

GAMBLING REGULATION: THE CASE FOR MANAGED RISK

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ABSTRACT

The economic case for establishing a legal gambling industry is compelling and proven: investment, job creation, service industry growth and taxation. The counter arguments are generally centered on financial control (money laundering and payment of tax) and public welfare (crime and problem gambling). In order to realize the benefits, it is essential that government establish and maintain public confidence by acknowledging the risks, determining policy and establishing adequate controls to manage and mitigate risks.

This paper will outline the path to establishing a legal gambling environment and in doing so, we will explore key policy areas, the risks to realizing the policy and critical factors in maintaining trust and public confidence. As most forms of gambling, financial and hospitality systems today are aided or controlled by technology, this paper will concentrate on technological controls and explore how rapidly evolving gambling technology can tend to drive public policy and push the limits of a government's ability to regulate.

OBJECTIVES

Of highest importance is for a government to clearly define why it is introducing gaming¹. These objectives (reasons) will direct policy, which in turn will direct law, regulations, standards, and all future decisions. The objectives will become the success criteria by which the government may, on an ongoing basis measure the success or failure of its policy. The end result must justify the means.

Example 1: Government objectives are:

1. Create local employment,
2. Stimulate tourism,
3. Facilitate urban regeneration, and
4. Generate tax revenue to support public welfare programs such as education, health or sports.

Such objectives could result in an industry where there are concentrations of gaming and entertainment complexes (similar to Macao or Las Vegas) and new schools, hospitals or sports fields can be shown to have been funded from gaming tax revenue or charitable donations from operators.

Example 2: Government objectives are:

1. Create local employment,
2. Generate tax revenue from export markets only and
3. Prohibit any citizen from participating.

Such objectives could result in mail-order lottery tickets, internet gaming and wagering and domestic gaming for tourists only.

¹ A reference to gaming in this paper may be a reference to all forms of gambling, including lottery and wagering.

POLICY ON SCOPE

The next step in our journey from establishing objectives in a board room to realizing the objectives is to formulate policy on the scope of the industry.

We commence at the most fundamental level:

What will be the definition of gaming? Will it include only games of pure chance or skill also?

Based on the definition, what will be the scope? Casino games or simulations thereof, slot machines, trade promotions, contests, adventure and entertainment based games, wagering, sports betting, simulated wagering and sports betting, lottery, and what is excluded (e.g. share trading and insurance)?

Based on the Scope, what is the medium? Physical locations, internet, telephone, television, radio, wireless, mobile, cable, microware, optics, satellite or any other kind of electronic or other technology for facilitating communications which may be in use now or invented or deployed in the future?

Based on the medium, what is the jurisdiction? Land, air, sea, provinces or international (e.g. Internet)?

STAKEHOLDER REQUIREMENTS

Based on the jurisdiction, who will have responsibility, who needs to be consulted, what laws must be considered? WTO, OECD, Ministry of Finance, Ministry of Communications, Ministry of Sport and Tourism, Ministry of Justice,

local government, industry, people's representatives, and so on. Who are the stakeholders and what are their requirements?

An example, albeit far from complete, follows:

INDUSTRY STAKEHOLDER	REQUIREMENTS
1: National Government	<ol style="list-style-type: none"> 1. Realize the success criteria. 2. No national laws are violated, cooperate with national agencies. 3. No impact on foreign trade relations. 4. Regulate at a province and territory level with national oversight. 5. High importance must be placed on public welfare. 6. Industry Integrity: money laundering, fraud, and the funding of terrorism and organized crime must be addressed. 7. and so on...
2: Province and Territory Government	<ol style="list-style-type: none"> 1. Comply with national government requirements. 2. Provide for security, fairness, integrity, auditability and accountability in gaming. 3. Minimize regulatory overhead. 4. Maintain capability to regulate. 5. Ensure integrity, security, availability and reliability of financial data to collect taxation due. 6. Verify that all gaming equipment installed and operated is approved by the government. 7. Minimum control objective of the need for collusion in the event of a breach must apply. 8. and so on...
3: Industry Requirement	<ol style="list-style-type: none"> 1. Comply with province and national government requirements. 2. Do not re-invent the wheel. Draw from experience, and legislation in place elsewhere in the world (e.g. Macao and Nevada). 3. Clarity, flexibility, efficiency and consistency in regulation and enforcement.

