

**Regulatory practices and technology in Macau casinos:
Insights from a grounded theory study**

**Práticas regulatórias e tecnologia nos casinos de Macau:
Perspetivas a partir de um estudo de teoria fundamentada**

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ABSTRACT: This study investigates the regulatory-operational dynamics of Macau casinos using a constructivist grounded theory approach. In-depth interviews were conducted with 25 participants from industry stakeholder groups. In light of the new gaming laws, the study outlines specific regulatory mechanisms, including premium player identification, strengthened operational procedures, expanded audit and reporting requirements, and enhanced on-site inspections. The grounded theory analysis identifies four emerging industry themes that capture the impact of the new casino regulatory system: regulatory institutionalization, de-junketization, functional fragmentation, and technological applications. The study also examines stakeholder perceptions of the new casino regulatory system, with casino and expert groups viewing the reforms as necessary, while junket participants perceive them as restrictive. Based on these findings, the study proposes a conceptual model structured around regulatory functions, compliance, and improvement. The resulting framework reflects the characteristics of Macau's gaming industry and may provide analytical relevance and transferable considerations for comparative research in other gaming jurisdictions.

KEYWORDS: Gambling; gaming law; regulatory system; RegTech; constructivist grounded theory; Macau.

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RESUMO: Este estudo investiga as dinâmicas regulatórias-operacionais dos casinos de Macau, utilizando uma abordagem teórica construtivista fundamentada. Foram realizadas entrevistas em profundidade com 25 participantes de grupos de partes interessadas do setor. À luz das novas leis do jogo, o estudo descreve mecanismos regulatórios específicos, incluindo a identificação de jogadores premium, o reforço dos procedimentos operacionais, a expansão dos requisitos de auditoria e de reporte e o reforço das inspeções no local. A análise de teoria fundamentada identifica quatro temas emergentes do setor que captam o impacto do novo sistema regulatório dos casinos: institucionalização regulatória, *des-junketização*, fragmentação funcional e aplicações tecnológicas. O estudo examina igualmente as percepções das partes interessadas sobre o novo sistema regulatório dos casinos, sendo que os grupos de casinos e de especialistas consideram as reformas necessárias, enquanto os participantes ligados aos *junkets* as percebem como restritivas. Com base nestes resultados, o estudo propõe um modelo conceptual estruturado em torno das funções regulatórias, de conformidade e de melhoria. O enquadramento resultante reflete as características da indústria do jogo em Macau e poderá oferecer relevância analítica e considerações transferíveis para investigação comparativa noutras jurisdições do jogo.

PALAVRAS-CHAVE: Jogo de fortuna ou azar; lei do jogo; sistema regulatório; RegTech; teoria fundamentada construtivista; Macao.

Introduction

Macau is one of the world's largest casino markets in terms of gross gaming revenue. Since the legalization of gambling in 1847, the Chinese enclave has gradually solidified its status as a regional hub for gaming (Ho, 2017; Godinho, 2012). Macau's gaming industry traditionally relied on gaming promoters to recruit and retain high rollers who participated in high-stakes casino games. However, the city's gross gaming revenue sharply declined amid the COVID-19 pandemic (Ho, 2020; Liu et al., 2021a). The local gaming industry has also undergone significant adjustments due to the amendment and enactment of gaming laws in 2022, specifically Law No. 16/2001 and Law No. 16/2022 (Ho & Phillips, 2023a; Wang & Xie, 2023). These regulatory changes have had a profound impact on the overall ecosystem of Macau's gaming industry.

Based on the casino regulatory model (Cabot & Miller, 2021) and constructivist grounded theory (Charmaz, 2014), this exploratory study reviews and evaluates Macau's gaming laws, regulatory system, and frontline casino operations. The objective of the study is to examine the

perceived effectiveness of the casino regulatory system and to develop a theoretical model for regulating casino operations, along with actionable regulatory recommendations. Accordingly, two research questions were formulated: (1) What specific regulatory mechanisms do regulators employ to ensure effective oversight of casino operations? (2) What are the perceptions of industry stakeholders regarding Macau's casino regulatory system?

This study offers valuable insights into the dynamics, opportunities, and challenges of the gaming industry in Macau and may inform comparative inquiry in other gaming jurisdictions. The research outcomes establish a theoretical basis for future studies and carry broader implications for both public and private stakeholders. Regulatory bodies, casino operators, and industry practitioners may benefit from the insights derived from this study. In particular, policymakers could apply these findings to develop effective policies and regulations that support the industry's growth and sustainability. The findings could also inform casino operators, enabling them to optimize gaming operations and enhance customer experiences. Moreover, this study may benefit the industry at large by fostering a deeper understanding of the casino regulatory system and driving improvements in both regulatory and operational practices.

Literature Review

This literature review focuses on public policy and regulatory models for casino gaming, with particular emphasis on Macau's casino regulatory system. It also examines how casinos can be operated and regulated more effectively through technology-enabled solutions and practices.

Public policy and regulatory model for casino gaming

Public policy involves the decisions and actions undertaken by governments to address societal issues and accomplish specific objectives. This comprehensive process includes agenda-setting, policy formulation, decision-making, implementation, and evaluation (Wu et al., 2018). There are four types of public policy: distributive, redistributive, regulatory, and constituent (Lowi, 1972). Among these, regulatory policy is considered to be individually targeted and strongly enforced (Howlett & Mukherjee, 2017). The perception of casinos as a "dirty business" is held by some members of the public (Lam, 2019). The gaming industry in most jurisdictions is, therefore, subject to appropriate public policies and regulatory systems designed to ensure effective oversight. The licensing, accounting (including internal controls and auditing), and enforcement of gaming regulations are recognized as "critical regulatory functions" in the gaming industry (Cabot & Miller, 2021). In

addition, four principles are considered essential for ensuring sound gaming regulation in most jurisdictions: effectiveness, efficiency, equity, and political acceptability (Cabot et al., 2023).

According to Cabot and Miller (2016, 2021), most gaming jurisdictions apply three fundamental regulatory models: prohibitory, player protection, and government interest. Apart from the prohibitory model that focuses on eradicating gambling, the player protection model legalizes casinos while avoiding promoting gambling behavior, and the government interest model seeks to protect the jurisdiction’s economic interests. Beyond these core approaches, some jurisdictions implement hybrid models that combine principles from multiple regulatory frameworks (Cabot, 2014; Cabot & Miller, 2021). Table 1 presents the public policy models adopted by Nevada, Singapore, and Macau.

	Government Interest	Player Protection	Hybrid
Nevada	✓		
Singapore		✓	
Macau			✓

Table 1. Public policy statements in different gaming jurisdictions
Source: Adapted from Cabot (2014, p. 53)

Macau takes a proactive approach to regulating the gaming industry in response to the perceived negative connotations associated with casinos (Huang, 2011). While recognizing the potential negative social impact, the Macau government acknowledges the significant role of the gaming industry in the economy, society, and people’s livelihoods (Wang, 2023). Consequently, Macau has a specific casino regulatory system that combines policy goals to maximize the economic benefits of casino gaming while minimizing its social costs (Cortés, 2021; Siu, 2023; Wang, 2024). The primary objective of regulatory efforts is to mitigate the potential adverse effects of the gaming industry on residents and tourists. Rigorous regulations and oversight mechanisms are in place to ensure responsible gambling practices, safeguard vulnerable individuals, and prevent gambling-related harm (Liu et al., 2024). These measures also include strict age restrictions and mandatory responsible gambling programs in casinos (Ho & Phillips, 2023a).

