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Research on Innovation in China's Banking Sector

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Abstract: Since China's WTO accession, China's banking sector was booming. We could see the names of China's banks on the list of global financial giants. However, they have no appearance on the ranking of top innovative financial institutes. Innovation is the source of sustainable competitive advantage and is especially vital for service sectors that confronting with increasingly diversified clients demand. In this article, the author first examined the innovation activities in China's banking sector and evaluated the performance of the typical banks in China. Then we made the scoreboard of innovating participation and analyzed the elements impeding innovation of China's banks. Further, we put forward some advice on innovation incentives from both the perspective of China banks and government authorities.

Key words: Innovation, performance, China's banking sector, advice

INTRODUCTION

The global financial crisis of 2008 has changed the competitive landscape for banks. The majority of banks are struggling for survival and beating their brains out to find various ways to work more efficiently and effectively except one special group: China's banking sector. According to the Annual Report of China Banking Regulatory Commission (CBRC, 2011; 2012), in 2011, China's banking industry achieved the profit of 1.25 trillion Yuan (after tax profit margin) and a year-on-year growth of 39.3%. 85% of their profit came from interest margin. The return on capital was 19.2% and the return on assets was 1.2%. China now owns the biggest and most profitable banks around the world. However, none of them was listed on the world's 50 most innovative companies (Ying and Gao, 2012).

As we all know, innovation is the source of sustainable development. None of the industry could cling to outdated customs meanwhile maintain the leading edge. Due to the internal and external demand of innovation, China's banking sector has put effort to introduce new services and technology. In this article, we first reviewed the current innovation activities of China's banking sector and the performance of some typical banks. Then, we figured out the reason of such performance and analyzed the impeding elements for innovation. Subsequently, we will discuss how the banks and Chinese government can give a boost to stimulate innovation.

The third edition of the Oslo Manual (OECD, 2005) distinguished four types of innovations: product innovations (goods or services), process innovations, marketing innovations and organizational innovations. According to such types, we classified the innovation activities of China's banking sector ever since 2001 (Table 1).

Banking service sector: It could be observed China's banking sector emphasized on process innovation. Nowadays, almost all the Chinese banks provide the online banking service and offer multiple services from fundamental business like checking account to value-added ones, such as electronic funds transfer, foreign currency purchasing and selling, personal financial services,etc. As a matter of fact, the online bank is more than an brand new innovation (Kuo *et al*., 2013). It's sometimes regarded as the process innovation which could leverage new channels for more innovation (Chern and Tzeng, 2013).

The most impressive thing was ICT had been overwhelmingly changing the banking service sector, through which more and more sales' channels were explored and the marketing of the financial products could be more flexible. And this trend seems to be sustained in the long run (Menor and Roth, 2007; Bygstada and Lanestedtb, 2009; Oliveiraa and von Hippelb, 2011). With some banks shifting their focus from the pursuit of hardware to the building-up of soft environment, organizational innovation gradually gets more attention.

Table 1:Innovation activities in China

Innovation type		Example	Characteristics and functions
Service innocation		-Online banking service	-Flexible and become a channel for manifold and personalized service
		-domistic trade finance	-Set up different functional domain for better client segment
		-clustomer-finance	
		-Specific loaning product	-Satisfied some specific demand
Process innovation (Production methods and ICT)		-New ATM -Utilize new equipment to reduce unit cost	
	Customer-oriented		
		-Debit card	
		-Telephone banking	-Shorten the waiting time of individual customers in the bank
		-Computer-assisted business	-facilitate payment
		-POS	-Customer could be well-informed through online broadcasting
	Bank-oriented	-Local area network	-Diversify e-banking business
		-Wide area work	-New ICT could improve the bank efficiency and facilitate the communication among hewadquarter and branches
		-Wide area work	
		-Computerized credit rating	
		-Daily calculation of accounts program	-Through cooperation with security and insurance. Banks could explore new financial innovation business over capital clearance, asset management, investment banking, futures, clients-sharing, etc
		-Bank and security comprehensive service	
Marketing innovation	Product placement	-Exclusive financial product on cellphone bank (ICBC, 2012)	-Attract more mobile phone users -Broaden sales channel for financial products
		-Cooperate with renowned E-business platform like Taobao, Alibaba (CCB, 2012: BOC M, 2012)	-Increased the profit of the intermediate business of bank -Take advantage of the existing fame and client group of E-business platform, sell precious metal, funds, personal loan, debt, VIP service debit cards. Etc
	Product promotion business practice	-Customizing for private banking clients	-Tailor the products to the specific needs of individual customers
		-publishing internal brochures for employee to learn english	-Appropriate training helps employees accomplish their own work and also be competitive in the context of the giobalization
		-Organizing english and etiquette competition	-Build up external realtions could benefit the both sides. Banks can spread their fame and be urged to improve their service
	External relations	-Cooperated with the universiade (CMB, 2011)	

