

# Taking a break is for accomplishing a longer journey: hospitality industry in Macao under the COVID-19 pandemic

Hospitality  
industry in  
Macao

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Matthew Tingchi Liu, Shaoshan Wang and Glenn McCartney  
*Faculty of Business Administration, University of Macau, Taipa, Macao, and*

IpKin Anthony Wong  
*School of Tourism Management, Sun Yat-sen University, Guangzhou, China*

Received 9 July 2020  
Revised 12 October 2020  
1 January 2021  
8 January 2021  
Accepted 8 January 2021

## Abstract

**Purpose** – This paper aims to analyze how a real-time COVID-19 pandemic is impacting Macao's hospitality industry, and illustrates why lessons from COVID-19 are an opportunity for further development for the city.

**Design/methodology/approach** – This case study highlights local government and hospitality industry responses to a real-time crisis. Academic studies, media news and reports have been collected to illustrate why the Macao's response to the COVID-19 pandemic could be taken as a city case study example. Previous crisis experience provided guidance to Macao's success in this pandemic.

**Findings** – Macao has succeeded in managing the adverse effects of COVID-19, illustrating the coexistence of challenges and opportunities from experiencing the epidemic. With no COVID-19 cases in the city, cross-border tourism with China resumed in September. Macao is undeniably over reliant on the gambling industry to provide tax income and employment, creating an unbalanced industrial structure. However, the Chinese and Macao Governments, the hospitality industry and other stakeholders, have presented high levels of engagement, unity and rational courses of action during the pandemic. This paper examines Macao's two orientations – intra and post-coronavirus – which are shown to be instrumental in the city's future tourism development.

**Practical implications** – As the paper is Macao-specific, some generalization may not be applicable. The lessons and strategies proposed in the paper may only be theoretically and temporarily workable in this real-time situation. However, as COVID-19 will remain for some time globally, the efficacy of the findings justifies further ongoing analysis and application beyond Macao.

**Originality/value** – The case offers a first-hand analysis on the governance of Macao to negate the impacts of COVID-19, enabling a comprehensive review on the practices and policies that were effective during the virus outbreak. There is reference for researchers and practitioners in the public policy domain, and particularly in the area of crisis management and destination resilience. The result is worthy of future exploration on how the mechanism of centralized government facilitates risk management, and the rebuilding of a tourism economy in a crisis context, comparing this to other national systems.

**Keywords** Macao, COVID-19 pandemic, Moderate industrial diversification, Hospitality recovery

**Paper type** Case study



## 1. Introduction

### 1.1 Background

The COVID-19 pandemic has resulted in dramatic global impacts, creating in an estimated 1 billion confirmed cases, with around 2 million deaths worldwide – figures

that keep rising daily (World Health Organization, 2020). The virus has sparked fears of greater global social and economic disruption, including the largest global recession since the Great Depression (Abbas and Naushad, 2020). Quarantine procedures, restrictive transportation use, event and entertainment cancellation and school suspension are some preventive measures that have also greatly reduced work opportunities and the workforce.

Macao is one of the most densely populated regions in the world with 20,400 people per km<sup>2</sup> in 2019, more than Tokyo, New York, Hong Kong and Singapore. Macao has been a city though that has effectively managed the fallout from COVID-19. Official data showed no COVID-19 deaths, and only 46 COVID-19 infection cases in Macao, who all recovered (Macao Government Tourism Office, 2020). Macao's success originates from the collaborative efforts between government and the hospitality industry, each taking preventive measures from the outset of the virus outbreak in the city in January (Travel Weekly Asia, 2020a).

There are three major reasons why Macao is an important reference in the fight against COVID-19. First, the decisiveness and speed of government decision-making when the crisis emerged. Second, the engagement and willingness of the Macao hospitality industry to support and conform to the government's policy was crucial. Third, Macao used the epidemic period as a chance for policy reflection, including implementing strict actions to prevent against further COVID-19 infections, and preparing for hospitality industry diversification after the crisis. This Macao story demonstrates the coexistence of challenges and opportunities in a global pandemic crisis, and based on the COVID-19 response outcomes to date, to continue to improve on resource integration between the authorities and hospitality industry. This government and hospitality industry cooperation revealed a high level of unity and rational thinking in managing during the health and social emergency period.

### *1.2 Expected contributions*

This study contributes to the COVID-19 literature in two distinct ways. First, this is a systematic study research documenting for the first time the collaboration of the government and the hospitality industry during COVID-19 in Macao. Although there are previous studies examining tourism recovery in the COVID-19 crisis (Zhang *et al.*, 2020), this study examines the hospitality sector specifically. Second, while there are some studies about COVID-19 impacts to Macao (Liem *et al.*, 2020), these studies do not consider the role of public and private sectors collaboration.

## **2. Impacts of the coronavirus outbreak in Macao**

The ongoing COVID-19 pandemic first occurred in Wuhan, China, in December 2019 (Li *et al.*, 2020). The zoonotic virus outbreak quickly escalated internationally, triggering global governmental actions and interventions, with attempts to provide integrated solutions across a range of public, community, industry and governmental agencies.

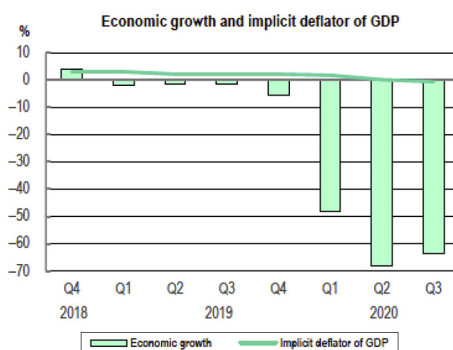
In terms of gaming revenues, Macao, a Special Administrative Region (SAR) of China, is renowned as the world's largest gambling industry. In 2019, the casino sector generated over US\$24bn, about seven times higher than the casino revenues of Las Vegas (Erheriene, 2019). The virus outbreak had an immediate dramatic impact on gambling revenues and visitation to Macao as visitation had essentially halted by February. With nearly 80% of Macao's public revenues in 2018 generated from the gambling sector (Financial Service Bureau of Macao SAR, 2020), the gambling industry assumed significant daily losses in

profits. In February and March 2019, Macao’s casino revenues were US\$3.17bn and US\$3.23bn (Macao Gaming Inspection Department, 2020), but dropped significantly to US\$387m and US\$664m in February and March 2020 (Duprey, 2020). Hotel occupancy rate fell to below 15% (10% for five-star properties) in February 2020. As a consequence, Macao’s gross domestic product (GDP) plunged about 50% year-on-year in real terms in the first quarter in 2020 (see Figure 1 and Table 1).

Mainland China tourists contribute most to Macao’s gambling and hospitality sectors. In 2019, the city had 39 million tourists, of which 27.9 million (71%) were from Mainland China (Macao Statistics and Census Service, 2020). Macao is the sole legal region in China that operates casino gambling services, and as such attracts a large portion of guests from China (Liu *et al.*, 2015).

The devastation to Macao’s hospitality industry from COVID-19 can be seen in Figure 2. The occupancy of hotels, gross gaming revenues, and visitor arrivals all plummeted. Hotel occupancy rates in Macao fell nearly 70% comparing the same period of 2019 to 2020, as the Chinese authorities stopped issuing exit visas to Macao, reducing visitor arrivals dramatically (Figures 3 and 4). With rising COVID-19 infections in Macao, casinos closed in February 2020 for nearly half a month, signaling the onset of extraordinary losses for the casino industry. With essentially no casino patrons and hotel guests, the casino resorts had to take measures to maintain and improve employee morale, while minimizing daily economic fallout. These actions are summarized in subsequent parts of the paper.

Macao’s lockdown resulted in zero deaths from COVID-19, and few infected cases admitted to the city (Macao Government Tourism Office, 2020). The actions taken by the



Source: Macao Statistics and Census Service (2020) (DSEC)

Figure 1. Economic growth and implicit deflator of Macao GDP 1st and 2nd quarter 2020

Index item	Nominal growth		Real growth	
	1st quarter (%)	2nd quarter (%)	1st quarter (%)	2nd quarter (%)
Gross domestic product (GDP)	-47.7	-67.6	-48.7	-67.8
Exports of gambling services	-60.5	-97.0	-61.5	-97.1
Exports of other tourism services	-63.8	-94.3	-63.9	-93.9
Investment	-36.9	-9.8	-36.7	-9.1

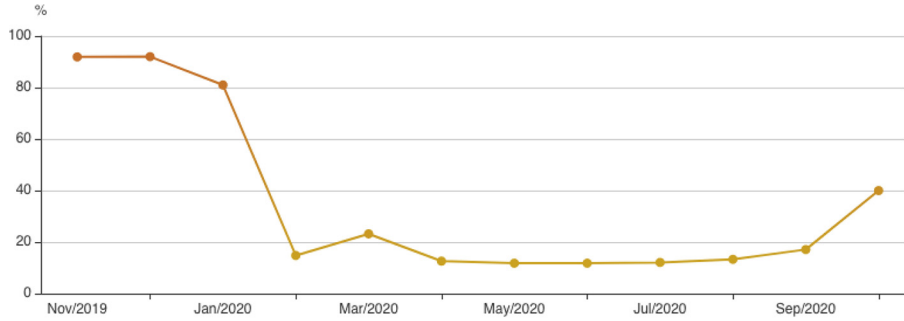
Source: Macao Statistics and Census Service (2020) (DSEC)

Table 1. Principle indicators of Macao GDP 1st quarter and 2nd quarter 2020

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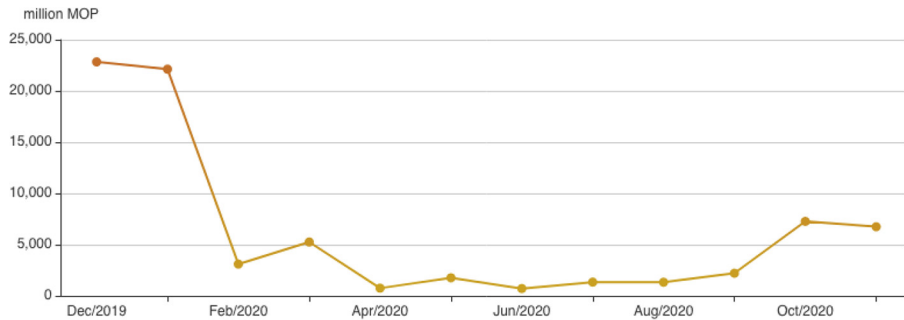
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**Figure 2.**  
Occupancy rate hotels  
and guesthouses of  
Macao



