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Proposed Institutional Cluster for FinTech Capabilities in Mauritius

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Abstract

The FinTech industry emerges as a key contributor to the Mauritian economy. With a strong regulatory framework, Mauritius has positioned itself as a leader in innovative financial activities and has solidified its reputation as a FinTech hub in Africa. However, the FinTech industry encounters significant skills gap due to increasing demand for skilled professionals and declining enrolment in STEM subjects. The aim of this research is to develop Mauritius as a knowledge hub, guiding the skills and talent development necessary for FinTech industry. The underlying objectives include analysing the importance of industry knowledge for employee performance, identifying gaps between actual and expected skills among FinTech professionals, and proposing a facilitator model to bridge the skills gap. The study uses a mixed-method approach, gathering numerical data from 28 FinTech leaders and 91 employees via a cross-sectional survey and conducting semi-structured interviews with six professionals from diverse sectors. The results acquired from the statistical investigations using SPSS and Atlas software helped to develop a KTALS Prototype Model, promoting a sustainable pipeline of skilled workers in the FinTech industry. The application of the Quintuple Helix Model revealed gaps in knowledge creation at the intersections of industry, government and academia, offering directions for future initiatives to promote FinTech development in Mauritius.

Keywords: FinTech, Skills Development, Knowledge Creation, Talent Development, Institutional Cluster

Introduction

Mauritius' evolution into an International Financial Centre (IFC) is remarkable. Embracing continuous transformations, the island developed a thriving FinTech Industry supported by a strong regulatory framework. The dynamic environment in which FinTech operates demands a highly skilled and adaptable workforce. Despite its success, the FinTech Institutional Framework in Mauritius faces a significant challenge: a skills gap. This mismatch between skills and the industry's needs threatens to impact the industry's potential for further growth. To address this issue, this study aims to highlight the importance of industry knowledge for FinTech professionals and to empower Mauritius to become a knowledge hub, promoting the necessary talent and expertise for FinTech to become the foundation of a Mauritian knowledge economy.

Mauritius's Evolution into a Financial Hub

The 20th century marked the establishment of the tourism industry, business outsourcing, the financial services sector, the Bank of Mauritius (BoM), the launching of the offshore sector and the foundation of the Mauritius Offshore Business Activities Authority (MOBAA). In the 21st century, Mauritius transformed into a distinguished financial hub. This shift involved replacing MOBAA with the Financial Services Commission (FSC), forming the Financial Intelligence Unit (FIU) and the Financial Reporting Council (FRC), implementing new laws covering companies, securities, banking, insurance, insolvency and anti-money laundering (AML), and releasing a corporate governance code. The transformation of Mauritius into an IFC was driven by major developments, such as the creation of the Ministry of Financial Services, Good Governance and Institutional Reforms (Mauritius Financial Services, 2024). With the establishment of strong financial regulations and good governance in the 21st century, Mauritius has become a leading African nation in democracy and business. The island ranks first in Africa for democracy and 21st worldwide, putting it alongside G20 countries. According to the World Bank's Ease of Doing Business Index, Mauritius is ranked 13th globally, affirming its position as Africa's best business

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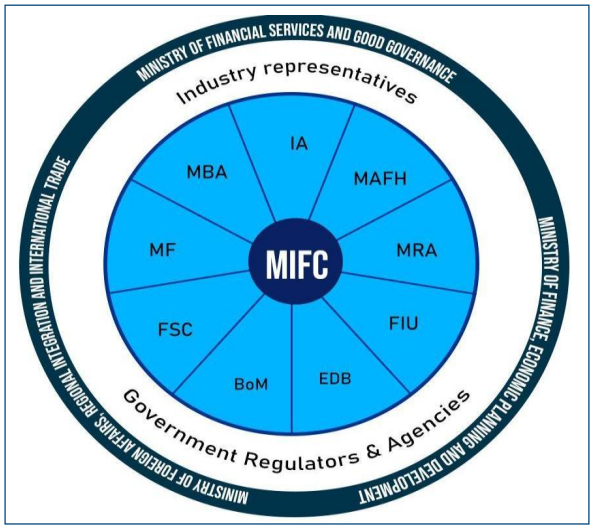
destination? For the tenth consecutive year, Mauritius ranks first among African countries on the Mo Ibrahim Governance Index, and the Social Progress Index 2022 ranks it first in Africa and 47th globally (Sunibel, 2024).

