gambling device, injunctions prohibiting the operation of the devices, seizure of the devices, and costs associated with legal proceedings. Additionally, criminal charges could be brought against individuals for illegally possessing and operating these gambling devices, with punishments including imprisonment, fines, or both, depending on the severity of the offense. Players involved in these Skill Games could also face criminal charges of illegal gambling, with potential fines of up to USD 500

This legislation was immediately challenged in Virginia's Emporia Circuit Court, challenging the Skill Games ban. The court issued a temporary stay on enforcement of those new laws. The Virginia Supreme Court recently vacated the lower court's decision in October 2023, effectively reinstating the enforcement of the relevant code sections. Still, the challenges in court allowed these Virginia skill-based games to operate and generate for two years, which could be considered a modest win for those operators.

COMPETITOR, CUSTOMER, AND INVESTOR CONFLICTS

The casino gaming industry is replete with examples of industry leaders and even customers suing each other for a wide variety of reasons, not the least of which has been the subject of patent infringement. Skill based gaming companies are not immune to this brand of conflict resolution.

In the skill-based gaming industry, companies are grappling with a myriad of challenges, each underscoring this sector's complex and competitive nature. Legal disputes have emerged as a significant hurdle, with companies entangled in patent infringement lawsuits over critical aspects of their gaming technologies. This legal tussle exemplifies the fierce competition for intellectual property rights in an increasingly crowded market.

Additionally, allegations of using deceptive practices, such as deploying bots in what players believed were human-vs-human games, have led to class-action lawsuits. These allegations raise questions about the integrity and transparency of gaming platforms, potentially undermining player trust.

Furthermore, some companies in the industry are facing financial headwinds. Despite significant cash reserves, high operational costs and declining revenues have raised concerns about mid-term solvency. These financial challenges highlight the difficulties in maintaining a competitive and profitable business model in the volatile gaming market.

These kinds of challenges reflect the dynamic and often turbulent landscape of the skill-based gaming industry, where legal complexities, market competition, and financial stability are continual concerns.

In every example of human expansion into new territory, you have explorers, settlers, expansionists, and finally, stabilization.

In many ways, skill-based gaming exists in the settlement and expansionist phases. While we wait to stabilize the market, this activity and entrepreneurship can generate unwanted attention. For some of these trailblazers, these issues are considered the cost of doing business in an emerging market.

For others, these issues also emphasize how vital the established regulatory regimes of legal gambling in the U.S. have been with respect to maintaining the reputation and viability of an industry utterly dependent on consumer trust and regulators' confidence in their operators and manufacturers.

KEY PLAYERS IN SKILL-BASED GAMING

Arkadium

For over 20 years, Arkadium has been a notable developer of games tailored for adult players. Specializing in casual games like puzzles, word games, and trivia, their portfolio includes various hit titles enjoyed globally. Their games, characterized by their ease of understanding and challenging nature, cater to a broad range of players, especially those who relish brain-teasing and intellectually stimulating games. Based in New York City with a second office in Krasnodar, Russia, Arkadium is privately held led by co-founders Kenny Rosenblatt and Jessica Rovello. Their online and mobile gaming presence is strong, with games featured on platforms like Arkadium.com, iOS, Android, and significant publishers' websites.

Avia (formerly AviaGames)

Founded in 2017 as AviaGames and rebranded to Avia in 2023, the company has significantly impacted the mobile gaming industry with its competitive gaming experiences. Avia's platform, known for real-money tournament games, integrates skill-based elements, allowing players to compete in various game genres for real money. Their flagship offering, Pocket7Games, unites different gaming categories under one membership and wallet system. Avia, currently focused on the U.S. market, plans to expand its reach, including to the UK, with a commitment to engaging and challenging gaming apps.

Big Fish Games

Big Fish Games, a leader in mobile casual games, offers various titles ranging from adventure and puzzles to strategy and hidden object games. Known for their compelling storylines and immersive gameplay, their games appeal to a diverse demographic, including casual gamers who prefer narrative-driven games. Big Fish is a leader in major casual gaming categories, hosting games like EverMerge, Gummy Drop!, and Cooking Craze. Their commitment to developing and publishing enjoyable games has established them in both the online and mobile gaming markets, including ventures into social casino gaming.

