

# Knowledge Management, Growth Mindset, Fintech Adoption and Commercial Bank Performance in China

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## Abstract

This research focuses on commercial bank performance and looks at the knowledge management of the structure, an innovative culture, leadership, employees' growth mindsets, and fintech adoption. The banking sector is chosen because it is part of the service sector, meaning that whether they are in back-office, management, or front-line positions, staff are meant to serve the customers. Therefore, any behavioural and emotional displays by employees will affect customers' decisions and reactions. As for the banks, fintech is revolutionizing the banking industry by incorporating artificial intelligence, big data, block chain, crowd financing, and digital payments into commercial banks. This puts performance of the bank sector at risk. For this reason, the banking sector is vulnerable making bank employees a suitable choice for this study. This research is relevant to policymakers, financial practitioners, and scholars in the area of study. This research contributes practical implications and increases the literature in this area of study. Overall, this study could have impacts at the individual level (employees), organizational level (bank performance), and country level (ministry of finance).

**Keywords:** Knowledge Management, Growth Mindset, Fintech Adoption, Commercial Bank Performance, China

## Introduction

Banking sector makes a significant contribution to the increase of the socio-economic development of a nation in several dimensions, such as by providing loans to common people, industries, start-ups, and farmers (Ranjee, 2018; Jyoti and Singh, 2020; Alam et al., 2021). Inclusion in the financial system is becoming an increasingly important issue for policymakers throughout the globe as they attempt to develop effective strategies to promote long-term economic growth. It has been stated, from a theoretical point of view, that financial inclusion is one of the driving factors that leads to economic development. According to this theory, the financial sector, by means of the services it provides, not only contributes to the availability of new money but also encourages innovation, efficiency, and investment, all of which contribute to an increase in overall production. The banking industry seems to be more specific and cost efficient in accordance with the expansion of the economy. This is because it fosters the accumulation of capital and attracts business rivalry among banks, both of which

result in increased investment and expansion of the economy as a whole. According to Cecchetti and Schoenholtz (2020), in view of the different economic impacts between China and the US, and the significance of the banking system to economic growth. It is important to study the different banking systems of the world's two major economies, and to know in which country's banking sector performed better during the economic downturn. These findings have important implications for banking institutions and regulators, especially in times of crisis. Elnahass et al (2021) study the impact of COVID-19 on financial performance and financial stability using the measures of accounting-based, market-based, and risk-based indicators before and during the economic crisis in 2020. This result indicates that both banks in these two countries have been negatively affected by economic crisis. Elnahass, Trinh and Li (2021) claim that a poor performance position in the US banks during the outbreak in 2020, while the Chinese banks show marginal evidence negative effect of the economic crisis on bank performance are insignificant. In addition, Elnahass et al (2021) also find that the market value of Chinese banks is significantly low during the outbreak, which is marginal for US banks. The result is in line with Elnahass et al (2021), indicates that the economic crisis has an adverse impact on banks. Interestingly, they find that the impact of the shock on banks is more pronounced and long-lasting than on the corporates and other non-bank financial institutions. However, in 2022, Chinese policymakers consistently emphasize the need for China's financial sector to serve the real economy instead of engaging in purely speculative activities that provide limited real economic and social benefits. The 14th Five-Year Plan envisions a Chinese economy that is increasingly focused on high-quality growth, innovation, digital, domestic consumption, improved living standards and the environment that suitable need to review as policy implications of this study.

*This study proposes the following research objectives*

- a. To investigate the relationship between knowledge management (the structure, an innovative culture, and leadership) and commercial bank performance.
- b. To examine the relationship between knowledge management (the structure, an innovative culture, and leadership) and employees' growth mindset.
- c. To test the mediating effect of the growth mindset in the relationship between knowledge management (the structure, an innovative culture, and leadership) and commercial bank performance.
- d. To determine the relationship between fintech adoption and commercial bank performance.
- e. To test the moderating effect of fintech adoption in the relationship between the growth mindset and commercial bank performance.

## **Literature Reviews**

### ***Knowledge Based Theory of the Firm - Knowledge Management Practice***

#### **a) Knowledge Recognition**

The issue of knowledge has received little consideration in Knowledge Based Theory of the Firm. Despite this, knowledge is perhaps the most valuable resource that businesses have, serving as a strategic source of both Ricardian and monopolistic rents (Penrose, 1959; Winter, 1987). It's mostly about knowledge production and application, according to the firm's knowledge-based philosophy (Demsetz, 1991; Grant, 1996; Spender, 1996). Because organisations have diverse knowledge bases and various abilities in learning and using information, Bierly and Chakrabarty (1996) believe that organisational performance

disparities across organisations are caused by this disparity. As a result, managing organizational knowledge might be seen as the firm's most dynamic competence and the primary driver of all other talents and capabilities (Lei et al., 1996).