Institutional Framework of the Mauritius International Financial Centre

The institutional framework of Mauritius IFC is composed of the Ministry, Government regulators and agencies and industry representatives. Reference to the diagrammatic representation Fig. 1, the Ministry of Foreign Affairs, Regional Integration and International Trade, Ministry of Financial Services and Good Governance and Ministry of Finance, Economic Planning and Development are the primary governmental bodies responsible for overseeing and guiding the MIFC. The subsequent layer represents the Government regulators and agencies encompassing the Economic Development Board (EDB), FSC, BoM, FIU, Mauritius Revenue Authority (MRA) and Financial Services Institute (FSI) that collaboratively create a strong regulatory framework in supporting the MIFC's operations, promote investor confidence and enhance sustainable growth in the financial sector. The institutional framework eventually entails industry representations comprising Mauritius Africa FinTech Hub (MAFH), Mauritius Bankers' Association (MBA), Insurers' Association (IA) of Mauritius and Mauritius Finance (MF) (Mauritius International Financial Centre, 2024).



Source: Authors' Design (Adapted from Mauritius International Financial Centre, 2024).

Fig. 1: Existing Institutional Framework of Mauritius International Financial Centre

FinTech Industry in Mauritius

The appealing business climate of Mauritius, coupled with its strong regulatory and financial frameworks, has made it an attractive destination for the fast-growing FinTech industry. According to FSC, FinTech is defined as 'new technologies seeking to improve and automate the delivery and use of financial services' (FSC, 2023). Seeking to maintain a competitive edge, Mauritius enlisted external expertise, leading to the creation of the MAFH in 2018. As an African hub, Mauritius unites innovators, entrepreneurs, government bodies and corporations, collaborating with other African FinTech hubs to facilitate the development of financial products in a safe, innovative and nurturing environment (FinTech in Mauritius, 2023).

The Ministry of Financial Services and Good Governance established a Technical Committee on FinTech in 2020 to address the challenges stakeholders face in the FinTech sector in Mauritius. The committee comprises representatives from key organisations, including the BoM, FSC, MAFH, EDB, Ministry of Technology, Communication, and Innovation and the MBA. The Technical Committee is tasked with assessing the current state of the FinTech industry and exploring collaborative opportunities among industry players, regulators and policymakers to ensure the industry's on-going success and development in Mauritius (FinTech in Mauritius, 2023).

The Mauritian FinTech industry is underpinned by a strong regulatory framework. Payment Intermediary Services (PIS), licensed under Section 14 of the Financial Services Act (FSA), function as payment gateways for e-commerce businesses, banks and other financial service providers, accepting payments via digital and traditional banking. This licence also supports the burgeoning Peer-to-Peer (P2P) lending sector, allowing individuals to lend money through online platforms. Robotic and AI-enabled advisory services, licensed under the same section, enhance the adoption of new technologies in wealth management (FSC Annual Report, 2023). In 2019, the Custodian Services (Digital Asset) License was introduced for storing digital assets on behalf of others. Security Token Offerings are regulated under Mauritius's Securities Act. The FSC's Guidance Notes allow and support Securities Token Offerings and Security Token Trading Systems, promoting FinTech innovation (Bhima,

2022). Mauritius introduced the Regulatory Sandbox Licence to support innovative businesses, formalised by VAITOS regulations. As part of its goal to become a hub for emerging technologies, Mauritius was the first African country to adopt the Virtual Asset and Initial Token Offering Act 2021, which came into force in 2022. The FSC also issued AML/CFT Guidance Notes for Virtual Asset Service Providers (VASP) and Issuers of Initial Token Offerings that same year (Bhima, 2022). These developments have established Mauritius as a hub for innovative financial activities and improved its ranking in the Global Financial Centres Index (GFCI) 35, making it the 5th leading financial centre in the Middle East and Africa (FSC, 2024).

Problem Statement

FinTech companies operate in an environment characterised by volatility, uncertainty, complexity and ambiguity (VUCA), necessitating agility and rapid adaptability to survive and succeed (Araújo et al., 2021). This dynamic environment is further intensified by a constantly shifting regulatory framework, driven by rapid technological advancements and the need to protect consumers (Patricia, 2023). To remain at the forefront of innovation, FinTech companies are integrating emerging technologies such as blockchain, machine learning and artificial intelligence into their operations (Muthukannan et al., 2020). While these technologies present significant opportunities for growth, they also bring substantial risks that must be carefully managed.

These challenges are particularly relevant in Mauritius, where the FinTech sector has rapidly emerged as a crucial contributor to the economy. Accounting for 4% of the financial industry in 2020 and contributing 13.7% to the country's Gross Domestic Product (GDP) by 2023 (Samuel, 2024), the sector is poised for even greater expansion. Key trends such as digital payments, digital investments, digital capital raising, digital assets and neo-banking are driving this growth, with projections indicating substantial increases in digital investment revenue and digital payment users by 2028 (Statista Market Forecast, 2024). As the sector expands, the demand for skilled FinTech professionals has surged, with job postings doubling since 2019 and a 40% increase in competition among employers for top talent (Jackson et al., 2023).