Dream11

Dream11, an Indian fantasy sports platform, enables users to engage in fantasy sports across various games, including cricket, hockey, football, and more. The platform, valued at \$8 billion as of November 2021, allows users to create teams based on real-life athletes, with their game performance dictating

success in the fantasy realm. Dream11's emphasis on user skills in team management sets it apart from traditional betting, appealing to sports enthusiasts interested in applying their knowledge in a competitive environment. As of October 2023, Dream11 has reached a milestone of 200 million users, emphasizing its significant role in the online fantasy sports market.

WorldWinner (Previously Game Taco)

WorldWinner, previously known as Game Taco, is a leading skill gaming entertainment company. It offers a technology platform for paid competitive games where players can win cash prizes, compete in tournaments, and connect as a community. Their portfolio includes original and classic games like Solitaire and Bingo and premium titles like Atari Breakout and Wheel of Fortune®, available via the WorldWinner mobile app and website. The platform emphasizes skill-based competition across various game genres, appealing to competitive gamers who seek interactive and skill-oriented gaming experiences. WorldWinner also collaborates with top gaming brands to provide innovative skill game experiences for unique audiences.

GSN Games

GSN Games, a subsidiary of Game Show Network, is a leading provider of cross-platform entertainment, including social casino games and skill-based cash tournaments. Founded in 1999, the company has become a significant player in social, mobile, and online games. GSN Games' portfolio features card games, word games, and puzzle games that blend casino gaming excitement with skill-based challenges. Their approach to integrating skill elements in casino game formats caters to a diverse group of players, from casual to competitive gamers, reflecting their commitment to enjoyable and engaging gaming experiences.

Junglee Games

Junglee Games, part of Flutter International and based in San Francisco, focuses on developing skill-based games and platforms. Founded in 2012 and acquired by Flutter Entertainment in 2021, the company offers products like fantasy sports, casual games, and traditional Indian games such as Rummy and Junglee Poker. Players in these games often rely on strategic thinking and proficiency, especially in skill-intensive games like Rummy. Junglee Games' impact is notable in the online gaming market, particularly in India, where their focus on skill-based gaming meets the global trend for intellectually challenging gaming experiences.

Skillz

Skillz is an influential player in the mobile eSports sector, offering a platform for users to participate in skill-based games, competing for real-money prizes. This platform spans various game genres, including puzzles, strategy, and action. What distinguishes Skillz is its focus on player skill, where the outcome of games hinges on the player's ability and strategy, not chance. This approach sets it apart from conventional gambling apps. They cater to a broad audience, from casual gamers seeking fun and competition to serious eSports enthusiasts. It provides an environment where skill and competence are crucial for success. In the competitive mobile gaming market, Skillz stands out by aligning with the increasing popularity of competitive gaming and eSports. This platform resonates with users who value skill, competition, and the opportunity to earn through gaming.

Skillz supports game developers by integrating their platform into various iOS and Android games, promoting social competition in gaming. The platform boasts over 14,000 game developers, hosting billions of casual eSports tournaments for millions of players globally. Headquartered in Las Vegas, with offices in San Mateo, Seattle, Vancouver, and Los Angeles, Skillz has organized over 2 billion tournament entries for 30 million players worldwide, distributing over \$60 million in monthly prizes. In 2020, Skillz became the first publicly traded mobile eSports platform.

Triumph

Triumph operates within the competitive gaming and eSports sphere, providing a platform for players to engage in skill-based competitions. Their primary focus is on hosting tournaments and leagues across a variety of video games, allowing players to compete and demonstrate their gaming skills.

The hallmark of Triumph's platform is its competitive structure, where players participate in organized tournaments and leagues, competing in skill-based games. This emphasis on players' abilities and strategies differentiates Triumph from traditional chance-based betting or gaming scenarios. Targeted towards eSports enthusiasts and competitive gamers, Triumph's platform is a haven for those who prioritize skill and competitiveness. It appeals especially to players passionate about gaming and eager to test their skills in a competitive environment.

Triumph has carved out a significant presence in the burgeoning eSports industry, responding to the growing demand for organized, skill-based gaming competitions. Their focus on competitive gaming

aligns with the global trend towards eSports, where skill, strategy, and competition are critical elements of the gaming experience.