INDUSTRY STAKEHOLDER	REQUIREMENTS
	<ol style="list-style-type: none"> 4. Innovation must not be suffocated by attempting to apply legacy requirements and outdated regulatory approaches. 5. The level of regulation must be commensurate with risk to public policy. 6. Regulatory agencies must employ or engage the necessary resources and skills required to effectively administer the regulatory framework. 7. and so on...
4: People's Requirement	<ol style="list-style-type: none"> 1. The gaming experience must be one of trust, fairness and integrity. 2. Player privacy must be protected. 3. The games, marketing and advertising, must be presented in a responsible manner. 4. Sufficient information must be available to enable the player to make informed choices in any gaming decision. 5. There must be a safety net, for those who develop problems, to reach out to. 6. Guaranteed payment of winnings. 7. and so on...

At the point where we understand the objectives, the scope, and the stakeholder requirements, we are in a position to commence establishing specific policy.

[KEY POLICY CONSIDERATIONS](#)

The few pages that follow attempt to provide the reader some guidance, but do not do the subject justice. Gaming policy formulation is a very complex process taking into consideration the requirements of all stakeholders, social, cultural, political and many other factors.

[The Importance of Technology](#)

There are many examples the world-over of how to regulate gambling, in a traditional sense. The most successful is arguably Nevada and we see many of those same regulatory principles being applied in Macao. This paper does not attempt to re-invent the wheel in this regard.

However, there has been a rapid shift in recent years from manual processes at tables and stand-alone electronic games to almost all forms of gambling being either technology based, or technology assisted.

Indeed, we would suggest that technology is the enabler of modern business. In many cases all financial reports are derived from systems technology; therefore, so is taxation.

If we ignore politics and market forces for a moment; the technology exists now for the casino floors to change entirely from being box-centric (e.g. slot machine), to system-centric (e.g. e-commerce model), where the gaming experience could be a fully integrated, cashless and platform independent one. A compelling argument; as an operator could free cash-flow, reduce operating and capital costs and provide players with more diverse product and greater choice.

To this end, further discussion in this paper is predicated on the fact that modern gaming and hospitality services are either wholly provided or supported by some form of computer technology and that this trend will continue.

This technology is increasingly systems (network) based, rather than stand-alone devices, and as such control is far more centralized. The more centralized business and gaming operations become, the more power and control the technical staff possess.

Technology enables greater availability and variety of product, control over the gaming experience by players, complete transparency in transactions, as well as an unprecedented ability to both regulate and avoid regulation. In many instances technology in gaming drives public policy. For example, if one considers internet gaming, it is e-commerce. E-commerce is a trust-based economy where brands are enablers of trust. If a corporate brand is stronger than the brand of the country regulating, then a regulatory brand is redundant. Hence, regulation of internet gaming is not a sovereign right of governments but a marketing tool.

Moreover, given the portability of internet gaming operations, if a company does not like the regulatory regime, they can simply move to another jurisdiction where the regulator is “friendlier”. It is not just multi-national brands that facilitate this regulatory dilemma as many of the smaller start-up internet gaming companies have built trust in their brand on the shoulders of the brand of a trusted, and internationally recognized, audit firm or other brand where trust is already established.

Traditionally operators provided gaming services at the privilege of the government. Now, we see governments actually advertising themselves to attract the internet operator where, essentially, the regulator serves at the pleasure of the operator!

Regulation that (intentionally or otherwise) did not look beyond the technology in play at the time, has been exploited by technology. For example:

1. In America, the intention was that only state licensed casinos were to have slot machines, but a clause allowing for “Technical aids to Class II devices”, which was originally intended to assist with the game of Bingo, (Class II) have enabled Indian casinos to generate billions in

revenue from gaming devices that display the results of a bingo game as a slot machine.

2. In the United Kingdom, wagering companies were able to have technological aids to fixed betting. Given that a game of chance, is a game where the odds are fixed, a billion pound industry now exists where slot machines and simulations of fixed odd table games (fixed odd betting terminals or FOBT) appear in betting shops throughout the UK.

Despite the reliance and rapid evolution of technology assisted gambling and the demonstrable evidence of technology dictating regulation and policy, to our knowledge, nowhere in the entire world will you actually find a technical gaming expert on a gaming board or commission!

Only in a handful of jurisdictions (Nevada, USA being one and Queensland, Australia another), will you find a technical gaming expert in a senior management capacity. When one considers that the gaming boards influence policy and set regulations and standards for gaming companies to follow, the prospects for both:

1. The retardation of future growth of a techno-centric gambling industry, and
2. Completely ineffective regulation, are concerning.