However, the rapid expansion of Mauritius' FinTech sector has also unveiled a critical challenge: the mismatch between the skills available in the workforce and the demands of this fast-evolving industry. Despite the growing importance of STEM skills, Mauritius faces a significant shortage of these competencies across all economic sectors (Waridah, 2023). This issue is compounded by a decline in STEM subject enrolment at both secondary and tertiary education levels, as highlighted by the Mauritius Examination Syndicate (MES) (An assessment of secondary school students, 2021). This widening skills gap threatens the future of the FinTech sector in Mauritius and reflects a broader global issue impacting the industry worldwide (Jackson et al., 2023).

Research Aim and Objectives

The main aim of this research is to develop Mauritius as a knowledge hub, guiding the skills and talent development necessary for FinTech to contribute to a Mauritian knowledge economy. The objectives driven by the aim of this research are (i) analyse the significance of industry knowledge to employees' performance, (ii) examine the difference between FinTech professional's actual skills and employers' expected skills and (iii) bring forth a facilitator model and framework as a mechanism to contribute towards addressing the skill gap identified.

Literature Review

Capability is about the acquisition and accumulation of knowledge, both within the firm and through market arrangements (Metcalfe & James, 2005). Downs and Swailes (2023) added that internal capabilities are shaped and developed through interaction with the various environments an individual encounters. In this view, any talent, skill, or competence is arguably considered an internal capability. In this research, capability is reflected as (i) knowledge, (ii) skills and (iii) talent, each of which is further elaborated as follows:

Knowledge

Knowledge is explained as the ability of individuals to understand specific concepts (Dubey et al., 2023). Knowledge is also referred as information pertaining to

subjects, items and topics that employees should know when they undertake a specific job (Xiao, 2022). Chang et al. (2019) similarly described knowledge as bodies of information that are applied directly to the performance of work functions. In high-tech industries such as FinTech, the main asset is knowledge orientated to resolve the complex issues (Chinnasamy et al., 2023). As FinTech operates in a VUCA environment, employees who are the major business actors are expected to recall the big chunks of integrated knowledge and understanding of financial concepts and risks instead of the small ones to make the best decisions and ensure the sustainability of the FinTech industry (Winarsih et al., 2020; Dubey et al., 2023; Siddiqui & Rivera, 2023). According to Lim et al. (2018), knowledge of FinTech services designates the level of knowledge on FinTech service processes and their utilisation. Lim et al. (2018), however, emphasised that knowledge about IT services is created through experience and learning. Mulyono (2022) investigated FinTech knowledge by measuring knowledge about FinTech practices, knowledge about FinTech terms, knowledge from college, familiarity in Fintech and awareness of FinTech. In the same breath, Xiao (2022) assessed the knowledge of employees in the FinTech industry through solid financial basics, financial knowledge and computer knowledge. The importance of knowledge in using FinTech is also highlighted by Pentury (2023) and Ngo and Nguyen (2024), who empirically evidenced that prior knowledge makes significant impacts on the adoption of FinTech.

Skills

Skill is the practical application of knowledge and know-how to undertake activities and to resolve problems effectively (Diedrichsen & Kornysheva, 2015). Skill is also explained as the effective use of an individual's ability to perform specific tasks at a high level of proficiency (Baggs et al., 2020). To deal with the volatile and uncertain FinTech industry, the level of skills required is changing faster than ever before (Kuzmina-Merlino & Saksonova, 2018; Doherty & Stephens, 2023). More recently, Poon et al. (2024) documented the university's perspective on the selection and recruitment of graduates in the FinTech industry. Correspondingly, the researchers evidenced that employers adopt 'a skills-first hiring' recruitment approach that focuses fundamentally on specific skills, competencies and abilities. Jiang et al. (2023) also identified the increasing demand for 'finance + software' skills and 'software-only' skills as FinTech exposure increases. The Centre for Finance, Technology and Entrepreneurship (CFTE), a global platform for education in FinTech, developed a SHIME framework to address the skills necessary to work in the FinTech industry, which emphasised on soft skills and hard skills. The CFTE report stated that soft skills such as interpersonal relationships and emotional intelligence, comprising specific traits including communication, teamwork, adaptability, leadership, empathy and problem solving, are indispensable to work in the FinTech industry (CFTE Insight Report, 2022). Kuzmina-Merlino and Saksonova (2018) commonly emphasised the significance of soft skills in the FinTech industry since companies aim to develop user-friendly applications and a centric mind-set is fundamental for the people who are involved in developing customer experiences. Hard skills equally consequential in the FinTech industry are quantifiable abilities that are demonstrated through projects, for example, proficiency in a programming language such as Python or knowledge of open banking regulations. Kuzmina-Merlino and Saksonova (2018) validated that to meet the demands of the FinTech industry, financial services are increasing hiring data analysts to work on big data, experts in cybersecurity to work on improving safeguards against both financial fraud and common threats, and specialists to create internal competencies in modern technologies such as blockchain and machine learning.

