

A Global Market Analysis Of Casino Gaming On The Internet

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Abstract

Technology can provide gaming to any household in the world. The market potential of casino gaming on the Internet is substantial. This article summarizes an analysis of the global Internet casino gaming market. It indicates: (1) the nature of Internet casino gaming; (2) the competitive environment; (3) market opportunities; (4) environmental constraints; (5) marketing strategies; (6) market demand; (7) market potential; and (8) a flexible diffusion of innovation model for forecasting market demand. **KEYWORDS:** *Internet, casino, gaming, market, demand*

Introduction

Casino Gaming on the Internet

Casino gaming on the Internet (also known as Internet gaming) has arrived. It is an interactive, on-line, high-tech, form of commercial gambling. It occurs in an electronic medium called cyberspace. It can be played alone, with another person, or in a group, and players do not have to be physically together. It can occur anywhere in the world. It is available to anyone, anytime, and anyplace—provided that the gambler has appropriate hardware, software, computer skills, and access to the Internet system.

Internet gaming is a rapidly evolving and significant market niche of the global casino gaming market. Internet gamblers represent new target markets. Some of the Internet gamblers will be new gamblers. Other Internet gamblers will be regular gamblers who are gambling in a new situation. This is especially the case for those non-resident gamblers who travel to gambling destinations, such as Las Vegas or Atlantic City, to gamble. However, it would also apply to resident or local gamblers.

Internet gaming is a small part of the overall global gaming market (probably about one percent of legal, global wagering by the year 2000). It is not likely to significantly threaten, or displace revenues from traditional casino gaming. It will

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not substitute for other sources of revenue. It will produce a relatively low-cost, new stream of revenue. It will expand the overall casino gaming market in terms of consumers, organizations, handle, revenues, and profits.

Internet gaming will be a significant market opportunity for some new organizations, and for certain existing firms in the casino gaming industry. It is a new form of competition. It could be considered as a product-line extension. It could, along with such products as in-room gambling, or special facilities gambling, be a common service in the total hotel-casino offering. It could also be used in relationship marketing programs with casino customers. At the same time, Internet gaming will create new management challenges, such as integrity, security, licensing, regulation, transaction processing, integration of management systems, and operations control.

The Internet gaming product, the technology, the supply, the task environment, and the demand already exist, but they are all very dynamic. On the other hand, certain aspects of the task environment—such as legal structures and the regulatory systems—are confusing, contradictory, inadequate, and outdated. They need to be reviewed, clarified, developed, and modernized to fit current market needs.

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The Casino Gaming on the Internet Project

This study is a multinational marketing analysis of an important emerging market and industry. It uses marketing theory concepts, such as product life cycles and the diffusion of innovation, focuses on basic research (as opposed to applied research), and produces fundamental knowledge. The orientation is micro-marketing from the perspective of industry and government. The perspective is not from the gambler. The study presents the results, implications, and conclusions of a comprehensive primary and secondary investigation and analysis of the controversial Internet casino gaming market (consumers, i.e., demand) and the casino gaming industry (organizations, i.e., supply).

The study focuses on an analysis of the on-line, cyberspace, wide-area Internet, intranet, and extranet video-graphic-text modes of traditional table and machine-type casino gaming operations (such as video-poker, slots, roulette, and blackjack), as well as race-book and sports-book betting. It includes wire and wireless communications networks, cable systems, and satellite systems, as well as systems utilizing other combination technologies (such as CD's/PC's).

The study does not include analyses of non-computer based, off-line pari-mutuels (such as greyhound racing), card rooms, charitable gaming, non-casino arcade games (such as Air Warrior®), non-commercial casino arcade games (such as Online Casino™), non-traditional, casino type, on-line games (such as lotteries, lotto, and bingo), or other types of on-line, limited-area gaming (casino-hotel networks, or airline flight casino gaming systems).

Internet Gaming Study: Purpose and Objectives

The primary purpose of this study is to articulate the nature of the global Internet gaming phenomenon. Its findings are relevant to the purpose of managerial decision science, i.e., to improve managerial decision-making. In this case, the focus is on improving private and public knowledge and decision making regarding Internet gaming. This is not an advocacy study for any given position. There is no hidden or moral agenda involved, nor are there any pre-determined hypotheses.

The specific objectives of the study are to determine, describe, and analyze: (1) the nature of casino gaming on the Internet; (2) the structure of the Internet gaming industry; (3) the competitive environment of Internet gaming; (4) the character of the Internet gaming market; (5) the marketing opportunities of Internet gaming; (6) the marketing threats of Internet gaming; (7) the product-markets of Internet gaming; (8) the market segments of Internet gaming; (9) the target markets of Internet gaming; (10) the market niches of Internet gaming; (11) the market positioning strategies, marketing strategies, marketing programs, and marketing tactics of Internet gaming; (12) the market demand of Internet gaming; (13) the market potentials of Internet gaming; and (14) the market trends of Internet gaming.