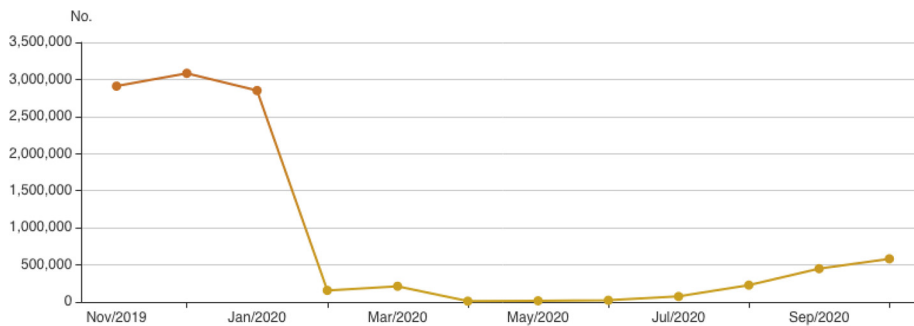
**Source:** Macao Statistics and Census Service (2020) (DSEC)

**Figure 3.**  
Gross revenue of  
games of chance



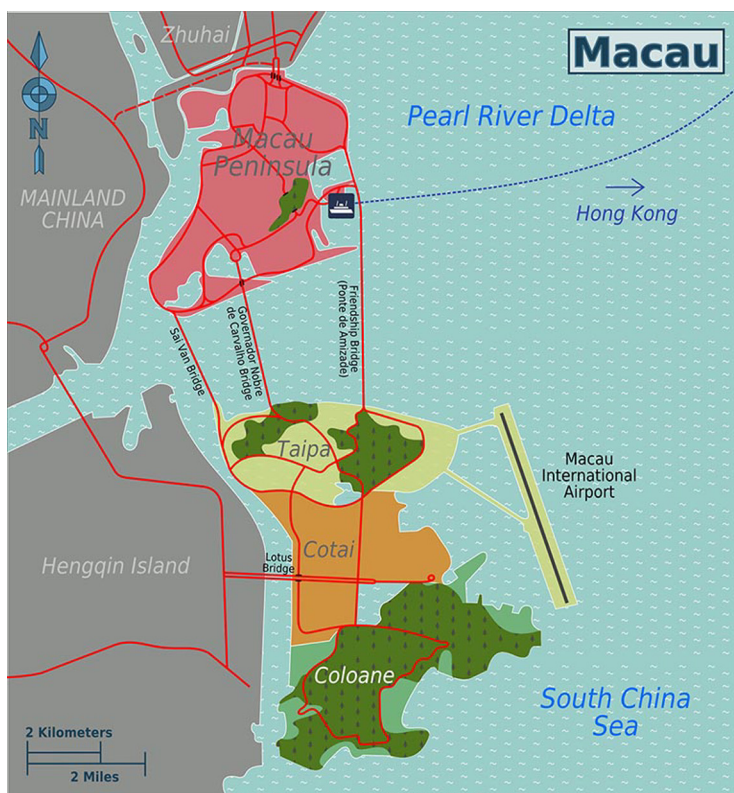
**Source:** Macao Statistics and Census Service (2020) (DSEC)

**Figure 4.**  
Visitor arrivals of  
Macao



**Source:** Macao Statistics and Census Service (2020) (DSEC)

Macao Government and the hospitality industry to control the pandemic in one of the world's most densely populated cities are worthy studying. From a geographical aspect, Macao has a land border with Mainland China (Figure 5). The city has had a very low virus infection, far lower than that of global counterparts of comparative size (Macao Government Tourism Office, 2020). Although Macao relies on gambling and tourism to support tax



Source: Worldofmaps (2020)

**Figure 5.**  
The geographic location of Macao and Hengqin island

income, the government took rapid decisive actions to block all the border gates – it was an action that immediately cut off the government’s main revenue stream, as well as plunging the industry into huge daily net losses (McCartney, 2020). As outlined later, the severe lockdown measures provided the conditions for the Macao hospitality and tourism industry to recover later in 2020.

### 3. Literature review

Crisis management is defined as “a set of factors designed to combat crises and to lessen the actual damage inflicted by a crisis” (Coombs, 2014, p. 117). Previous studies on crisis management have examined their impacts (Chan, 2011); the effectiveness of official social media (Rao *et al.*, 2020); crisis management in terms of governance capacity and legitimacy (Christensen *et al.*, 2016); and crisis management ability and preparation (Jin *et al.*, 2019). Macao is significantly reliant on casinos with limited diversification (Chan, 2011). Therefore, when the COVID-19 crisis occurred, the main government and industry revenue stream suffered dramatically. The literature has voiced concerns on COVID 19-related crisis issues related to virus contagion and prevention impacting the economy (Cauberghe *et al.*, 2020; Jones and Comfort, 2020; Baum *et al.*, 2020).

Crisis management has been described in three phases – the pre-crisis phase (prevention and preparation); the crisis phase (response); and the post-crisis phase (learning and revision) (Coombs and Laufer, 2018). The pre-crisis phase involves the prevention of crises, and preparation for possible crises to minimize potential fallout. The crisis phase represents the response to the crisis. The least researched area in crisis management is the post-crisis phase involving learning and revisions based on the experiences from the crisis (Ritchie, 2004). Importantly, this study helps to address this gap in the destination crisis literature.

Macao preparations in the COVID-19 pre-crisis phase (prevention and preparation) had an outcome of zero deaths and 46 infected cases (Macao Government Tourism Office, 2020). Working in close cooperation with the hospitality industry, effective virus containment mandated measures from the Macao authorities included an immediate 14-day quarantine policy upon discovering the first imported case, as well as border temperature detection systems. Macao had learnt from former crises, and more specifically the Severe Acute Respiratory Syndrome (SARS) epidemic in 2003, the financial crisis in 2008 and the European debt crisis in 2010 (Chan, 2011). Recently, the Macao Government responded with crisis management measures to limit the fallout from the natural disaster and direct hit of Typhoon Hato in 2018 (Macao Government Portal, 2018). At each post-crisis phase, the Macao authorities took lessons learnt as references for future crisis scenarios.

Although some crises are inevitable, a good crisis management ability and preparation can strengthen society to defend against future disasters (Jin *et al.*, 2019). There is no optimal formula for harmonizing competing interests and tensions, or for overcoming uncertainty and ambiguous government structures during a crisis. Literature asserts though, that flexibility and adaptation are key assets within the political, administrative and situational context, to create a well-functioning governmental crisis management system (Christensen *et al.*, 2016). Communication remains a crucial component to a crisis management. COVID-19 research shows that reassuring responses from official media and other emergency information to an anxious public, especially via social media such as Twitter, can be an important part of crisis management and public support, and something for government agencies to remain active in (Rao *et al.*, 2020).

Crisis management is a core government responsibility that can be challenging to accomplish (Boin *et al.*, 2016). Improvements in crisis management should be a focus, as risk can be reduced when a weakness has been identified (da Silva Avanzi *et al.*, 2017). A cohesive and rapid decision-making system of government enables quick reactions to a crisis (Wan and Pinheiro, 2014). In the study of Macao's governance, Wan and Pinheiro (2014) discuss Macao's approaches to coping with fast-changing circumstances. Lai and Wong (2020) further expanded Macao's governance during COVID-19, highlighting the cooperate framework between the government and the hospitality industry and "lessons learnt" from previous crises.

#### 4. Research method

This case study focuses on the outbreaks of COVID-19 in 2020 in Macao – the first cases occurring in January 2020. Secondary information on the Macao COVID-19 response is extracted from the literature, including published official reports, government statements, policy papers, industry reports and academic literature. The secondary information was collected from January 1 to December 31, 2020 from both governmental and industrial sources. These included key COVID-19 information sources such as the Macao Government Information Bureau, Macao Statistics and Census Bureau, Macao Health Bureau and key casino industry media sources including GGRAsia and Inside Asia Gaming. Crisis management responses to the disaster provide the focus for a discussion. We finally



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categorized our findings into two categories – the actions taken by Macao Government and the hospitality industry.

## 5. Actions taken by Macao Government to contain COVID-19

The Macao Government's response during the COVID-19 pandemic period has been shown to effectively control COVID-19 ([Macao Government Tourism Office, 2020](#)). Starting in January 2020, several mandatory policies were implemented and enforced by the government – one key measure in place throughout 2020 has been mask wearing, and discussed below:

### 5.1 Internal actions

The core containment policy of the Macao Government centered around monitoring and controlling visitor arrivals. Over 27.9 million (70%) arrivals were from Mainland China in 2019. Hong Kong had the second largest visitor segment at 7.4 million (19 %) ([Macao Statistics and Census Service, 2020](#)). As a centralized government, Macao was able to respond to the COVID-19 threat and implement policies almost immediately. A stringent measure taken at the beginning of the pandemic in early February was the suspension of casino operations for 14 days, including suspending operations at other leisure and hospitality venues such as cinemas, indoor and outdoor playgrounds, health centers, gyms, clubs and bars ([Macao Government Portal, 2020](#)).

From the start, the Macao Government put a blanket ban on public events and festivals, beginning with the cancelation of the Chinese New Year celebrations in mid-January. Chinese New Year is one of the most important festivals in Macao, attracting nearly 800,000 guests to Macao over the five-day celebrations in 2019 ([Macao Tourism Dataplus, 2020](#)). On 17th March, Macao finally closed the borders to all non-residents except for non-residents workers, effectively sealing the city off from outside visitors ([Asia Gaming Brief, 2020](#)). The lockdown also restricted Macao's own citizens from leaving. This border closure remained in place as the pandemic expanded globally.

In August, the Chinese authorities re-established the IVS (Independent Visitors Scheme), permitting individual travel from all of China's provinces to travel to Macao upon taking a COVID-19 test. Macao became the first cross-border location globally to re-establish the IVS with China. Similarly, Macao Chinese could travel to China after taking the COVID-19 test ([GGRAsia, 2020](#)). While foreign travelers have been banned from entering the city throughout 2020, Macao residents returning to the city from overseas destinations must undertake 14-days quarantine. Residents are escorted from the border point to a quarantine hotel. The government exerted strong negotiating power by asserting that although the government paid for quarantine accommodation for all residents, the provision of these hotels were part of corporate social responsibility (CSR) expected by the government from the hospitality industry ([Wong, 2020; Liu et al., 2014a](#)).

### 5.2 External actions

Macao Government has taken strict measures to prevent coronavirus cases being imported from abroad to the densely populated city – measures which essentially put the city into a lockdown. External actions included the suspension of all foreign entry visas; the cancelation of international flights; foreign students registered at Macao educational institutions banned from entering; restrictions on permitting foreign workers returning to Macao, as well as restrictions on permitting locals and residents leaving ([Universal, 2020](#)). As well as individual visas, group tour visas for Chinese to Macao were suspended on 21st January. By April, after from cargo flights, Macao's international airport had canceled all

commercial flights. The Hong Kong–Zhuhai–Macao Bridge, the final public transportation link between Macao and Hong Kong, was suspended on 18th March. This suspension essentially ending all travel to and from Hong Kong. To permit those who wanted to leave Macao, some chartered flights flew from Macao’s airport, while some special ferry services were arranged direct to Hong Kong International Airport ([Macao Government Information Bureau, 2020a](#)).

