

Surfing the Wave of Unpredictability with Focus on Operational Resilience

確保運作穩健 在動盪環境中破浪前進



With digital transformation increasingly central to banks' growth strategies, associated risks becoming more interconnected and unpredictable, and scrutiny from regulators and customers more intense, the chief risk officers (CROs) of Hong Kong's banks are finding their responsibilities being continually elevated. Leaders need to move beyond mere compliance to proactively mitigate risks and ensure that the mechanics for providing financial services are sound and resilient.

數碼轉型在銀行的增長策略中日益重要，然而相關風險互相關聯程度越來越高，並更加難以預測，來自監管機構和客戶的審查也越加嚴密，香港銀行首席風險行政人員的責任越見繁重。領導層不能只求合規，而須積極消除風險，確保所提供的財務服務具備穩健和富彈性的機制。

Effective operational resilience – or the ability of banks to ensure the continued delivery of critical operations through disruptions – is non-negotiable. This enables banks to identify and protect themselves from internal and external threats and potential failures; and should these happen, to adapt, respond, recover and learn from these incidents.

Operational risk management matters more now than previously

While operational risk management and business continuity planning have always been on the radar of banks, recent developments have further elevated the

importance of resiliency as a strategic priority. The COVID-19 pandemic accelerated digital transformation across the industry and Hong Kong's banks have further focused their planning on technology enablement through the lens of the Hong Kong Monetary Authority's (HKMA) Fintech roadmap.

The growth strategy for leading banks is increasingly anchored in emerging technologies, including use of digital channels, process automation, expansion of cloud usage and reliance on an internal and external ecosystem of data and critical service providers. Furthermore, banks are increasingly aware of the nature of disruption risks exposed by the pandemic and a range of technology disruptions experienced across the industry. Adding to the strains businesses normally face are Mainland China's ongoing COVID-19 control measures and lockdowns, an increasingly sophisticated and adaptive number of cybersecurity events, and the exposure of global business models to geopolitical tensions.

有效的營運穩健性——或銀行在各種干擾中確保關鍵業務持續運作的能力——是沒有妥協餘地。這使銀行能夠識別風險並保護自己，免受內部和外部威脅和潛在故障的影響；如果這類事故發生，銀行也可以適應過來，作出反應，復原，並汲取教訓。

運作風險管理日趨重要

雖然業務風險管理和維持業務持續的規劃一直受銀行密切注視，但最近的發展進一步突顯維持業務穩健作為優先策略的重要性。新冠疫情加速了整個行業的數碼轉型，同時香港的銀行聚焦香港金融管理局（金管局）的金融科技路線圖，進一步把規劃重點放在技術提升上。

各主要銀行的增長策略越來越倚重新興科技，包括數碼渠道的應用、流程自動化、拓展雲端應用，以及充分利用內部和外部數據及關鍵服務供應商的生態系統。此外，銀行越來越意識到疫情帶來的干擾風險，以及整個行業經歷了連串技術破壞性干擾。令企業在日常壓力上百上加斤的是，中國內地採取的新冠疫情控制措施和靜態管理，還有越來越複雜和層出不窮的網絡安全事故，以及在地緣政治緊張局勢中求存的全商業模式。

Regional banks face a multitude of ongoing potential threats that could increase internal vulnerabilities and challenge their ability to manage businesses smoothly, including:

- risks from IT outages, change management issues and third-party dependencies,
- breach of private data resulting from cybersecurity attacks,
- new technologies and associated implementation challenges,
- natural catastrophes and longer-drawn physical effects from climate change, and
- deliberate internal fraud, employee conduct and culture risks.

Also contributing to these escalating risks is the emergence of new ecosystem collaboration models leading to banks' dependence on a complex web of interconnected third parties (such as cloud service providers and Fintech vendors) that may be operating on less stringent risk models.

Caution is necessary as repercussions from severe, but plausible operational shocks (or even a seemingly minor operational slip-up) not only have financial and regulatory ramifications, but also could undermine consumer confidence and lead to substantial reputational damage. In response, banks are rightly prioritising the implementation of a dynamic, robust and sustainable operational resiliency framework across their organisations.