#### b) Knowledge Acquisition

Firms generating new items must acquire and apply knowledge-based resources, particularly in technology-intensive sectors with rapid change and innovation (Das and Kumar, 2007; Lawson et al., 2009). Knowledge-based resources are more difficult to disseminate due to their nature (Gooderham et al., 2011; Foss et al., 2010). Nonaka and Takeuchi (1995) emphasize the importance of knowledge transfers across business borders in producing new knowledge and products. According to Kogut and Zander (1992); Doz and Hamel (1998); Tsai and Ghoshal (1998), social processes, norms, and trust promote information transfer (especially tacit knowledge) across organizations. Brown and Duguid (2001) believe that knowledge that seems impenetrable through official channels might escape via back channels. Trust between companies is crucial for information transfer (Barney and Hansen, 1994; Gooderham et al., 2011). The establishment of norms and the existence of trust are regarded to assist information transmission (Nahapiet and Ghoshal, 1998). Dyer and Singh (1998) claim that greater relationships and acquaintanceship between alliance partners boost absorption, improving knowledge acquisition and assimilation efforts. However, Nahapiet and Ghoshal (1998) observe that no complete theory has emerged. Given the social nature of intellectual capital, they offer a theory focused on social interactions. Relational governance is supposed to increase knowledge acquisition.

#### c) Knowledge Transformation

Knowledge transformation inside a company is a sign of effective knowledge application. The goal of knowledge transformation is to assist a company in realizing its knowledge's strategic worth (Kogut and Zander, 1992; Grant, 1996). A company can add value to its consumers by acquiring information, then integrating and applying it into corporate strategies and actions (Nelson and Winter, 1982; Demsetz, 1991; Grant, 1996). Definition of knowledge transformation as a process by which a corporation converts its gathered information into practical company strategies, policies, routines, or operational processes for production and markets for the purposes of this study. While knowledge creation and transfer within a corporation is crucial to its success (Kogut and Zander, 1992), the tacit nature of international knowledge makes knowledge transfer even more challenging in born global, emphasizing the necessity of knowledge competence in born global. According to a number of academics, knowledge-based competency is especially vital to the competitive advantage of born global enterprises (Oviatt and McDougall, 1994; Moen, 2002; Knight and Cavusgil, 2004). Though the ability to manage the knowledge process has been addressed in various contexts for global organisations, few research had looked into the underlying mechanisms that facilitate the knowledge process within the firm (Foss and Pedersen, 2004). As a result, the purpose of this research is to provide more insights into the accelerated internationalization of born global organizations from the standpoint of knowledge transformation capabilities.

### ***Knowledge Based Theory of the Firm - Knowledge Application***

#### a) New Technology

Information on a company's finances, product efficacy, manufacturing costs, and so on is necessary. In order to better service the consumers and maintain a competitive edge over the

long term, it must also have external knowledge of the environment in which they operate rivals, customers, suppliers, and so on (Lai et al., 2006). Tippins and Sohi (2003) describe Information Technology competence as the firm's capacity to effectively manage its information via the use of these technologies. The broad phrase Information Technology includes programs, computers, and telecommunications, but the term Information Technology competence refers to a person's ability to use these technologies to meet a company's information demands (Mithas et al., 2011). Researchers find three major facets of this idea in the research: knowledge, operations, and infrastructure. The ability of a corporation to display these attributes reflects its ability to handle market and consumer information (Tippins and Sohi, 2003). The next paragraphs provide a brief description of each of these three dimensions. Information Technology knowledge refers to an organization's understanding of current and upcoming technological capabilities. A company's ability to promptly respond to new market opportunities is greatly enhanced by an awareness of Information Technology possibilities (Crawford et al., 2011). There may be a need for Information Technology operations in order for these technologies to have a positive impact on the business. Discussing IT operations in the context of this research, efficiency and decision-making are the primary goals. IT infrastructure refers to artifacts, tools, and resources that help with data collection, processing, storage, delivery, and usage. IT infrastructure encompasses hardware, software, and support personnel.