MEASURING THE INNOVATION ACTIVITIES OF CHINA'S BAKING SECTOR

Considering the principal subjects of innovation, we selected the typical China's banks: the China's state-owned commercial banks (SOCB) and the joint-equity commercial banks. In 2011, the accounted for over 76% of the whole market and the joint-equity commercial banks took 22%. The ranking of top 5 banks according to the market share is: ICBC, CCB, ABC, BOC and BOCM. The profit of the domestic banks comes from the interest margin which account for 85% of the whole profit and even 95% five years ago. Comparing with the foreign banks, such as HSBC, the innovation activities and its contribution to the growth of banks are deficient.

Technology innovation, product innovation and institutional innovation define China's financial innovation. We hereby checked the different innovating performance of the SOCB and the joint-equity commercial banks' as follows (Table 2).

Almost all the SOCB and some of the joint-equity commercial banks devoted to asset product business innovation. It seemed both of the two groups would emphasize particularly on liability products innovation, 99% of which targeting to enterprises. The SOCB conducted intermediary product innovation to different extent, while none of the joint-equity commercial banks innovated over this. The situation was roughly the same for bank card innovation. The institutional innovation saw the least innovation in 2009-2010. Since all the banks was supervised and guided by the government, little change can be seen in the top-down management system. Only BOCM got a down-top institutional reform in some branches. None of the banks owned an independent innovation department. The technology innovate on activities (IT and IT related innovation) were few, as well. Only ICBC,BOCM,CIB got some essential innovation over technology.

If we assume each kind of innovation makes undifferentiated contribution to the bank. As for brand new product, we mark 1. Integration of existing product and process reengineering score 0.5 separately and no innovation is marked 0. A simple math could show the score of banks innovation participation (Fig. 1).

It's surprising to find that BOCM was the most innovative bank from the big picture. BOCM made one

Table 2: Innovation activities of typical banks in China, 2009~2010

	Production innovation				Institutional innocation			Technology innovation		
Type name	Assest product	Liability product	Intermediary product	Bank card	Top-down	Down-top	Idependent R and D innovation deparmtment	IT platform	Product relying on technology	Risk management
State-owned commercial banks (SOCB)										
ICBC	•	∘	•	∘	◊	×	×	•	×	×
ABC	•	∘◊	∘	∘	◊	×	×	×	×	×
BOC	∘	•◊	∘	∘	◊	×	×	×	×	×
CCB	∘	•◊	•	∘	◊	•	×	∘	∘	•
BOCM	∘	•◊	∘	∘	◊	•	×	∘	∘	•
Joint-equity commercial banks										
CNCB	×	∘	×	×	◊	×	×	×	∘	×
CEB	×	∘	×	×	◊	×	×	×	×	×
HXB	×	∘	×	∘	◊	×	×	×	×	×
GDB	×	•◊	×	×	◊	×	×	×	×	×
CMBC	∘	•◊	×	•	◊	×	×	◊	∘	×
SPDB	•	◊	×	×	◊	×	×	×	×	×
CIB	•	◊	×	×	◊	×	×	◊	•	×
CMBC	×	•◊	×	×	◊	×	×	×	×	×
CZB	×	•	×	×	◊	×	×	×	×	×