With increasing organisational complexities, yet heightened interconnectivities and dependencies underlying critical operations delivery, achieving resilience has also been elevated to a key regulatory priority both locally and globally. It is thus unsurprising that Hong Kong's regulators are focusing heavily on the topic of operational resilience, with the HKMA issuing a new Supervisory Policy Manual (SPM) module on

區內銀行面對此種複雜的潛在威脅，可能令內部漏洞更趨嚴重，令聯順管理業務的能力面臨挑戰，其中包括：

- 來自網絡中斷、管理層變動，以及過分倚賴第三方的風險；
- 網絡安全攻擊導致的私人數據洩露；
- 新科技和實施相關技術帶來的挑戰；
- 自然災害和氣候變化帶來的長期實質影響；以及
- 蓄意的內部欺詐、員工行為和文化風險

導致風險不斷升級的另一個原因是新生態系統協作模式出現，使銀行越趨依賴複雜而互相關聯的第三方網絡（如雲端服務和金融科技供應商），這些第三方網絡的風險管理模式可能不太嚴密。

必須謹慎行事，因為嚴重但看似無關痛癢的營運意外事件（甚至看似輕微的營運失誤）不僅影響財務和合規，還會削弱消費者信心，大大損害聲譽。為此，銀行首要任務是考慮推行全面、強而有力並可持續的穩健運作架構。

operational resilience (OR-2). Concurrent updates were made on the module for enhanced guidance on business continuity planning (TM-G-2) in May 2022 and operational risk management (OR-1) in July 2022.

The OR-2 segment sets out the HKMA's expectation on what it means for authorised institutions to be operationally resilient, and provides high-level guidance on how they can develop an integrated and holistic framework aligned to the expectations. With business continuity planning being a key component for operational resilience, revisions were made in TM-G-2 governing remote working arrangements. This was particularly necessary during the peak of COVID-19 and as hybrid office-remote working environments have become increasingly normalised.

A well thought through operational resilience framework could also be leveraged to satisfy additional interrelated regulations. This includes the enhancements to Operational Continuity in Resolution (OCIR) in Hong Kong that reinforce the "resiliency of design" principles to improve governance of critical financial functions, essential services and preferred resolution strategies.

隨著組織日趨複雜，關鍵業務營運背後環環相扣，因時制宜的穩健經營已躍居本地和全球的主要優先監管事項。隨着金管局在《監管政策手冊》中發布了關於運作穩健性 (OR-2) 的新單元，香港監管機構無疑會把重點放在運作穩健性這一主題上。在2022年5月和7月，金管局又同時修訂了持續業務運作規劃 (TM-G-2) 和業務操作風險管理 (OR-1) 兩個單元，以提供更高層次的指引。

OR-2單元闡述了金管局對認可機構應維持運作穩健的期望，並就它們如何制定綜合和全面的運作穩健性架構提供高層次指引。由於持續業務運作是穩健性規劃的關鍵組成環節，TM-G-2對管理遙距工作安排作出修訂。這在新冠疫情高峰尤其必須，特別在混合及遙距辦公環境變得越來越常規化。

規劃周全的運作穩健性架構，還可以滿足其他相關法規，包括加強處置中的運作持續性 (OCIR)，以強化「設計穩健性」原則，從而改善對關鍵財務功能、基本服務和首選處置策略的管理。

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Achieving operational resiliency in practice

The HKMA expects financial institutions (FIs) to have developed their operational resilience framework and outlined timelines by May 2023 and to implement the new operational resilience framework by 2026. As such, Hong Kong banks have a pressing call to action to build a comprehensive and integrated framework. Suggested steps to help to elevate their operational resilience include:

落實運作穩健性

金管局期望金融機構在2023年5月之前制定運作穩定性架構，及落實有關架構的時間表，並在2026年實施新的運作穩定性架構。因此，香港銀行迫切需要採取行動，建立一個全面和綜合的架構。有助提高運作穩健性的步驟包括：

