Credit risk challenges and innovations in Hong Kong

Credit Risk Trends Facing the Financial Services Industry in 2020
Paper 1, September 2019

This year finds the Banking industry in Hong Kong assessing the impact of economic uncertainty and regulatory hesitation around Basel IV implementation, together with the challenges of new entrants into the local banking market and new initiatives to promote smart banking by the HKMA. These market shifts combine to intensify competition and change the nature of credit risk management in Hong Kong.

Changing Landscape & New Guidelines from the HKMA

A mix of changing customer expectations, new technology, and new disruptors are combining to advance the playing field for Hong Kong-based lenders. In the face of more compressed net interest margins and stiffer competition, banks are being forced to transform their credit lending operating models to be more automated, agile and scalable than ever.

As part of their seven initiatives to promote smart banking in Hong Kong, the Hong Kong Monetary Authority (HKMA) has established a "Banking Made Easy" taskforce to identify and streamline regulatory frictions to smooth online customer journeys. As part of these initiatives, the HKMA released a circular entitled "Guidelines on Credit Risk Management for Personal Lending Business" in August 2019[1] which slightly modifies a previously released guideline from May 2018 **"New Personal-Lending Portfolio" (NPP).** These guidelines intend to support innovation and technology in the personal and small business lending space.

The revised guidelines spell out some key requirements on **applying new technologies, automated processes and analytical tools** to credit application and approvals. The guidelines include:

— A suitable portfolio limit commensurate with the Authorized Institution's ("AI's") risk appetite and risk management capability should be set (formerly was set as 10% of AI's capital base);

— The total amount of credit exposure extended to each borrower under NPP should generally be smaller than the amount which would have been granted to the borrower in the case of conventional credit products;

— Proactive steps should be taken to ensure that the NPP lending business is being conducted in a responsible manner and that borrowers understand the key features, terms and conditions of the credit products, and their repayment obligations referencing the "Code of Banking Practice (including those relating to proper and timely disclosure of key product features)";

— Adequate controls should be in place to manage and, where appropriate, mitigate the risks associated with NPP. In cases where external models are used in credit assessment, the AI should ensure there is sufficient understanding of the methodology, assumptions and limitations;

— Periodic post-implementation reviews should be undertaken to evaluate the effectiveness of the new credit risk management practices and compliance with responsible lending principles.

Over the next few pages, we will highlight key credit risk management trends that are likely to be top of mind for management and board members at Banks in 2020.

[1] HKMA, Guidelines and Circular on Credit Risk Management, 29 August 2019
https://www.hkma.gov.hk/media/eng/doc/key-information/guidelines-and-circular/2019/20190829e1.pdf

Innovation on the way for Credit Approvals and Risk Management

Lenders that focus on retail and small business loans are starting to combine multiple transformational levers across loan origination, customer onboarding, credit scoring and risk management to create innovative products and customer experiences that look to leverage the latest technology. These levers include:

— **Modernising loan origination and onboarding capabilities** – Deploying technology tools including eDocs, facial recognition, robotic process automation, mobile apps and other solutions to meet growing client expectations around the digital experience.