Casino regulatory models generally center on how jurisdictions balance competing public-policy objectives through core regulatory functions (i.e., licensing, accounting, and enforcement). However, these general regulatory models might not fully explain how regulation operates in specific settings, such as Macau, or how technological advances change the practical capacity to monitor and

enforce compliance. This gap motivates a jurisdiction-specific review of Macau's regulatory system and an assessment of how technology-enabled oversight reshapes regulatory practice.

Casino regulatory system in Macau: An overview

Macau and its casinos have experienced remarkable economic growth since the liberalization of the gaming industry in 2001. The past two decades have seen rapid development and expansion of large-scale integrated resorts (Ahn & Back, 2018; Ho, 2022). However, policy and regulatory challenges have emerged alongside the growth of the junket-led VIP business in casinos (Ho, 2017; Lobo Vilela, 2021; Wang, 2014). In response, the Macau government has strengthened its gaming laws and regulations since 2022 (Ho & Phillips, 2023a; 2023b). With the amendment of Law No. 16/2001 (as amended in 2022) and the enactment of Law No. 16/2022, Macau has strengthened its casino regulatory system to oversee key industry groups and their business practices.

Historically, Macau casinos relied heavily on high rollers from mainland China, raising concerns about the industry's sustainability (Zeng & Forrest, 2009). Gaming promoters (i.e., junket operators) and their associates used to maintain close relationships with VIP players (Siu Lam, 2013). While Macau's junket activities can be traced to gambler recruitment in the 1930s (Liu, 2002), gaming promoters were not formally recognized until 2002. Several legal studies have highlighted regulatory weaknesses in the governance of gaming promoters and VIP room operations (Godinho, 2013; Ho, 2017; Rose, 2010; Wang, 2014). Notably, gaming promoters and their informal practices, ranging from deposit-taking inside VIP rooms to debt collection outside casinos, were identified as persistent issues with broader industry and social implications (Ho, 2018). External assessments also suggest that some junket operations involved organized crime groups (New South Wales Independent Liquor and Gaming Authority, 2021; U.S.-China Economic and Security Review Commission, 2013).

Macau's primary gaming regulator is the Gaming Inspection and Coordination Bureau (*Direcção de Inspeção e Coordenação de Jogos*, DICJ), a bureau-level department under the Secretariat for Economy and Finance. The DICJ is responsible for administering and overseeing the local gaming industry. Since the 1960s, Macau has adopted an on-site approach by deploying gaming inspectors to oversee day-to-day casino operations and ensure compliance with gaming laws and regulations (Wang & Ho, 2022). Recently, Macau has introduced a new casino regulatory system based on gaming laws enacted in 2022. The regulatory reforms strengthen oversight of casino operations and key industry participants, particularly in response to regulatory and operational challenges associated with the junket-led VIP room system. The new regime clarifies policy objectives (e.g., preventing criminal influence and money laundering, and promoting economic diversification), restructures the

concession system (e.g., capping casino operators at six, limiting terms to ten years, and tightening suitability and financial requirements), and expands oversight to gaming promoters and their associates. It further outlines a gaming tax structure with an effective rate of more than 40% of gross gaming revenue and articulates fair business expectations through responsible gambling and corporate social responsibility (see Godinho, 2024; Ho & Phillips, 2023a).

Macau's recent regulatory reforms strengthen the legal framework for regulating casino operators and other industry actors. Nevertheless, existing studies focus primarily on macro-level reform narratives or the pre-2022 junket system, leaving limited discussion of how the new regime operates in day-to-day casino operations and how stakeholders interpret the new regulatory expectations in practice. This gap is central to explaining regulatory effectiveness in the post-junket environment.

Regulating casinos using technology: Smart Table, Surveillance, AML

The convergence of technology and casinos represents a critical area of academic inquiry (Liu et al., 2025). Effective oversight of the gaming industry requires the regulatory system to evolve alongside technological developments (Partida, 2024). Technological applications in casinos can enhance customer satisfaction and acquisition, while also improving operational efficiency and profitability (Liu et al., 2021b). In recent years, casinos in Macau and across Asia have progressively adopted advanced technologies, including smart gaming tables and radio-frequency identification (RFID) systems, to improve operational efficiency and support compliance requirements (see *Asia Gaming Brief*, 2024; *GGRAsia*, 2026). RFID-enabled casino chips, in particular, can help casinos track gameplay, deter fraud and cheating, and support responsible gambling by identifying at-risk players (Wyld, 2008). Smart gaming tables have been observed to strengthen frontline operations by improving real-time monitoring, floor supervision, and access to auditable operational data (Ho et al., 2026). Taken together, smart tables and RFID chips represent a nexus between technological and operational perspectives, facilitating real-time tracking, at-the-table chip transactions, and analysis of player betting behavior.

Casino surveillance is one of the key components in strengthening on-site operational security. In Macau, casinos are required to adopt advanced surveillance systems and retain corresponding records for at least 60 days (Ho & Phillips, 2023a). With facial recognition and artificial intelligence (AI) technology, smart camera systems are considered to enhance local-level security by identifying individuals, matching faces against banned/self-exclusion lists, and detecting suspicious behavior (Partida, 2024; Selwyn et al., 2024). Yet, privacy concerns and data security risks may undermine

regulatory oversight (Liu et al., 2021b; Norris, 2019). Visibility and social influence also affect players' intentions to gamble in AI-supported casinos (Wong et al., 2023). At the regulatory level, since late 2022 through 2026, Macau's regulatory body has been developing and implementing a digital system called "Smart DICJ" to modernize its regulatory practices and enhance technology-enabled oversight of day-to-day casino operations (Macau Printing Bureau, 2023a; 2023b).

Rapid advances in blockchain technology and cryptocurrency are also pressuring casino operators and regulatory bodies to modernize (Bastos, 2020; Haq et al., 2022). While cryptocurrency may appeal to the gaming industry because transactions can be fast, cross-border, and low-cost, Bastos (2020) argues that its use also raises major regulatory concerns, including anti-money laundering and counter-terrorism financing (AML/CTF) compliance challenges and criminal activity risks, due to anonymity and difficulties in verifying the source of funds and customer identity (Brown, 2022; Simser, 2026). If crypto-payments are to be accepted in casinos, AML/CTF measures for customer due diligence (CDD) and enhanced due diligence (EDD) must be established and consistently applied in line with applicable national regulatory requirements (Gore, 2023). Overall, technological applications in casinos are only as effective as the legal structures, regulatory system, and institutional coordination that govern their deployment and enforcement in practice.

Prior work suggests that advanced technology can improve regulatory capacity, real-time monitoring, and risk detection. However, despite ongoing coverage in trade publications, the most recent adoption of technological applications in casinos is not fully reflected in the academic literature. For Macau and other gaming jurisdictions, the key unanswered question is not whether these technologies exist, but how they are integrated into day-to-day regulatory practices, including inspection, auditing, reporting, and enforcement, under the new casino regulatory system. This study, therefore, examines the link between technological tools and regulatory practices in Macau's casino context.