[Recommended approach to Regulation](#)

The traditional approach to the regulation of gaming tends to be at one extreme (prescriptive) or the other (self-regulation).

A prescriptive form of regulation is too inflexible and containing.

We equally do not support self-regulation as a public corporation has a legal obligation to its shareholders to maximize profit, whilst a government has an obligation to insure the public welfare of its citizens. Moreover, if the public perception is damaged by one “bad” Operator, the whole industry suffers and the government may be embarrassed.

Flexibility in regulation, which implies the application of risk-management principles, must be a consideration for any modern regulator. In 1999, we established such an approach and called it, “Regulated Risk Management”:

1. Specify guiding principles (“control requirements”) designed to mitigate risk to policy.
2. Allow the industry to be innovative in how the risk is mitigated. Regulator to determine if mitigating strategy meets the intent (control objective) of the control requirement.
3. Independently confirm the industry’s claims of compliance through testing and audits of the claims of compliance with the regulatory requirements, prior to permitting gaming equipment to be operated.

GGs² recommended process for submission and for proof of compliance is not dissimilar from the basic methodology required by Section 404 of the “Sarbanes-Oxley” Act (United States of America) of 2002, as applied to publicly traded companies in America.

One might ask: If control scrutiny is required to inspire confidence in the public with stock they have invested in, why not apply the same approach to the game they have “invested” in?

There is one fundamental difference between the approach to “SOX 404 Compliance” and “Regulated Risk Management”. That is, that the licensee may

² www.ggs-us.com

be well prepared to accept a risk on the basis of a commercial decision, but the regulator may not be prepared to accept such an exposure nor to subject its players to it on the basis of public policy decisions made by the government.

Hence, the provincial gaming regulator must publish minimum internal control standards (MICS). These are mandatory control objectives, that a gaming company must prove are adequately addressed.

These MICS are derived from identifying unacceptable risks to the realization of the key policy objectives (e.g. protection of vulnerable, etc.) and a need to ensure that the licensee has demonstrably effective compensating controls (both procedural and technical) in place to mitigate the risks.

By adopting this approach, one has a clear justification for each key control on the basis of how it ties into risk and ultimately policy. A regulator therefore has a mechanism for dispute resolution or legal opinion as one can always tie the topic of debate back to the policy and the policy back to the objectives.

This approach to a regulatory framework does not result in standards for the sake of standards, with no basis of justification other than "another jurisdiction somewhere does it that way and we don't really know why".

Additional arguments for a risk-based approach to regulation are:

1. Due to the complexity of technology and the dynamic rate at which technology is evolving, one cannot reasonably treat technology in isolation from the procedures and environment in which the technology is operated...they are not mutually exclusive.
2. Systems based gambling technology and operations may become obsolete, non-compliant or introduce serious business exposure immediately after approval is granted.

3. The more complex the technology, the greater the number of possible configurations and business models that might apply. “One size fits all”, does not apply in a prescriptive sense, but the core objectives and guiding principles will.

On this basis, the control objectives should be stated and the industry given the flexibility to provide either a technical, procedural or other solution to mitigate the risk.

Jurisdiction

Jurisdiction over banking, financial transactions, credit institutions, telecommunications, broadcasting, privacy, advertising, and national security tend to be national government competencies, not provincial.

Internet or cross-border gaming (in all its forms) overlap to varying degrees with such national competencies. The prospect of multiple provinces and territories, potentially adopting differing approaches and individually coordinating with national agencies on matters that may arise from time to time, is not considered feasible, practical or in the national interest. Clearly, one central agency is the preferred option from this viewpoint.

However, if gaming is conducted within physical premises, then a local authority (e.g. Macao) have demonstrably proven they are entirely capable to regulate autonomously.

If there is to be a consideration of all forms of gambling, then we recommend that the activity (the playing of the game), be isolated from the medium over, or on, which the game is conducted. On this basis, to promote consistency and redundancy in regulatory oversight (e.g. reduced cost of regulation and confusion), a minimum set of guidelines that impact national jurisdiction could be

managed and directed toward the provinces at the national level, whilst the provinces and territories maintain jurisdiction over the activity of gaming.

Government Revenue

How will the government generate revenue: license and approval fees, taxation, and various other charges or will government operate some or all forms of gaming themselves?