The Nature of Casino Gaming on the Internet

Casino gaming on the Internet is an intangible, commercial, consumer service. It is immediate, private, and interactive. It offers real time variety—in terms of games, locations, and gaming environments—on a global basis. It provides the gambling consumer with personal control of the gaming situation (e.g., game selection, turn-over speed, and playing information). It can be linked to other intangible

activities, such as news, movies, chat rooms, video games, electronic mail, virtual reality, and real casino environments. It retains certain aspects of voluntary social interaction, such as personal interaction and group play. It eliminates or reduces

psychological, physical, time, and economic risks associated with regular casino gaming. Internet gaming might be the Web's first killer application (Hower, 1997).

Any form of gambling can be placed on the Internet.

The Product Concept

The core Internet gaming product concept is a virtual casino located in cyberspace where people can engage in wagering in a gambling environment. The environment could include sensory attributes associated with casino gaming. The total product concept could incorporate patronage dimensions associated with a modern, megastore casino at a resort destination.

The product concept is based on wide-area communications networks, client and server hardware and software, secure and private transmissions, on-line cash

and credit systems, currency transaction-conversion-transfer mechanisms, independent verification controls, credible brands, attractive packages, and meaningful warranties.

Alternative communications networks can be based on any technologies that enable digital transfer of data, graphics, sound, and video. They can use different wire and wireless technologies, including cables, radio, satellites, and telephone lines.

Internet Gaming: Market Opportunities

Internet gaming market opportunities are substantial and growing. Commercial possibilities resulting from the merger of Internet technologies and gaming are remarkable. More consumers are gambling and more consumers are using the Internet. Any form of gambling can be placed on the Internet. The Internet provides consumer access at the household level.

Global Internet usage by adult home users will exceed 50 million persons by 1997. Worldwide Internet usage will increase to 170 million users by the year 2000. Over half (about 56 percent) of the usage by the year 2000 will be offshore from the United States and Canada (Sinclair, 1997).

Internet gaming is a new form of gambling. It is a new place—a location in cyberspace. Most people enjoy gambling in one form or another. Most people do not perceive gambling as fundamentally harmful to individuals or society. Gambling is perceived as a unique form of entertainment. It is a catalyst for other entertainment activities. From a marketing theory and consumer satisfaction perspective, it provides real economic value, i.e., it produces psychic satisfaction. In general, it could be considered as a global service in that it satisfies similar needs across different countries of the world.

The global gambling market is currently wagering over \$1 trillion per year. Over 50 percent of the global gambling market is located outside of the United States (VentureTech, 1997). In the United States, 91 percent of adults accept casino gambling entertainment for themselves and/or others (Harrah's, 1996).

Internet Gaming Market Threats

The biggest threat to global Internet gaming is the legal and political environment. Internet gaming is considered by many to be illegal in the United States under Federal Law—18 U.S.C. 1084, The Wire Act. The objective of the Act was “to attack the financial base of ‘organized crimes’ horse racing and sports betting” (Barry, 1997b). It is possible that “whether Internet gaming is legal is irrelevant because government can do little to prevent it...Regulators may soon have no choice but to tolerate Internet gaming. When this happens, as it did in Nevada, the focus must shift from prohibition to regulation and the creation of a parallel universe” (Cabot, 1996).

Other major internal and external environment threats to the successful development and maintenance of a viable Internet gaming industry include: a relatively weak global Internet infrastructure, unsatisfactory applications of hardware and software technology, system security, low level corporate capital structures,

generic product competition, potential corporate fraud, unexpected jackpot payoffs, lack of staying power, organized crime infiltration, casino gambling market saturation, more attractive product substitutes, consumer dissatisfaction, and lack of industry credibility. The trans-national, cross-cultural, and diverse nature of the business poses even greater challenges to decision makers in the industry.

These internal and external threats to the Internet gaming industry exist, and they are serious, but they are not inevitable or insurmountable. The industry needs to formulate and administer good, i.e., viable, sustainable strategy. Good strategy is "one that neutralizes threats, exploits opportunities, takes advantage of strengths, and avoids or fixes weaknesses" (Barney, 1997, p. 29).

The Structure of the Internet Gaming Industry

The current structure of the global Internet casino gaming industry is embryonic and dynamic. The scope, character, and product-market domain of the industry are yet to be determined. It is global, high-tech, competitive, and controversial. The nature of the industry is analyzed in terms of the Cravens Industry Analysis Model. The Cravens Model focuses on the following five industry characteristics: "(1) industry size, growth, and composition; (2) typical marketing practices; (3) industry changes that are anticipated; (4) industry strengths and weaknesses; and (5) strategic alliances among competitors" (Cravens, 1997, p. 102).

Industry Size, Growth, and Composition

Current Internet gaming companies tend to be new, relatively unknown, "small-cap" (less than \$5 million investment), subsidiaries operating in off-shore (non-USA) jurisdictions (e.g., Antigua & Barbuda, the Cook Islands, Curacao, the Dominican Republic, Grenada, Honduras, St. Kitts & Nevis, Turks & Caicos Islands, and Tortola). There are already at least one hundred commercial casino and sports book sites operating on the Internet. About half of these are in the Caribbean. At least 60-70% of Internet sites are handling sports betting. Glenn Barry indicates that there are "presently more than 60 racecourse sites, 300 casino sites, up to 200 bingo/keno sites, and a dozen virtual casinos, operating mainly in the Caribbean" (Saum, 1998; Barry, 1997a; "The virtual gambler", 1997; Edwards, 1997).