Different levels of innovation: • Brand-new product: never seen in the market, ∘ Process reengineering, × no innovation, Source: Annual report on innovation of china's banking sector, 2009-2010

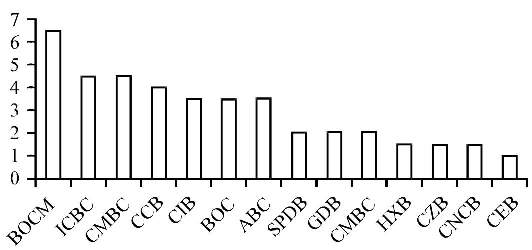

Fig. 1: The scoreboard of China Banks' innovation participation in 2010

step to the risk management and it was the only bank who introduced down to top institutional innovation in branches that year. ICBC and CMBC followed, while BOC and ABC only ranked no.6 and no.7, separately. The overall performance of the SOCB was better than the joint-equity commercial banks. The SOCB have advantages in larger capital amount, government policy inclination and less pressure in profit. On the other hand, the joint-equity commercial banks get more flexibility and could design some targeted product for specific clients. That was why some of the joint-equity commercial banks outperformed in 2010.

At the end of 2012, the Financial Industry Innovation and Development Forum announced the most innovative banks, including ICBC, CCB, CMBC, CIB and BOC, similar with our scoreboard. Meanwhile, BOCM was awarded an honored title of "bank of best service".

The innovation projects focus on 4 domains in China. Taking Shanghai's banking sector for example, there were 690 innovation achievements in 2012, 242 of which aimed at supporting important industries, accounting for 35.07%. The number of the projects for improving people's livelihood reached 134, accounting for 19.42%. That for supporting construction of the shipping center and of financial center was 93 and 221 which accounted for 13.48% and 32.03 separately. Shanghai's banking sector classified their innovation achievements into two categories according to originality and influence: important innovation and general innovation. Of all 690 achievements the number of the important innovation was 177 which accounted for 25.6%. This proportion was even higher than that of the whole country which indicated that the original innovation was still insufficient in banking sector in China.

Elements impeding innovation of China' s banks: Actually, the innovation in banking sector had already began since the opening-up. The innovation boom lately in China banking sector is for some reason. From 2009, China's banking sector came to realize the capacity of financial innovation would directly determine the competitiveness of banks. As the physical carrier of business innovation, technology is with no doubt unprecedentedly important for all banks. Moreover, technology makes new-style customer relationship management possible. Therefore all the banks cast their eyesight on technology reformation and ICT. In recent years, the rapid development of private economy in China arouses new demand for various financial products. The alert and flexible banks (especially the joint-equity commercial banks) are just scratching the surface. The external incentives include the government regulatory authority encourages banks to introduce new products and services.

On the other hand, some problems arise in banking sector innovation. Firstly, China's banking sector is still in the phase of innovation exploring in the following aspect.

The original innovation is insufficient. Since China's opening-up, around 85% innovation was learnt from western countries. Banks copy from each other once a new financial product appears in the market and are sluggish to innovate which may be owing to some service innovation is too complex and invisible to get IPR protection. Furthermore, some banks even have wrong understanding and consider the simple quantity expanding is also an innovation.

The target objects are limited to specific group of people and the rest are ignored. Most of the innovation products like customer credit, loaning and personal financial business are designated for high income people and enterprises. This keeps a large number of middle and low income people outside of the consumer credit service.

The scale of existing innovation is small. The current innovating business in banks count little proportion in the whole banking business and could hardly help to optimize the structure of assets and liabilities. Not even mention the gain from occasional innovation could keep adequate returns to support future innovation.

The substantial innovation is far more less. Most of innovation was apt to master and operate with little or simple technology, such as increasing the number of financial institutes, expanding the financial business, etc. While the operational mechanism or high-tech innovation adapted to market economy was obviously not enough.