Talent

Ulrich and Smallwood (2012) generally defined talent as a desirable quality in individuals and organisations requiring employees with the right 'talent'. Further explained by Tansley (2011), talent is a recurring pattern of behaviour that is related to successful performance in a specific role. Bhutto et al. (2023) at their end describe a company's talents as individuals bearing the competencies and potential to contribute to the growth of the firm, acting as a powerful catalyst for growth and innovation (Cockerton, 2016). Focusing on the FinTech industry, Santoso et al. (2021) delineated talented employees as individuals possessing the abilities, skills and intelligence to make actions at a higher level. It is accordingly deduced that talent is referred to as employees having the competencies to successfully integrate business

strategies. As talent is an organisation's greatest asset (Kinsella, 2022), researchers (Tansley, 2011; Cockerton, 2016) are increasingly associating talent with successful performance. Some important characteristics that are most frequently linked with talented individuals involve high levels of expertise, creativity, leadership behaviour and a 'can-do attitude'. In response to the rapid evolution of the FinTech industry, FinTech talent includes artificial intelligence applications, big data mining applications, cloud computing applications, financial information infrastructure development and operation and blockchain financial applications. Ding et al. (2023) established a FinTech talent evaluation index, following which the researchers claimed that FinTech talent requires rich financial theoretical knowledge and understanding of information technology applications.

FinTech Institutional Framework

The FinTech institutional framework is the organised structure of institutions comprising government bodies, regulatory authorities, financial institutions and innovation hubs that support, regulate and promote the development and operation of FinTech. The FinTech institutional framework mirrors the traditional roles and responsibilities for the financial sector, with the Ministry of Finance leading high-level policy coordination and formulation. Supervisory authorities also assume an active role in overseeing, regulating and guiding the FinTech institutional framework to support sustainable growth (Taylor et al., 2019). The FinTech institutional framework varies from country to country. Some countries adopt centralised approaches such as in Singapore, the Monetary Authority of Singapore acts as the regulator and a promoter of FinTech innovation (Justin et al., 2025) while others including United States has decentralised approach with multiple federal and state-level regulators such as the Securities and Exchange Commission and the Commodity Futures Trading Commission (Emmert, 2023).

Theoretical Framework

Knowledge-Based Theory of the Firm

Knowledge Recognition

Kuzmina-Merlino and Saksonova (2018) posited that successful FinTech careers heavily rely on possessing necessary knowledge, skills and competencies, aligning with the concept that knowledge is a significant resource for organisations as elucidated in the Knowledge-Based Theory. Generally, knowledge recognition is the ability to identify information in a particular area. It involves acknowledging the relevance of information (Maskell, 2017). Despite that knowledge recognition has received little consideration (Peng et al., 2019), it is a strategic resource for employees working in the FinTech industry. As FinTech operates in a VUCA environment with emerging technologies and regulations, identifying relevant information is essential to deal with this dynamic environment. Essentially, knowledge recognition is the first step in a continuous cycle of adaptation and innovation in FinTech which equips employees to react to change and to proactively shape the future of the industry.

Knowledge Acquisition

Knowledge acquisition is defined as the process of acquiring and integrating new knowledge and information (Leonardi, 2015) and using the knowledge to build skills and expertise that are beneficial to the employees and to the organisation as a whole (Kuzmina-Merlino and Saksonova, 2018). Due to the constant evolution, FinTech organisations need to consistently acquire new knowledge-based resources, for example, understanding new technologies, new regulations and customer trends (Bosancic, 2016) to remain competitive. However, tacit knowledge is more challenging to share due to its intangible nature. Traditional methods, including training programmes and manuals, are unlikely to be effective and adequate (Leonardi, 2015).

Knowledge Transformation

Transforming knowledge is an important indicator of successful knowledge application. The main objective of knowledge transformation is to assist organisations in realising the strategic worth of knowledge. Knowledge transformation is described as the process through which organisations convert gathered information into practical strategies for production and market purposes (Kuzmina-Merlino & Saksonova, 2018). While knowledge creation and transfer are fundamental to organisational success, the tacit nature of international knowledge transfer presents unique challenges for born global enterprises, emphasising the importance of knowledge competence (Tippmann et al., 2017).