Most Internet gaming companies offer only sports books. Some are full service, multi-game casino operations. There are Internet sports book operations in Australia and Austria, an international Internet lottery in Liechtenstein, and Internet bingo and lotteries in the states of Oklahoma and Washington. Table 1 contains a representative list of five major Internet casino gaming operations and their locations. The number of operators is increasing at a significantly high rate. An expected eventual shakeout and consolidation of firms could occur relatively quickly and rapidly, especially if there is a major scandal, or if the legal environment is clarified.

Table 1
Internet Gaming Operations (Representative Listing)

- CARIBBEAN CASINO (TURKS & CAICOS ISLANDS)
 - CASINOS OF THE SOUTH PACIFIC (COOK ISLANDS)
 - GALAXIWORLD (TORTOLA)
 - GLOBAL CASINO (GRENADA)
 - WORLD WIDE WEB CASINOS (ANTIGUA)
-

Typical Marketing Practices

Currently, Internet gaming marketing programs are not sophisticated or well supported. The industry does not exhibit any good examples of integrated communication strategies focusing on achieving realistic objectives. Typical Internet casinos currently offer a service line of table games, slot machines, and tournaments. They also provide chat facilities. They are in the process of developing encrypted communications and on-line debit and smart cards. New hardware, software, network, WebTV, PC-TV, and communications technologies will be integrated into existing operations on a continuous basis.

The resort destination, superstore, megastore approach of Las Vegas could go on-line. The customer would be able to do almost anything on-line that could be done in a casino. Eventually, the customer will be able to enter an actual land or sea-based casino on-line. In the future, it is possible that casino intranets, extranets, and Internets, the casino floor, and the resort casino megastore will merge. In addition, the Internet player would have access to anything else on the Internet on a real time basis. This could result in a competitive advantage over regular casinos, but it would be offset if regular casinos offered their customers integrated electronic connections to the Internet.

The Internet virtual casino could be a part of a real casino. Gaming machines located on a casino floor could be a part of an Internet casino. Internet gaming could be an extension of a casino. It could also be used as a test market for new casino services.

Anticipated Industry Changes

There is no global, multinational, or international authority for regulating Internet gaming. An international jurisdiction does not exist. Reliable industry-wide statis-

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tics are not available. Major, existing, land-based, water-based, and Native-American-based casino companies are not directly involved in Internet gaming.

The Internet gaming industry situation could change quickly and dramatically if Federal Law allowed states to determine the legality and regulation of Internet gaming. If a state, such as Nevada, were to license and regulate Internet gaming, as it currently does other forms of gaming, the composition, nature, and potential of the Internet gaming industry would change dramatically.

Industry Strengths and Weaknesses

The Internet gaming industry has several strengths. It has access to infrastructure, facilities, technology, gaming knowledge, capital, and skilled personnel. The global demand for gaming services, personal computers, Internet products, and Internet entertainment services (e.g., non-commercial casino games on the TVGuide Entertainment Network) is substantial and growing.

The industry also has many weaknesses, including unfamiliar names, off-shore locations, product newness, weak brands, lack of credibility, and inadequate marketing programs. It is opposed by the premiere United States casino industry trade group—the American Gaming Association—“because it isn’t regulated, which threatens the integrity of the game.” Regular casinos could lose their licenses, if they engaged in unregulated gaming (Quick, 1997).

Internet gaming is a new, dynamic, high-risk transaction situation for service providers, investors, gamblers, casinos, and government officials. It offers low-cost synergy and great business potential for the participants. It is characterized by new corporations, new subsidiaries, mergers, strategic alliances, personnel changes, off-shore operations, foreign jurisdictional licensing, credibility measures, software development, stock speculation, technology licensing, litigation, political posturing, uncertainty, and lack of reliable, relevant information.

Strategic Alliances

Internet gaming competitors are forming strategic alliances. “A strategic alliance is more than a joint venture...In a true strategic alliance, two firms collaborate in a far more complete way by exchanging some key resources (although new entities may also be formed) to enable both parties to enhance their performance....Alliances involve exchange of one or more resources [such as]....access to sales and distribution networks, new-product technology, [and] production technology

The initiation of the Internet offering is occurring at a time when the traditional casino industry is becoming more competitive, is being politically scrutinized, and is growing more slowly.

and capacity” (Guiltinan, Paul, & Madden, 1997, p. 26).

Internet suppliers and service providers are cooperating in the development of customers, client-server locations, software, transaction processing, secure communications, credibility measures, and financing. For example, "WorldNow Online Corp., has entered into a strategic alliance with Casino World Holdings Ltd., to provide engineering and software development services and satellite telecommunications technology for use in online, state-of-the-art gaming applications" ("Casino World", 1997).

Competitive Market Situation

The present Internet gaming competitive market situation can be characterized as monopolist competition. The industry contains several firms, and each firm is providing differentiated services. The initiation of the Internet offering is occurring at a time when the traditional casino industry is becoming more competitive, is being politically scrutinized, and is growing more slowly.

Traditional competitors are searching for a competitive advantage. Some experts believe that "in a more competitive environment, new technology will be an important dynamic to enhance casino profitability" (Ader and Lumpkins, 1997, p. 18). New slot machines, such as the computer-based Odyssey™, are one application of new technology. Internet gaming is another application of a new technology.