Research gap identified

Macau's gaming industry has been undergoing a regulatory transition since a series of gaming laws were introduced in 2022 (Ho & Phillips, 2023a). Stricter laws and regulatory requirements have been implemented to strengthen oversight in casinos. These reforms are likely to shape industry development in Macau and may offer practical insights for other gaming jurisdictions. The collapse of the junket-led VIP room system has also prompted Macau casinos to make operational adjustments to comply with the regulatory changes. Nonetheless, there is limited research on Macau's newly implemented casino regulatory system in the post-junket environment, particularly regarding the

specific regulatory mechanisms governing day-to-day casino operations and how key stakeholders perceive the regulatory system. In addition, advanced technologies are increasingly employed in casino operations, but their operational and regulatory benefits are underexamined. To address these gaps, this study reviews and evaluates Macau's casino regulatory system in practice and develops a theoretical model with actionable regulatory recommendations. In particular, this study bridges regulatory theory, Macau's regulatory reforms, and technology-enabled oversight to examine how regulatory practices and technology (RegTech) are implemented in day-to-day casino operations and how they shape regulatory effectiveness in practice.

Methodology

This section outlines the rationale behind the use of a qualitative approach and details the research procedures, sampling, and data analysis used to investigate the regulatory-operational dynamics of Macau casinos.

Constructivist grounded theory

Grounded theory is defined as “an inductive, comparative, iterative, and interactive method” (Charmaz & Belgrave, 2012, p. 347). In this study, constructivist grounded theory was adopted to investigate the regulatory-operational dynamics in Macau casinos. This qualitative approach is widely recognized for its effectiveness in theory development and its application in shaping policies across various disciplines (Charmaz & Thornberg, 2021; Chun Tie et al., 2019). The grounded theory framework is also particularly suitable when prior research is limited and the goal is to develop a theory (Birks & Mills, 2023; Charmaz, 2014; Corbin & Strauss, 2008). Following a review of relevant literature and regulatory documents on Macau's gaming industry, the constructivist approach was selected, as it provides a robust foundation for interpreting diverse stakeholder perspectives grounded in multiple social realities.

Research design and procedures

The research design of this study incorporated a literature review, document analysis, and qualitative interviews. Literature is considered vital in grounded theory research by enhancing theoretical sensitivity, providing data for analysis, and serving as a source of theoretical codes (Birks & Mills, 2023). This study began with a review of available literature, policy and regulation, and industry documents. Given the limitations of the relevant literature, the study adopted an exploratory, inductive research design. Specifically, it consisted of three research stages from industrial, regulatory,

and qualitative perspectives. Stage I involved a comprehensive literature review that traced the historical evolution of Macau’s gaming industry and synthesized insights from academic, governmental, and industry sources to establish a contextual foundation. Stage II involved a detailed analysis of legislative and regulatory documents from Macau and comparable jurisdictions to identify key regulatory developments and mechanisms. Stage III adopted a constructivist grounded theory approach, using in-depth interviews with industry stakeholders and complemented by participant observation. Collectively, this triangulated qualitative inquiry offered first-hand insights into the operational realities and effects of the new casino regulatory system in Macau. Figure 1 illustrates the research procedures and steps taken in each stage of this study.

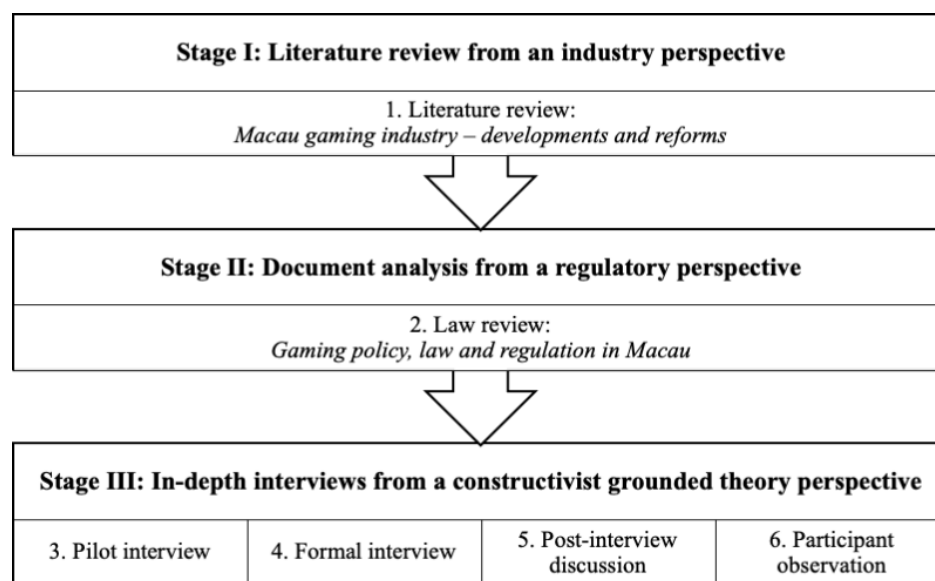


Figure 1. Research procedures and steps for the study
Source: Authors’ own creation

Sampling and participants

This explorative study employed a non-probability sampling method. Purposive expert sampling was used to identify participants with demonstrated expertise in Macau’s gaming industry and its regulatory system. Selected individuals had to meet predefined criteria established to ensure their relevance to the research question, including professional experience and knowledge of the regulatory and operational dynamics of Macau’s gaming industry. Sampling continued until theoretical saturation was reached, indicating that no new conceptual insights were emerging.

A total of 25 participants were interviewed between January and June 2024. Participants were organized into three stakeholder groups: (1) casino management, including senior executives and operational personnel; (2) gaming promoters and their associates; and (3) professional experts, such as

legal scholars, industry observers, and consultants. These participants offered diverse insights into the evolving gaming market under Macau’s new casino regulatory system. In-depth interviews were conducted using a semi-structured interview guide (see Appendix A) developed to explore the regulatory and operational dimensions of Macau’s gaming industry. Each participant was anonymized using a unique identifier reflecting their group affiliation and individual code. Table 2 presents the demographic and professional characteristics of the participants, including gender, age, education, stakeholder category, and years of gaming-related experience.

Factor	Category	Frequency	Percentage
Gender	Male	18	72.0%
	Female	7	28.0%
Age range	31–40	6	24.0%
	41–50	11	44.0%
	51–60	5	20.0%
	61–70	3	12.0%
Education	High school	1	4.0%
	Bachelor’s degree	12	48.0%
	Master’s degree	10	40.0%
	Doctoral degree	2	8.0%
Stakeholder category	Casino participant (C)	15	60.0%
	Junket participant (J)	4	16.0%
	Expert participant (E)	6	24.0%
Relevant industry experience	6–10 years	2	8.0%
	11–15 years	6	24.0%
	16–20 years	10	40.0%
	21–25 years	2	8.0%
	26–30 years	1	4.0%
	31–40 years	4	16.0%

Table 2. Profile of interviewees (N = 25)

Data analysis

This study employed a constructivist grounded theory framework to ensure academic rigor and practical relevance to the research topic. Following the principles outlined by Charmaz (2014), data collection and analysis were conducted concurrently, with each phase informing and guiding the other. This iterative process enabled constant comparison and refinement of emerging concepts, relationships, and themes at every level of data analysis. In-depth interviews were conducted in Chinese (Cantonese or Mandarin) or English and transcribed verbatim in their original language. Initial coding was performed in the original language to maintain contextual accuracy and was subsequently translated into English for focused coding and further analysis. Data analysis proceeded through four key phases: coding (initial and focused coding); memo-writing; theoretical sampling, saturation, sorting; and reconstructing theorizing. In addition to the 25 main participants, three additional interviews were conducted solely to confirm that theoretical saturation had been achieved; these three confirmatory interviews were not included in the profile table and were excluded from the coding and analysis. ATLAS.ti (Version 24 for Mac) was used to assist in the analysis of data collected from the interviews.