How will the revenue generation be administered?

How will a government establish confidence in the accuracy of the financial reporting of licensees?

If the tax rate is excessive, the industry may not be able to re-invest. The long-term viability of the industry may be questionable, in which case the impact might be the same as if the government operated the gaming itself.

The tax and fee structure should balance the interests of the remote (communication) and premises-based industries to avoid the possibility of tax induced market distortion and manipulation of supply.

Will cross-border gaming taxation be retained at a national level, or will there be remittance of tax to provinces? Arguably, international tax treaties are required for internet gaming.

Public Welfare

Some in the community have a serious problem with their gambling habits and are not able to control their spending. The activity for them is not enjoyable and has become a problem.

As a government may be introducing gaming predominantly for public welfare (funding of schools, hospitals, sports, urban regeneration), then this is an area that must be considered most seriously.

A human being is capable of freedom of choice and to this end, one might suggest that operators and governments have a duty of care to ensure players are educated sufficiently to make an “informed choice”. In most cases, a person presented with sufficient information to empower them to make an informed choice will make a reasonable decision. However, not all of us are reasonable, and some degree of regulating an individual’s utility function³ is required.

The approach to responsible provision of product has to be multi-faceted and include:

1. Information,
2. Education,
3. Support services,
4. Restrictions on underage gaming.
5. Controls that ensure the games people are playing are not misleading⁴,
6. It may even extend to banning certain persons from participating in play.

The underlying principle recommended for problem gambling is “informed consent”, meaning that accurate information must be made available to the player to enable the player to make informed decisions about their gaming habits. Government should avoid adopting a paternal approach, given the complexity of enforcement and concern over civil liberties.

³ How risk adverse or risk seeking an individual is.

⁴ For example, a “near miss” feature where if a player loses at a slot game, the result just above their payline shows they almost won, to induce them to keep playing.

Establishing Public Confidence - Trust

Public trust that players are getting a fair game is the overall responsibility of everyone in the gaming industry. This includes casino employees and gaming regulators.

The ultimate responsibility of ensuring that gaming is conducted honestly and competitively and that the public has confidence and trust in the gaming industry falls on the shoulders of the independent gaming regulatory agencies.

The traditional approach to establishing both public confidence in gaming and the protection of government revenue may be briefly outlined as follows:

1. Government establishes legislation that outlines enforceable and static policy decisions.
2. Government establishes a regulatory agency to enforce the legislation.
3. Government or regulatory agency translates policy into regulations, technical and operational requirements (to mitigate the risk of policy violation and enable demonstrable compliance).
4. Regulatory agency licenses operators and vendors.
5. A game may not be offered for sale by a licensed vendor to a licensed operator, unless it has been tested and certified as complying with the published standards and controls, by the regulator.
6. A game may not be offered by a licensed operator, to the public, unless it is operated in accordance with a set of internal controls approved by the regulator.
7. Regular audits are performed to ensure continued compliance.

Managing what the public see on a day to day basis is important. This is why policy should be set on such matters as:

1. Establishment of an independent regulatory agency.
2. Consistent enforcement of regulations.
3. Penalties and possible criminal sanctions for failure to comply with the regulations.
4. Insuring players feel safe and their welfare is treated seriously.
5. Controls that insure the games people are playing are conducted fairly and are not able to be manipulated.
6. Adequate audit trails to enable resolution of player disputes and ensuring that the player has the right to have their complaint arbitrated by the independent regulatory agency at the time of the dispute.
7. Cheating at gambling, by either side, has to be a serious criminal act⁵.
8. Players need to be aware that complaints of cheating will be thoroughly investigated by the regulator⁶.
9. Players should have confidence in the regulator's ability to act⁷.
10. Both players and operators should be able to take their disputes to a higher authority than the regulatory agency⁸.
11. Product quality: If technology is faulty and malfunctions often, this does not build public confidence and can cost the operators dearly.
12. Maintenance of player privacy.
13. Security of player accounts.
14. The capability and capacity of an operator to establish and operate a gaming business.
15. Adequate bankroll to ensure players are paid.

⁵ Over 30% of criminal arrests for gaming violations in Nevada involve casino employees.

⁶ Cheating can often not only impact the cheater, but innocent players who are not directly involved.