The Internet market exhibits characteristics of both the introduction and growth stages of the product life cycle. Product strategy is experimental. It is not uniform. However, model product lines and product mixes already exist. Product ideas are being copied from casino formats.

Distribution strategy is intensive at the start of the product life cycle. Every firm Internet site anywhere in the world is potentially available to every household in the world that has a PC, a modem, and an Internet access provider. This coverage will increase as PC's and TV's merge.

In general, current Internet casino gaming pricing strategy is aimed at the economy market. Pricing is set at relatively low levels (in terms of coin denominations and minimum bets, notwithstanding certain required minimum bets—such as \$100) found in many regular casinos.

Promotional strategy, especially advertising strategy, stresses primary information (i.e., basic product information) as opposed to selective (comparative) information (i.e., one competitor versus another). Direct marketing without the use of personal selling is emphasized because of customer dispersion in the marketplace and the nature of the Internet transaction.

Marketing Strategy

Strategic global marketing theory suggests that the appropriate marketing strategy for the pioneering firms of Internet gaming, given the expected nature of competition and the market, is a policy of strategic alliances and rapid diffusion. This would enable the pioneers to "ride the revenue curve" and achieve strong market share and high return on investment.

Potential advantages of a rapid diffusion strategy include economies of scale, experience curve effects, defining the rules of the game, distribution advantages, influence on consumer choice criteria and attitudes, preempting scarce resources, preempting competition, and high switching costs (Boyd, Walker, & Larreche, 1995).

Target Markets

There are many product markets and target markets in the traditional, i.e., regular, business of casino gaming. Each product market (e.g., slot machines in Las Vegas) is composed of market segments (e.g., premium players and grind players). A casino can elect to compete in one or more or all of the market segments in a defined and segmented product market. A market niche is a narrowly defined market segment, or a sub-segment of a specified market segment. A strategic business unit (e.g., Sam's Town, in Las Vegas) is composed of a set of product markets, and many sets of target markets.

Internet gaming can be perceived as the complete business of an organization, or it can be managed as a strategic business unit of a larger organizational unit. Regardless of the organization's size and structure, it should be managed as any other strategic business unit. It should eventually be analyzed in terms of product markets, target markets, and market niches. Each market should be reflected in a corresponding profile or databank. A separate marketing program should be developed for each target market. Within a given organization, operating synergies should be identified across all strategic business units, product markets, market segments, and target markets. This could include traditional casino strategic business units and a new Internet gaming unit.

One combined target market perspective sees the typical traditional casino club member as a natural target market for Internet gaming. Another perspective sees a convergence of the typical casino gambler and the typical Internet user. The profile is an adult male, 45 years old, with a college education, and earning \$45,000 a year. (Bellehumeur, 1997).

An alternative perspective can be based on the typical gambler reported in the annual *Harrah's Survey of Casino Entertainment*. In 1995, Harrah's gambler's profile consisted of an adult male/female, 47 years old, some college/college graduate, earning \$39,000, and a blue collar/retired/military/homemaker occupation (Harrah's, 1996). An interpretation of Harrah's report sees "the typical casino gambler [as] the classic boomer" (Duff, 1997).

In all of these perspectives, the cited customer profile, or relationship, is either too broad or questionable to make meaningful forecasts for future Internet gaming markets. For example, research needs to be conducted to determine if the typical casino club member uses the Internet, purchases products on the Internet, and would gamble on the Internet. There is probably a significant difference between local (resident) and visitor club members with respect to Internet usage, purchase behavior, and propensity to gamble on the Internet. Further, a meaningful Internet gaming target profile would include more consumer dimensions covering socio-demographics, attitudes, life-style, and consumption behavior.

Consumer Needs

The basic consumer needs associated with the Internet gaming service (e.g., convenient) are the same as those attributed to traditional casino gaming. However, these needs will have to be met, given the heightened market sensitivity, the market success requirements, and the nature of the new medium.

Table 2 indicates some specific identified consumer needs relevant to casino gaming in this new environment. The results of Internet product launch, and eventual market success or failure, will be dependent on managerial understanding of relevant consumer behavior, meeting articulated and sub-conscious consumer needs and concerns, consumer experience and satisfaction, and the legal and regulatory environments.

Table 2
Consumer Needs

●	Convenient	●	Fun
●	Simple	●	Worthwhile
●	Fast	●	Available
●	Credible	●	Different
●	Exciting	●	Variety
●	Fair	●	Low Risk
●	Secure	●	Safe
●	Easy	●	Rewarding

Internet Gaming Product Life Cycle

Internet gaming is in the initial phase of the introductory stage of the product life cycle. "The introductory stage of the product life cycle occurs when a product is first introduced to its intended target market. During this period, sales grow slowly, and profit is minimal...The marketing objective for the company at this stage is to create consumer awareness and stimulate trial—the initial purchase of a product by a consumer" (Berkowitz, Kerin, Hartley, & Rudelius, 1997).

Internet gaming services are just now being commercialized. Members of the industry are still testing network software and other aspects of the service offering. Most potential consumers are not aware of the product or how to access it.