Secondly, the banking sector itself lacks of motivation which results in the homogenization of innovation products and those innovation projects tailored with own characteristics account for a small percentage. The reason is complicated. From the perspective of China's banks, they could easily be profitable through high interest margin and difference between deposits and loans. Why bother to take risk to innovate? Moreover, the supervising authority monitors product-pricing and the banks are also facing multifarious administrative examination and approval. Since the banking sector is risk-averse by nature, they become more and more conservative under strict compliance and heavy regulation. The most important thing is there is no withdrawing mechanism in the Chinese financial system. Once an innovation project fails, it would mean a disaster for the banks.

Thirdly, China's banks haven't developed their articulated innovation strategy. Most of banks do not possess an internal top-down decision-making process for innovation. Sometimes they just innovate under the request of domestic government or enterprises. There is no specific innovation managing department who could draw a big picture for short-term and long-term. This could explain why the investment in innovation research is small. According to the statistics of the second resource inventory of R and D in China, the R and D funds in financial industry was $15 million which was the lowest among all service sectors. During the same period, OECD countries average funds in financial industry reached $316 million which was 21 times of China's. The poor investment in R and D can also explain why the IT or IT related innovation is inadequate. The absence of leading technologies lowers the innovation capability in return.

Lastly, the innovation projects of banks were national-policy and regional-developing oriented rather than serving the banks' strategy. In the case of Shanghai's banking sector, three fields got special attention: financial service for SME, opening-up supporting and financial markets and derivatives, all of which were sectors that are energetically supported and dominated by central and local government. There is no close connection between company strategy and innovation. This is partly because of the banks lack systematically conceiving of innovation developing path and partly because of the nature of the ownership of China's bank.

ANALYSIS AND RESULTS

The saving of Chinese people will not reduce in the short term and it seems China's banks could stay safe and profitable. With the segment of customer's demand, new challenges from the third party payment platform and non-financial institutions are coming up. The era is changing and it's time for China's banks to pursue value rather than volume. Although China's banking sector began to understand innovation could contribute to the wider business vision, they still fail to develop a clear innovation strategy as some manufacturing sectors. Likewise, the supervising authorities play an important role as sponsors and conductors. Here we conclude our analysis with some advice to give a boost to the innovation of China's banking sector.

From the perspective of China's bank: Developing innovation strategy and ensuring channels clear: The most pressing and stubborn concern at present should be an articulated strategy and deeper understanding of the conception and basic insight of innovation. It may include the goal and expectation of innovation, the effective approach to filter innovation funnel, the management department, the R and D group and other supporting measures. This strategy could draw a blueprint for the banks to make innovation activities predictable and repeatable in a planed way. A specific management department impels efficient and transparent decision-making and has resource allocated according to the portfolio of innovation projects. A R and D group could fuel innovation through sophisticated analysis of the customer's demand and distinguish the up-to-date technology applicable for the banks.

Embracing the network and making extensive use of ICT: The world is flat with ubiquitous network and a bank without internet will be an isolated island. The network and ICT make advanced online finance and mobile financial service possible. The client retention rate can be increased through multiple service channels and the clients would purchase more financial products. With the clients getting more satisfied, the client relationship can be well-maintained and e-loyalty could be established. The network can also bring inspirations for innovation. Furthermore, the tide of ICT is influencing the banking sector unprecedentedly. The extensive use of ICT could be an inexhaustible source of innovation for banks.

Being more aware of the risk management and engaged in more model innovation: The domestic banks still stagnate over risk management. Foreign banking sector always applies VAR to risk evaluation. VAR can be used to build up the risk measuring model with scientific and normative mathematical statistics method with a large number of data. However, the financial data in China is insufficient. Hence, the application of VAR in China is limited. Besides, the risk monitoring and analysis system for the banking sector is not complete and we can't analyze and make use of the risk information comprehensively. The venture capital allocation management regime based on risk measurement is not set up yet. The importance of risk management doesn't need to be elaborated and the innovation of more relative model is urgent for all China's banks.

Innovating base on banks' own advantages: Every bank has its own characteristics and different target clients. Some of them are large and abundant with capital flow and the other may be serving a local territory with diversified clients' demand. It's not necessary to duplicate the others so-called "successful innovation mode". If innovation is not grounded on your own advantages and merits, it will not live long and be continues.