⁷ Regulatory agencies should have authority to make cheating or other gaming law violation arrests for many reasons, including:

- a. Operators and patrons have only one agency to contact.
- b. Occasionally disputes or regulatory investigations turn into criminal investigations.
- c. Regulatory agents are more familiar with gaming laws and regulations and more knowledgeable of the games than standard law enforcement.
- d. Regulatory agents can patrol looking for violations and act on them.

⁸ Some disputes in Nevada have been appealed to the US Supreme Court.

16. The payment of players quickly, unless there are valid concerns of cheating.

17. Controls over advertising and marketing to ensure it is not:

- a. False, misleading or deceptive.
- b. Targeted at under-age gamblers or vulnerable (banned persons).
- c. Promoting illegal activity or product.

Policy on matters outlined above, and many other related topics are enforced through legislation, regulations and control requirements (which include technical standards).

[Minimum Internal Control Requirements - Procedural](#)

No system or business is infallible. Accordingly, the control objective of any effective regulatory system is to ensure that there are sufficient checks and balances in place to ensure that if someone bypasses the system, they require collusion with at least one other person, and leave an audit trail. This objective becomes a little complex for information-technology-based systems where a great deal of control may reside with a few individuals in the information technology department.

We refer the reader to the minimum internal control standards (MICS) on the Nevada Gaming Control Board's web site for controls covering standard gaming and wagering, manual operations⁹. However, we also caution a new jurisdiction to not just adopt the requirements without understanding why they are there – the risk the control is attempting to mitigate – to insure it is applicable and consistent with the objectives of the jurisdiction.

A review of any gaming jurisdictions MICS will reveal some limited controls over technology procedures (certainly no more than those required for compliance with the Sarbanes-Oxley Act, 2002, governing financial reporting). However, we

⁹ <http://gaming.nv.gov/>

were not able to locate any internal controls of a jurisdiction that specifically addressed the technical controls of the licensed vendors. To this end, the remainder of the discussion on internal controls is focused here, where there is a current void.

The primary concern is that if a licensed vendor's product is of poor quality and fails to operate correctly, or has serious security vulnerabilities it is the licensed operator and the public who are impacted most. This impact usually translates to lost revenue for the operator which equates to lost tax for the regulator and in the case of a high-profile patron dispute, embarrassment for both the regulator and operator.

Fundamentally, some regulatory and operational risks are best mitigated by a regulator establishing confidence in a vendors' development quality and security (logical, physical, procedural, personnel) practices. Hence the amount of effort the regulator may need to do in terms of testing could be justifiably reduced if the developer has a secure and controlled development environment. The frequency and intensity of testing (hence time to market), could be tied to the risk profile of a vendor¹⁰.

Some risks related to the developer/vendor are, for example:

1. There have been cases reported publicly of developers manipulating code to ensure that a certain combination of play, for example, provided a winning outcome.
2. There are regular occurrences of operators settling disputes over a "malfunction", whilst operators continue to pay out money. The issue of "does software really malfunction" is yet to be debated in court.

¹⁰ GGS has developed a proprietary risk-based testing methodology that has been successfully trialed with a Fortune 500 company.

3. If the development data is lost (or intentionally destroyed), and not able to be recovered in a timely manner when a system fix/update is required, an operator may need to shut down machines or an entire gaming system might be disabled. There have been incidents where slot software has been lost and needed to be recovered from escrow or the regulator (where source code submission is a requirement).
4. If a competitor of an operator or hacker wanted to find a “weakest link” in security (to steal sensitive information, manipulate the system, or damage an operation) the developer may be the more logical target than the operator. A “logic bomb” or “Trojan” or hard-coded password could be planted in the code to be deployed in the next release to the operator.
5. Lack of documentation will limit the scalability of the development organization and presents a further risk to the operator and regulator. For example, if the development and business processes and the system itself are not adequately documented, as customers make demands on the developer’s systems (upgrades, bug fixes, etc.), it is highly likely that software erosion resulting in system instability, unreliability and extended development schedules will occur. A worse situation is perhaps one where the intellectual capital related to a product is tied up in the head of one or two developers – imagine having your entire player loyalty system (or essentially your business) at the mercy of a few individuals.

Below is a high-level overview of some of the key areas to consider when conducting a review of a development environment:

1. Reporting relationships,
2. Authority,
3. Escalation,
4. Resourcing,
5. Scheduling,
6. Project Definition and Management,
7. Protection of intellectual property,

8. Client contract management,
9. Regulatory compliance,
10. Training,
11. Security of the development environment (procedural, human, legal, physical, electronic and transportation, etc.),
12. Disaster recovery: the need for business continuity is self-evident,
13. Change controls and management,
14. Build controls and management,
15. Fault/issue controls and management,
16. Documentation control and management,
17. Coding Standards,
18. Packaging and installation (including rollback),
19. Traceability and Accountability,
20. Release control and management, and
21. Internal quality assurance and test environment.