The competitive situation at market introduction is generally characterized by monopoly or monopolistic competition—one or a few firms. The product line consists of one or a few items—the set of desired features is not yet clear.

Distribution strategy focuses on building channels of distribution, and exclusive or selective as opposed to intensive distribution. Price strategy is either premium (high) or penetration (low) depending on such variables as the shape of the demand curve, the nature of competition, and organizational objectives. Promotion strategy stresses primary demand and basic product information in contrast to se-

lective demand and comparative argumentation (Perreault and McCarthy, 1996, p. 598).

Figure 1 indicates the estimated market position of the Internet service in 1997 and the year 2000. Crossover from market growth to market maturity could occur in the fourth year of the product life cycle.

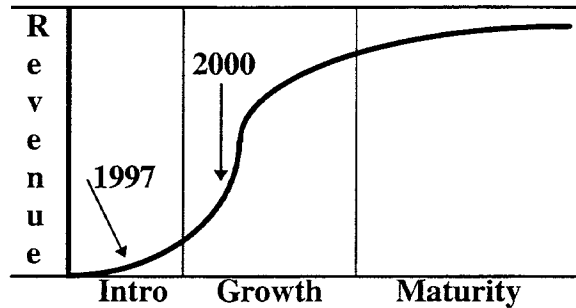


Figure 1. Internet Gaming-Product Life Cycle

Diffusion of Innovation

The diffusion of the innovation of Internet gaming across product adopter groups (e.g., innovators—2.5%, early adopters—13.5%, early majority—34%, late majority—34%, and laggards—16%) comprising the long-run market potential could be relatively quick, notwithstanding relatively slow and frustrating communications connections, privacy worries, security concerns, legality threats, fraud fears, and unfamiliar, confusing local, state, federal, foreign, and international legal environments. Innovators and early adopters are considered opinion leaders. It is assumed that 10 percent of the potential market, i.e., the opinion leaders, will try Internet gaming in the first year of its introduction.

If the opinion leaders are satisfied, Internet gaming could diffuse relatively quickly. In a credible and open market, free of artificial constraints, Internet gaming could diffuse more quickly. Diffusion is a function of the perceived relative advantage of the product over existing products, the perceived product compatibility with current consumption behavior and cultural values, the perceived level of complexity, the perceived trialability of the product, and the easy observability of the product benefits (Cateora, 1996).

Internet gaming exhibits relative advantages. It is compatible with current consumption behavior and cultural values, is relatively simple to use for the targeted market, can be tried on an experimental basis, and its benefits are readily observable and can be easily communicated. Further, there are many competitors, international trade barriers are low, the capital cost of entry is low, the technology is widely available and easily accessible, marketing policies are market growth oriented, and consumers have the resources and easy access to a variety of retail locations.

The nature and type of the gaming innovation will affect the rate of diffusion. Internet gaming is an innovative product. It is as innovative to casino gaming as the microwave oven was to cooking. It meets the dictionary definition of innovation as "the introduction of something new ... a new idea, method, or device." "From a sociological viewpoint, any idea perceived as new by a group of people is an innovation" (Cateora, 1996).

Internet gaming is a significant change from existing casino gaming services. It could be described as a discontinuous type of innovation. This type of change, as compared to a continuous innovation, such as disposable razors, is the most difficult to diffuse across a population. Such an innovation "involves the establishment of new consumption patterns and the creation of previously unknown products. It introduces an idea or behavior pattern where there was none before" (Cateora, 1996).

Household consumers in the potential market are familiar with and have been involved in both the Internet and casino gaming. It is assumed that there is a positive relationship between this past Internet and casino related behavior, and recognized service advantages, consumption patterns, cultural values, lack of complexity, trialability, and observability of the new product.

Diffusion of Internet Gaming

The velocity of diffusion of the Internet casino gaming innovation will be determined by corporate policies affecting: (1) the level of market awareness of the product concept; (2) the degree of market understanding of the product operating system; (3) the ease of use of the computers, software, procedures (e.g., cash transfers) and network; (4) the level of credibility (trustworthiness, security—privacy and financial, and expertise) of the system providers and stakeholders; (5) the ability to try out the system; (6) clear product benefits for the consumer; (7) obvious advantages over alternative forms of entertainment for the consumer; (8) the amount of system compatibility with customer use habits with complementary products and systems; and (9) the measure of compatibility with customer social and cultural values.

Repeat Use of Internet Gaming Web Sites

Realization of Internet gaming market potential, and diffusion of the gaming service across the target market, is also dependent on repeat use of gaming web sites. Internet gaming web sites will experience the same challenges as any other commercial web site. Retaining desired gaming customers will be a challenge for marketing and web site managers.

A study by the marketing research firm, SurveySite, of visitors to web sites located in the United States and Canada indicated the relative attractiveness (in descending order) of the following factors of a web site: interesting content, enjoyable, layout quality, uniqueness, ease of finding information, exciting, visually attractive, easy to navigate, and the speed of moving around the site. Graphics quality was not considered "an important consideration when compared to the other factors" (Rice, 1997).