- **Orientate operations toward an end-to-end business services recoverability.** Regulators opine that institutional resilience should entail an enterprise-wide (for their respective legal entity) view of critical business services and their dependencies, rather than cover standalone processes and systems. These critical business services and their supporting assets (including people, processes, technology, facilities, information and third parties required to deliver them) should be identified, mapped and have their resilience strengthened, with the objective of ensuring critical business service resumption rather than recovering individual siloed components.
- **把業務導向可恢復的端對端服務。** 監管機構認為，機構的穩健性應涵蓋整個企業的關鍵業務服務及其相關範圍（就其相關法律實體而言），而不止於個別流程和系統。這些關鍵業務服務及其支持資產（包括提供服務所需的人員、流程、技術、設施、信息和第三方機構）應予識別、列明，其穩健性也須增強，以確保恢復的是關鍵業務服務而不是單獨的孤立環節。

Example of identifying a critical business service 如何識別關鍵業務服務例子

Description: Prime brokerage has been identified as a critical business service based on revenue, customer impact and market presence.

概要：主要經紀服務是以收入、客戶影響力及市場佔有為基礎的主要業務服務。

Critical functions identified	Sales and trading	Operations			
Critical business processes	Financing and loan agreement	Trade execution and communication	Securities lending	Manage client and clearing counterparty collateral	
Supporting assets	Technology systems	Workforce	Facilities	Exchanges	External suppliers

主要功能	銷售及交易	業務運作			
主要業務流程	融資及貸款協議	進行交易及聯絡	證券借貸	管理客戶及結算對手方抵押品	
支持資產	科技系統	人力	設備	交易所	外部供應商

Indicative impact tolerance analysis for impacted functions, sub-services, and business processes.

受影響的職能、附加服務及業務流程的可承受影響程度參考性分析。

Scenario summary: Prime Brokerage is unable to connect to its agent bank and depository infrastructure. As such it cannot communicate trades, trade amendments or cash payment and receipt instructions to its agents.

假設情景：主要經紀未能聯繫代理銀行及託管設施，因而無法就交易員、交易修訂或現金支付及收款指示與其代理溝通。

Harm type	Impact tolerance	Analysis
Firm	Resume before market close on same business day	The unavailability of clearing and settlement for >5 business hours could intolerably impact the Firm's Prime Brokerage franchise value.

受損害類別	可承受的影響	分析
公司	在同一營業日收市前恢復	無法在5個工作小時內結算及交收，會對公司主要經紀業務的特許權價值產生不可接受的影響。

Harm type	Impact tolerance	Analysis	受損害類別	可承受的影響	分析
Client	Resume before market close on same business day	Inability to execute cash payments or same day asset transfer >5 business hours may cause intolerable harm to PB clients who may be required to meet financial obligations with third parties (e.g., margin calls), but do not have the ability to obtain funds from alternative providers to meet those obligations.	客戶	在同一營業日收市前恢復	無法執行現金支付或當日資產轉移超過5個工作小時，可能會對須向第三方履行財務責任（如追補按金）但無能力從另一金融服務供應商獲得資金以履行責任的主要經紀客戶造成無法忍受的損害。
Market	Resume before market close on same business day	Analysis has shown that the trade and settlement volumes for the Core Prime Brokerage business are <1% of market settlement volumes, which is not deemed significant enough to cause intolerable harm to the safety and soundness of markets when disrupted. However, depending on which systems were impacted, multiple market players could be involved, which could lead to significant market losses.	市場	在同一營業日收市前恢復	分析顯示，核心主要經紀業務的交易和結算量不足市場結算量的1%，市場中斷被認為不足以對市場的安全和穩健造成不可容忍的損害，但視乎受影響的是哪一系統，若涉及多個市場參與者，有可能導致重大的市場損失。

Source 資料來源: EY client example from: Managing operational resilience in APAC, Feb 2022. 安永客戶例子: (Managing operational resilience in APAC), 2022年2月。



- Define specific tolerable impact from disruptions.** Some regulators are explicit with the requirement for at least one time-based metric to define the maximum level of disruption that critical business services can endure. Examples of specific and quantifiable indicators include recovery time objective (RTO) or the highest tolerable outage time for a business service (such as equities trading).