#### b) Information Processing

An alternative to the product-based or competitive advantage (Porter, 1980) theory of the corporation has gained a lot of attention in the last two decades of this century the resource based theory (Blackler, 1995; Wernerfelt, 1995). It is an epistemologically based approach on organization and strategy creation that proposes a knowledge-based firm theory. As an example, in this case, Venzin et al (1998) identify three types of epistemic frameworks that might be used in practise and research in this context: cognitivist, connectionist, and auto poietic represented by (Venzin et al., 1998). Introduction initiated by (Maturana and Varela, 1980). The cognitivist perspective of organisations is that they are open systems that produce knowledge by developing more accurate representations of the world. More accurate representations may yield data and information. As a result, the bulk of cognitivist viewpoints link knowledge to facts and data. The organization depicts its external reality in connectionist epistemology, but the representation process is separate. The primary activity of the system, according to cognitivist epistemology, is information processing. Auto poietic epistemology offers a fundamentally new perspective on how a system's input is understood. Input is solely viewed as data. Knowledge is private, a term that resembles Polanyi's (1958) personal knowledge concept. As a result, both closed and open auto poietic systems exist. Data is open, while information and knowledge are closed, as both must be interpreted within the system. It is difficult to represent reality since auto poietic systems are self-referential, and the universe is not considered fixed and objective. An organization can be thought of as a collection of people who have come together to form a shared frame of reference.

#### ***Knowledge Based Theory of the Firm - Commercial Bank Innovation Performance***

The regulation theory of innovation has been put forward in the clearest and most elegant way by (Greenbaum and Haywood, 1971). Even though this theory makes sense, it is not enough to explain how financial instruments have changed over time. Regulation turns out to be part of a larger group of things that lead to new ideas. Silber (1975) talks in more depth

about a few of these factors. For the purposes of this discussion, we'll assume that new financial instruments and practises are made to help businesses deal with or get around financial limits. Businesses do face limits because of government rules, which pushes them to come up with new ideas. Other variables, such as self-imposed and market-imposed limits, do, however, limit the financial firm's activity. Financial businesses are regarded to have the greatest utility on their balance sheets when the total of all their assets minus their liabilities and capital equals zero. Other explicit constraints in the optimization problem could be a target rate of growth for total assets, different regulatory requirements (for example, commercial banks needing reserves equal to at least  $x\%$  deposits), or self-imposed liquidity requirements specifying how much of the portfolio should be in a specific asset. In addition to these explicit guidelines about how the company should behave, the financial markets establish two sets of data: (1) policy tools that the firm may adjust at its discretion to achieve an optimal, and (2) parameters that the firm must accept as part of the optimization issue. The second piece of information alters the company's behavior. As an outside factor alters the firm's restricted optimization in such a manner that it motivates it to seek out new policy tools, new financial instruments or business models are created. There are two types of shifts that require corporations to invest in new policy instruments. Extracellular transitions in limitations reduce a firm's usefulness, therefore it innovates to regain it. In the second case, higher compliance costs boost innovation. In a programming environment, this raises the constraint's shadow price (dual value). Both of these situations encourage removing or changing limitations. The company may suspend or amend an internal limitation. If the limitation is external, such as market pressures or government regulation, the business will endeavour to change its opportunity set.