By May, with no more reported COVID-19 cases in Macao and no COVID-19 deaths, the city began to cautiously ease some cross-border restrictions. Macao and Mainland China reached a consensus to resume the normal cross-border opening hours. Senior high schools in Macao resumed classes in early May and the quarantine order was suspended for Macao non-resident workers from the Mainland China who resided in neighboring cross-border Zhuhai district ([Macao News, 2020](#)). As COVID-19 cases were ongoing in Hong Kong into late 2020, those traveling to Macao on the bridge continued to need 14-days quarantine upon arrival. Similarly, Macao visitors to Hong Kong undertook 14-days quarantine ([Department of Foreign Affairs, 2020](#)).

The challenge with Macao’s ongoing tourism recovery is twofold: First, Macao is reliant almost entirely on visitors from Mainland China and Hong Kong. Second, the previous inconsequential number of international visitors to the city were made scarcer due to the societal unrest in Hong Kong ([Inside Asia Gaming, 2020](#)). As a possible solution to internationalization, Macao is considering to leverage from the Greater Bay Area’s (GBA) airport cluster such as the Guangzhou International Airport ([Zhuhai, 2020](#)). While there has been focus from the authorities on Macao’s recovery from this real-time pandemic ([McCartney, 2020](#)), post-COVID-19, there has been limited discussion on tourism direction and ambitions.

### *5.3 Macao Government COVID-19 responses and actions*

From the outset of the first COVID-19 positive case in Macao, the Macao Government took a number of rapid and decisive actions. These included a mandatory quarantine policy and closures of public parks, leisure facilities as well as various financial assistance programs ([Macao News, 2020](#)). A concern during periods of isolation has been mental health and illness brought about by feelings of loneliness and a sense of loss. Acknowledging mental illnesses may occur or worsen during the period of COVID-19, the Macao government offered training courses on self-health management and stress relief skills ([Macao Government Portal, 2020](#)). In collaboration with the Macao Social Welfare Bureau, the Macao Psychological Association provided additional psychological resources to the public, such as self-care tips, a hotline number and further children protection services during the COVID-19 outbreak ([Psychological Resources for Novel Coronavirus, 2020](#)).

As part of the recovery phase, the Macao Government took preemptive measures aimed at providing stimulus to the hospitality industry. In February, the Macao Government prepared a US\$4.8bn financial stimulus package, which included cash support to affected local companies and households and an additional US\$205m in March to support local industries ([Macao News, 2020](#)). The government committed an additional US\$400m to directly support the tourism and hotel sectors ([Macao Government Information Bureau, 2020b](#)). Highlights of these fiscal measures included the following:

- Stimulating retail consumption. The launch of electronic vouchers to all residents amounting to 1.3% of GDP. There are approximately half a million residents in Macao ([Macao Statistics and Census Service, 2020](#)). This e-voucher measure was directly aimed at spurring domestic retail consumption ([KPMG, 2020](#)).



- Hospitality tax incentives. A waiver of 5% tourism tax was given to the hospitality and leisure industry for 6 months, normally payable by establishments providing hospitality and leisure services such as hotels, bars, gym rooms and karaoke venues ([Macao Government Information Bureau, 2020e](#)).
- Employee subsidies. The Macao Government provided US\$625 per month for three months for eligible employees and self-employed professionals, and US\$1,875 to US\$25,000 for local firms to reduce unemployment. By mid-2020 local unemployment stood at 2.7% ([Macao Statistics and Census Service, 2020](#)).
- Supporting household well-being. All household electricity and water tariffs were fully paid by the Macao authorities for Macao residents for three months inclusive.
- Acquiring 1.2 million COVID-19 vaccine doses. Under the World Health Organization agreement, Macao is able to participate in the COVID-19 Vaccines Global Access Facility (Covax), thereby guaranteeing the city will be able to purchase a certain amount of COVID-19 vaccine when globally available. The first batches will arrive in the beginning of 2021.

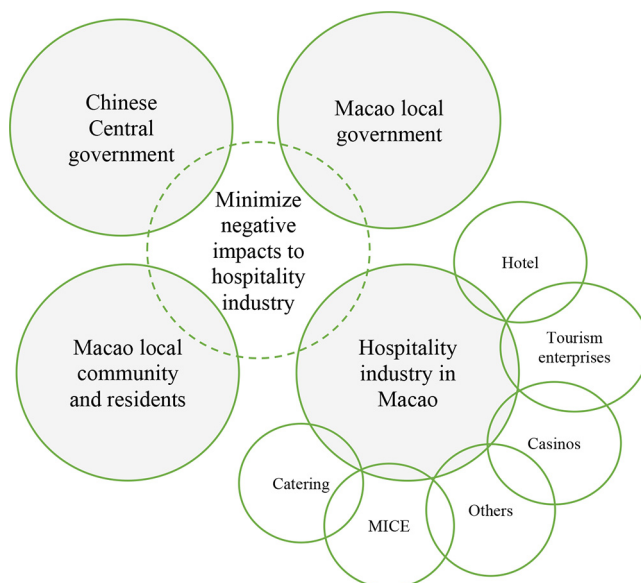
Macao experienced the SARS epidemic in 2003, which devastated the hospitality industry for a short period, particularly in Hong Kong ([McKercher and Chon, 2004](#)). Comparing the experience of SARS in 2003, when few online mental health services were provided for those in need ([Liu et al., 2020](#)), the current COVID-19 pandemic now includes the use of internet services and smartphones ([Macao News, 2020](#)). Technology-enabled solutions are now part of managing COVID-19 in Macao. The pharmaceutical industry has also been part of Macao's resolve on COVID-19 prevention, with over 100 million masks being sold under a government scheme (US\$1 for eight masks) to the population from January to August 2020. This distribution system enacted on 24th January, has been controlled via a centralized computer and database system, with Macao residents and non-residents using ID cards to make mask purchases ([The Standard, 2020](#)).

[Figure 6](#) visualizes the relationship between the Chinese Central Government; the Macao Government; Macao local community and residents, and the hospitality industry in Macao. As [Figure 6](#) shows, the reasons why the negative impacts to hospitality in Macao are minimized are the reactions and collaboration of all the parties. A crucial element is the support from the Chinese Central Government. Politically, not only is Macao a Special Administrative Region within China, but economically, the city relies on Chinese visitation and gamblers – which started to return to the city in the third quarter of 2020.

## 6. Actions taken by the hospitality and casino industry

### 6.1 Prompt collaborative actions

There is no alternative economy to gambling and hospitality in Macao ([Liu et al., 2020](#)). Since the first cases of COVID-19 in Macao, and a temporary closure of casinos for a few weeks, the gambling venues remained open, staffed, but with no patronage ([Reuters, 2020a](#)). This situation was maintained for several months, severely impacting tax revenue contributions to the Macao Government, as well as ongoing casino liquidity. Macao's casino industry has been wholly compliant and cooperative with the government's requirements, while occurring significant daily losses. It was estimated Macao's casino industry lost US\$15m each day from February to July ([BBC, 2020a](#)). This lockdown phenomenon makes the case of Macao's recovery interesting, particularly in understanding the motives for the hospitality industry's cooperation with the government. There are a number of aspects to be considered. First, Macao is a government-led society. This is a scenario where the



**Figure 6.**  
Effective cooperation  
among different  
parties

government has the power to exert political and legislative influence over the industry, and compel the industry to follow (Wan and Bramwell, 2015). Second, whether the casino operators agreed or disagreed with the government direction, this did not change the fact that tourism, Macao's key economic pipeline, had essentially stopped, with no better alternatives presented to circumvent. Third, the casino sector is the main contributor to Macao's hospitality and tourism industry. Casino revenues represent around 90% of revenues to the industry (Deng *et al.*, 2020). All of Macao's highly lucrative 20-year casino licenses will expire in the next few years, signaling the start of an international tender process. Though there is no evidence that the awarding of casino licenses is linked to previous Macao casino CSR commitments, the Macao Chief Executive implied CSR actions may well be stipulated within the new casino contract terms (Wong, 2020; Liu *et al.*, 2014b) (see Appendix).

Macao hospitality industry took actions not only as a means to control the pandemic but also to recover after COVID-19. The hospitality industry conducted cost cutting measures as a means to stem daily-costs and to position and prepared itself for recovery. Even with significant daily losses in revenue, the Macao hospitality sector, and in particular the integrated resort (IR) complexes, supported the city and community throughout the pandemic. Some collaborative measures taken are highlighted below, including staff training and retention and various CSR actions:

- All casinos implemented a 15-day holiday from the 5th February to the 19th February. The reason was twofold – to reduce human resource costs and to start the messaging that employees should work together to overcome the challenges posed by the COVID-19 crisis (Macao News, 2020).
- Sands China Ltd, the largest IR in Macao with nearly 30,000 employees and 13,000 hotel rooms (Sands China, 2020), launched several in-house health and sanitization measures, and campaigned around these images as part of the property recovery.

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Launched as the “Sands SafeStay” in May, this measure was promoted as enhancing sanitization prevention and contactless service to safeguard guests and staff ([Inside Asia Gaming, 2020](#)).

- A Macao “staycation” campaign at the IRs, including multiple free-of-charge tour packages around the city, were launched exclusively for locals. Numerous local tourism industry stakeholders and small business enterprises participated in the tour guiding scheme, while the six major IR operators provided attractively priced room packages or upgrades ([Travel Weekly Asia, 2020b](#)). The tour package campaign lasted about 90 days.
- Overall unemployment only increased only by 0.8% from Q1 2020 to Q3 2020 (2.1% in Q1, 2.5% in Q2, 2.9% in Q3) ([Macao Government Information Bureau, 2020c](#)), a testament to the IR’s maintaining local staff levels. CSR has been a key feature in the hospitality industry’s reaction to the prolonged lockdown, with the city only reopening to tourism again in September – and only with China ([Reuters, 2020b](#)).
- The COVID-19 pandemic was a catalyst to the Macao’s hospitality industry to build in business continuity. Galaxy Entertainment Group, one of the largest IRs on The Cotai Strip, organized more than 50 different internal staff training courses based on health, safety and virus prevention ([Galaxy Entertainment Group, 2020](#)). Maintaining and enhancing employment, health insurance and a healthy and safe working environment, have been important CSR practices by Macao’s casino industry during the pandemic ([Liu et al., 2020](#)).
- Wynn Macao and MGM Macao donated a range of COVID-19 preventative supplies, including protective clothing, face masks and liquid bleach, to local charities and social service agencies ([Macao News, 2020](#)).
- Melco IR executive team voluntary reduced their salaries by 33% from April to the end of 2020, instead of reducing the salaries of lower level employees. Other IR properties similarly introduced voluntary salary reductions for senior management staff. The IRs also enlarged applications of no-paid or reduced paid for staff.
- To alleviate employee pressures from the adverse effect of the epidemic, Wynn provided US\$125 cash to each individual rank and file employee in April 2020.