Mode of Knowledge Production

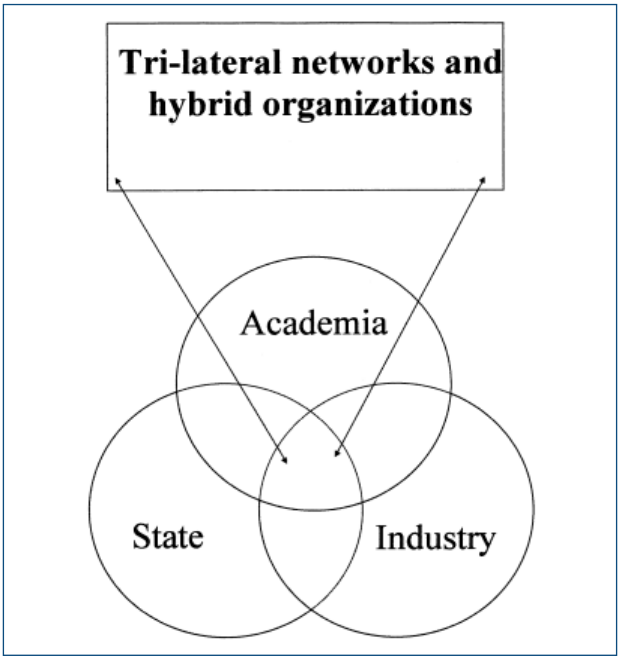
Mode 1 of knowledge production theorised by Michael Gibbons focuses on the traditional role of university research in an elderly 'linear model of innovation understanding' (Carayannis & Campbell, 2010). The linear model of innovation affirms that there is basic research at the university level, which is then diffused into society. In turn, the economy and the society transform and further develop the findings and results from the university to create new knowledge and to enable innovations (Carayannis et al., 2017) with the intention to create economic successes outside of the higher education system (Carayannis & Campbell, 2021). The linear innovation framework is characterised by the 'cause-effect' relationship between basic research (knowledge production) and innovation (knowledge application).

Mode 2 of knowledge production accentuates on the application of knowledge for the purpose of solving problems and integrating and promoting the principles of knowledge production in an application context, transdisciplinarity, heterogeneity, organisational diversity, social responsibility, reflexivity and quality control (Carayannis & Campbell, 2010). Model 2 prioritiees the production of knowledge for practical purposes. It promotes the use of clear references to innovation and the innovation model. The linear approach to innovation has been questioned by non-linear models that aim to forge more immediate connections between the generation of knowledge and its application. In these nonlinear frameworks, basic research and innovation are treated as parallel and equally important activities rather than as sequential processes (Carayannis et al., 2017).

In Mode 3, the university is represented as an organisation that looks for innovative ways for combining and integrating different principles of knowledge production and knowledge application while encouraging diversity and heterogeneity (Carayannis & Campbell, 2021). Universities in this mode, according to Carayannis et al. (2017), are systems enabling the basic research in the context of application, corroborating with the qualities of non-linear innovation.

Triple Helix Model

Introduced by Henry Etzkowitz and Loet Leydesdorff in 1995, the Triple Helix model is a core model for explaining the production and application of knowledge (Fig. 4). It focuses on trilateral networks that involve university, industry and government, emphasising the cooperation between the three helixes for the development of innovation and knowledge transfer (de Lima Figueiredo et al., 2023). The model underlines the significance of higher education in regards to innovation and acknowledges a direct relation between knowledge production, innovation, and the economy. Various researchers (Carayannis & Campbell, 2010; Etzkowitz & Leydesdorff, 2020) delineate that the Triple Helix frames a knowledge economy.

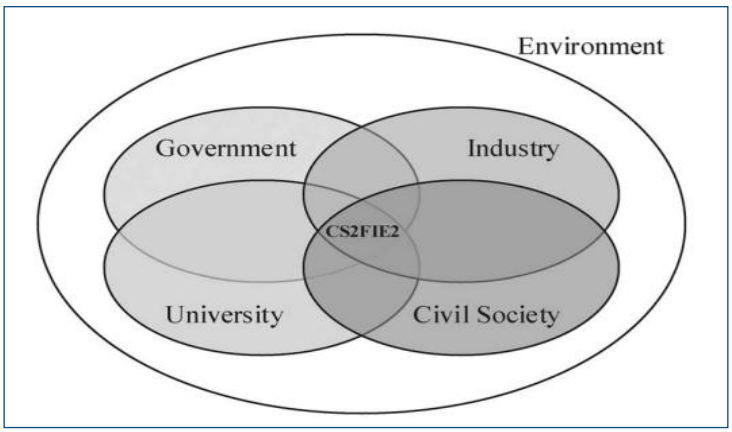


Source: Etzkowitz and Leydesdorff (2020).

Fig. 2: Triple Helix Model

Quadruple Helix Model

Society and democracy are the new perspectives brought about by the Quadruple Helix. This model claims that sustainable development of the economy requires a common development of the knowledge economy, knowledge society and knowledge democracy all together (Carayannis et al., 2017). According to the Quadruple Helix, scientific and art universities serve as catalysts for innovation by providing fertile ground for interdisciplinary research, nurturing talent, generating knowledge and facilitating collaboration (Carayannis & Campbell, 2021). Fig. 3 shows the main helixes of the model.

