

## FUTURE-PROOFING BANKS: LEVERAGING KEY HUMAN CAPITAL COMPETENCIES FOR SUCCESS IN THE AGE OF FINTECH AND BIG TECH

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**Abstract** – This literature review aim to identify the key human capital competencies crucial for banks to succeed in the age of fintech and big tech. Through an extensive review of academic research and industry publications, this study explores competencies related to innovation, technology adoption, and intellectual capital management within the banking sector. These findings indicate that investing in employees' education and expertise can lead to improved innovative capabilities within banks. The influence of human capital on a bank's innovative capability is found to be positive, outweighing the impact of financial capital efficiency. The key success factors for banks in accelerating digital talent development encompass various crucial aspects based on the digital banks with a larger customer base and increased digital transactions tend to perform better, highlighting the importance of building a strong digital presence and customer engagement. Fostering intrinsic motivation and designing user-friendly digital tools are critical competencies that banks need to prioritize in their digital talent development efforts. Banks accelerate digital talent development through various methods. Investment in Digital Infrastructure and Technology, Exploration of Digital Technologies, Adoption of Digital Customer Experience Strategies, and Transformation and Adaptation. In conclusion, human capital competencies are crucial for banks' success in the age of fintech and big tech. Optimizing workforce skills, fostering innovation, and embracing digital technologies are essential for thriving in the digital era.

**Keywords:** human capital competencies, intellectual capital, innovation, technology adoption, big tech, fintech

### I. INTRODUCTION

The financial sector is undergoing a profound transformation, fueled by the relentless advancements of Fintech and Big Tech. In this rapidly evolving landscape, banks are facing unprecedented challenges that demand a strategic reimagining of their operations and services. To navigate the dynamic landscape and ensure sustainable success, banks must adopt a forward-thinking approach and "future-proof" their strategies.

This paper delves into the pivotal role of key human capital competencies in shaping the future of banks and enabling them to thrive amidst the disruptive forces of Fintech and Big Tech (Shin, 2019). It is evident that for banks to sustain and thrive in this environment, they must go beyond traditional approaches and embrace a truly digital persona. Surprisingly, approximately 70% of banks lack a systematic digital strategy, emphasizing the need for a key human capital competency that involves developing a forward-thinking approach to embrace digital transformation (Maiya, 2017).

Human capital, a combination of intelligence, expertise, and skills of individuals, represents an integrated approach to managing and developing human capabilities, ultimately leading to high performance (Fernando et al.,

2020). Additionally, the study sheds light on the importance of intellectual capital for value creation and its correlation with financial performance (Gigante, 2013). The paper also examines capital structure adjustment in different macroeconomic states, investigating the behavior of firm-specific and macroeconomic factors (Kaloudis & Tsolis, 2019).

Digital banking is transforming payment transactions. Technology is offering new options to banking clients (Thatte & Kulkarni, 2021). Digital Bank explores innovations in banking and the impact of mobile internet. The book covers the challenges and strategies for becoming a digital bank (Skinner, 2014). The trends of digitalization of society, leading to a completely new approach in the economy by the transition from cost to value management mechanism, the formation of value-oriented management in all spheres of activity (Evdokimova et al., 2019). Reputation for corporate sustainability can offset drawbacks (Forcadell et al., 2020). Banks are adopting strategies to respond to digitalization. Strategies include partnerships, in-house development, and investments (Tanda & Schena, 2019). Banks are investing in new banking technologies and the customers are progressively going digital in their interactions (Carbó-Valverde et al., 2020). Digitization is driving financial innovations and digital finance. Study on intrinsic motivation in digitalization in Bank Kalsel employees. The key success factors for banks in accelerating digital talent development include intrinsic motivation, perceived ease of use, and perceived usefulness (Bastari et al., 2020).

Fintech is creating new opportunities for customers. Fintech is accelerating change in the financial sector ("Fintech Financ. Serv.," 2017). Transformative developments in financial services will improve access to finance although hurdles and risks may hamper the process (Ketterer, 2017). Strategies and business models as key tools for competing within the financial sector in the digital environment, especially the position of banks against FinTechs and BigTechs, from the perspective of the risk culture factor (Kurkliński & Kasiewicz, 2020). A systematic digital strategy is the bedrock for ensuring

long-term success and resilience in this dynamic landscape (Bouyon, 2018). The digital revolution has brought radical changes to customer behavior, emphasizing the need for banks to rapidly adapt and remain relevant in the evolving financial ecosystem (A, 2017). Fintech innovations have opened up new possibilities to expand financial services to millions, making a responsive regulatory approach a crucial factor for success (Guild, 2017). Big techs' access to customer data expands financial inclusion and public policy needs to address new elements in big techs' entry into finance (Shin, 2019). Capitalism needs constant innovation to be successful and then benefit corporation, crowd funding, and social impact bond are examples of financial innovation (Shiller, 2013). To present a comprehensive literature review including suggestions for further research opportunities, the following research questions are: What are the key human capital competencies required for banks to succeed in the age of fintech and big tech? What are the key success factors for banks in accelerating digital talent development? How can banks accelerate digital talent development?