### *6.2 Macao’s competitive advantages remained unchanged*

Macao casinos, and in particular the development of The Cotai Strip with several IR complexes, has provided the city with a key competitive distinction in Asian, although several Asian countries now feature the casino industry as part of hospitality, including Singapore, South Korea, the Philippines, Vietnam and Cambodia. This distinction, coupled with the rapid actions of the Macao authorities and industry, provided a platform for the city to recover faster after COVID-19 lockdown. These features can be summarized as follows:

- Casinos and The Cotai Strip: While the casino industry is booming in Asia, Macao still leads among Asian countries ([Inside Asia Gaming, 2019](#)). Moreover, six out of the ten largest casinos in the world in terms of revenues generated are in Macao. Globally, Macao is number one in terms of casino gaming revenues generated. The city generated close to US\$37bn in gaming revenues in 2019 ([Gaming Inspection and Coordination Bureau, 2020](#)), while Las Vegas generated more than US\$6.6bn ([Nevada Gaming Control Board, 2019](#)).

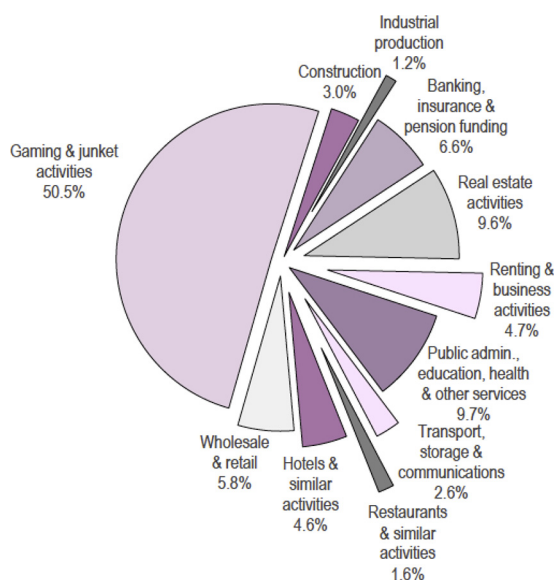
- Geographical location and close proximity to the Chinese travel market. Macao is a SAR within China, neighboring the significant travel markets of greater China, which includes Mainland China, Hong Kong, Taiwan and the China diaspora in Asia (Ng and Austin, 2016). Macao has been taken as an example in the Asian hospitality literature as a leader in hotel resort development (Liu *et al.*, 2018), especially as the IR developments on The Cotai Strip are some of the largest deluxe hotel properties in the world.
- Culinary tourism. In 2017, Macao was positioned as an UNESCO World City of Culinary, and recognized as the oldest world's fashion food (GGRAsia, 2017). The award and the membership in UNESCO Creative City of Gastronomy provided Macao with an additional tourism attraction attribute, and to engage in a global promotion on sustainable gastronomy development (Macao Government Information Bureau, 2020d). The hospitality industry has integrated gastronomy-related marketing campaigns to promote Macao and their own resort properties and restaurants (GGRAsia, 2018).
- UNESCO World Heritage City. Macao achieved World Heritage Centre status in 2005, linking East and West cultural and architectural elements (UNESCO, 2005). The international recognition strengthened Macao's historical appeal, and to repositioning the city image beyond the gambling industry (Ung and Vong, 2010).

### 7. Opportunity for Macao and the hospitality industry post-COVID-19

For Macao, the opportunities and challenges from COVID-19 coexist. There are two perspectives for the hospitality industry sustain during lockdown – first, to aid recovery, and second, to provide sustained growth post-COVID-19. In the intra-COVID-19 stage, Macao implemented containment measures and programs aimed at supporting the local community – many of who work in the hospitality and gaming sectors. From the lessons of 2020, and post-pandemic, we propose the Macao authorities and hospitality industry to seize on the momentum to further integrate and optimize resources. The GBA is an emerging mega city region, enabling Macao to interact with Hong Kong and the other nine major Mainland China cities positioned at the Pearl River Delta (Hui *et al.*, 2018). Such a strategic move would resolve Macao's constraints related to financial services, land use and as a distribution hub (Svetlicinii, 2019). However, Macao's tourism and entertainment industries have taken a slow diversification path toward regional economic transformation (Oxford Analytica, 2019). Although the gaming industry will still remain a significant part of Macao's hospitality industry and economy, the pandemic revealed the necessity and urgency of economic diversification.

Macao is characterized as a special micro-economy with limited resources (World Finance, 2020) with an unbalanced industry structure, where the gaming industry dominates (Figure 8). Due to historical, social and political reasons, the gambling and related industries have flourished and contribute the most to the economy (Yuan *et al.*, 2009). Other industries such as construction, banking, insurance, communications, wholesale and retail, account for much lower industrial earnings percentages.

For a long time, Macao has been overly reliant on gambling revenues (Loi and Gon, 2010). The COVID-19 pandemic has dramatically impacted the global tourism industry leading to catastrophic results, with Macao no exception, enduring sustained financial losses over multiple months (Visual capitalist, 2020). Figure 7 visualizes the countries or regions where the travel and tourism industry contributed to over 15% of employment in 2019, including Macao (Figure 8).



Source: Macao Statistics and Census Service (DSEC)

Figure 7. Industrial structure of Macao in 2018

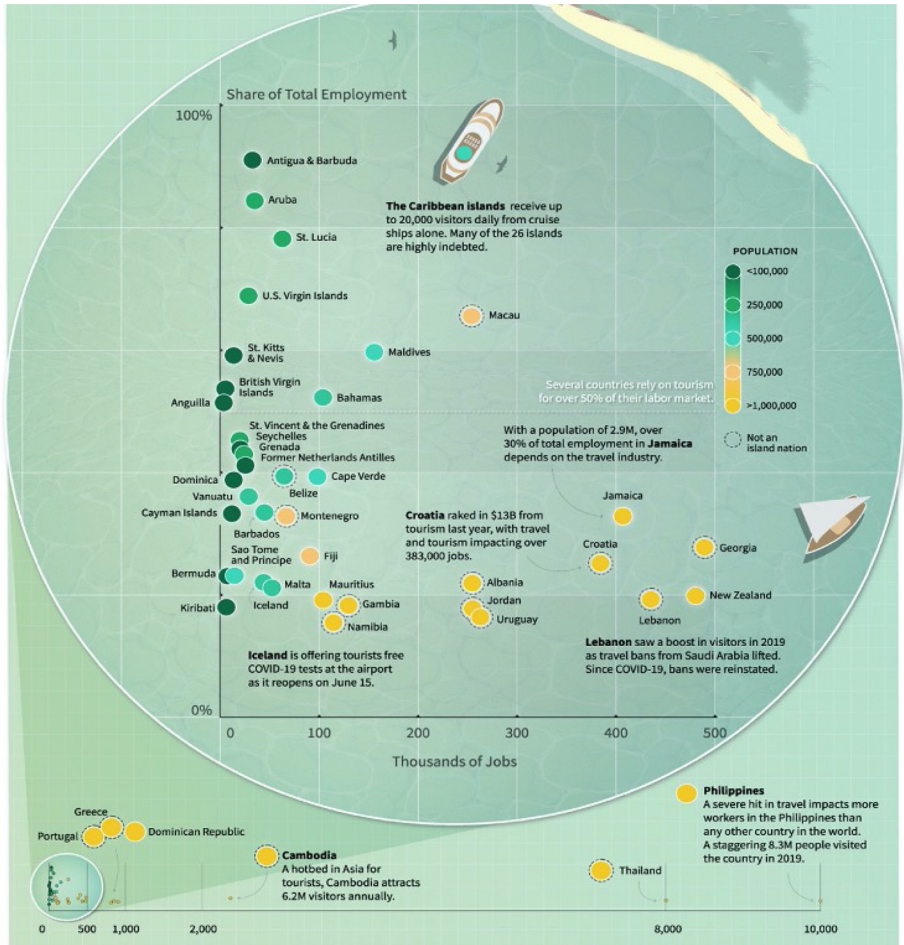
As global travel bans and lockdown orders are still in place, the long-term implications are not perspicacious enough at this moment. Without conventional travel and tourism incomes, numerous countries and regions are trapped in financial predicaments. Macao ranks as 5th among the “Countries Most Reliant on Tourism” ranking (Table 2). Therefore, it was imperative that Macao restart its tourism and casino economy as soon as it was deemed safe to do so. A key contribution from this study is that while the initial rapid measures towards a lockdown brought significant financial losses to the industry and dramatic reduction of tax revenues to the government, the actions provided a pathway to recovery later in 2020.

### 7.1 Destination self-improvement during COVID-19

Macao managed the COVID-19 challenges by collaborating with the hospitality and gaming industry – and an industry that was able to withstand substantial daily losses and make preparations for a recovery process which commenced in September. As illustrated, Macao and the industry took measures that were particularly effective in creating resilience and recovery during and after the virus.

A key lesson during the COVID-19 exit has been the importance of implementing a moderate diversification to Macao’s hospitality industry, through which greater revenue options can be created. Though industrial diversification has already been a long-standing strategic orientation vision before the pandemic for the authorities, there are specific and valuable lessons to take from Macao’s case during the lockdown. Macao demonstrated a particular economic resilience, and responded based upon disaster management experience from the previous SARS epidemic in 2003, and H1N1 virus in 2009 (The State Council the People’s Republic of China, 2003). As Macao recovers from COVID-19, the Macao authorities have reiterated the importance of advancing industrial diversification (Macao News, 2020).