Increasing external cooperation: There are so many benefits for banks to cooperate widely. Firstly, banks' fame can be expanded by sponsoring some events or other enterprises. Secondly, the banks could utilize the high-quality intelligence resource for innovation through cooperating with public research institutions, science and technology parks and universities. Especially, the banks could collaborate with some innovative companies and innovation-oriented SMEs who specialize in innovation. Thus the banks could outsource the innovation procedure or technical conundrum and only collect and report the necessary feedback of consumer's demand. The R and D cost can be reduced with specialization and the banks can focus on the major business. The last but not least is the banks could introduce venture capital funds and financing of such funds by some cooperation for innovation.

From the perspective of the government and supervising authority: Reducing market distortion and accelerating interest rate mercerization: There is no clear border between the government mandate and the market in the financial industry in China. Excessive regulation and intervention impede the financial institutions to obtain market price and demand signal freely. The government may deregulate over some fields and permit the banks to operate and take the risk independently, meanwhile reinforce the supervision and regulation over some noncompliance and illegal behavior. And the supervising authorities should monitor and warn the banks of various risks in innovation. The interest margin is the source of high profit in the banking sector. The interest rate mercerization enables free-for-all pricing and will bring fierce competition among banks which could force them to reform their operational mechanism essentially. The competition could evoke banks to innovate in order to achieve differentiated advantage and maximize the profit. Launching more fiscal and financial policy to support innovation: Due to the public product nature of R and D, the government plays an irreplaceable role in R and D investment and promotion, comparing with the private sector. The government could invest in R and D directly, or implement tax reduction and exemption as the indirect subsidy for banks engaging in R and D and innovation. Moreover, the government could render R and D subsidies, such as fiscal incentives, grants and matching grants including those for hiring or training researchers and other technical personnel necessary for R and D. In other cases the government could procure the R and D products in the first place or reward the banks who foster commercialization of products from R and D, encouraging them to bring innovations to market.

Improving the IPR regime to build a conducive law environment: The IPR regime is essential for innovation. Better IPR protection is supposed to avoid innovation from imitating and copy. This goal can be reached by government's attempt to establish or improve the functioning of licensing agencies or patent institutes and provide protection for licensing and technology transferring. Thus banks could keep the benefit from innovation. Thereby more innovation will be stimulated. Accelerating the pace of globalization and introducing more competition: According to the China Protocol for WTO Accession, China's banking sector made the most entire opening-up commitments among all financial service sectors. 2006 saw the end of the interim period of the banking sector and foreign bank were granted the National Treatment. By the end of 2011, 181 banks from 45 countries and regions set up 209 representative offices in China. Fourteen foreign banks established 37 wholly-foreign-owned banks, two joint venture banks and1 wholly foreign owned financial company. Seventy-seven foreign banks from 26 countries and regions have 94 branches in china. Thirty-five foreign legal-person banks and forty-five foreign banks' branches were entitled to conduct the RMB retail business. Twenty-five foreign legal-person banks and 25 foreign banks' branches were permitted to conduct derivatives business. 5 foreign legal person banks were allowed to issue RMB bonds.

The foreign banks are relatively mature and positive in innovation and they do elicit some competition. However, they can't fundamentally alter the competitive landscape in China's banking sector due to their little market share. The innovation performance of China's typical banks indicated that they were not "too big to change". The China's banks need to make further effort to open up and go abroad. This is the irreversible trend and only way to awake their consciousness of innovation and speed up the operational transformation.

CONCLUSIONS

In this study the innovation activities in China's banking sector had been reviewed and the performance of the typical banks in China was evaluated. The overall performance of China banks' were not satisfactory as we assumed by their capacity of gaining profit. Then, the scoreboard of innovating participation was developed and the bank which paid more attention to the risk management and institutional innovation had been observed as most innovative banks. This could shed some light on the future path of China banking sectors' innovation. However, there were still some elements impeding innovation of China's banks, based on which some advice on innovation incentives from both the perspective of China banks and government authorities was put forward.

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