## II. METHODS

Our research used the SCISPACE website (<https://typeset.io>) and its advanced features to comprehensively explore prior scientific articles as part of our efforts to address the established research questions. SCISPACE is a powerful tool that simplifies literature reviews by leveraging sophisticated natural language processing techniques. Furthermore, this tool integrates with academic databases, granting access to the most current scholarly information and empowering researchers to remain at the forefront of their respective fields while making informed decisions.

We employed the 'Literature Review' menu feature on SCISPACE to collect and scrutinize the extractable constituents of each paper or article that applied to the research question used as the article search input.

After searching, we focus our analysis on the top 19 of 105 most relevant articles generated by the search using this menu feature.

### III. RESULTS AND DISCUSSION

*What are the key human capital competencies required for banks to succeed in the age of fintech and big tech?*

The research findings from multiple studies suggest that key human capital competencies play a crucial role in determining the success of banks in the age of fintech and big tech. The influence of human capital on a bank's innovative capability is found to be positive, emphasizing the significance of knowledge, skills, and abilities possessed by the workforce. Additionally, leaders' vision, open-mindedness, execution, imitation ability, and functional diversity are identified as essential elements of firms' human capital (Yen, 2013).

Moreover, the impact of human capital on innovation is shown to be moderate when compared to other firm characteristics. Banks with key employees holding MD or PhD degrees demonstrate more innovation than firms without such qualifications (Israelsen & Yonker, 2017). These findings indicate that investing in employees' education and expertise can lead to improved innovative capabilities within banks.

Furthermore, the research highlights the importance of intellectual capital in enhancing overall efficiency. While the impact of intellectual capital on performance is positive, it remains moderate (Vidyarthi & Tiwari, 2020). This suggests that banks should focus on optimizing the usage of their human resources and harness the potential of organizational structure, technology, intellectual property, established processes, strategies, and experiential learning to improve cost, revenue, and profit efficiency in the long term.

Overall, human capital, along with structural and relational capital, emerges as a primary driver for banks' performance, outweighing the

impact of financial capital efficiency (Skinner, 2020). To succeed in the era of fintech and big tech, banks should prioritize developing and nurturing their workforce's competencies, fostering a culture of innovation, and strategically utilizing intellectual resources to stay competitive and thrive in the dynamic financial landscape.

*What are the key success factors for banks in accelerating digital talent development?*

The key success factors for banks in accelerating digital talent development encompass various crucial aspects based on the research findings. Firstly, digital banks with a larger customer base and increased digital transactions tend to perform better, highlighting the importance of building a strong digital presence and customer engagement (Koroleva & Kudryavtseva, 2020). Embracing digitalization is particularly challenging for smaller banks, which face constraints in their digitalization efforts, necessitating the formulation of adaptive strategies (Tanda & Schena, 2019). Moreover, the transition from a cost-oriented approach to value management mechanisms proves to be effective in adapting to the changes brought on by digitalization in the banking industry (Evdokimova et al., 2019).

Corporate sustainability and reputation generated through responsible practices play a significant role in offsetting digitalization challenges for banks (Forcadell et al., 2020).

To remain competitive, large international banks are adopting mixed strategies for digitalization, while investments in information technology positively impact customer digitalization and increase digital transactions (Kurkliński & Kasiewicz, 2020).

Additionally, data analytics and innovative digital banking products are instrumental in enhancing customer experiences and driving improvements in banking operations (Vidyarthi & Tiwari, 2020).

The research also emphasizes the importance of intrinsic motivation, perceived ease of use, and perceived usefulness in influencing the intention to use digital applications and websites in the banking sector (Bastari et al., 2020). Therefore, fostering intrinsic

motivation and designing user-friendly digital tools are critical competencies that banks need to prioritize in their digital talent development efforts. Research indicates that saving time and the convenience of not needing to be present in banks are the most influential factors in technology adoption (Thatte & Kulkarni, 2021). Moreover, the role of social factors, such as friends, family, and the internet, plays a significant role in increasing awareness of mobile banking among clients.