Additionally, the HKMA requires FIs to consider other qualitative and quantitative metrics to measure negative implications to their viability, or the impact of their roles within the Hong Kong financial system. Examples include maximum acceptable volume of data corruption, loss of key personnel or substitutability of service by the end-user.
- Respond cohesively to a broader range of challenging scenarios.** A consistent theme across regulators is for continuity exercises across a range of “severe but plausible disruptive scenarios” that FIs have to devise based on macroeconomic conditions, dependencies and interconnections, and specific bespoke threats such as those stemming from the likelihood of natural calamities in susceptible regions or potential for civil unrest.

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- 確定一旦業務中斷所受影響的具體可容忍程度。**一些監管機構明確要求至少有一個時間指標，以界定關鍵業務服務可承受的最大中斷程度。具體和量化的指標包括恢復時間目標 (RTO) 或業務服務服務 (如股票交易) 的最高可容忍中斷時間。

此外，金管局要求金融機構考慮其他質量與數量指標，以衡量對其生存能力的負面影響，或它們對香港金融體系的衝擊，例如最大可接受的數據損毀量、關鍵人員的流失或最終用戶的服務可替代性。

Institutions must illustrate greater integration between incident management and crisis management capabilities and develop contingency protocols to respond to different types of crises. They could further strengthen existing interfaces and communication channels by creating playbooks and performing resiliency scenarios dry runs.

- Integrate testing to ensure delivery through disruptions.** Most regulators prescribe that FIs define an integrated testing strategy to look holistically across operational risk, business continuity planning, recovery and resolution, cyber and third-party risk management threats. This means needing to break down the siloed approach to managing resiliency-related sub-risks. Instead, they should align capabilities across existing departments to ascertain an integrated approach to testing the ability to deliver critical services under severe, yet possible scenarios as defined above.
- Ensure top-down commitment to ascertain accountability.** Expectations of board and senior management responsibilities have been elevated across multiple regulatory frameworks, with assumptions that these individuals have clear oversight and accountability of their FIs’ resiliency framework as these align with their enterprise strategy and risk appetite.

Best practices include the board’s annual attestation on compliance with new business continuity management requirements, challenging the capabilities underpinning the most critical business services and related impact tolerances, timely reporting of resiliency deficiencies, and establishing of an organisation-wide culture of operational resilience through policies such as incentivising appropriate behaviours.

Looking beyond banks’ regulatory adaptability

While it is critical that Hong Kong banks strive to meet resiliency-related regulatory requirements set by the HKMA and international standard setters, implementing the letter of the law (rather than the spirit of the law) just to satisfy requirements is not sufficient. They should ensure that their operational resilience programmes do not just become another tick-the-box exercise that layer on additional administrative complexity and cost to their risk management agendas.

Instead, operational resilience programmes need to be implemented with the view of strengthening sustainable

- 一致應對更廣泛的具挑戰性情景。**監管機構的一致重點，是金融機構必須根據宏觀經濟條件、相依關係和相互聯繫，以及特定的威脅 (如可能源於自然災害或社會不安的威脅)，制定一系列在「嚴峻但有可能發生的破壞情況」下持續運作的措施。

機構必須加強整合事件管理和危機管理的能力，並制定應急步驟以應對不同類型的危機。他們可以編訂程序手冊，以及進行保持穩健運作的模擬排練，以進一步加強現有界面和溝通渠道。

- 進行測試以在運作受干擾時確保交付。**大多數監管機構都會規定金融機構制定綜合測試策略，以全面審視運作風險、業務持續性規劃、恢復和處置運作、網絡及第三方風險管理威脅。這意味著需要打破孤立的方法來管理與穩健性相關的次風險，相反，他們應該協調現有部門的功能，訂定一套綜合方案，以測試在上述嚴峻但可能發生的情況下提供關鍵服務的能力。
- 確保由上至下致力承擔責任。**不同監管架構都已提高對董事局和高級管理層職責的期望，並假設這些個人對所屬金融機構的穩健性架構有明確的認識和責任，明確有關架構符合他們的企業策略和風險承受能力。