Market Potential and Market Demand

Market Potential

Market potential is a future estimate of “what a whole market segment might buy” (Perreault and McCarthy, 1996). It is a feasible, i.e., realizable objective for an industry. In the case of Internet gaming, the forecasted market potential is substantially higher than the forecasted market demand. The difference between the two forecasts would be like the relative difference between the number of households actually gambling in the past year and the number of households that are prone to gamble. The number of gambling prone households would be more than double the number of households actually gambling.

Market Demand

The market forecast (estimated market demand) is the expected demand, i.e., revenue, for a future period for an industry, given specified environments (e.g., economic and legal), marketing mixes, and marketing budgets. The global market demand (i.e., the expected demand) for the Internet gaming market has been estimated from about \$9 billion to \$40 billion (a range of \$31 billion) for the year 2000 (Sinclair, 1997; VentureTech, 1997; Walker and Miller, 1997).

Sebastian Sinclair’s Model

Table 3 indicates a global Internet casino gaming market potential of about \$25 billion and an optimistic market demand forecast for the global Internet casino gaming industry of about \$9 billion for the year 2000 based on Sebastian Sinclair’s forecasting model. Sinclair’s model assumes 170 million Internet users, gaming revenue of \$150 per adult, and a market penetration rate of 34 percent by the year 2000 (Sinclair, 1997).

Table 3
Internet Gaming Demand Forecast Year 2000 (Sebastian Sinclair’s Model)

Adult Home Internet Users (Global) ¹	170M
US Casino Gaming Revenue ²	31B
US Adult Population ³	204M
Gaming Revenue Per Adult ⁴	\$150
Market Potential Penetration Rate ⁴	34%
Forecast: (170M x \$150 = \$25B x 34% = \$9B) ⁴	

Sources: ¹Find/SVP, Morgan Stanley, CommerceNet Consortium/Nielsen Media Research, and Christiansen/ Associates, Inc.; ²Christiansen/Cummings; ³US Census Bureau; and ⁴Sebastian Sinclair. Cummings Associates, Inc.

In 1996, the realized world (industry) market demand for Internet gaming was probably less than \$200 million. A \$200 million base growing to \$9 billion would be over a 4 thousand percent increase by the year 2000. Considering the recent (1996) decline in the growth rate of casino gaming, the unfavorable political climate in the United States for casino gaming, the unclear legal environment for Internet gaming, and the lack of resources devoted to marketing Internet gaming, even the low end (\$9 billion) of the market forecast range is unlikely to be realized in just 4 years.

Bass Diffusion Model

Figure 2 is a forecast of the Internet gaming market potential using the Bass Diffusion Model (Calentone and Di Benedetto, 1993; Bass, 1969). The functional notation of the Bass Model is $s_t = (p_0)(m) + (q-p_0)(y_{(t-1)}) - (a)(y_{(t-1)})^2$ (where s = sales, p = innovation rate, q = diffusion rate, m = market potential, y = cumulative sales, t = time period, $a = q/m$).

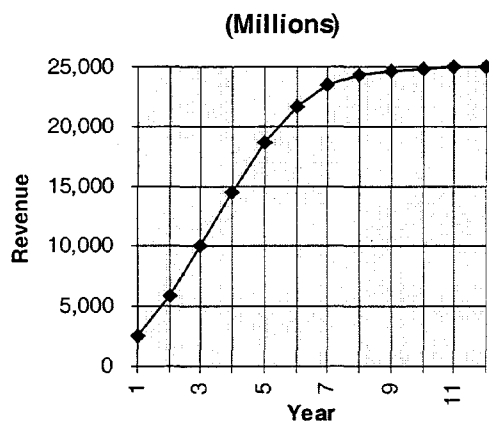


Figure 2. Market Potential Cumulative Forecast

The Bass Model was applied to the Internet gaming problem using an innovation (i.e., trial) rate of 10 percent, a diffusion (i.e., imitation) rate of 50 percent, a market potential of \$25 billion (from the Sinclair Model), where year 1 is 1997, and year 4 is the year 2000. The resulting curve is a typical “s-curve” associated with marketing phenomena, including diffusion of innovation.

The Bass Model used in Figure 2 predicts accumulated first time sales of \$14.5 billion for the year 2000, and the annual forecast first time sales of \$4.5 billion for the year 2000 (determined by subtracting accumulated sales of \$10 billion for 1999 from the \$14.5 billion accumulated by the year 2000).

Assuming that the repeat sales rate is 50 percent by the year 2000 (which would be expected to eventually rise to about 70 percent based on the experience in the Las Vegas casino market), the forecasted market demand would be about \$9 billion for the year 2000. This forecast is the same as that indicated by the Sinclair Model. A lower diffusion rate (e.g., 40 percent) would produce a flatter “s-curve” resulting in a demand forecast of about \$8 billion.

The model as demonstrated in Figure 2 indicates new revenues increasing at a decreasing rate after the year 2000 and stabilizing about the year 2006. However, the potential used in this model is based on the estimated potential in the year 2000.

This estimated market potential figure could change significantly depending on political, technological, legal, regulatory, cultural, competitive, and economic variables. Nonetheless, the Bass Model provides a dynamic working model of the industry, and its parameter values (e.g., innovation rate) could be easily adjusted to reflect experience and changing environments.