**Figure 8.**  
The countries that are most reliant on tourism

**Note:** The travel and tourism industry contributed to over 15% of employment in 2019. Worldwide, the tourism industry contributed US\$8.9 trillion to GDP in 2019 - equal to 10.3% of total global GDP  
**Source:** Visual capitalist (2020)

The new Macao Chief Executive delivered the 2020 fiscal year policy address in the Legislative Council, proposing the general direction of his administration in 2020 to “combat the epidemic, preserve employment, stabilize the economy, care for people’s livelihood, promote reforms and promote development” (Xinhuanet, 2020). Due to the substantial economic fallout, hospitality and casino industry recovery is one of the primary goals post-COVID-19 (McCartney, 2020), Considering the existing over-reliance on gambling for government revenues and local employment, Macao Government has strategically indicated in the 2020 policy address, that potential new revenues should be generated from developing the meeting, incentive travel, conference



**Table 2.**

The countries who  
are most reliant on  
tourism

Rank	Countries	Travel and tourism share of jobs (2019) (%)	Travel and tourism jobs (2019)	Population
1	Antigua and Barbuda	91	33,800	97,900
2	Aruba	84	35,000	106,800
3	St. Lucia	78	62,900	183,600
4	US Virgin Islands	69	28,800	104,400
5	<i>Macao</i>	<i>66</i>	<i>253,700</i>	<i>649,300</i>
6	Maldives	60	155,600	540,500
7	St. Kitts and Nevis	59	14,100	53,200
8	British Virgin Islands	54	5,500	30,200
9	Bahamas	52	103,900	393,200
10	Anguilla	51	3,800	15,000
11	St. Vincent and the Grenadines	45	19,900	110,900
12	Seychelles	44	20,600	98,300
13	Grenada	43	24,300	112,500
14	Former Netherlands Antilles	41	25,700	26,200
15	Belize	39	64,800	397,600
16	Cape Verde	39	98,300	556,000
17	Dominica	39	13,600	72,000
18	Vanuatu	36	29,000	307,100
19	Barbados	33	44,900	287,400
20	Cayman Islands	33	12,300	65,700
21	Jamaica	33	406,100	2,961,000
22	Montenegro	33	66,900	628,100
23	Georgia	28	488,200	3,989,000
24	Cambodia	26	2,371,100	16,719,000
25	Fiji	26	90,700	896,400
26	Croatia	25	383,400	4,105,000
27	Philippines	24	10,237,700	109,600,000
28	Sao Tome and Principe	23	14,500	219,200
29	Bermuda	23	7,800	62,300
30	Albania	22	254,300	2,880,000
31	Iceland	22	44,100	341,200
32	Greece	22	846,200	10,420,000
33	Thailand	21	8,054,600	69,800,000
34	Malta	21	52,800	441,500
35	New Zealand	20	479,400	4,822,000
36	Lebanon	19	434,200	6,825,000
37	Mauritius	19	104,200	1,272,000
38	Portugal	19	902,400	10,197,000
39	Kiribati	18	6,600	119,000
40	Gambia	18	129,600	2,417,000
41	Jordan	18	254,700	10,200,000
42	Dominican Republic	17	810,800	10,848,000
43	Uruguay	16	262,500	3,474,000
44	Namibia	15	114,600	2,541,000

**Source:** Visual Capitalist, Visualizing the countries who are mostly reliant on tourism (2020)

and exhibition (MICE) sector, as well as restaurant, hotel and other hospitality-related fields.

The Macao Statistics and Census Service (DSEC) began publishing the annual “Analysis Report of Statistical Indicator System for Moderate Economic Diversification of Macao” in 2016 ([Macao Statistics and Census Service, 2020](#)). Later versions of the report provide

pointers on Macao's efforts to achieve moderate industrial diversification through promoting major non-gambling industries and emerging industries such as MICE, and expanding space for the growth of other Macao enterprises. The MICE sector has climbed 13.8% year-on-year (2018 vs 2019). Value-added to cultural industries amounted to a 9.7% year-on-year (2018 vs 2019). There are indications that Macao's economic diversification is growing steady.

In addition to the strategic 2020 vision of Macao proposed by the government, the authors suggest that industrial diversification could integrate Macao's historical and blend of Portuguese and traditional Chinese cultural heritage to distinguish Macao from other cities in the GBA. The emerging MICE industry could be advanced through designing distinctive exhibitions with local features as well as organizing events that display Macao's characteristics such as a "Gambling Culture Exhibition", "Special Gourmet Exhibition" and "Sino-Portuguese Culture Exhibition". These recommendations would be a continuation on some event themes already initiated and successful in Macao. Macao already hosts the annual Macao Gaming Show and Global Gaming Expo, major trade shows internationally related to the casino industry (GGRAsia, 2020). The International Macao Food Festival displays the mix of East and West cuisine with multiple local restaurants participating. Notably, Macao has been a pivotal partner in the establishment of a sharing platform for investment, trade and economic, and technical cooperation with European and Portuguese-speaking enterprises. The GBA Macao Government action plan contains multiple references to the Portuguese language and Portuguese-speaking countries (Clbrief, 2020). As well as hosting several key Portuguese-speaking countries ministerial forums on trade and economic collaboration, such as the Macao Forum to position Macao as a bridge between China and Lusophony (Mendes, 2014), Macao plays a key role in the "One Belt One Road" initiative, as an important future hub for cross-strait commerce and trade. Furthermore, the expansion of Portuguese-speaking enterprises may diversify Macao's industrial backdrop with international businesses that share the same linguistic cultural background.

### *7.2 Interactive regional integration and extension*

We identified two strategic directions for Macao as the city exits COVID-19. First, Macao epitomizes the connection between China and Portuguese-speaking regions and international countries at large, and second, having the potential to play a strategic role in the "One Belt One Road" initiative and national strategic GBA blueprint development. The lockdown and now recovery could be a window of opportunity to stimulate Macao to integrate resources more into these platforms.

As part of this integration within the GBA, Macao could consider developing its free trade port status. As an independent customs region, Macao enjoys the tariff treatment advantages under the WTO for import and export trade (Li, 2020). Built on its historical relationship with Portugal, Macao has specific trade preferences and privileges with the European Union (EU), and implements a highly liberal and open financial policy in funds, gold and foreign exchange (European Commission, 2020). Local currency is freely convertible, enabling easiness for international business. Macao's foreign exchange initiatives were enhanced further when the Guangdong Yueao Cooperation and Development Fund brought RMB20bn to Macao's fiscal reserves as a Qualified Foreign Limited Partner (QFLP) (AMCM, 2018). Additionally, the People's Bank of China Guangzhou Branch replicated the Free-Trade (FT) account system in Macao's neighboring province, Guangdong, under the China (Guangdong) Pilot Free Trade Zone, linking domestic and foreign finance to provide more diversified financial services (China Guangdong Pilot Free Trade Zone, 2015).

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Macao is an entertainment capital and while this centers around casinos, there is potential for diversification, such as theme park development (McCartney and Weng In, 2016). Macao has no theme parks, but taking the neighboring Hengqin Island District as an example, Zhuhai Chimelong International Ocean Tourist Resort developed an ocean-themed resort, which is the largest ocean-themed resort in the world (Zhuhai, 2020) and the only recipient of the 2014 Outstanding Themed Park Achievement Award granted by the Themed Entertainment Association (Theme Entertainment Association, 2015). Due to limited land in Macao, the shortage of outdoor entertainment could be created with other participants in the GBA region. Cooperative projects also offer a way to promote Portuguese and Chinese culture via entertainment facilities, decorations, cultural events and fusion cuisine. Our suggestions are summarized in Table 3.

The lessons from Macao during and after COVID-19 have global implications and applications. First, taking timely and immediate lockdown measures in the face of the COVID-19 crisis. While having immediate dramatic economic consequences for the industry and government, by mid-2020, no further COVID-19 cases were reported in the city, and tourism restarted with China by September. Second, collaboration and cooperation between the industry and government are crucial from the outset. There are a mix of concerns between supporting the community and managing the economic fallout. Tourism is crucial to Macao's economy and therefore working toward a re-opening was a major issue. Third, our analysis shows that mandatory measures such as quarantine and COVID-19 testing are a means to facilitate a quicker recovery and contain COVID-19.

## 8. Discussion and conclusions

### 8.1 Conclusions

The case of Macao illustrates the coexistence of challenges and opportunities in a global pandemic crisis. The competency of Macao's Government is rooted in its centralized and decisive political power leading to immediate actions in a crisis, and the strong coordination capabilities with different industries, as well as an overwhelming concern on resident welfare and safety. The hospitality industry deployed distinctive and supportive efforts during the fight against COVID-19. The engagement and willingness of industries to support governmental actions during the COVID-19, could possibly be explained by conformity with governmental power and policies; recognition of the fact that there were essentially no more tourists and therefore the casino business had almost stopped; and concerns on the tendering of casino licenses in the short-term, which may include new CSR terms.

Undeniably, Macao is over reliant on gambling industry to generate profits that support local employment and governmental tax income – something the government have been acutely aware of during COVID-19 and brought greater attention to. Macao presented a high degree of unity and rationality in the management of COVID-19, using this as a chance for self-reviewing and improvement, and to explore the potential of industrial diversification and regional integration to harness new business opportunities.

### 8.2 Theoretical implications

Drawing from a literature-based analysis of crisis management-related research, the present study highlights the cooperation from the government and the hospitality industry on crisis management. Although stakeholder collaboration in Macao during COVID-19 was initially suggested (McCartney, 2020), this analysis advances the discussion, demonstrating the coexistence of challenges and opportunities during COVID-19 and restarting tourism. This research provides valuable insights on a city reopening to tourism, with no COVID-19 cases

**Table 3.**  
Suggestions to  
related sectors of  
hospitality industry  
in Macao

Sectors	Measures	Proportion in (related) industrial structure	Macao's advantages	Potential cooperation objectives	Others
Catering	Promote Chinese and Portuguese cuisine	1.6% in restaurants and similar activities	Portuguese food	Portuguese-style cuisine restaurants	Macao has localized foreign characteristics from Portugal and created its own special food industry
MICE	Promote gambling culture exhibition, and Sino-Portuguese culture exhibition	50.5% in gambling and junket activities	Sino-Portuguese culture	Portuguese-speaking countries or regions	Macao plays an important role in the "One Belt One Road" initiative
Theme-park	Promote Portuguese-style theme park	4.6% in hotels and similar activities	Sino-Portuguese culture	Zhuhai Chimelong International Ocean Tourist Resort	Theme-park is a global industry and cultural form
Creation and sports tourism	Promote related business	4.6% in hotels and similar activities	Guangdong and Hong Kong are advanced in Chinese medicine	The land resources of Hengqin	Creative and sports tourism are popular these years. People may value health more after the coronavirus
Digital technology	Promote related business	None	Mainland China is advanced in digital technology	Mainland China	For further and sustainable development
Free trade port	Promote related business	6.6% in banking, insurance and pension funding	Macao ranks 34th in the World Economic Freedom index in 2019	Portuguese-speaking countries or regions, and the EU	Macao has historical relationship with Portugal, and enjoys specific trade preferences and the EU
Foreign exchange management	Promote related business	6.6% in banking, insurance and pension funding	Guangdong Yueao Cooperation	Mainland China	The People's Bank of China Guangzhou Branch has also replicated the Free-Trade (FT) account system in the China (Guangdong) Pilot Free Trade Zone

**Source:** Proportion in industrial structure is from DSEC (2020)

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or deaths, and especially in effective governmental actions during the pandemic and the cooperation mechanism and shared actions between the government and industry.

The theoretical contribution of this case study is threefold. First, it enriches the literature and studies related to the challenges, opportunities and recovery actions of the tourism industry during the pandemic, which highlights the collaborative paradigm in industrial relations and provides broader knowledge in survival and recovery strategies in crisis management. Second, the case study inspires studies on public governance mechanisms with regards to public health emergencies like COVID-19 beyond the scope of particular administrative systems. Comparative studies are encouraged to combine Macao's case with other regions in contrasting mechanism features, which either succeed or fail in managing the coronavirus challenges, as counterparts for future research. Third, given that COVID-19 is a hot topic in hospitality research, this study contributes to epidemic prevention measurements and approaches that can be used for COVID-19 related hospitality and crisis management research.

Prior studies have examined crisis management preparation measures (Jin *et al.*, 2019; Jones and Comfort, 2020), especially the impacts and countermeasures of a crisis, particularly in those destinations highly dependent on the hospitality industry (Chan, 2011). However, current crisis management research requires more insight, including a systematic study of the collaboration efforts of the government and the hospitality industry when confronting a crisis – which this study focuses on.