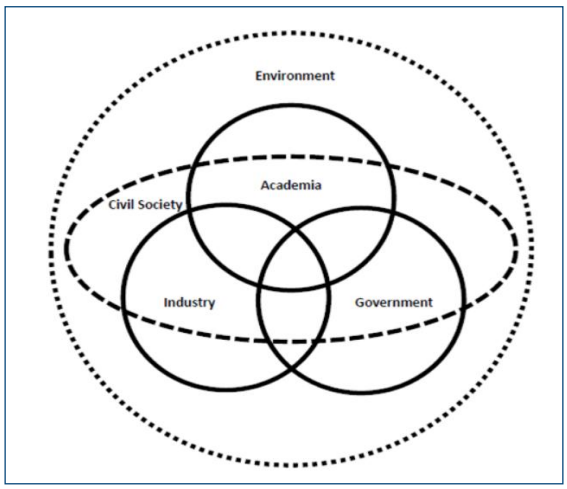


Source: Carayannis et al. (2017).

Fig. 3: Quadruple Helix Model

Quintuple Helix Model

The most essential element of the quintuple helix model is knowledge, which circulates between societal subsystems and changes to innovation and know-how in a society and for the economy. Through the Quintuple Helix, the collective interaction and dissemination of knowledge in a state are depicted by means of five integral subsystems, namely (i) the education system, (ii) the economic system, (iii) the natural environment, (iv) the media-based and culture-based public and (v) the political system (Carayannis et al., 2017). The Quintuple Helix supports a win-win situation between ecology; knowledge, innovation and developing the synergies between economy, society and democracy (Carayannis et al., 2012).



Source: Carayannis and Campbell (2022).

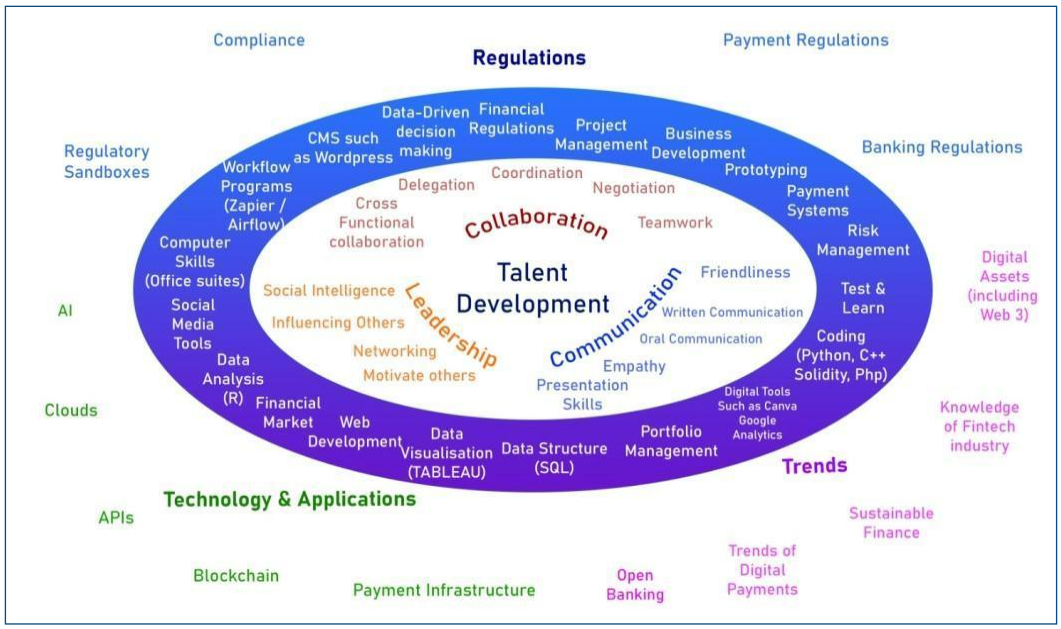
Fig. 4: Quintuple Helix Model

The helix 'academia' refers to universities and higher education systems where the necessary human capital is made by diffusion and research of knowledge (Carayannis et al., 2021). The industry helix, comprising of businesses and corporations, applies new technologies to develop products, drives economic growth through commercialisation and engages in research and development (Kholiavko et al., 2021). Government as the third helix creates policies and regulations, supports innovation and ensures a stable legal and economic environment (Carayannis & Campbell, 2015). The civil society helix, entailing the non-governmental organisations and community groups, promotes social innovation and sustainable practices and finally the environment, as the fifth helix encourages the development of eco-friendly technologies (Carayannis et al., 2021) and practices (Carayannis & Campbell, 2014; 2022).