Amended Sinclair Model

Table 4 indicates an optimistic market demand forecast for the global Internet gaming industry of about \$3 billion for the year 2000, based on an amended version of Sebastian Sinclair’s model, and assuming a free market (i.e., where traditional, regular casinos, as well as new, Internet casinos, participate in Internet gaming, licensed and regulated by credible, experienced state agencies—e.g., the Nevada Gaming Control Board).

Table 4
Internet Gaming Demand Forecast Year 2000 (Amended Sinclair Model)

Adult Home Internet Users (Global) ¹	170M
Gamblers (USA %) ²	31%
Internet Gamblers (Global)	53M
US Casino Gaming Revenue ³	31B
US Adult Population ⁴	204M
Gaming Revenue Per Adult ⁵	\$150
Potential Forecast: (53M x \$150 = \$8B)	
Penetration Rate ⁵	34%
Demand Forecast: (53M x \$150 x 34% = \$3B)	

Sources: ¹Find/SVP, Morgan Stanley, CommerceNet Consortium/Nielsen Media Research, and Christiansen/Cummings Associates, Inc.; ²Harrah’s; ³Christiansen/Cummings Associates, Inc.; ⁴US Census Bureau; and ⁵Sebastian Sinclair.

In Table 4, the number of Internet gamblers world-wide is the product of the global number of adult home Internet users times the percent of United States households visiting a casino in 1995. A global Internet casino market potential of \$8 billion is calculated by multiplying the number of global Internet users times the

average gaming revenue per adult in the United States. The number of potential global Internet gamblers is multiplied by the average gaming revenue per adult in the United States times the penetration rate to produce the global Internet gaming forecast of \$3 billion.

The \$8 billion Internet gaming potential estimate could be considered overstated because the number of adult home Internet users could be overstated. For example, research by the Yankee Group indicates that only 43 million United States homes will have Internet access by the year 2000 (compared to the 75 million United States and Canadian adult home users used in the Sinclair model), and only 3 percent of these homes will have high-speed access (i.e., greater than 28,800 BAUD).

On the other hand, the market potential could be understated because 61 percent of United States adults consider casino entertainment as acceptable for anyone, whereas only 31 percent of United States households actually visited a casino in 1995 (Harrah's, 1996).

It could be reasonably assumed, that with the appropriate legal environment and marketing incentives, anyone accepting casino gambling represents latent demand and could become an active customer. This would increase the number of Internet gamblers to about 104 million, resulting in a gaming market potential of about \$16 billion, and a market demand forecast of about \$5 billion for the year 2000.

It is assumed that the United States share of the global Internet usage will be about 45 percent (i.e., about 75 million adult home users) in the year 2000 (Sinclair, 1997). Data from Jupiter Communications, Inc. indicates an even lower forecast. It predicts that there will be only 35 million on-line United States households (without considering the number of adult home users per household) by the year 2000 (Sandberg, 1997). Also, the percent of Internet gamblers may be less than the 31 percent of the United States household population that gambled in a casino during 1995 (Harrah's, 1996).

Bass Model Applied to the Amended Sinclair Model

Figure 3 indicates the shape of the annual Internet gaming revenue curve when the Bass Model is applied to the market potential produced by the Amended Sinclair Model, and where the innovative rate and the diffusion rate are kept equivalent to the original Sinclair Model (i.e., the market potential is \$8 billion, the innovation rate is 10 percent, and the diffusion rate is 50 percent).

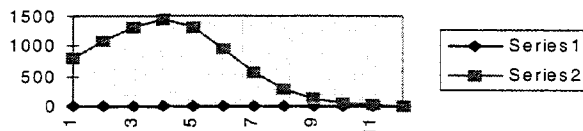


Figure 3. Annual Sales by Year (\$Millions)

Series 1 data represent years into the future, where year 1 is 1997. The series 2 data represent the annual sales forecasts. The forecasted revenue for first time customers is about \$1.5 billion. Based on a repeat customer factor of 50 percent, Internet gaming revenue is forecasted at about \$3 billion for the year 2000, which agrees with the forecasted demand in Table 4 (the Amended Sinclair Model).

Figure 4 shows accumulated first time sales based on the Bass Model and the same data used in Figure 3 (market potential of \$8 billion, innovation rate of 10 percent, and diffusion rate of 50 percent).

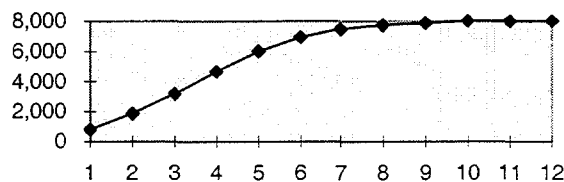


Figure 4. Accumulated Sales By Year (\$ Millions)

Cumulative sales in 1999 were \$3.2 billion, and in the year 2000 they were \$4.7 billion (resulting in the annual increase in the year 2000 of \$1.5 billion).

Different Market Assumptions

Table 5 indicates conservative estimates of global market demand under different market assumptions, and given a more controlled market situation, such as

Technically speaking, any household in the world equipped with a computer and communications device can access any Internet gaming service provider on the globe.

the one that currently exists, where Internet gaming is considered by many influential citizens and authorities to be illegal, and where Internet gaming is not licensed and regulated in the traditional, major gaming jurisdictions, with established casinos (e.g., the Mirage in Las Vegas).