To ensure trustworthiness, this study employed several techniques consistent with constructivist grounded theory (Charmaz, 2006, 2014; Charmaz & Belgrave, 2012; Charmaz & Thornberg, 2021). Constant comparison and memo-writing were used to reduce bias, enhance analytical objectivity, and maintain an audit trail. Additional strategies included reviewing regulatory documents, consulting independent industry practitioners, and analyzing negative cases to ensure a balanced interpretation. Supplementary participant observations, conducted during the Chinese New Year holidays in February 2024, January 2025, and February 2026, provided contextual insights into casino operations in practice and were used to triangulate the interview-based themes; the 2025–2026 observations served as follow-up checks to assess whether these themes remained evident. In addition, member checking was used to verify the accuracy of findings with participants, and both peer and participant debriefings supported the validation process. Data triangulation through interviews, reports, and observations also supported the credibility, originality, resonance, and usefulness of the findings.

Ethical considerations

This study received ethical approval from the research review committee of the University of Saint Joseph. All procedures adhered to the 1964 Helsinki Declaration and its subsequent amendments or comparable standards. High ethical standards and transparency were maintained to ensure participant protection throughout the research process. Specifically, informed consent was obtained

from all participants before the commencement of interviews. Participation was entirely voluntary, and participants were clearly informed of their right to withdraw at any time without consequence. No monetary or other incentives were provided. Participants were briefed on the purpose of the study and were given contact information in case of questions or concerns. Strict confidentiality and anonymity were upheld throughout the study. Given the limited number of industry stakeholders in Macau’s gaming industry (e.g., senior casino executives and gaming promoters), particular care was taken to protect participants’ identities. Names, affiliations, and job titles were intentionally omitted from all study materials and reports; instead, participants were identified by group and number. All interview data were aggregated in the final analysis to further safeguard anonymity and minimize disclosure risk.

Results

The interviews with 25 key industry stakeholders offered comprehensive insights into the evolving regulatory and operational environment of Macau’s gaming industry. Specifically, four core categories (themes) emerged through an iterative cycle of initial and focused coding. A summary table presenting raw quotations, initial codes, and focused codes is provided in Appendix B. These emerging industry themes were grounded in participants’ accounts of the impacts and implications of the new gaming laws and corresponding regulatory changes.

Emerging industry themes

A grounded theory analysis identified four emerging industry themes: regulatory institutionalization, de-junketization, functional fragmentation, and technological applications. The regulatory and operational environment of Macau’s gaming industry was reported to be significantly affected by the new gaming laws and by the diminishing role of gaming promoters in casinos. Notably, the decline of gaming promoters was considered an essential element in the development of a core category on its own and as a contributing factor in the formation of other core categories. The interactions among these core categories shape the overall dynamics of Macau’s gaming industry. The four core categories and their respective coding concepts are presented in Table 3.

No.	Core category (theme)	Sub-categories (focused codes)
1	Regulatory institutionalization	Identifying specific regulatory measures
		Perceiving the regulatory changes
		Emerging regulatory and operational challenges
		Diminishing role of gaming promoters in casinos

2	De-junketization	
3	Functional fragmentation	Facing Chinese policy and cross-border player acquisition risks
		Emerging unauthorized agents in casinos
4	Technological applications	Integrating technology into casino operations

Table 3. Core categories and categorization
Source: Authors' own creation

Category 1: Regulatory institutionalization

The new gaming laws have introduced a casino regulatory system that strengthens oversight and compliance requirements in Macau's gaming industry. However, these regulatory changes also present emerging operational challenges. Frontline operations are now required to implement specific measures to ensure compliance, including premium (VIP) player identification, strengthened operational procedures, expanded audit and reporting requirements, and enhanced on-site inspections. While these reforms may pose short-term economic challenges, they are expected to yield long-term benefits by advancing the regulatory institutionalization of the gaming industry, as illustrated by the following representative quotes:

The new gaming laws are mainly about strengthening and optimizing existing regulations to address shortcomings. There are several key areas. First, the sub-concession issue. Second, the concern regarding VIP rooms and satellite casinos. Third, the regulation of national security or public security issues. (Participant C9)

The DICJ has teams and issues instructions that casinos must comply with. For instance, there are procedures for changing cards at the gaming tables . . . moreover, dealing cards must be done without any errors. This is the regulatory aspect of our operations. There are also regulations in place for customer supervision and fund monitoring. Macau has established government agencies to prevent money laundering. We receive AML training about the supervision of customer funds every year. In addition, other casino departments such as accounting, marketing, and gaming also have relevant oversight. (Participant C5)

Actually, there are many regulations in place now, such as AML regulations and player registration. For gaming promoters, when their customers want to gamble directly without any additional services, they still need to become a member before we can help them purchase chips at the casino cage. After that, we also require them to register under their real names. . . . In the past, nobody paid attention to these things. I could choose any [member] account and use any name I wanted. But now, without real-name registration, you cannot gamble. The regulatory system has become more

comprehensive. It is clear who is playing based on their identity. Also, when you purchase dead chips [non-negotiable chips], it is for your own play, not for someone else. In the past, others could gamble on your behalf, but now it is strictly for your own use. Everything is much clearer now, including the source of funds, real-name registration, and tracking of wins and losses. (Participant J2)

Category 2: De-junketization

There is a clear perception among industry stakeholders that the role of gaming promoters has diminished in Macau's gaming industry. The operational scale of gaming promoters has substantially declined due to the enhanced casino regulatory system under the new gaming laws. The key regulatory changes, including the closure of VIP rooms, prohibition of revenue sharing, and stricter licensing and operational requirements, have adversely affected junkets and their associates. Despite their historical significance and extensive player network, the new regulatory system has fundamentally altered the operational landscape for gaming promoters, substantially accelerating de-junketization and eroding their role and influence in casinos:

Previously, revenue sharing provided strong motivation and higher earnings, allowing businesses to expand quickly and hire more staff, resulting in significant growth. At their peak, there were over 300 licensed gaming promoters. Now, the new laws have eliminated revenue sharing and require payment of taxes. (Participant J1)

Junkets used to possess the ability to recruit VIPs that even casino operators could not. Following the liberalization of the gaming industry over the past two decades, Macau has nurtured a group of marketing professionals with extensive knowledge and experience, particularly in premium gaming. As a result, casino operators can now attract VIP customers independently and have even surpassed gaming promoters in securing exclusive VIP clientele. (Participant C8)