Knowledge, Skills and Talent Development Framework

The FinTech industry operates in a dynamic and turbulent environment where knowledge is the key for developing hard skills and soft skills. Referring to the SHIME framework, hard skills in the Fintech industry consist of quantifiable abilities that are acquired through an in-depth understanding of industry-specific practices. This foundational knowledge thereby establishes a framework based on which the FinTech professionals can enhance their expertise tailored to their roles. In the same way, industrial knowledge of the FinTech sector enhances the employees' soft skills. Knowledge in this essence

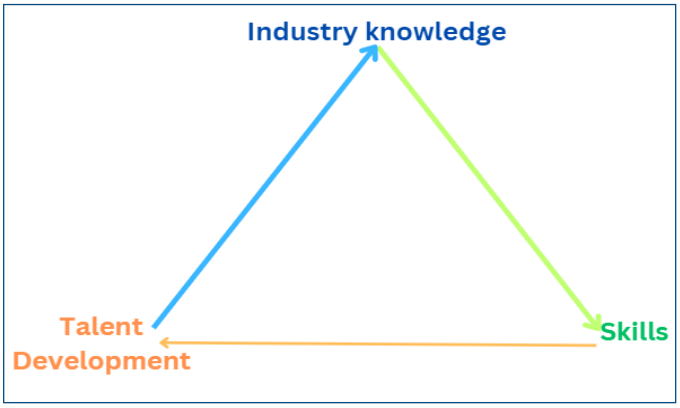
facilitates the acquisition of hard skills and improves emotional intelligence and adaptability for more efficient leadership and collaboration in the FinTech Institutional Framework. Considering the SHIME framework (CFTE Insight Report, 2022) and the knowledge-based theory, the study developed a unique framework as shown in Fig. 5, whereby the outer layer presents the industry knowledge, the first inner layer focuses on the hard skills and soft skills and the innermost layer portrays talent development (Poussin-Deojee & Mauree-Narrainen, 2024).



Source: Poussin-Deojee and Mauree-Narrainen (2024).

Fig. 5: Knowledge, Skills and Talent Development Framework

From the knowledge, skills and talent development framework in Fig. 5, a cyclical nature of acquiring and improving skills in the FinTech industry is displayed in Fig. 6. The foundation of success in FinTech lies in the industry knowledge, which serves as the bedrock upon which other elements are built. FinTech professionals who remain abreast of industrial trends acquire insights that fuel the development of hard skills and soft skills. Armed with industry knowledge, FinTech professionals enhance both hard and soft skills necessary to stay at the forefront of the FinTech environment. After acquiring the relevant skills to work in the FinTech industry through practical application, professionals' talents are developed, empowering them with a critical perspective on the FinTech industry. A cyclical framework for skill development consequently emerges.



Source: Authors' design.

Fig. 6: Cyclical Nature of Acquiring and Improving Skills

Methodology

A mixed-methods approach is integrated in this study with the key focus of collecting, analysing, and interpreting both numerical and non-numerical data. Keeping in line with Saunders and Bradbury (2006), a mixed-methods approach is a combination of the qualitative and quantitative approaches that analyse primary data collected from different sources. Integrating the mixed method approach in this study addresses the limitations of each research approach while emphasising their complementary strengths (Kothari, 2004). The selected research approach is the most effective in generating recommendations and enhancing the feasibility of the research.

Using a cross-sectional survey developed on Google Forms, the study collected numerical data from FinTech professionals in Mauritius. Specifically, the study targeted two key stakeholders in the FinTech industry: (i) FinTech professionals/leaders due to their direct exposure to the supply and demand of skills in the industry and (ii) employees working directly with FinTech services and products. Since the study aims at developing a KTALS Prototype Model to address the gap identified in terms of skills, talents and skills, collecting data from both employers and employees is significant to this research. From the FSC Annual Report (2023), the study identified 30 companies in Mauritius with FinTech licensees. Using this particular information and while pursuing a purposive sampling strategy, the study successfully collected numerical data from 28 leaders from the FinTech companies. In terms of the FinTech employees, the 91 responses were collected, which is validated by Kothari (2004), who reported that a sample size of 80% is generally acceptable for advanced statistical tests.

Taking into consideration the SHIME framework developed by CFTE, the questionnaire was segmented into different sections. Section A was based on the demographic profile, Section B focused on the different soft skills, Section C involved only the hard skills and Section D captured performance. The online self-administered questionnaire was composed of five-point Likert scale statements whereby the team leaders/professionals rated the skill expectation from 1 (Not at all a priority) to 5 (Essential priority) while the employees self-assessed their skills with a range of 1 (Very poor) to 5 (Excellent). The numerical data were analysed via the Statistical Package for the Social Sciences (SPSS) using both descriptive and inferential statistics such as percentages, mean, Pearson correlation, multiple linear regression and independent sample t-tests.

Regarding the qualitative approach, an online semi-structured interview via Google Meet was undertaken with six professionals working in different sectors of Mauritius. The selected sample size for this study is corroborated by Moser and Korstjens (2018) according to whom a minimum of 5 persons is required for the collection and analysis of qualitative data. The key individuals who participated in the interview were (i) the Director of BoM, (ii) the Director of FSC, (iii) manager of FinTech start-up, (iv)a cyber-security manager from a commercial bank, (v) a blockchain developer and an academic person and (vi) a chief technology officer from a FinTech company who also works as an academic person. Due to the high profile of the participants, a convenient sampling technique was adopted. This non-probability sampling strategy involves the selection of the participants on the basis of their willingness and accessibility to participate (Wolff et al., 2019). Hence, the convenience sampling was convenient following the need to engage with individuals possessing specialised knowledge and experience in the FinTech industry. After finalising the transcripts, Atlas software was used for wording frequency analysis and code co-occurrence analysis to identify the recurring themes.