Table 5
Internet Gaming Demand Year 2000 (Different Market Assumptions)

Scenario I

World Gaming Handle 1996 = \$1 Trillion
10% Annual Compounded Growth Rate
1% Share of Market
8% Historical Hold Rate
($\$1T \times 1.10 \times 1.10 \times 1.10 \times 1.10 \times .01 \times .08 = \$1.2B$)

Scenario II

U.S. Gross Casino Revenue 1995 = \$16B
10% Annual Compounded Growth Rate
5% Share of Market
($\$16B \times 1.10 \times 1.10 \times 1.10 \times 1.10 \times 1.10 \times .05 = \$1.3B$)

Scenario III

U.S. Gross Casino Revenue 1996 = \$22B
10% Annual Compounded Growth Rate
5% Share of Market
($\$22B \times 1.10 \times 1.10 \times 1.10 \times 1.10 \times .05 = \$1.6B$)

Sources: Duff, 1997; Harrah's, 1996; La Fleur, 1996.

In one scenario, as shown in Table 5, market demand for Internet gaming is estimated at \$1.2 billion for the year 2000—assuming a global wagering handle of about \$1 trillion in 1996, increasing to \$1.5 trillion by the year 2000 for all forms of legalized, commercial gaming (where casinos and sports books are the dominant share at about 87 percent), and an historical 8 percent average hold rate (Christiansen, Sinclair, & Liao, 1996).

In a second scenario, market demand is estimated to be about \$1.3 billion in the year 2000 —assuming a 10 percent annual compounded growth rate of United States gross casino revenues (\$16 billion in 1995), and the equivalent of a 5 percent share of that market for world-wide Internet gaming (La Fleur and La Fleur, 1996).

In a third scenario, market demand is estimated at \$1.6 billion for the year 2000—assuming a 10 percent annual growth rate, a 5 percent share of market, and a 1996 base of \$22 billion (Duff, 1997; Harrah's, 1996).

Summary and Conclusions

Internet gaming is a new technological development in the global casino gaming industry. It is an on-line consumer service provided in the medium of cyberspace. Technically speaking, any household in the world equipped with a computer and communications device can access any Internet gaming service provider on the globe.

There are many business opportunities in the global Internet gaming market. The product could replicate the offerings at existing casinos and casino-hotel megastores in real-time, multi-media, virtual reality. It could be integrated with casino intranets, casino floor facilities, and back-room operations. It could be used as a test market to test new services.

Internet gaming could be used by new and existing casino organizations as a completely new offering, or a relatively low-cost, synergistic product line extension or product line flanker into new and existing target markets. It could be used as a source of competitive advantage, to enrich relationship marketing programs, and/or a new stream of revenue, i.e., cash flow, for industry participants.

The global Internet gaming market potential is large and growing. Most of the underlying forces affecting the market potential are positive. Global computer usage, Internet usage, alternative Internet access modes, communications infrastructures improvement, Internet commerce, Internet financial transaction processing, casino gaming, and casino gaming acceptance are increasing. Relevant new hardware and software technology are being developed and gaming applications of new technology are rapid.

The overall global Internet gaming market is composed of several product-markets. Each product-market would consist of a specific set of Internet gaming services and a relatively heterogeneous group of identified customers. Each product-market would contain a set of relatively homogeneous market segments. One or more segments of each product-market would be selected as target markets, i.e., product-market entries.

Each target market would be identified by a specific customer profile and supported by a specific marketing database. A specific marketing mix would be developed for each target market, although many marketing mix elements could be standardized across product-markets and target markets. Each Internet gaming business would use its resource base to develop a set of marketing objectives and marketing mixes integrated across product-markets and target markets. These integrated sets of strategies would be significantly correlated with strategy sets of competitors in traditional casino gaming markets.

Global Internet gaming potential is estimated at \$8 billion to \$25 billion by the year 2000. Global market demand is projected at \$1.2 billion to \$9 billion by the year 2000.

In an optimistic scenario, where the international legal environment has been clarified and traditional gaming regulation is operative in the Internet gaming industry, an application of the Bass Diffusion Model to a market potential of \$8 billion, a 10 percent innovation rate, and a 50 percent diffusion rate, indicates a \$3 billion global Internet revenue forecast for the year 2000.

In a less optimistic, and more likely scenario, where the international legal environment is confusing and uncertain, where global Internet gaming is closed or tightly controlled by governments, instead of being open and regulated, and where the Internet gaming industry is weak in credibility and is not transparent, similar to the task environment of 1997, the global Internet gaming revenue forecast is about \$1.5 billion, i.e., about 50 percent of the optimistic situation.

The Bass Diffusion Model indicates accumulated and annual first time sales for an innovative offering across the total market potential for a target market. Repeat sales are added to a time period's first time sales to produce a sales forecast for a specified time period.

The Bass Model can be applied to dynamic data using modern electronic spreadsheet analysis. It produces a typical "s-curve" associated with many marketing phenomena. As market experience accumulates and environments change, Bass Model parameters, i.e., input values—such as innovation rates, can easily be changed to produce revised forecasts.

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