Furthermore, the study suggests that a key human capital competency for banks involves developing a forward-thinking approach to embrace digital transformation (Maiya, 2017). Approximately 70% of banks currently lack a systematic digital strategy, underscoring the need for a proactive and future-oriented approach to digitalization.

In conclusion, to accelerate digital talent development, banks should focus on building a robust digital infrastructure, embracing responsible corporate practices, investing in information technology, and fostering intrinsic motivation among their employees and customers. By addressing these key success factors, banks can position themselves favorably in the evolving landscape and thrive in the digital era (Liu, 2021).

*How can banks accelerate digital talent development?*

Banks accelerate digital talent development through various methods as seen in table 1. They invest in digital infrastructure and technology, adopting digital strategies, investing in FinTech companies, and developing digital banking services (Gu et al., 2021; Tanda & Schena, 2019).

**Table 1.** Classification and Method of Accelerate Digital Talent Development

Classification	Method	Ref
Investment in Digital Infrastructure and Technology	Use new infrastructure to accelerate their digital transformation, which includes developing digital talent	(Gu et al., 2021)
	Adopt digital strategies, invest in FinTech companies, and develop digital banking services	(Tanda & Schena, 2019)

Exploration of Digital Technologies	Explore various financial technologies in digital banking, such as artificial intelligence, biometrics, cloud services, big data, blockchain, and open banking services.	(Melnychenko et al., 2020)
Adoption of Digital Customer Experience Strategies	Use digital technologies to enhance customer experience through online banking, mobile apps, and automation	(Gouveia et al., 2020)
	Respond to the development of online commerce by delivering credit and deposit products electronically and developing products for e-commerce	(Wenninger, 2000)
Transformation and Adaptation	Continuous innovation and adaptation in financial institutions, creating new distribution models and customer access opportunities.	(Manta, 2017)
	Make radical moves to adapt and thrive in the digital era	(Skinner, 2020b)

Bank invest in digital infrastructure and technology, adopting digital strategies, investing in FinTech companies, and developing digital banking services (Gu et al., 2021; Tanda & Schena, 2019). Banks explore and implement digital technologies such as artificial intelligence, biometrics, cloud services, big data, blockchain, and open banking services to stay ahead (Melnychenko et al., 2020). They focus on enhancing customer experience through online banking, mobile apps, and automation, responding to the development of online commerce (Gouveia et al., 2020). Some banks experience slower implementations of new digital trends in operational activities, while others see digital transformation as an opportunity to open new avenues for retail banks and their customers. Digitization trends drive continuous innovation and adaptation, leading to new distribution models and customer access opportunities (Manta, 2017). Specific banks like DBS Bank make radical moves to adapt and thrive in the

digital era. Throughout this transformation, banks address both challenges and opportunities in financial innovation within the banking industry (Skinner, 2020b).

#### IV. CONCLUSION

In conclusion, the research findings from the presented strongly emphasize the critical role of human capital competencies for the success of banks in the age of fintech and big tech. The positive influence of human capital on a bank's innovative capability underscores the importance of investing in knowledge, skills, and abilities within the workforce, with visionary leadership, open-mindedness, execution skills, imitation ability, and functional diversity being identified as key elements of firms' human capital.

Moreover, the research highlights the significance of intellectual capital in enhancing overall efficiency. Though its impact remains moderate, optimizing human resources and strategically utilizing organizational structure, technology, intellectual property, established processes, strategies, and experiential learning can lead to long-term improvements in cost, revenue, and profit efficiency.

To remain competitive in the rapidly evolving digital landscape, banks should prioritize the development and nurturing of their workforce's competencies, promote a culture of innovation, and strategically leverage intellectual resources. By doing so, they can thrive in the age of fintech and big tech, ensuring a strong position in the digital era.

The research also reveals several key success factors that banks can employ to accelerate digital talent development. These factors include building a robust digital presence, investing in information technology, embracing responsible corporate practices, and fostering intrinsic motivation among employees and customers. Embracing digital technologies like AI, biometrics, cloud services, big data, blockchain, and open banking is vital to staying

ahead in the digital landscape. By enhancing customer experiences through online banking, mobile apps, and automation, and adapting to the changing digital trends, banks can continuously innovate and succeed in the digital era.

Overall, the research underscores the proactive approach that banks must take in addressing challenges and opportunities in financial innovation. By actively embracing digitalization and leveraging diverse strategies, banks can position themselves for success and thrive in the dynamic and competitive banking industry.

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