### 8.3 Practical implications

For those in tourism and hospitality related enterprises, Macao's case provides three key implications. First, the hospitality industry took a considerably rational approach in Macao's case, to comply with governmental requirements and guidance. There are two primary reasons for this: no alternative revenues could be made in a lockdown situation. Cooperation was more feasible for industries to gain government safeguards during the pandemic; the downturn presented an opportune time to develop soft competencies such as public relations, brand images, reputation building and corporate social responsibility, all of which could be favorable impressions in the casino tendering as all casino licenses expire in the next few years. A second implication shows that tourism leadership can determine opportunities by new forms of interactions with broader society stakeholders. For instance, the industry could work with government to build greater public confidence, and provide resources to local communities and residents. Internally, leadership could secure individual benefits including employment and employee safety during the pandemic, which in the case of Macao was partially supported by the government via subsidies and tax exemptions. Third, reforming conventional business models, or developing new business models can be expected. As was evident in Macao, many eat-in restaurants in the catering industry expanded online-ordering, contactless delivery and a take-away service during COVID-19. With limited transportation options and outdoor activities during COVID-19, this created huge demands in technical infrastructure related to smart phone applications, telecommunication and massive data processing and transmission. Some business and service providers have been able to refine or upgrade product and service demands during the epidemic period. The outbreak of coronavirus has restrained and changed many individual behaviors and habits. For example, wearing face masks, while not popular in the West, has proven from the outset to be an effective method to control COVID-19 transmission and made mandatory in public environments in destinations such as Macao, Taiwan, South Korea and Hong Kong (BBC, 2020b). Personal protective equipment production has emerged as a high growth business area.

#### 8.4 Limitations and future research

The paper has laid a good foundation for practitioners and policy makers seeking for references in managing a dramatic crisis like the COVID-19, and provided discussion on how Macao could gain opportunities from the pandemic. Though the Macao Government, industry and other stakeholders have taken effective actions collaboratively to deal with the COVID-19 outbreak, the damage is evident. In particular, the unbalanced industry structure of Macao will take a long time to achieve industrial diversification. Future research may focus on industrial or economic resilience in the context of a crisis in the hospitality industry (Kato, 2018). While during a crisis, there can be dynamic socio-economic and spatial changes to risk management (Gencer, 2013), as the impacts of the COVID-19 pandemic could last a long time (Jamal and Budke, 2020), the effectiveness of a crisis response strategy and solution requires adequate time to prove. Additionally, the experience of Macao may not be generalized in a larger scale due to contextual differences, and various global national systems. The Macao case study can be limited based on the methodology. The data source is secondary, and the research is subject to the researchers' expertise and insights in synthesizing the result. To eliminate research method limitations and the data interruption bias, future studies could introduce statistical and empirical research methods to provide greater insights and analysis.

#### References

- Abbas, S.N. and Naushad, A. (2020), "COVID-19 pandemic: a remedial measure through convalescent serum", *International Journal of Innovations in Science and Technology*, Vol. 2 No. 2, pp. 46-50.
- AMCM (2018), "Partners of the Guangdong-Macao cooperation and development fund have no intention to increase capital size", available at: [www.amcm.gov.mo/en/about-amcm/press-releases/gap/ymcf20180508](http://www.amcm.gov.mo/en/about-amcm/press-releases/gap/ymcf20180508)
- Asia Gaming Brief (2020), "Macao closes borders after new infections", available at: <https://agbrief.com/headline/macao-closes-borders-after-new-infections/>
- Baum, T., Mooney, S.K.K., Robinson, R.N.S. and Solnet, D. (2020), "COVID-19's impact on the hospitality workforce – new crisis or amplification of the norm?", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 9, pp. 2813-2829.
- BBC (2020a), "Coronavirus: world's biggest gambling hub reopens for business", available at: [www.bbc.com/news/business-53732645](http://www.bbc.com/news/business-53732645)
- BBC (2020b), "Virus gives rise to sharing of employees", available at: <https://global.chinadaily.com.cn/a/202002/28/WS5e584ee5a31012821727ae7f.html>
- Boin, A., Stern, E. and Sundelius, B. (2016), *The Politics of Crisis Management: Public Leadership under Pressure*, Cambridge University Press, p. 120.
- Caubergh, V., Van Wesenbeeck, I., De Jans, S., Hudders, L. and Ponnet, K. (2020), "How adolescents use social media to cope with feelings of loneliness and anxiety during COVID-19 lockdown", *Cyberpsychology, Behavior, and Social Networking*, doi: 10.1089/cyber.2020.0478.
- Chan, V.K. (2011), "The impact of the global financial crisis on the entertainment tourism industry: a financial engineering case study of Macao from 2007 to 2010", *Systems Engineering Procedia*, Vol. 1, pp. 323-329.
- China Guangdong Pilot Free Trade Zone (2015), "China (Guangdong) pilot free trade zone", available at: [http://ftz.gd.gov.cn/Introduction/content/post\\_919120.html](http://ftz.gd.gov.cn/Introduction/content/post_919120.html)
- Christensen, T., Lægveid, P. and Rykkja, L.H. (2016), "Organizing for crisis management: building governance capacity and legitimacy", *Public Administration Review*, Vol. 76 No. 6, pp. 887-897.
- Clbrief (2020), "Macao government reaffirms commitment to Portuguese-speaking countries", available at: [www.clbrief.com/macao-government-reaffirms-commitment-to-portuguese-speaking-countries/](http://www.clbrief.com/macao-government-reaffirms-commitment-to-portuguese-speaking-countries/)



- Coombs, W.T. (2014), *Ongoing Crisis Communication: Planning, Managing, and Responding*, Sage Publications, p. 117.
- Coombs, W.T. and Laufer, D. (2018), "Global crisis management – current research and future directions", *Journal of International Management*, Vol. 24 No. 3, pp. 199-203.
- da Silva Avanzi, D., Foggiatto, A., dos Santos, V.A., Deschamps, F. and Loures, E.D.F.R. (2017), "A framework for interoperability assessment in crisis management", *Journal of Industrial Information Integration*, Vol. 5, pp. 26-38.
- Deng, Q., Gu, X., Law, R. and Lian, Z. (2020), "A comparative study for determinants of gaming performance in Macao and Las Vegas", *Tourism Management*, Vol. 77, p. 103964.
- Department of Foreign Affairs (2020), "China – Hong Kong/Macau – Department of Foreign Affairs", available at: [www.dfa.ie/travel/travel-advice/a-z-list-of-countries/china-hong-kong-macau/](http://www.dfa.ie/travel/travel-advice/a-z-list-of-countries/china-hong-kong-macau/)
- Duprey, R. (2020), "Analysts predict Macau casino revenue may fall to zero in April | the motley fool", available at: [www.fool.com/investing/2020/04/03/analysts-predict-macau-casino-revenue-may-fall-to.aspx](http://www.fool.com/investing/2020/04/03/analysts-predict-macau-casino-revenue-may-fall-to.aspx)
- Erheriene, E. (2019), "Casino upstarts give US operators a run for their money in Asia", *The Wall Street Journal*, 6 May, available at: [www.wsj.com/articles/casino-upstarts-give-u-s-giants-a-run-for-their-money-in-asia-11557145039](http://www.wsj.com/articles/casino-upstarts-give-u-s-giants-a-run-for-their-money-in-asia-11557145039)
- European Commission (2020), "Macao: 2019 annual report shows the 'one country, two systems' principle generally respected", available at: [https://ec.europa.eu/commission/presscorner/detail/en/IP\\_20\\_1386](https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1386)
- Financial Service Bureau of Macao SAR (2020), available at: [www.dsf.gov.mo/?lang=en](http://www.dsf.gov.mo/?lang=en)
- Galaxy Entertainment Group (2020), "GEG offers over 50 training programs to develop team members professional skills, health and safety amid COVID-19", available at: [www.galaxyentertainment.com/en/media/press-releases/923/20200315a](http://www.galaxyentertainment.com/en/media/press-releases/923/20200315a)
- Gaming Inspection and Coordination Bureau (2020), "Gaming statistics", available at: [www.dicj.gov.mo/web/en/information/DadosEstat/2019/content.html#n1](http://www.dicj.gov.mo/web/en/information/DadosEstat/2019/content.html#n1)
- Gencer, E.A. (2013), *The Impact of Globalization on Disaster Risk Trends: A Macro-and Urban-Scale Analysis*, Background Paper prepared for the Global Assessment Report on Disaster Risk Reduction. UNISDR, Geneva.
- GGRAsia (2017), "Non-gaming nod as Macau named UNESCO gastronomy hub", available at: [www.ggrasia.com/non-gaming-nod-as-macau-named-unesco-gastronomy-hub/](http://www.ggrasia.com/non-gaming-nod-as-macau-named-unesco-gastronomy-hub/)
- GGRAsia (2018), "Food and drink major non-gaming push: Macau casino ops", available at: [www.ggrasia.com/food-and-drink-major-non-gaming-push-macau-casino-ops/](http://www.ggrasia.com/food-and-drink-major-non-gaming-push-macau-casino-ops/)
- GGRAsia (2020), "GGRAsia – Guangdong tourist visas resume Aug 26", nationwide Sept 23, available at: [www.ggrasia.com/guangdong-tourist-visas-to-resume-aug-26-nationwide-sept-23/](http://www.ggrasia.com/guangdong-tourist-visas-to-resume-aug-26-nationwide-sept-23/)
- Hui, E.C., Li, X., Chen, T. and Lang, W. (2018), "Deciphering the spatial structure of China's megacity region: a new Bay area – the Guangdong-Hong Kong-Macao Greater Bay area in the making", *Cities*, Vol. 105 No. 102168, pp. 1-13.
- Inside Asia Gaming (2019), "How casinos drive economic growth across Asia", available at: [www.asmag.com/showpost/28245.aspx](http://www.asmag.com/showpost/28245.aspx)
- Inside Asia Gaming (2020), "Sands China ups health and sanitization measures with launch of 'Sands SafeStay' initiative at Macau resorts", available at: [www.asgam.com/index.php/2020/05/10/sands-china-ups-health-and-sanitization-measures-with-launch-of-sands-safestay-initiative-at-macau-resorts/](http://www.asgam.com/index.php/2020/05/10/sands-china-ups-health-and-sanitization-measures-with-launch-of-sands-safestay-initiative-at-macau-resorts/)
- Jamal, T. and Budke, C. (2020), "Tourism in a world with pandemics: local-global responsibility and action", *Journal of Tourism Futures*, Vol. 6 No. 2, pp. 181-188, doi: [10.1108/JTF-02-2020-0014](https://doi.org/10.1108/JTF-02-2020-0014).
- Jin, X.C., Qu, M. and Bao, J. (2019), "Impact of crisis events on Chinese outbound tourist flow: a framework for post-events growth", *Tourism Management*, Vol. 74, pp. 334-344.