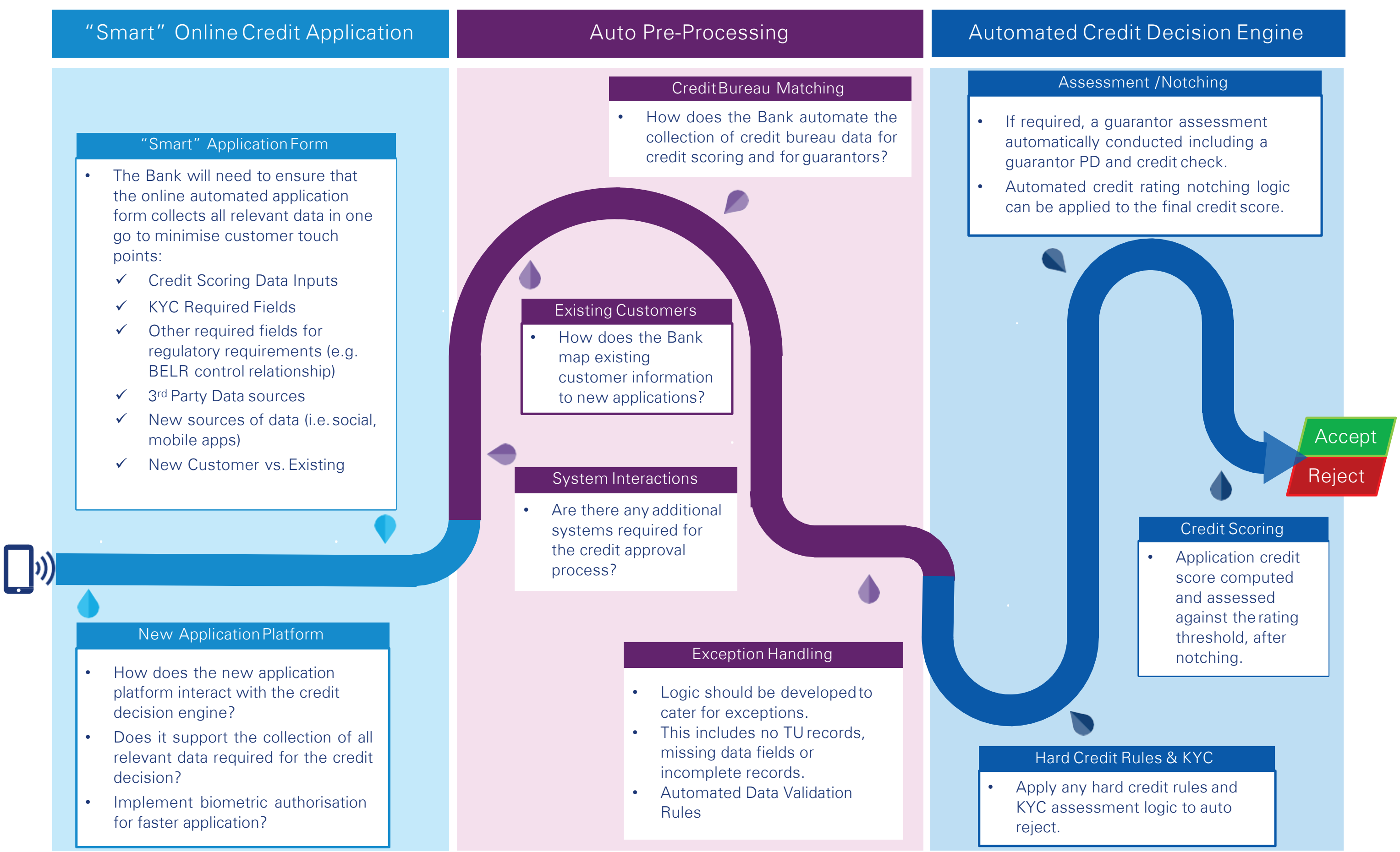
— **Streamlining and Automating processes** – Consolidating existing credit processes where possible to drive greater efficiency and raise the bar on quality. Automating all paper-based processes across the entire chain.

— **Automated Credit Decision Engines** – It is important for institutions to automate the credit decision processes to increase the speed and efficiency at which loans are approved. A combination of credit bureau, external and application information can be embedded in decision tree/machine learning frameworks and enhanced scorecards to help make accept/reject decisions and determine the most appropriate loan structure(s) for each applicant. This can include: automated rules which reject applications, minimum credit risk (i.e. PD%) thresholds, notching rules, guarantor rules, recovery and LGD thresholds, and finally automated limit algorithms. Some institutions have already set up beta versions of automated credit decision engines that also include elements of machine learning pulling in external data feeds.

— **Risk and Portfolio management** – Lenders have the opportunity to leverage rich data sources in their existing account loan applications and customer performance data to tell the "story" of their portfolios and track and manage expected outcomes. This data can be analysed to maximise the effectiveness of loan products and services.