A TIMELINE OF NOTEWORTHY SKILL-BASED GAMING EVENTS

<i>Year</i>	<i>Events</i>
2017	• Caesars Entertainment deployed the world's first commercially operated skill-based casino gaming machine, GameCo's first-person shooter, "Danger Arena," at Harrah's Atlantic City, followed by twenty more stations across Harrah's Resort, Caesars and Bally's in Atlantic City. • Scientific Games launches its first slot machine with a skill-based bonus, "Space Invaders." • MGM Grand and Hakkasan Group collaborate on the 12,000-square-foot Level Up, a high-energy gaming lounge with traditional and skill-based games, including Konami's "Frogger: Get Hoppin'," a first for skill-based gaming of its kind in Las Vegas • Gamblit Gaming launched skill-based games at Planet Hollywood, which allowed players to access six different skill-based game titles, "Into the Dead," "Catapult King," "Lucky Words," "Match 3volution", "Smoothie Blast," and "Slice of Cake," on their TriStation product.
2018	• Scientific Games deploys its first slot machine with a skill-based bonus, "Space Invaders." at Harrah's and Bally's Atlantic City. • The HyperX Esports Arena, a 30,000-square-foot conversion from a nightclub to a world-class venue for esports events, was launched by Allied Esports at the Luxor Hotel and Casino in Las Vegas. • Station Casinos deployed Gamblit Tristations at Red Rock Casino, Green Valley Ranch, and Texas Station, featuring "Catapult King," "Into the Dead," "Lucky Words," and "Smoothie Blast."
2019	• The Linq in Las Vegas, a Caesars Entertainment property focused on younger demographics, deployed a 45,000-square-foot area dedicated to casino gaming innovation, with slots, table games, V.R., A.R. and holographic entertainment content, skill-based games, Xbox console games, and esports titles.
2020	• The New Jersey Division of Gaming Enforcement approved wagering on single outcome bets for New Jersey sportsbooks, including pre-match and live game-winners and match winners. • G3 Esports and Allied Esports created the first legal esports betting opportunity in New Jersey through its Counter-Strike: Global Offensive (CS:GO) Legend Series tournament. • Mobile esports company Skillz went public through a SPAC, with a USD 3.5B market value at the outset of trading, led by the same financial team that brought DraftKings public through a similar process.

2021	• Virginia's General Assembly passed a law banning slot-like skill-based games, which the Emporia Circuit Court temporarily blocked. • Game Taco bought the skill-based gaming publisher Worldwinner from Sony at an estimated eight-figure value. • Platinum Equity acquired a controlling interest in Game Taco to create a premium skill-based platform in the U.S., with rights to over 200 original, branded titles.
2022	• The American Gaming Association issued Innovation Group research findings indicating an estimated 580,651 unregulated skill-based games in the U.S., which is 40% of all U.S. gaming machines.
2023	• Game Taco reports running over nine million monthly tournaments, with over USD 2B in cash prizes awarded to date. • Virginia's Supreme Court vacated the temporary ban on slots-like skill games. • The American Gaming Association issued a press release saying that unregulated "skill" machine manufacturers found in convenience stores and bars dupe consumers and avoid taxes and consumer protections. • Fortune Business Insights projects the skill-based gaming market to reach USD 85.34B in 2030.

FINAL THOUGHTS

As we think about the evolving landscape of skill-based gaming, we choose to focus on the underlying consumer demand driving this sector. Despite some high-profile ventures facing challenges, the interest in skill-based gaming, particularly among millennials, is on an upward trajectory. This demographic sees gaming as entertainment, a creative outlet, and a competitive endeavor. There's a discernible cultural shift pointing towards sustainable demand in this space.

A critical aspect of this growth is the rise of mobile gaming. While much attention has been given to expensive, specialized ventures, mobile gaming offers accessibility, affordability, and flexibility, making it more appealing to a broader consumer base. Areas like fantasy sports, puzzle games, and mobile eSports are witnessing strong engagement and effective monetization.

We see significant expansion opportunities in the regulatory landscape and technological innovations. Companies can broaden their reach as regulations evolve to accommodate the industry better, enabling more legal participation. Furthermore, advancements in 5G networks, cloud gaming, and augmented reality hold promising growth potential, allowing new and immersive gaming formats.

It's vital to recognize that the journey of skill-based gaming, still in its relative infancy, involves a process of maturation. Early setbacks and the trial-and-error experiences of some companies are part of understanding what resonates with consumers. Notably, there's substantial capital still poised for investment in this sector, indicating confidence in its future.

We should also highlight the sectors that have shown resilience and stability, such as online casinos and Poker, without abandoning creative entrepreneurship. Established formats have demonstrated more consistent monetization and seem less susceptible to the hype cycles affecting other parts of the industry, but let's be fair: hype has value, too.

The future of interactive, skill-based gaming is promising. Maintaining a balanced perspective is important, acknowledging past challenges while focusing on long-term trends and opportunities. This approach will provide a realistic view of the industry's current State and an optimistic outlook on its future potential.