- Jones, P. and Comfort, D. (2020), "The COVID-19 crisis and sustainability in the hospitality industry", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 10, pp. 3037-3050.
- Kato, K. (2018), "Debating sustainability in tourism development: resilience, traditional knowledge and community: a post-disaster perspective", *Tourism Planning and Development*, Vol. 15 No. 1, pp. 55-67.
- KPMG (2020), "Macao SAR, China", available at: <https://home.kpmg/xx/en/home/insights/2020/04/macao-sar-china-government-and-institution-measures-in-response-to-covid.html>
- Lai, I.K.W. and Wong, J.W.C. (2020), "Comparing crisis management practices in the hotel industry between initial and pandemic stages of COVID-19", *International Journal of Contemporary Hospitality Management*, available at: [www.emerald.com/insight/content/doi/10.1108/IJCHM-04-2020-0325/full/html#loginreload](http://www.emerald.com/insight/content/doi/10.1108/IJCHM-04-2020-0325/full/html#loginreload)
- Li, J. (2020), "An economic analysis of EU-China agricultural trade relations", Retrieved October 12, 2020, from University of Limerick, Institutional Repository, available at: <https://ulir.ul.ie/handle/10344/9251>
- Li, Q., Guan, X., Wu, P., Wang, X., Zhou, L., Tong, Y. and Wong, J.Y. (2020), "Early transmission dynamics in Wuhan, China, of novel coronavirus – infected pneumonia", *New England Journal of Medicine*, Vol. 382 No. 13, pp. 1199-1207.
- Liem, A., Wang, C., Wariyanti, Y., Latkin, C.A. and Hall, B.J. (2020), "The neglected health of international migrant workers in the COVID-19 epidemic", *The Lancet Psychiatry*, Vol. 7 No. 4, p. 20.
- Liu, H., Tsai, H. and Wu, J. (2018), "Regional hotel performance and benchmarking in the Pearl River Delta", *International Journal of Contemporary Hospitality Management*, Vol. 30 No. 2, pp. 855-873.
- Liu, M., Dong, S., Chang, K.P. and Tan, F. (2020), "Macao gambling industry's quick V-shape rebound from 2014 to 2019", *Asia Pacific Journal of Marketing and Logistics*, doi: [10.1108/APJML-08-2019-0489](https://doi.org/10.1108/APJML-08-2019-0489).
- Liu, M., Liu, Y., Mo, Z., Zhao, Z. and Zhu, Z. (2020), "How CSR influences customer behavioural loyalty in the Chinese hotel industry", *Asia Pacific Journal of Marketing and Logistics*, Vol. 32 No. 1, pp. 1-22.
- Liu, M., Loi, E.H., Chang, T. and Chan, A. (2015), "Macao gambling industry: current challenges and opportunities next decade", *Asia Pacific Journal of Marketing and Logistics*, Vol. 27 No. 3, pp. 499-512.
- Liu, M., Wong, I.A., Chu, R. and Tseng, T. (2014a), "Does perceived CSR initiatives enhance customer preference and loyalty in casinos?", *International Journal of Contemporary Hospitality Management*, Vol. 26 No. 7, pp. 1024-1045.
- Liu, M., Wong, I.A., Shi, G., Chu, R. and Brock, J. (2014b), "The impact of corporate social responsibility (CSR) performance and perceived brand quality on customer based brand preference", *Journal of Services Marketing*, Vol. 28 No. 3, pp. 181-194.
- Liu, S., Yang, L., Zhang, C., Xiang, Y.T., Liu, Z., Hu, S. and Zhang, B. (2020), "Online mental health services in China during the COVID-19 outbreak", *The Lancet Psychiatry*, Vol. 7 No. 4, pp. 17-18.
- Loi, K.-I. and Gon, W. (2010), "Macao's casino industry: reinventing Las Vegas in Asia", *Cornell Hospitality Quarterly*, Vol. 51 No. 2, pp. 268-283.
- McCartney, G. (2020), "The impact of the coronavirus outbreak on Macao. From tourism lockdown to tourism recovery", *Current Issues in Tourism*, doi: [10.1080/13683500.2020.1762549](https://doi.org/10.1080/13683500.2020.1762549).
- McCartney, G. and Weng In, W.L. (2016), "House of cards – an analysis of Macao's resident support for tourism and casino development", *Tourism and Hospitality Research*, Vol. 16 No. 2, pp. 144-157.
- McKercher, B. and Chon, K. (2004), "The over-reaction to SARS and the collapse of Asian tourism", *Annals of Tourism Research*, Vol. 31 No. 3, p. 716.

- Macao Gaming Inspection Department (2020), "Information", available at: [www.dicj.gov.mo/web/en/information/DadosEstat\\_mensal/2019/index.html](http://www.dicj.gov.mo/web/en/information/DadosEstat_mensal/2019/index.html)
- Macao Government Portal (2018), available at: [www.gov.mo/en/news](http://www.gov.mo/en/news)
- Macao Government Portal (2020), available at: [www.gov.mo/zh-hant/promotions/237299/](http://www.gov.mo/zh-hant/promotions/237299/)
- Macao Government Tourism Office (2020), "Special webpage against epidemics", available at: [www.ssm.gov.mo/](http://www.ssm.gov.mo/)
- Macao News (2020), available at: <https://Macaonews.mo/Macao-non-resident-workers-living-in-zhuhai-exempted-from-quarantine-from-today/>
- Macao Statistics and Census Service (2020), available at: [www.dsec.gov.mo](http://www.dsec.gov.mo)
- Macao Tourism Dataplus (2020), "1st October golden week (2019)", available at: [www.pata.org/macao-tourism-data-plus-debuts-golden-week-statistics/](http://www.pata.org/macao-tourism-data-plus-debuts-golden-week-statistics/)
- Macao Government Information Bureau (2020a), "Macao to launch special ferry service to/from Hong Kong international airport", available at: [www.gov.mo/en/news/125845/](http://www.gov.mo/en/news/125845/)
- Macao Government Information Bureau (2020b), available at: [www.gov.mo/en/entity-page/entity-51/](http://www.gov.mo/en/entity-page/entity-51/)
- Macao Government Information Bureau (2020c), "Employment survey for March-May 2020", available at: [www.gov.mo/en/news/126272/](http://www.gov.mo/en/news/126272/)
- Macao Government Information Bureau (2020d), "Macao joins the world again to promote sustainable gastronomy day fostering preservation of gastronomic culture through video production", available at: <https://news.gov.mo/detail/en/N20FRDLth1;jsessionid=906940033A170F9D96254F02270A221C.app01?0>
- Macao Government Information Bureau (2020e), available at: [www.gov.mo/en/entity-page/entity-51/](http://www.gov.mo/en/entity-page/entity-51/)
- Mendes, C.A. (2014), *Macau in China's Relations with the Lusophone World*, Revista Brasileira de Política Internacional, pp. 1983-3121.
- Neveda Gaming Control Board (2019), "Monthly revenue report", available at: <https://gaming.nv.gov/modules/showdocument.aspx?documentid=16490>
- Ng, D. and Austin, I. (2016), "Integrated resorts and hotel (gambling) service enterprises in Singapore, Macao and Australia: the changing policy landscape", *Asian Journal of Political Science*, Vol. 24 No. 1, pp. 42-62.
- Oxford Analytica (2019), "Diversification will strengthen Macau's economy", Emerald Expert Briefings, available at: [www.emerald.com/insight/content/doi/10.1108/OXAN-DB246393/full/html](http://www.emerald.com/insight/content/doi/10.1108/OXAN-DB246393/full/html)
- Psychological resources for novel coronavirus (2020), "Macao psychological association", available at: <https://sites.google.com/apm.org.mo/cism/psychological-resources-for-novel-coronavirus>
- Rao, H.R., Vemprala, N., Akello, P. and Valecha, R. (2020), "Retweets of officials' alarming vs reassuring messages during the COVID-19 pandemic: implications for crisis management", *International Journal of Information Management*, Vol. 55, p. 102187.
- Reuters (2020a), "Only masked punters: Macau casinos reopen after coronavirus suspension", available at: [www.reuters.com/article/us-china-health-macau-idUSKBN20D0YZ](http://www.reuters.com/article/us-china-health-macau-idUSKBN20D0YZ)
- Reuters (2020b), "China reinstates tourist visas to Macau from September 23 in boon for casinos", available at: [www.reuters.com/article/us-macau-casinos-idUSKCN25714K](http://www.reuters.com/article/us-macau-casinos-idUSKCN25714K)
- Ritchie, B.W. (2004), "Chaos, crises and disasters: a strategic approach to crisis management in the tourism industry", *Tourism Management*, Vol. 25 No. 6, pp. 669-683.
- Sands China (2020), available at: [www.sandsmacao.com/macau-career.html](http://www.sandsmacao.com/macau-career.html)
- Svetlicinii, A. (2019), "Greater Bay area: new horizons for Macao's development", available at: <https://news.cgtn.com/news/2019-12-20/Greater-Bay-Area-New-horizons-for-Macao-s-development-MzqUIzbq5a/index.html>
- The Standard (2020), "Macau to distribute 20m face masks from tomorrow", available at: [www.thestandard.com.hk/breaking-news/section/4/140618/Macau-to-distribute-20m-face-masks-from-tomorrow](http://www.thestandard.com.hk/breaking-news/section/4/140618/Macau-to-distribute-20m-face-masks-from-tomorrow)