最佳措施包括董事局每年報告實施新運作持續性管理要求的進展、考驗支撐最關鍵業務服務的能力和相關的影響承受程度、及時報告影響運作穩健性的弱點，制定穩健企業運作文化的政策，例如對合適行為提供獎勵。

超越銀行只求合規的思維

雖然香港銀行須致力滿足金管局和國際標準制定者制定的穩健性監管要求，但僅僅為了滿足要求而遵行法律條文 (而不是法律精神) 並不足夠。他們應該了解運作穩健性計劃不止是另一個方框勾選練習，從增加風險管理程序的行政複雜性和成本。

相反，實施運作穩健性計劃，是為了加強可持續運作穩健性架構，從而獲得多重收益，例如簡化協調運作，並使銀行能夠在危機中更快、更具成本效益地作出反應，無論面對的是地緣政治、氣候、網絡或其他挑戰。

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operational resiliency frameworks to reap multiple benefits, such as ensuring streamlined coordination and equipping banks to respond quicker and more cost efficiently during crises, be these geopolitical, climate, cyber or other challenges.

Another key aim is the ability to offer more reliable services to customers, thereby improving their experience and satisfaction, trust and retention. Importantly, having agile, resilient business models and stable technology systems and platforms can enable banks and employees to focus on value-adding innovation, rather than getting side-lined from dealing with fixes, security issues and remediation. Furthermore, improving visibility and understanding vulnerabilities improve the ability to prioritise investment decisions and allocate resources more effectively.

To continually enhance the banks' operational resiliency frameworks, it would also be valuable for their risk practitioners to be upskilled, including through certifications such as the Enhanced Competency Framework on Operational Risk Management (ECF-ORM). This accreditation is a collaborative effort of the HKMA, the Hong Kong Institute of Bankers (HKIB) and the banking sector to establish a set of common and transparent competency standards to facilitate risk talent development. These would enable more effective training for new practitioners and enhance the professionalism of existing risk talent engaged in ORM in authorised institutions, and help Hong Kong to maintain its competitiveness as an international financial centre.



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另一個主要目標是能夠為客戶提供更可靠的服務，從而提高他們的體驗和滿意度、信任度和保留率。重要的是，具備靈活、穩健的業務模式和穩定的技術系統和平台，可以讓銀行和員工專注於增值創新，而無須分心處理修復、安全問題和進行補救。此外，提高透明度和洞察漏洞，可以改善投資優次決策，並更有效地分配資源。

要不斷增強銀行的運作穩健性架構，莫如提高風險從業人員的技能，包括獲取如「銀行專

Maintain constant vigilance

Enterprise resiliency will continually be tested as new, unpredictable and interconnected disruptions emerge with greater frequency. Given the plethora of headwinds in an increasingly competitive operating environment, C-suites at Hong Kong banks need to demonstrate proactive risk stewardship and promote a mindset shift from cataloguing risk and compliance as a cost, to one that provides value through risk-aware decisions. It is only by ensuring that their enterprise-wide operational resiliency frameworks are in place that they can not only ascertain business continuity, but also continue to thrive despite such challenging times. **BT**

The views reflected in this article are the views of the authors and do not necessarily reflect the views of the global EY organization or its member firms.

業資歷架構—業務操作風險管理」(ECF-ORM)等認證。這項認證是金管局、香港銀行學會和銀行業共同努力的成果，旨在建立一套通用和透明的能力標準，以促進風險管理人才的發展。這有助更有效地培訓新入職者，提升認可機構現有風險管理人才的专业水平，並有助香港保持其作為國際金融中心的競爭力。

時刻保持警覺

隨著新的、難以預測和互相關聯的干擾越來越頻密，企業的能耐將不斷受到考驗。競爭日趨激烈，經營環境存在眾多不利因素，香港銀行的總監級行政人員須具備卓越的風險管理能力，並調整思維，從把風險和合規視為成本，轉而為洞察風險作出決策，以創造價值。只有確保企業營運彈性框架到位，才能保證業務延綿不斷，而且在充滿挑戰的時期繼續蓬勃發展。 **BT**


上述觀點僅為作者觀點，並不一定反映安永全球機構或其成員機構的觀點。

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