### **Problem Statements**

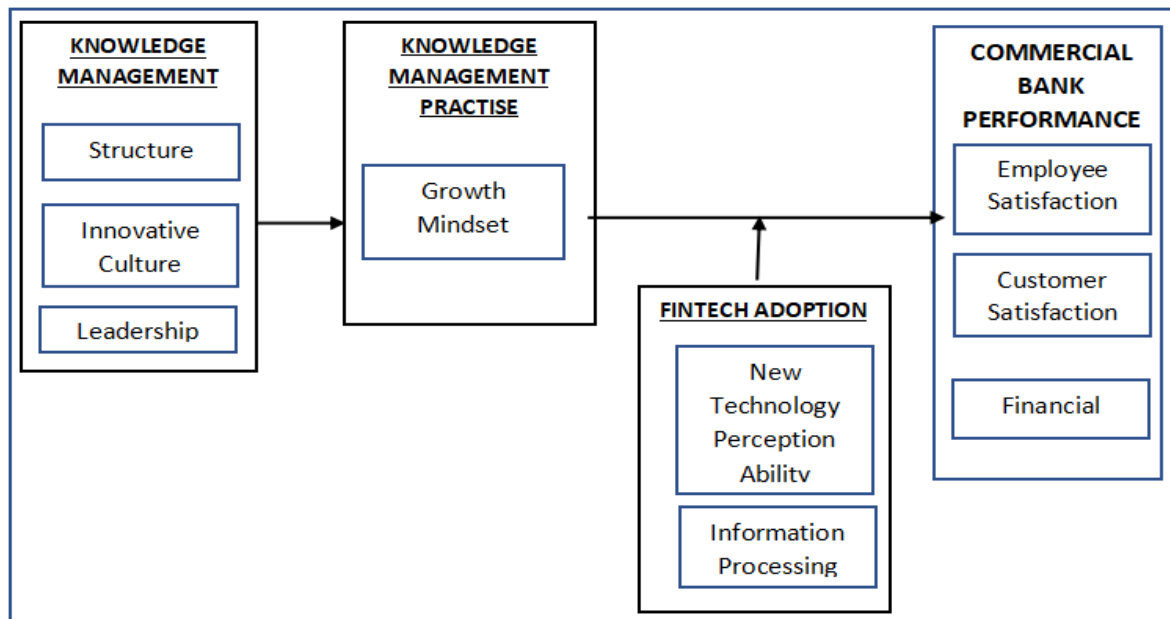
Poorly implemented knowledge management policies can impair stability, and also, there may be important synergies brought by broad access and utilization of fintech adoption which assist banks to diversify risk hence improving performance. Fintech seems to have had a considerable impact on both monetary activities (such as transaction, investment opportunities, security control, insurance, financing, regulations and incompliance processes). Ogbanufe and Kim (2018) point out that increase in cybercrime has become one of the obstacles for the implementation of fintech as most of the people feel unsecured of this security threat. Organizations confront an increased risk as data availability increases (Noor et al., 2019). Banks will be required to manage private details for a variety of specific purposes (for example, supervising and protecting the employees, clients, and the public at large), which will result in the accumulation of user data. Not all bank customers use internet banking to perform their commercial transactions via the use of online banking services. Internet access is very necessary for customers to have in order to utilise online banking or mobile banking. Those who do not make use of internet banking are likely to have the idea that it is unintelligible, difficult to use, and devoid of any type of social component. According to Kurode (2018), Artificial Intelligence can only be achieved via the use of highly developed software programmes. It is necessary to make massive financial investments in order to maintain and operate artificial intelligence. If workers are unable to maintain control over artificial intelligence systems, then these systems may have a severe influence on the banking and financial sectors. Technology is the main channel in the financial sector and it would be an opportunity for them to explore the efficiency of providing better experience and convenience to consumers (Dahlberg, Guo, & Ondrus, 2015; Tseng et al., 2017; Taherdoost,

2018). However, to adopt fintech services, the financial sector first needs to understand the consumer's acceptance level towards the adoption of technology in financial services. For instance, mobile banking provides mobility for consumers to make financial transactions remotely by using mobile devices like a smartphone or tablet and it can be provided by financial services providers. Such services are not limited to just mobile payments but include the usage of debit or credit cards to affect an Electronic Funds Transfer at a Point of Sales (FTPOS) payment (Arputharaj, 2016). Nakaso (2016) stated that fintech has the potential to unbundle and restructure the existing financial services with changes in information technology, thus raising an issue of empirical gap.

### **Importance of The Study**

This research contributes to the body of knowledge by extending the understanding of the concepts of culture and knowledge practice in commercial bank in China. This will enable organisations to formulate better training systems focusing on employee development, which will hopefully enhance employee knowledge and the firms' performance in the banking sector. Digital finance innovation is about bringing new tools that financial institutions may use to better serve the consumers. According to Desai et al (2019), fintech is revolutionizing the banking industry by incorporating artificial intelligence, big data, block chain, crowd financing, and digital payments into commercial banks. Understanding the interlinkages between knowledge management, growth mindset, fintech adoption and bank performance is important to policy makers (Noor et al., 2019). The study is helpful to the Central Bank of China, Treasury and other regulatory institutions like ministry of finance. It becomes a point of reference when formulating relevant policies, prudential guidelines that would guide the commercial banks in implementing bank availability, accessibility and usage strategies as well as maintaining sound commercial bank stability in the banking industry. The general public may gain more understanding about the changes brought about by increasing knowledge management, growth mindset as well as fintech adoption on commercial bank performance. The acquired knowledge from this study may help to assure banks' ability to keep financial risk under control. It may also assist the public in adopting right decisions on where to bank grounding on the performance of the bank. Competition helps clients to choose suitable banks from a range of varieties from different suppliers. GDP and Inflation will help the general public to choose well priced products as well as understanding the best time to be included according to economic and business growth cycles. The researcher builds on already established body of knowledge on investigating how knowledge-based theory of the firm by Polanyi M (1966,1969) (Demsetz, 1991; Grant, 1996; Spender, 1996; Kogut and Zander, 1992; Grant, 1996), diffusion of innovation theory by Rogers (1983); Grant (1996); Dean and Kretschmer (2007); Martnde Castro et al (2011) and social capital theory by Bourdieu (1986) Huber, 1991; Gold et al., 2001), theories are applied in the process of knowledge management and performance of commercial banks. In this research, the theoretical framework was derived from the literature on social capital theory, knowledge based theory of the firm and diffusion of innovation theory because this research could not find an integrative model that combined the mediating role of a growth mindset and the moderating role of fintech.