Macau has experienced rapid economic growth, and there is no denying that VIP rooms once played a crucial role in driving this development. Tax revenue and various data indicate their significant contribution to Macau's economic advancement. However, over the past two years, the local government, together with national policies, has taken measures to combat corruption and illegal gambling activities, which have substantially impacted gaming promoters. This crackdown has shown the unsustainable nature of certain operational models, leading to a notable reduction in their scope of operations. Some gaming promoters have even become subject to investigations. (Participant E2)

Category 3: Functional fragmentation

Chinese visitors constitute a primary source of players in Macau casinos. Nevertheless, participants reported increasing tension among national policies, the local regulatory environment, and the traditional gambler recruitment model. Recent regulatory developments in mainland China have significantly reshaped the ways in which casino operators, and particularly gaming promoters, source players across the Chinese border, thereby intensifying functional fragmentation in player sourcing practices. In particular, Article 303 of the Criminal Law (2023), which criminalizes the organization of cross-border gambling, has prompted Macau casinos to explore new player acquisition methods and to prioritize non-gaming events as indirect means of attracting players from mainland China. Accordingly, national anti-gambling policies and measures necessitate that Macau casinos develop alternative marketing tactics to navigate the increasing risks associated with cross-border player acquisition:

There are fewer opportunities to promote casinos than before . . . we have limited options, and it feels like our hands are tied when it comes to marketing. We are not allowed to send messages or post on social platforms like WeChat, especially [to customers] in mainland China, that mention participation in baccarat tournaments or dinner events . . . it is more challenging to promote our services. We really have to rely on making phone calls. (Participant C9).

Macau is a unique market due to its proximity to mainland China, where gambling is illegal. There are certain limitations when targeting mainland Chinese customers. [Casinos] face many constraints in this regard. The only way to market indirectly to this customer group is after they arrive in Macau. At that point, various signs or services within the resort would guide them to the casino. But for marketing inside China, [casinos] employ resort marketing strategies. This means promoting the resort itself by highlighting features such as recognition [from international awards], renowned restaurants, or golf tournaments. In essence, the strategy involves promoting non-gaming aspects to attract people to the resort, and once they are there, the focus shifts to gaming-centric promotions. (Participant E4).

Furthermore, Macau has recently strengthened the regulatory oversight of gaming credit. Law No. 7/2024 introduces stricter rules governing the extension of gaming credit to ensure responsible lending and greater transparency in casinos. Participants generally perceived that the new gaming credit law has enhanced the oversight of credit extension; however, they also anticipated that it might pose significant operational challenges for the local gaming industry. One major concern expressed by participants was the restriction on gaming promoters extending credit, which could impede their ability to serve players and meet credit demands. This restriction might inadvertently lead to gaming-

motivated crimes and the proliferation and fragmentation of illicit practices in casinos, such as loan sharking and illegal money exchanges:

Casinos naturally want gaming promoters to bring in more customers. Gaming promoters assume the function of extending credit and collecting debts . . . to be honest, there are some places where casinos cannot operate without gaming promoters. Established relationships exist, and they have their own methods for debt collection there. (Participant C8).

It is challenging to operate without offering credit facilities to customers. It is similar to banks being unable to lend money, causing significant limitations. Additionally, without proper regulation and supervision in the open, some may resort to underground operations, which are not ideal and can negatively impact the overall casino ecosystem. (Participant J1).

The new gaming credit law is to eradicate the practice of gaming promoters extending credit. However, if you eradicate this practice, would they resort to illegal means? If you don't allow them to extend [credit], who will premium players turn to for loans? Currently, if casinos don't lend to customers, they would have to seek gaming promoters or others. This could lead to criminal offenses like loan sharking. (Participant E1).

In fact, unauthorized individuals and syndicates have increasingly facilitated currency exchange and lending for casino players (Ministry of Public Security, 2024). Official statistics provide additional context for these concerns. Macau's Judiciary Police data indicate that a total of 1,107 gambling-related investigations and reports were opened in 2023, rising to 1,423 cases in 2024 and 2,314 cases in 2025. The 2025 total represents a 62.6% year-on-year increase compared with 2024. This growth was mainly attributable to the introduction of the offense of "illegal money exchange for gambling" in late October 2024 (Judiciary Police, 2025, 2026).

Category 4: Technological applications

The transformative role of technological applications in frontline casino operations was widely discussed among the industry stakeholders, particularly casino and expert participants. The integration of advanced gaming technologies, such as smart gaming tables and RFID-enabled systems, was reported by participants as instrumental in streamlining casino operations, minimizing human error, and enabling real-time data collection and analysis. This was particularly evident in casinos' capacity to monitor table activity, detect human errors, and reduce the circulation of counterfeit chips. From a regulatory perspective, participants perceived such technologies as essential for improving oversight mechanisms, ensuring report accuracy, and mitigating risks of fraud or collusion. Additionally, with smart table infrastructure, the implementation of regulatory technology (RegTech) has become

increasingly important in streamlining regulatory reporting, enhancing audit efficiency, and supporting real-time monitoring:

Electronic gaming devices can contribute to more effective regulation . . . these devices can help collect data and provide insights for analytical applications. When pit supervisors do not immediately detect errors, these systems enable reviewing and identifying the mistakes. Moreover, counterfeit casino chips can be eliminated if RFID technology is implemented. (Participant C7)

That is why the [system name deleted] is perfect. It starts and ends at the casino cage. Where does the MGR [master gaming report] come from? The MGR comes from the soft count, which comes from the cage, the only true truth; everything that happens on the gaming floor is not the truth. It is a piece of the truth . . . the challenge with gaming is it is a 24-hour cycle and never stops. (Participant C14)

This is definitely helpful. Smart tables can assist with data analysis, such as tracking how many chips are on the table. At the very least, it enhances operational regulation to prevent cheating or collusion for extra payouts. (Participant E6)

I believe this [gaming technology] should have its role . . . for instance, smart tables have improved a lot compared to traditional tables. The chances of making mistakes or cheating the casino are now minimal. It is almost impossible because if you make a mistake, the system automatically corrects it, and any issues can be easily identified through simple checking. Therefore, if “smart” regulatory measures are well established, they can play a significant role. (Participant E1)

Stakeholder perceptions of Macau’s casino regulatory system

The introduction of gaming laws in 2022 has had a substantial impact on Macau’s gaming industry. In particular, industry stakeholders had a range of perceptions regarding the new casino regulatory system, including positive, negative, and mixed views:

Enhanced operational transparency: Participants reported that improved transparency was a key positive development that strengthened the oversight of casino operations. They highlighted mandatory regulatory measures such as monitoring sources of funds, player identification, increased audit requirements, and more frequent on-site inspections as effective components of the new casino regulatory system.

Reduction in criminal activity: Participants observed a notable decrease in gaming-motivated crimes linked to gaming promoters. This reduction was attributed to regulatory changes, which were perceived to have strengthened the overall integrity of Macau’s gaming industry.

Clearer penalty mechanisms: Compared with the previous gaming laws, the introduction of well-defined penalty mechanisms was perceived positively by participants. Nonetheless, some expert participants noted that the practical application of these mechanisms had yet to be observed.