An audit of a software development environment requires a specialised skillset.

[Minimum Internal Control Requirements - Technical](#)

Before gaming technology is able to be placed into production by a licensee, the following proof of reasonable compliance with the province's regulatory requirements must be demonstrated:

1. Compliance of the technology (application and games)
2. Compliant configuration and installation of the technology (application and games).
3. Compliant environment in which the technology is to operate (both physical and logical).
4. Effective system of internal controls.
5. Capable operating staff.

Proof of technical compliance is established through testing. Software must be reviewed to ensure compliance and this is largely done by assessment against functional, design, and risk documentation (previously reviewed for compliance), in conjunction with functional testing. For example, if the gaming system functional specification is based on the regulatory requirements or agreed compensating controls, and the design documents are based on the functional specification, and the software is programmed in accordance with the design document, and the software program operates as designed, then compliance is established.

We refer the reader to the technical requirements on the Nevada Gaming Control Board's web site for controls covering standard gaming and wagering, technology¹¹. The Queensland Office of Gaming Regulation website¹² has extensive requirements identified for all forms of gaming technology, including internet gaming. However, we also caution a new jurisdiction to not just adopt the requirements without understanding why they are there – the risk the control is attempting to mitigate – to insure it is applicable and consistent with the objectives of the jurisdiction.

An appreciation of the scope of testing may be ascertained from the following items, which should be required to be submitted to demonstrate compliance of a complex gaming system. In addition, technical requirements (control objectives) will be specified by the regulator in each of the areas, to mitigate risk:

1. Document Library;
2. Point-by-point response or compliance claim with respect to regulatory requirements;
3. Security Statement of Claims/Risk Assessment;
4. Comprehensive Functional Description;

¹¹ <http://gaming.nv.gov/>

¹² <http://www.qogr.qld.gov.au/>

5. System Design Documentation;
6. Game Design Documentation (for each game);
7. RNG documentation;
8. Database Design Documentation;
9. Encryption and authentication algorithms and documentation;
10. Detailed Description of Payment Systems;
11. Financial Interface Specifications;
12. Fault Management Procedures;
13. Change Management Procedures;
14. Game Integration Procedures;
15. Testing Documentation;
16. Software Build Procedures;
17. Software Release Procedures;
18. System build documentation;
19. Installation Documentation;
20. Network Design document (including network diagram);
21. Network as built documentation;
22. Minimization and hardening procedures;
23. System Monitoring Specifications;
24. Interface Protocols;
25. Software Verification Tool and Documentation;
26. System Configuration Parameter Descriptions;
27. Employee Roles Documentation;
28. Reporting Function Specifications;
29. Systems Operations Manual, and
30. Internal Control Manual (ICM).
31. Testing system/environment;
32. Game/Game engine simulator or tools;
33. RNG test driver or empirical data;
34. Source Code;
35. Installation medias;

36. All Games.
37. Build environment
38. Access to development environment
39. Access to production site prior to go-live.

In addition to testing the system itself, it is essential for a regulator to:

1. Require that a copy of all software (including the operating system and gaming application) is kept in a secure place (or lodged in escrow) for audit trail, spot audit and disaster recovery purposes.
2. Require that the software is installed and configured (e.g. configuration parameters) in a manner that does not invalidate approval,
3. Validate operating system and application access controls as an important aspect of ensuring that approved software is able to be operated in an approved manner and only approved software is installed.
4. Adopt a method to verify that the executable software and static configuration or other nominated files that have been used during the testing process are identical to that which is to operate on the live system. This verification procedure is to occur:
 - a) When new or revised software is installed;
 - b) Periodically (at a frequency justified by the licensee in a formal risk analysis) by the licensee, and
 - c) Randomly on demand by the regulator.

[The Power of the Testing Laboratory](#)

A manufacturer/vendor is not able to sell gambling equipment without a positive and timely test report from a gaming test laboratory. Competitive operational pressures can often drive a sale of gambling equipment toward the vendor that is

approved first. To this end, a gaming testing laboratory has significant influence in the market.