### Research Framework



To date, there is no specific single theory that could explain the phenomenon of commercial bank performance as a fixed theory. The current research found that previous studies on commercial bank performance have adapted many theories as their foundations. These theories included knowledge-based theory of the firm by Polanyi, 1966,1969; Demsetz, 1991; Grant, 1996; Spender, 1996; Kogut and Zander, 1992; Grant, 1996 diffusion of innovation theory by Rogers (1983); Grant (1996); Dean and Kretschmer (2007); Castro et al (2011) and social capital theory by (Bourdieu, 1986; Huber, 1991; Gold et al., 2001). In this research, the theoretical framework was derived from the literature on social capital theory, knowledge based theory of the firm and diffusion of innovation theory because this research could not find an integrative model that combined the mediating role of a growth mindset and the moderating role of fintech.

*Summary of Hypothesis and Research Objectives*

	<b>Hypothesis</b>	<b>Research Objective</b>
H1	The structure has a positive effect on commercial bank performance.	RO1
H2	An innovative culture has a positive effect on commercial bank performance.	RO1
H3	Leadership has a positive effect on commercial bank performance.	RO1
H4	The structure has an effect on the growth mindset.	RO2
H5	An innovative culture has a positive effect on the growth mindset.	RO2
H6	Leadership has a positive effect on the growth mindset.	RO2
H7	A growth mindset has a positive effect on commercial bank performance.	RO3
H7a	A growth mindset mediates the relationship between the structure and commercial bank performance.	RO3
H7b	A growth mindset mediates the relationship between an innovative culture and commercial bank performance.	RO3
H7c	A growth mindset mediates the relationship between leadership and commercial bank performance.	RO3
H8	Fintech adoption has an effect on commercial bank performance.	RO4
H9	Fintech adoption moderates the relationship between a growthmindset and commercial bank performance.	RO5

A hypothesis is a testable statement that predicts the expected findings from the empirical data of a study (Sekaran & Bougie, 2010). The hypotheses of this study were derived from the two theories: social capital theory and knowledge-based theory of the firm. The hypotheses address the relationships between the variables involved in this study. Again, this study examined the link between knowledge management (structure, an innovative culture, and leadership) and commercial bank performance, with the mediating effect of a growth mindset and the moderating effect of fintech adoption. Thus, this chapter supports the literature findings by testing the relationships in order to define the results.

**Discussion and Conclusion**

Knowledge management (the structure, an innovative culture, and leadership) work as a job resource for the employee, which then interact with the personal resources of a growth mindset and fintech adoption. Meanwhile, social capital theory explains that job resources are perceived by an individual employee, which then predicts the mindset of the individual. Next, in social capital theory, a growth mindset works as a personal resource to meet the demands of the job, while in knowledge-based theory of the firm, a growth mindset plays a cognitive role in monitoring the situations and thoughts that precede breaking standards. The interaction continues with the diffusion of innovation theory of fintech adoption and the strengths (knowledge-based theory of the firm) of the individual to achieve their goals determining whether they contribute more from the cognitive, behavioral, and affective domains to the job or not. Finally, the outcome of performance is a form of satisfaction for the employee and customer to maintain their positive momentum in the bank. This explains the importance of both social capital theory and knowledge-based theory of the firm in the current framework, with social capital theory as the underpinning theory and knowledge-based theory of the firm and diffusion of innovation theory as the supporting theory. Lastly, the recent China policy objectives and measures outlined in the 14th Five-Year Plan will deliver important reforms and potential opportunities to financial institutions operating in



China and around the world. As China's key policy blueprint for the next five years and beyond, the 14th Five-Year Plan (consisting of 65 chapters) touches on almost every aspect of Chinese economy and society, and is a must-read for anyone who wishes to have a better understanding of China's policy direction. Unfortunately, none of the 14th Five-Year Plan shows that China's economic and social development agenda over the knowledge management in banking sector will play an important role in these developments. Therefore, these forming policy implication gap that need to be focus on implementing knowledge management in commercial banks.

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