Regulatory alignment: The alignment of Macau's regulatory system with national policies and international standards, particularly in relation to cross-border money movement, was widely acknowledged as a positive step towards regulatory harmonization. This alignment was perceived by participants as essential for upholding the integrity and reputation of Macau's gaming industry.

Regulatory technology: The strategic integration of advanced technologies into operational and regulatory processes was broadly perceived as a beneficial advancement. The technological applications in casinos were described by stakeholders as instrumental in enhancing monitoring and compliance for both casino operators and regulatory bodies, notably through RFID-enabled smart tables that help track casino chips and table-game activities in real time.

Concerns of over-regulation: Stakeholder perceptions differed widely regarding the enhanced regulation of gaming promoters. All junket participants reported being severely affected by the new gaming laws and perceived these changes as detrimental to their business model. Some stakeholders, particularly those in the expert group, also expressed concern that strict regulation might weaken Macau's competitive advantage relative to other Asian gaming jurisdictions.

Gaming credit restrictions: The new gaming credit law was contentious among the stakeholders. While some participants considered restrictions on the extension of credit by gaming promoters as necessary to formalize credit operations, others raised concerns about potential unintended consequences, such as the rise of loan sharks and money-changing syndicates within casinos.

These varied perceptions clearly reflect the stakeholders' positions and perspectives within Macau's gaming industry. The casino and expert groups tended to exhibit a more positive view towards the regulatory changes, whereas the junket participants were identified as being negatively impacted by the new regime. These findings indicate a dynamic and intricate regulatory environment, with ongoing debates regarding the optimal approach to regulating Macau's unique gaming landscape. Participants generally emphasized the importance of regular dialogue and periodic adjustments to help ensure that Macau's casino regulatory system responds to stakeholder concerns while sustaining industry growth and integrity.

Discussion and theory development

This study's findings include four industry themes and stakeholders' perceptions that are both related to Macau's new gaming laws. The four emerging themes (i.e., regulatory institutionalization, de-junketization, functional fragmentation, and technological applications) reflect how stakeholders have understood and responded to Macau's recent regulatory transition. Participants across stakeholder groups perceive that the new casino regulatory system has reshaped both day-to-day regulatory and operational practices. In particular, a wide range of specific regulatory mechanisms has been identified from the stakeholder interviews. These on-site regulatory measures are designed to ensure effective oversight and supervision of frontline casino operations, including premium (VIP) player identification, strengthened operational procedures, expanded audit and reporting requirements, and enhanced on-site inspections.

Regulatory implications

Gaming promoters historically played a pivotal role in generating gaming revenue for Macau casinos (Ho, 2018; Siu Lam, 2013). However, junkets and their associates often operated at the margins of legality. The new gaming laws affirm that only authorized entities have the right to operate casinos, effectively outlawing the presence of third-party VIP rooms. Although gaming promoters are still allowed to host players and receive rolling-based commissions, the laws have tightened licensing requirements and restricted credit services, resulting in a notable decline in the number of gaming promoter licensees. In addition to Macau's new regulatory system, cross-border player acquisition has been constrained by China's criminalization of organizing cross-border gambling under Article 303 of the Criminal Law (2023), which has substantially increased the legal risks of recruiting players across the Chinese border.

The grounded theory analysis also reveals critical insights into the perceived fragmentation of criminal activities in Macau casinos. Although the new gaming credit law aims to eliminate unfavorable practices, participants argued that it might inadvertently encourage illegal lending and money-changing activities inside casinos. With gaming promoters barred from extending casino credit, players in need of money may seek alternatives, including unlicensed lenders and underground networks. This shift was perceived as potentially expanding the role of illegal money changers within the casino environment.

Recent industry developments highlight the need for regulation that addresses not only the activities of casino operators and gaming promoters but also the wider ecosystem of illicit practices. In response to concerns about gaming-motivated crimes, the Macau government has recently enacted Law No. 20/2024, which criminalizes illegal gambling operations and associated activities, including

multiplier (under-the-table betting) and illegal money exchanges within casinos and integrated resort premises. Since its inception, multiple local regulatory bodies, including the Judiciary Police and the DICJ, have addressed these crimes through prevention efforts, targeted enforcement, and compliance measures (Financial Intelligence Office, 2025; Judiciary Police, 2024).

The new gaming laws and the enhanced regulatory system have reshaped the gaming industry in Macau. These findings suggest that regulatory bodies and casino operators should treat gaming technology as a core component of regulatory oversight and operational accountability. In particular, technology-enabled gaming systems were described by participants as capable of strengthening end-to-end monitoring of the gaming process. Regulatory bodies should continuously implement specific on-site measures to safeguard the integrity of the industry. It is important to prioritize regulatory controls and compliance standards to provide a fair gaming environment and prevent potential money laundering, loan sharking, illegal money exchanges, and other criminal activities in casinos. Closer regulatory alignment with national policies and international best practices is also considered essential to maintain Macau's status as a respectable gaming destination.

Constructed theory: Regulatory-operational dynamics of Macau casinos

Licensing, accounting, and enforcement are generally considered the fundamental regulatory functions for casino gaming (Cabot & Miller, 2021). While licensing, or concession in the case of Macau, serves as the initial step in regulatory oversight, the current regulatory system has shifted from merely selecting qualified casino operators to actively auditing and policing the day-to-day casino operations. Against this backdrop, this study identifies four core categories within Macau's gaming industry: regulatory institutionalization, de-junketization, functional fragmentation, and technological applications. These industry themes are closely linked to stakeholders' perceptions of Macau's casino regulatory system, which include positive, negative, and mixed assessments across multiple regulatory and operational areas. Building on these grounded theory insights and an established casino regulatory model, the analysis moves from these data-based categories to a higher level of theoretical integration by examining how each category operates in practice. The findings suggest that the four categories are interconnected and mutually shaping within the new regulatory context. For example, regulatory institutionalization establishes oversight standards; de-junketization reshapes casino operations; functional fragmentation increases the risk of gaming-motivated crimes; and technological applications standardize regulatory practices.

Informed by interview-derived industry themes, stakeholder perceptions, and regulatory theory, a conceptual model is developed to strengthen regulatory oversight and operational

accountability. It organizes the four industry themes around three higher-order domains that represent the regulatory-operational dynamics in Macau casinos. Specifically, the grounded theory model is structured around three primary domains: regulatory functions, regulatory compliance, and regulatory improvement. These three domains are operationalized through eight overlapping focus areas: licensing, internal controls, regulatory monitoring, enforcement and penalties, regulatory alignment, regulatory technology, regulatory effectiveness, and periodic review.

Licensing: The licensing system represents the initial step in the regulatory process to ensure that only qualified entities are authorized to operate or engage in the gaming industry. Casino operators, gaming promoters, and other industry actors who benefit from gaming-related profits should be selected based on personal suitability, financial stability, and operational expertise.

Internal controls: Robust control systems are essential for maintaining operational consistency and regulatory compliance in casinos. Accordingly, internal control standards and other mandatory instructions established by regulatory bodies should specify the administrative, accounting, and operational procedures required for day-to-day casino operations.

Regulatory monitoring: Day-to-day supervision of casino operations is critical for ensuring compliance with applicable laws and regulations. Routine, frequent, and unannounced inspections allow regulatory bodies to identify on-site deviations from standards and address irregularities.