A regulator must determine policy:

1. Will the regulator perform all technical functions (testing, audit and inspection) internally?
2. Will the regulator perform repetitive technical functions and outsource specialized functions?
3. Will the regulator outsource all technical functions, maintain a core technical competency on staff, and audit the test results of the external testing laboratory from time to time?
4. Or will the regulator simply approve external testers and outsource all technical functions entirely?

The authors recommend options 1, 2, or 3.

We do not support option 4, because if a vendor is motivated by time to market to make a sale (possibly resulting in bypassing internal quality processes) and an operator is motivated by quality of product to ensure maximum up-time, minimum player inconvenience, and therefore maximum revenue (e.g. tax) – the test lab possibly has two conflicting motivators to deal with.

If the regulator permits the relationship with the testing laboratory to be solely with the vendor, and largely self-regulated, the inherent danger therefore, is the dominance of one testing laboratory and few vendors in the market.

In the context of the above, we also suggest the following policy consideration be given toward the control of regulatory technical requirements. A qualified and independent body (regulatory agency or whole of industry standards group) should maintain technical requirements (compensating controls to mitigate regulatory and public welfare risks) against which the testing laboratory will test.

Of course, industry and regulatory input is essential, and the community should also be represented through public hearings. To permit a testing laboratory to establish, control and interpret standards as well as test against those very same standards, may not be in the best interests of the industry as a whole.

THE EMERGING “THREAT”

In the United States, state regulated gaming generates tens of thousands of jobs, hundreds of millions in tax revenue and is regarded as a leisure activity by millions of Americans. A more in depth analysis may be located at the American Gaming Association’s website¹³.

Until the mid 1990’s, folks who choose to play a casino game or slot machine or place a wager or sports bet in the United States predominantly had one legal choice: Travel to a licensed physical location (such as a casino or race track or pub). However, in the late 1990’s that changed: Along with public acceptance and increasing viability of the Internet as a means of global communications and commerce, a new form of gambling appeared – Internet gambling. No longer do Americans, Chinese or anyone else, need to leave their home to gamble, and no longer does their gaming contribute to state revenue and jobs.

In 2005, hundreds of jurisdictions around the world (that do not apply a similar level of regulation as the United States do to its traditional licensees) are allowing thousands of different operations to collect billions of dollars in Internet bets. The majority of the global Internet gambling spend originates from Americans. However, we understand the Chinese market is increasing.

An appreciation of the size and growth of the market may be obtained from a Bloomberg¹⁴ report:

¹³ <http://www.americangaming.org/>

¹⁴ <http://www.bloomberg.com/media/markets/gambling.pdf>

“Online gaming generated \$8.2 billion in revenue last year, or about 3 percent of the \$243 billion global gambling market, according to New York–based research firm Christiansen Capital Advisors. The online poker market alone soared to \$1 billion in 2004 from \$92 million in 2002...

While revenue at traditional casino and gaming companies is likely to edge up 3 percent a year through 2009, revenue at online companies will surge about 22 percent annually to reach about \$23 billion in that year, Christiansen predicts...

A very important question that seemingly remains unanswered is does that 22% growth represent new revenue opportunities or does it cannibalize the traditional market?

The United Kingdom have ammended their legislation to allow for internet gambling¹⁵. Most Australian States have enabling legislation enacted. The Australian Federal Senate recommended managed liberalization¹⁶, although the Australia Federal Government established a prohibition¹⁷ that remains in place to prevent proliferation (within Australia). Significantly, in 2005, the World Trade Organization ruled against the United States, in favor of the Caribbean Island of Antigua¹⁸.

Internet gaming is a borderless activity that poses regulatory and enforcement challenges. The legal framework for regulating it is complex. Given the foreign trade aspect, at least, law as it applies to Internet gaming involves both state and

¹⁵ <http://www.gamblingcommission.gov.uk/Client/index.asp>

¹⁶ “Netbets” :A Review of online gambling in Australia, Report by The Senate Select Committee on Information Technologies, March 2000, Commonwealth of Australia 2000.

¹⁷ <http://www.aba.gov.au/about/legislation/gambling.shtml>

¹⁸ The WTO ruled in April 2005 that while the U.S. gambling sector as a whole is subject to the open market requirements of international trade law, the federal government might prohibit online gambling to “protect public morals or maintain public order.” But it also concluded the horse racing law was a violation of global trade rules because it discriminates against offshore companies.

federal¹⁹ statutes. In most jurisdictions, gaming is regulated at the state level, with each state determining whether individuals can gamble within its borders and whether gaming businesses can legally operate there.