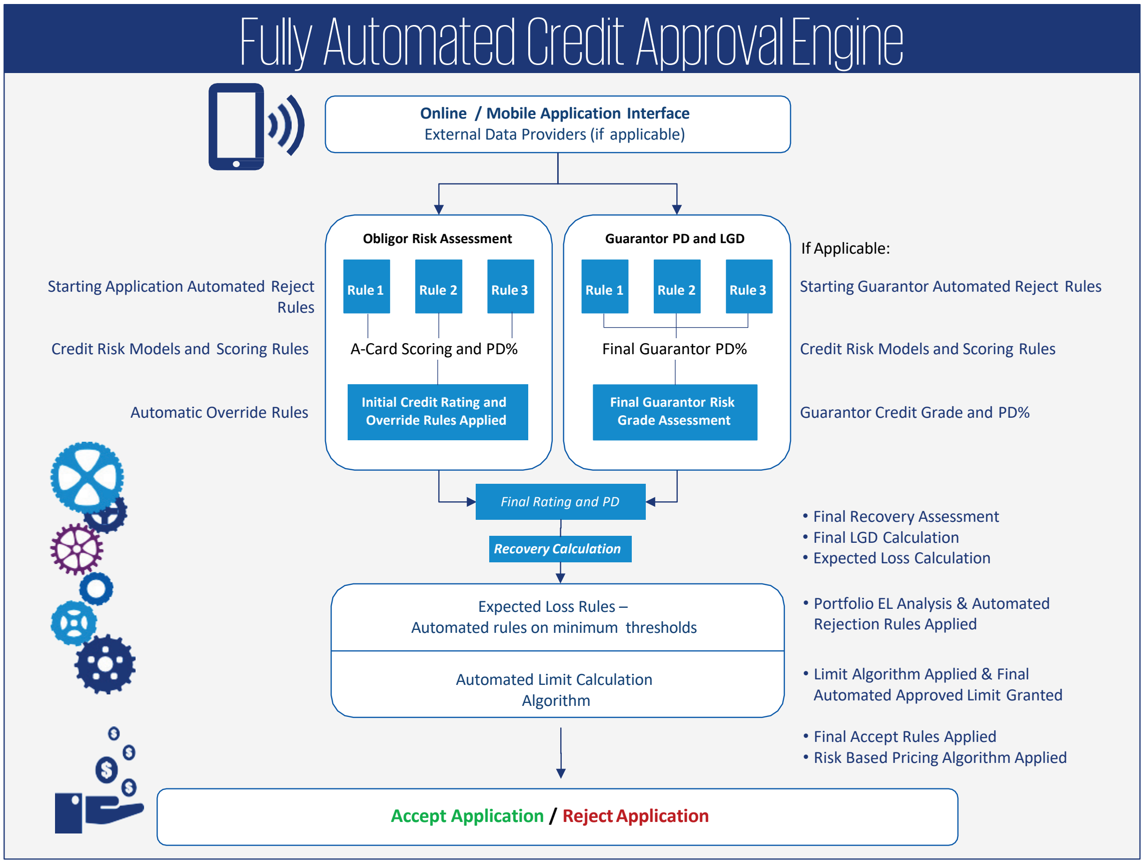
— **Replacing core systems** – Executing core platform replacements to capitalise on the greater business agility offered by the latest technology solutions, improve operational efficiency, facilitate digital client experience enablement, and streamline regulatory compliance and reporting requirements.

Straight Through Automated Credit Processing for Retail or Small Business



The introduction of the virtual banks and higher expectations from customers have put significant pressure on banks to update their operating models. This includes easy-to-use application processes and near-instant credit decisions.

A number of banks in the market are now considering straight-through-processing for their credit approvals, particularly for retail and SME portfolios. This involves designing the process across three phases; customer interface, credit decision pre-processing and the credit decision engine. Key to the success of this strategy is to implement a **fully automated credit approval engine** with a robust set of credit acceptance and data validation rules.



China: New Innovations, New Lenders and Key Trends

Innovations in Credit Scoring

Chinese lending companies are innovating the way they score credit applicants through enhanced techniques and a wide range of additional data points. For example:

- Facial recognition: A Chinese insurer analyses the video responses of applicants to a series of questions to assess whether to underwrite their insurance policy.
- Mobile phone usage: A Chinese technology firm and lender has built a comprehensive network of the country's mobile phone numbers through saving applicants' contact lists and call history data. This map of mobile phone numbers is then used to assess applicants based on their "network". This organisation is now starting to launch products and services into S.E. Asia.

While these applications are the ones that really attract attention, they serve as an illustration of some of the new techniques and data points that many Chinese lenders are now using as a core part of their credit decisions.