Enforcement and penalties: Effective penalties deter violations and support compliance in casinos. Such mechanisms should include sanctions for non-compliance, public disclosure of enforcement actions, and a scalable penalty framework that reflects the severity of violations.

Regulatory alignment: Local gaming laws should align with national policies and international standards. For example, regulatory alignment involves systematically benchmarking Macau's casino regulatory system against the anti-gambling policies in mainland China and the best practices in other gaming jurisdictions. Such coordination supports regulatory consistency and addresses broader issues such as money laundering and cross-border money transactions.

Regulatory technology: Technological advancements can substantially strengthen real-time regulatory oversight and operational accountability. Casino operators should continuously modernize their gaming facilities with cutting-edge technologies, including RFID-enabled gaming tables, casino chip attribution systems, security and surveillance systems with facial recognition technology, and data-driven casino management systems. The integration of these advanced technologies into regulatory practices advances, automates, and streamlines on-site monitoring and compliance efforts. Regulatory bodies should expedite the adoption of regulatory technology (RegTech) and other

emerging solutions, such as AI-driven analytics and related tools, to optimize regulatory functions and compliance in frontline casino operations.

Regulatory effectiveness: Regular evaluation of on-site regulatory practices is necessary to identify areas for improvement. This process should evaluate the productivity and impact of regulatory bodies based on data from regulatory technology, on-site monitoring, compliance audits, performance metrics, gaming activity reports, stakeholder consultations, and operational feedback. This evaluation ensures that the current regulatory practices remain effective and adequate.

Periodic review: Regular review and adjustment of the casino regulatory system, informed by insights from evaluations of regulatory effectiveness, are instrumental in maintaining regulatory relevance. The regulatory improvement cycle should be conducted periodically to ensure that specific regulatory measures for casino gaming remain adaptable to emerging risks and industry trends. These updates keep the casino regulatory system dynamic and responsive, ensuring that the intended regulatory outcomes are achieved.

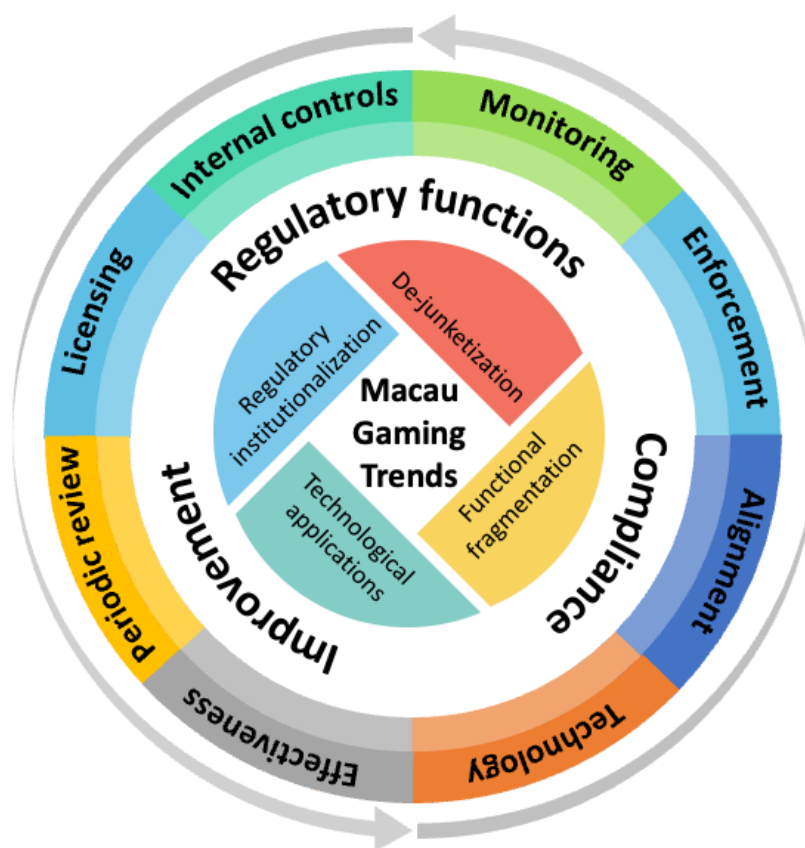


Figure 2. The regulatory-operational dynamics of Macau casinos
Source: Authors' own creation

Figure 2 illustrates the grounded theory of the regulatory-operational dynamics in Macau casinos. The proposed conceptual model offers a structured and forward-looking framework for

effective gaming regulation and operational resilience. While upholding the essential regulatory functions of licensing, accounting, and enforcement (Cabot & Miller, 2021), this grounded theory model advances the existing regulatory framework by incorporating additional dimensions of regulatory compliance and improvement. It also highlights the role of RegTech as a key mechanism for strengthening Macau's casino regulatory system. These insights may also provide transferable considerations for regulators in other gaming jurisdictions.

Limitations and future studies

This study has several limitations. First, given Macau's distinctive regulatory system and operating environment, the findings may have limited applicability to other gaming jurisdictions. Second, participants were drawn from three stakeholder groups using purposive expert sampling, which may introduce selection bias and limit the range of perspectives represented. Third, the sample (n = 25) was appropriate for grounded theory development but was not statistically representative; caution is warranted when generalizing to the broader gaming industry or other jurisdictions. Lastly, since qualitative inquiry generally involves interpretive analysis, the co-construction of meaning between researchers and participants may introduce subjectivity; although trustworthiness was evaluated using established grounded theory criteria (Charmaz, 2014; Charmaz & Thornberg, 2021), researcher influence could not be fully eliminated. Future research should broaden participant groups and demographics to include regulators, players, and residents, and should increase the sample size to capture a broader range of views. Longitudinal studies are also recommended to evaluate how regulatory impacts and stakeholder adaptations evolve over time. Comparative research across different gaming jurisdictions could also help identify shared challenges and transferable regulatory and operational practices.

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Appendix A: Interview Guide

Industry stakeholders from casino operators, gaming promoters, and professional experts were interviewed using a constructivist grounded theory approach. This semi-structured interview guide included three main categories of inquiries: specific regulatory measures in practice, participants' perceptions toward the new gaming laws, and the potential impact of these laws on Macau's gaming industry. Since this study used a qualitative approach, not all participants were asked identical questions. The following is an example of the interview questions:

From your experience and/or knowledge, how do regulatory bodies oversee casino operations?

What factors affect the effectiveness of the casino regulatory system?

How can regulatory bodies more effectively regulate the gaming industry?

What is the role of technology in day-to-day casino operational practices?

What is the role of technology in casino regulatory practices?

What changes have occurred in casinos since the enactment of the new gaming laws?

How, if at all, have your thoughts about Macau's casino regulatory system changed since the enactment of the new gaming laws?