- The State Council the People's Republic of China (2003), "Macao SAR in 2003", available at: [www.gov.cn/test/2005-06/27/content\\_10008.htm](http://www.gov.cn/test/2005-06/27/content_10008.htm)
- Theme Entertainment Association (2015), "Chimelong ocean kingdom principals to join TEA summit March 20, accept Thea award march 21 – at Disneyland resort", available at: [www.teaconnect.org/Blog/TEA-Blog/index.cfm?id=5621](http://www.teaconnect.org/Blog/TEA-Blog/index.cfm?id=5621)
- Travel Weekly Asia (2020a), "Macao: a firm handle over Covid-19, economy and global travel community", available at: [www.travelweekly-asia.com/Destination-Travel/Macao-A-firm-handle-over-Covid-19-economy-and-global-travel-community](http://www.travelweekly-asia.com/Destination-Travel/Macao-A-firm-handle-over-Covid-19-economy-and-global-travel-community)
- Travel Weekly Asia (2020b), "New campaign gets Macau's trade and residents ready for local tours", available at: [www.travelweekly-asia.com/Destination-Travel/New-campaign-gets-Macaus-trade-and-residents-ready-for-local-tours](http://www.travelweekly-asia.com/Destination-Travel/New-campaign-gets-Macaus-trade-and-residents-ready-for-local-tours)
- UNESCO (2005), "Historic centre of Macao", available at: <https://whc.unesco.org/en/list/1110/>
- Ung, A. and Vong, T.N. (2010), "Tourist experience of heritage tourism in Macau SAR", *Journal of Heritage Tourism*, Vol. 5 No. 2, pp. 157-168.
- Universal (2020), "Asia-Pacific region: Coronavirus (COVID-19) impact on business aviation", available at: [www.universalweather.com/blog/coronavirus-covid-19-impact-on-business-aviation-in-asia-and-the-pacific-region/](http://www.universalweather.com/blog/coronavirus-covid-19-impact-on-business-aviation-in-asia-and-the-pacific-region/)
- Visual capitalist (2020), "Visualizing the countries' most reliant on tourism", available at: [www.visualcapitalist.com/countries-reliant-tourism/](http://www.visualcapitalist.com/countries-reliant-tourism/)
- Wan, P.Y.K. and Pinheiro, F.V. (2014), "Macao's tourism planning approach and its shortcomings: a case study", *International Journal of Hospitality and Tourism Administration*, Vol. 15 No. 1, pp. 78-102.
- Wan, Y.K.P. and Bramwell, B. (2015), "Political economy and the emergence of a hybrid mode of governance of tourism planning", *Tourism Management*, Vol. 50, pp. 316-327.
- Wong, J.K.C. (2020), "Macao chief executive says COVID-19 an 'exam' for gaming concessionaires' CSR contribution", available at: [www.asgam.com/index.php/2020/03/24/Macao-chief-executive-says-covid-19-an-exam-for-gaming-concessionaires-csr-contribution/](http://www.asgam.com/index.php/2020/03/24/Macao-chief-executive-says-covid-19-an-exam-for-gaming-concessionaires-csr-contribution/)
- World Finance (2020), "How Macau is developing diversified industries for sustainable economic development", available at: [www.worldfinance.com/banking/how-macau-is-developing-diversified-industries-for-sustainable-economic-development](http://www.worldfinance.com/banking/how-macau-is-developing-diversified-industries-for-sustainable-economic-development)
- World Health Organization (2020), "WHO Coronavirus disease (COVID-19) dashboard", available at: <https://covid19.who.int/>
- Worldofmaps (2020), available at: [www.worldofmaps.net/en/asia/map-macao-china/map-districts-macao.htm](http://www.worldofmaps.net/en/asia/map-macao-china/map-districts-macao.htm)
- Xinhuanet (2020), Roundup: "Macao SAR chief executive delivers 2020 policy address, focusing on social welfare, job creation", available at: [www.xinhuanet.com/english/2020-04/21/c\\_138993405.htm](http://www.xinhuanet.com/english/2020-04/21/c_138993405.htm)
- Yuan, C.P., Zhao, Y.Q. and Guo, H. (2009), "A macro-economy analysis of moderate diversity of industries in Macao", *Journal of South China Normal University (Social Science Edition)*, Vol. 6, pp. 123-129.
- Zhang, J., Xie, C., Wang, J., Morrison, A.M. and Coca-Stefaniak, J.A. (2020), "Responding to a major global crisis: the effects of hotel safety leadership on employee safety behavior during COVID-19", *International Journal of Contemporary Hospitality Management*, Vol. 32 No. 11, pp. 3365-3389.
- Zhuhai (2020), "Zhuhai Hengqin Chimelong international ocean tourist resort", available at: [www.cityofzhuhai.com/2016-04/08/c\\_270479.htm](http://www.cityofzhuhai.com/2016-04/08/c_270479.htm)

### Further reading

- Tsai, C.H., Wu, T.C., Wall, G. and Linliu, S.C. (2016), "Perceptions of tourism impacts and community resilience to natural disasters", *Tourism Geographies*, Vol. 18 No. 2, pp. 152-173.

Date	Major measures
24th January	All Macao casino workers ordered to wear masks
30th January	Melco to donate HK\$20m for medical supplies and support in Wuhan and Hubei
3th February	Galaxy Entertainment Group donates \$25m patacas to help Hubei and Macao fight Coronavirus
6th February	Sands China suspends operations of three Cotai hotels SJM donates \$20m patacas to aid Coronavirus control in Hubei
8th February	Suncity Group grants 15 days paid leave for employees
10th February	Number of hotels closed for casino hiatus reaches 23 as Macao goes dark Macao gambling sector donates over \$200m patacas in fight against Coronavirus
11th February	Tak Chun Group donates HK\$20m and 200,000 masks to help fight Coronavirus
12th February	Sands China donates 500,000 facemasks to protect public against Coronavirus
16th February	MGM China closes IR doors as number of Macao hotels to suspend operations reaches 28
20th February	Macao's mass-closure over as 29 casinos, most junkets resume operations
2nd March	Aristocrat donates surgical masks to Macao SAR government
3th March	MGM introduces financial assistance program for local SME vendors
4th March	G2E Asia postponed until July
6th March	Gambling sector continues supporting Hubei and Macao communities in fight against COVID-19 Galaxy Entertainment Group subscribes to HK\$100m of BOC Macao social bonds to help local SMEs
10th March	Galaxy provides sanitization services to local Macao organizations
11th March	46% of Macao gambling tables now back in operation
12th March	SJM donates daily necessities to families in need with all items purchased from local Macao SMEs
26th March	SJM looking to respond to Chief Executive's call for more Macao quarantine hotels Global table games developer TCSJOHNHUXLEY calls for industry action to demand further postponement or cancellation of G2E Asia 2020
30th March	G2E Asia to forge ahead with July dates for 2020 trade show
15th April	Wynn Macao grants employees \$1,000 patacas e-coupons to support SMEs Melco donates 500,000 surgical masks to assist Macao in fight against COVID-19
20th April	G2E Asia 2020 postponed to December
6th May	Asia Pioneer Entertainment Holdings Limited has donated a range of the COVID-19 preventative supplies to local charity Caritas Macao and its social service agencies
11th May	Sands China ups health and sanitization measures with launch of "Sands SafeStay" initiative
13th May	Galaxy Entertainment Group organized more than 50 different health, safety, and virus prevention training courses for its employees
15th May	Studio City has got some projects done in the past two months for reopen preparation
26th May	Suncity VIP Club announces sweeping indemnities from independent fiscal reserve to protect shareholders from impact of COVID-19
6th June	With the COVID-19 pandemic disrupting the debut and release plans of suppliers across the globe, the International Game Technology (IGT) took the opportunity to showcase its latest products to its Macao customers via a series of IGT Mini Shows
15th June	Wynn Macao looking to raise US\$743m to assist in navigating the COVID-19 pandemic
16th June	Sands China jumps on board to promote "Fliggy" 618 sale festival
19th June	Sands China President Wilfred Wong, Hubert Wang promote their Macao Irs on 6.18 live stream sales

*(continued)*

**Table A1.**  
Summary of Macao  
hospitality industry  
responses to the  
COVID-19 pandemic  
outbreak (January to  
December 2020)

Date	Major measures
25th June	Melco volunteer team arrives to clean the IAG office
3rd July	Aruze Gaming named Platinum Sponsor of online/offline Macao After Dark at Kam Pek Bar IAG and G2E Asia announce speakers for joint GAME/G2E Asia Online Conference on 7 July 2020
6th July	Combined online/offline Macao After Dark (MAD5): Time to unwind at Kam Pek Bar – or online Asia Pioneer Entertainment Holding Limited (APE) says sports entertainment venture to include launch of unique sports bar, hosting of live world-class sporting events
9th July	International Game Technology (IGT), Asia Pioneer Entertainment (APE) named Gold Sponsors of online/offline Macao After Dark at Kam Pek Bar
16th July	Melco says daily Macao operating costs ex-Studio City down to US\$1.5m a day in 2 quarter 2020
4th August	Melco boosts Studio City investment as US\$500m share placement complete
13th August	G2E Asia cancels 2020 events in Macao, Philippines
27th August	Melco launches new 14-day “Express Payment Scheme” to support Macao SMEs
28th August	Macao government completes COVID-testing for 53,000 casino staff
23rd September	Macao legislator urges government to introduce online gambling
24th September	Macao’s casino workers required to wear face masks through March 2021
1st October	Macao’s casino opens to tourists from all Chinese provinces after China reinstates tourist visas on Sep 23rd
5th October	Gaming operators to establish COVID-19 testing venues within Macao’s integrated resorts
15th October	Macao’s Judiciary Police hold crime prevention workshop with The Venetian Macao’s frontline workers
23rd, November	Melco’s House of Dancing Water to let go of 137 blue card holders
16th, Decemeber	Sands China confirms The Londoner Macao to hold opening ceremony in “early February 2021”
17th, Decemeber	Melco to host three-day eSports event at City of Dreams Macao

**Table A1.** Source: Inside Asia Gaming (2020)

### About the authors

Matthew Tingchi Liu, PhD, is a Professor of Marketing, University of Macau. He published 100+ papers in referred journals, including *Journal of Advertising*, *Industrial Marketing Management*, *Journal of Business Research*, *Marketing Letters*, *Psychology and Marketing*, *European Journal of Marketing*, *International Marketing Review*, *Journal of Services Marketing*, *Journal of Service Theory and Practice*, *Asia Pacific Journal of Marketing and Logistics*, *Journal of Consumer Behaviour*, *International Journal of Contemporary Hospitality Management*, *Journal of Hospitality and Tourism Research*, *Journal of Medical Internet Research*, *Business Ethics: A European Review* among others. Prof Liu is also editorial board member of *European Journal of Marketing* and *Journal of Marketing Theory and Practice*. Matthew Tingchi Liu is the corresponding author and can be contacted at: [MatthewL@um.edu.mo](mailto:MatthewL@um.edu.mo)

Shaoshan Wang is a PhD candidate and research assistant in University of Macau where she earned her master degree. She published paper in *International Journal of Contemporary Hospitality Management*.

Glenn McCartney is currently working as an Associate Professor at University of Macau. He is also the Associate Dean (Teaching and Curriculum) of Faculty of Business Administration, University of Macau. He earned his PhD in Tourism Marketing from University of Surrey, UK. He published in *Journal of Travel Research*, *Journal of Vacation Marketing*, *Current Issues in Tourism*, *Gaming Law Review and Economics*, *Journal of Convention and Event Tourism* and so on.



IpKin Anthony Wong is a Professor of School of Tourism Management, Sun Yat-Sen University. He spent more than 10 years in the USA and received a BS in computer science and general business at the University of Central Oklahoma, MS in computer science at Oklahoma State University, MBA (marketing major) and PhD in communication and information sciences at the University of Hawaii at Manoa. He has taught courses in the fields of information systems, marketing and decision science at Oklahoma State University, the University of Hawaii, Macau University of Science and Technology, Institute for Tourism Studies (Macau), and City University of Macau. He has published more than 80 peer reviewed articles in scholarly journals. His articles appeared at *Tourism Management*, *International Journal of Hospitality Management*, *International Journal of Contemporary Hospitality Management*, *Journal of Hospitality and Tourism Research*, *Journal of Travel Research*, *Journal of Travel and Tourism Marketing*, *Journal of Business Research*, *Journal of Services Marketing*, *Journal of Service Management* and more.

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