Technology Partners and Co-Lending

Chinese banks are partnering with technology companies, such as online social media giants and online retailers in China, to offer small unsecured retail loans to customers. This allows the banks to reach a new group of potential customers and to rely on the large amounts of data collected by technology companies in order to assess creditworthiness. These portfolios are seeing significant growth both in terms of volume and net interest margin.

However, the industry still needs to work through the issues that this may create from a risk management perspective. In effect, for these portfolios the participating banks are outsourcing a significant part of their credit approval process. There are also challenges with data collection, portfolio analysis and risk modelling.

There are a number of other new innovations developing in the market after the consolidation of the P2P platforms in China (a reduction from ~6,000 to ~700 in the past three years). These innovations continue to develop and provide credit to parts of the economy that do not have access to bank credit and loans.

How KPMG Can Help

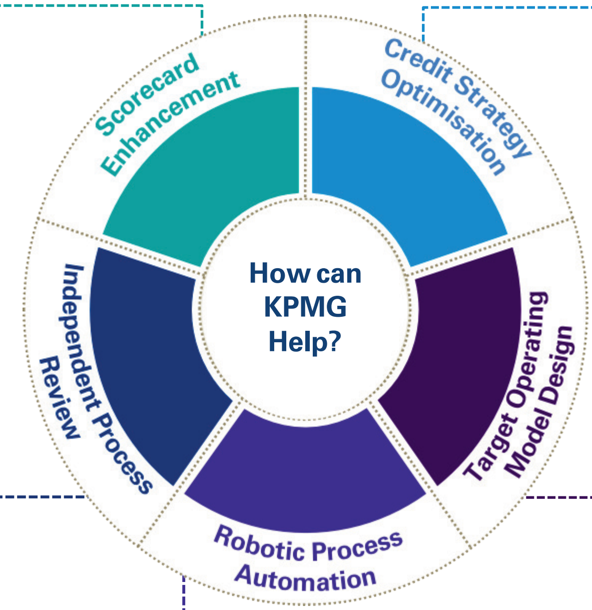
KPMG has assisted numerous mainland Chinese, Hong Kong and international banks with traditional credit risk areas including; credit scoring model development, Basel 2/3 implementation, IRB model development and validation, IFRS 9 implementation and credit risk process reviews. We continue to support a number of banks in these areas.

In addition to these core credit risk services, KPMG can assist you to innovate credit risk management practices and processes. This includes automation of credit risk processes, optimisation of credit lending strategies and designing the future-state credit risk target operating model.

Credit Risk Management for 2020, what you should be doing now:

- Automated credit approvals rely on credit scores as the primary driver of the credit decision which should be optimised, reviewed and potentially validated.
- KPMG can assist you to automate and enhance any existing credit scorecards, credit models, and credit decisions.

- Automate credit decisions based on rule-based credit strategies.
- KPMG can assist to optimise these rule-based strategies, and particularly the credit score threshold by performing simulation and profitability analysis.



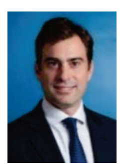
- Have an independent party assess your approval process against industry benchmarks and look for efficiency recommendations. These recommendations should cover both the credit decision and areas for further automation.
- KPMG can assist by performing an independent review of your credit approval process.

- Design an optimised credit approval Target Operating Model, by mapping the process and identifying all areas that would benefit most from automation.

- KPMG can support you to improve efficiency through Robotic Process Automation.
- Identifying elements of the approval process that would benefit from automation.

Paul McSheaffrey
Partner,
Head of Banking, Hong Kong
KPMG China
T: +852 2978 8236
E: paul.mcsheaffrey@kpmg.com

Tom Jenkins
Partner,
Head of Financial Risk Management
KPMG China
T: +852 2143 8570
E: tom.jenkins@kpmg.com



Michael Monteforte
Partner,
Financial Risk Management
KPMG China
T: +852 2847 5012
E: michael.monteforte@kpmg.com

Gemini Yang
Partner,
Financial Risk Management
KPMG China
T: +852 3927 5731
E: gemini.yang@kpmg.com

Yan Li
Director,
Financial Risk Management
KPMG China
T: +852 3927 5660
E: yan.l.li@kpmg.com

Yi-Hsin Wang
Director,
Financial Risk Management
KPMG China
T: +852 2685 7422
E: yihsin.wang@kpmg.com