Appendix B: The initial and focused coding process

	Focused code	Initial code	Interview quotation example
1	Identifying specific regulatory measures	New gaming laws	The new gaming laws are mainly about strengthening and optimizing existing regulations to address shortcomings. There are several key areas. First, the sub-concession issue. Second, the concern regarding VIP rooms and satellite casinos. Third, the regulation of national security or public security issues. (Participant C9)
		AML protocols	Customers must provide their KYC information and have a membership to place bets. In the past, these requirements did not apply to either mass areas or VIP salons. (Participant J3)
		Player identification	It is now required to have an individual membership to join the rolling programs. In the past, there were instances where people joined programs but did not participate, allowing their friends to play without membership. (Participant C10)
		Regulatory inspections	The DICJ has inspectors who patrol casinos, and some specifically monitor gaming operations in CCTV rooms. They keep an eye on many aspects of day-to-day operations. (Participant E3)
		Mandatory instructions	The DICJ has teams and issues instructions that casinos must comply with. For instance, there are procedures for changing cards at the gaming tables . . . moreover, dealing cards must be done without any errors. This is the regulatory aspect of our operations. There are also regulations in place for customer supervision and fund monitoring. Macau has established government agencies to prevent money laundering. We receive AML training about the supervision of customer funds every year. In addition, other casino departments such as accounting, marketing, and gaming also have relevant oversight. (Participant C5)
2		Junket system	In the past, VIP rooms operated differently [from casinos], and the regulator had to come up with different ways to supervise gaming promoters and their junket services, such as opening VIP accounts or extending credit to

	Focused code	Initial code	Interview quotation example
	Diminishing role of gaming promoters in casinos		patrons. With the passage of the new gaming laws, activities like lending, account opening, and assisting customers with deposits in VIP rooms have essentially ceased, resulting in the intermediary function [between casinos and players]. (Participant E1)
		Prohibiting revenue-sharing	Previously, revenue sharing provided strong motivation and higher earnings, allowing businesses to expand quickly and hire more staff, resulting in significant growth. At their peak, there were over 300 licensed gaming promoters. Now, the new laws have eliminated revenue sharing and require payment of taxes. (Participant J1)
		Illegal activities	I actually discussed the reasons behind the success of gaming promoters with some casinos before. Apart from credit services, they had channels to help players transfer money across the border. (Participant J4)
		Junket advantage	In the past, gaming promoters directly served VIPs from mainland China to here [Macau]; it was an all-inclusive service. Due to limited manpower, casinos can only provide service when they arrive at the casinos. We may not be able to provide the same level of service for additional requests. (Participant C11)
		Casino advantage	Concessionaires have taken over the management of higher rollers. The profits gaming promoters receive now are so slim, resulting in a decline in the quality of services provided to players. Concessionaires have sufficient logistical support, and there is no longer a need for gaming promoters. (Participant J2)
		Prospect of gaming promoters	Gaming promoters are now only involved in rolling and receive compensation through rolling commissions. They are rarely seen [in casinos]. There are only 19 of them in Macau. (Participant C7)
3		Exercising greater caution	Compared to former VIP rooms and other concessionaires, our company is more cautious when extending credit. (Participant C9)

	Focused code	Initial code	Interview quotation example
	Emerging unauthorized agents in casinos	Prohibiting gaming promoters from extending credit	It is challenging to operate without offering credit facilities to customers. It is similar to banks being unable to lend money, causing significant limitations. Additionally, without proper regulation and supervision in the open, some may resort to underground operations, which are not ideal and can negatively impact the overall casino ecosystem. (Participant J1)
		Emerging illegal money changers	I clearly remember the Secretary for Security talking about the background behind the emergence of these illegal money changers. According to him, these people started appearing around 2018. Why? Because there were some changes in cash access for Chinese visitors, such as the requirement of facial recognition for accessing money [at ATMs], and there were also measures related to China UnionPay. So, illegal money changers became an alternative solution. As a result, they proliferated in 2019, forming organized groups. (Participant P4)
4	Facing Chinese policy and cross-border player acquisition risks	National anti-gambling policies	Macau's gaming industry is greatly influenced by national policies, which can include crackdowns or efforts to address gambling issues among the domestic population. These policy changes have resulted in significant fluctuations in Macau's gaming industry in recent years. (Participant C8)
		Marketing efforts in China	We are not allowed to send messages or post on social platforms like WeChat, especially [to customers] in mainland China, that mention participation in baccarat tournaments or dinner events . . . it is more challenging to promote our services. We really have to rely on making phone calls. (Participant C9)
		Junket networks in China	Gaming promoters expanded their agent network into the mainland, incorporating local agents there in a model similar to a shareholding structure. They would bring in customers and determine how to split the profits. This led the entire junket sector, including [names deleted], to expand their business until they reached their peak. (Participant J2)

	Focused code	Initial code	Interview quotation example
		Player apprehension	Customers are also scared; you never know when someone will settle scores with you later. The biggest problem in Macau is that 90% of the customers are from China. These customers have experienced incidents that happened in VIP rooms before. (Participant J4)
5	Integrating technology into casino operations	Operational benefits	The most practical example is that one concessionaire currently uses technology to monitor the gaming tables and determine whether bets are correct or incorrect. (Participant C9)
		Regulatory benefits	Electronic gaming devices can contribute to more effective regulation . . . these devices can help collect data and provide insights for analytical applications. When pit supervisors do not immediately detect errors, these systems enable reviewing and identifying the mistakes. Moreover, counterfeit casino chips can be eliminated if RFID technology is implemented. (Participant C7)
		Player reception	If we consider the customers' perspective, it is important to think about whether they would appreciate constantly being monitored. (Participant E4)
		Operational concerns	The role of technology in this market is absolute. Unfortunately, it has been underutilized and resisted by many Macau operators due to cost concerns or changes in policy and procedures. (Participant C15)
6	Perceiving the regulatory changes	Positive perception	After the implementation of the new gaming laws, it is obvious that there are significantly fewer unauthorized agents like chip rollers because of the changes in the junket system. There are fewer instances of loan sharking. (Participant C7)
		Negative perception	I don't understand the government's motives! Is it true, as rumored, that they are shrinking the junket business? Last year, there were 36 licensees . . . should we say they are managing gaming promoters well or killing them? Let's just look at the facts! (Participant J1)

	Focused code	Initial code	Interview quotation example
		Mixed perception	[The new regulatory system] has made the industry cleaner, reducing the presence of undesirable elements . . . it has also demonstrated a more regulated Macau to China. That is how I perceive it. On the other hand, the negative aspect is, of course, that we have less revenue. (Participant E5)
7	Emerging regulatory and operational challenges	Cap on gaming tables and machines	After the enactment of the new gaming laws, there has been control over the quantity of gaming tables and gambling machines. I believe that regulation is necessary as it allows for temporary management of customer numbers, which is a good practice. However, it is worth exploring whether the market can meet customer demand. (Participant C2)
		Potential illegal activities	I am afraid the regulatory focus in the future should be on loan sharking. Since they [gaming promoters] no longer have the legal status of granting credit as before, they will increasingly operate in underground ways. I believe this aspect requires special attention. (Participant E1)
		Regulatory system and process	The control system has to be robust but skeletal and periodically needs to go back and completely rebuild it again, over and over and over again, look at it and analyze it. (Participant C14)
		Regulatory alignment	It is crucial to align with national policies since Macau is part of the country and functions as a Special Administrative Region. Should the interests of the region or the interests of the country take precedence? Furthermore, considering the domestic market, international market, and global financial aspects, is there a need for coordination? (Participant E2)

Table 4. The initial and focused coding process
Group affiliation: casino (C), junket (J), and professional expert (E).