The position of the United States Department of Justice²⁰ is that Internet (international and interstate communications based) Gaming is illegal. When one considers the domestic and international challenges presented (see below), it is perhaps clear why the United States has taken such a position.

However, the dilemma for China, America and any other country at this time is that their citizens can gamble online. If they choose to gamble remotely should they be given a choice: legally transact with a licensed operator within the country in which they are located, or have no option but to take their spend off-shore to a enterprise where there are no guarantees of a fair game, being paid, security of personal information or all those other items discussed in “Establishing Public Confidence”, previously in this paper?

International and Broad Domestic Concerns

In addition to traditional gaming legislation and regulations, the authors suggest that the following matters be considered in any discussion regarding internet gaming policy:

1. Currency exchange
2. Interstate and International commerce and impact on trade relations.
3. Federal jurisdiction over gambling regulation.
4. Foreign policy, for example OECD²¹ and WTO²² considerations.

¹⁹ US Federal law recognizes that state laws vary and seeks to ensure that neither interstate nor foreign commerce is used to circumvent them. To date, 18 U.S.C. § 1084 (commonly referred to as the Wire Act) is the principal federal statute that has been used to prosecute Internet gambling activities across state lines.

²⁰ Letter from the U.S. D.O.J. to the Nevada Gaming Control Board, dated August 23, 2002.

²¹ Organization for Economic Cooperation and Development

²² World Trade Organization.

5. Balancing the interests of the remote and premises-based industries, and avoid the possibility of tax induced market distortion.
6. Balancing the benefits of attracting new business to China against the potential threat to the existing or emerging tax base (subject to market demographics), for example by creating opportunities for manipulation of supply.
7. European Union and OECD Guidelines on the Protection of Privacy and Trans-border Data Flow of Personal Data.
8. European Union and other jurisdictions directives on money laundering.
9. Competition between Chinese provinces for taxation and implications on the erosion of any regulatory frameworks in order to compete with international offerings.²³
10. Any consideration of a tax on international winnings (c.f. The United States IRS requirement), which is a tax on players, would make Internet gambling from China, even if it is legalized, an unviable business proposition²⁴. Hence there may be a tax imbalance between on-line and off-line if tax policy is not clearly considered.

What Can China Do?

In the absence of an international treaty, the short answer is: “nothing”, the longer answer is: “an academic exercise to manage public perception”, such as:

1. “Pretend” to do something about it: E.g., Australia required ISPs to block reported internet gaming sites as per Australian Internet Industry

²³ The majority of enabling Internet Gambling Jurisdictions actually advertise for and compete for licensees as they acknowledge that the licensees brand - or that of the licensees public accounting firm - is stronger than that of the jurisdiction, so at the end of the day, with regulation as a marketing tool and not a mandatory requirement, it comes down to which regulator cuts the best commercial deal.

²⁴ For example, in Australia, prizes are not taxed and not paid in an annuity, no matter what the size of the prize.

Association code of conduct²⁵ and Federal Law. Essentially someone complains to the Australian Broadcasting Authority (ABA) about an Internet site, the ABA tells the Internet Service Providers (ISPs) and the ISPs “black list” the URL so they don’t get fined. The ISPs initially complained about being “internet police”, however in reality they don’t obtain many complaints.

2. Pass a law that is not enforceable: E.g. Prohibition.
3. Do nothing.
4. Regulate: If China put an enabling system in place, China should “punish” those who do not comply (as is the case with any form of legislation). However, China has no jurisdiction over offshore Internet gambling companies targeting Chinese citizens and providing a service to Chinese citizens. Hence, while legislation attempts to secure tax and protect the public, the commercial reality remains: Non-compliance is unenforceable and business will migrate to a jurisdiction with the least barriers to entry.

²⁵ http://www.aba.gov.au/internet/codes/internet_gambling.shtml

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Keith built a reputation as being a professional manager with a talent to turn an organization into a highly motivated and efficient operation. His people skills and ability to find solutions have enabled him to facilitate different regulatory and enforcement agencies working together. Keith has been quoted in newspapers, appeared on television, conducted seminars and instructed people throughout the world in the field of gaming regulations and gaming related crimes. He is regarded by many of his peers as a “go to” person who will find the answer and get the job done in a timely and efficient manner.