Results and Findings

Demographics

Table 1: Demographics

	FinTech Professionals		*Employers in FinTech industry*	
	Frequency	*Percent*	*Frequency*	*Percent*
Gender				
Male	79	86.8	19	20.9
Female	12	13.2	9	9.9
Total	91	100	28	100
Education				
Bachelor	45	49.5	-	-
Master	35	38.5	10	35.7
PhD	1	1.1	2	7.1
Specialised Certification	10	10.9	16	57.1
Total	91	100	28	100
Sector				
Tech companies	1	1.1	4	14.3
Fintech Startups	6	6.6	2	7.1
Financial Institution	32	35.2	7	25
Central Bank/Regulators	28	30.8	-	-
Consulting	13	14.3	6	21.4
Other	11	12.1	9	32.2
Total	91	100	28	100
Experience				
Less than 1 year	15	16.5	5	17.9
1 to 5 years	11	12.1	14	50
6 to 10 years	24	26.4	4	14.3
11 to 15 years	24	26.4	3	10.7
16 years or more	17	18.7	2	7.1
Total	91	100	28	100

The demographic analysis of the FinTech professionals/ leaders and employees is shown in Table 1. The FinTech industry in Mauritius is clearly dominated by males, with 86.8% representing FinTech employees and 20.9% portraying FinTech leaders. The results reveal a striking underrepresentation of women guiding this booming industry. FinTech as a male-dominated industry corroborates with a range of recent studies (Becker-McNabola, 2018; Ahmed, 2021; Fox-Robertson & Wójcik, 2024) claiming the limited participation of females in the industry. These findings pertaining to gender disparity in the industry are particularly significant when considering the implications for reskilling and talent development. Men and women bring different perspectives and skills to organisations (Khera et al., 2022) and this gender disparity indicates that the FinTech industry is missing some important benefits brought by a more diversified workforce.

The results also showed that the majority of FinTech employees have a bachelor's degree and a master's degree (49.5% and 38.5%, respectively). The high

percentage of bachelor's degree holders among the FinTech employees indicates the significance of formal education in the industry. The insight report by CFTE (2022) also confirmed a bachelor's degree as a minimum requirement for entry and progression in the FinTech industry. It also infers that a bachelor's degree provides the FinTech professionals with foundational knowledge, enabling them to operate effectively. The majority of FinTech leaders (57.1%) in the industry, however, possess a specialised certificate. This result highlights the alignment between industry demands and the qualifications of the leaders. Specialised certificates, in agreement with Boulet et al. (2021), provide the employees with targeted knowledge skills that are directly applicable to the industry, such as blockchain technology, cybersecurity, regulatory compliance and financial analytics.

Most FinTech employees and FinTech leaders in this research work in financial institutions (35.2% of FinTech employees and 25% of FinTech leaders) and for the central bank or the regulators (28% of FinTech employees). The results accurately reflect the current state of the FinTech industry in Mauritius, where there is an increasing number of financial technologies and the necessary regulations to protect them. Finally, this study comprises FinTech leaders who have around 6–15 years (52.8%) and 50% FinTech leaders with 1–5 years of experience. Their responses in this research are thus insightful, with a strong base of knowledge regarding the FinTech industry of Mauritius.

FinTech Professionals' Performance, Industry Knowledge and Skills

Pearson Correlation Matrix

Table 2: Pearson Correlation Matrix

	Performance	*Skills*	*Industry knowledge*
Performance	1		
Skills	.318**	1	
Industry knowledge	.464**	.311**	1

**. Correlation is significant at the 0.01 level (2-tailed).

A Pearson Correlation Matrix is performed to analyse the correlation between FinTech employees' performance with skills and industry knowledge. From the results displayed in Table 2, FinTech employees' performance is firstly correlated with industry knowledge (r = .464, p-value = .000) and then skills (r = .318, p-value = .000). The statistical results suggest that FinTech employees who have greater industrial knowledge are more likely to perform their roles and responsibilities better. FinTech operates in a VUCA environment with changing market trends, technological developments and regulatory frameworks (Patricia, 2023). Professions with foundational knowledge are better equipped to manage the complex financial products and make informed decisions (Araújo et al., 2021; Patricia, 2023). Skills comprising both soft and hard skills are also positively correlated with performance, but with a lesser impact in comparison with industry knowledge. Substantiated by Lyu and Liu (2021) and with the CFTE Insight Report (2022), in the FinTech industry, skills such as data analysis, programming, cyber-security and blockchain technology are indispensable for executing tasks. But this study shows that the effectiveness of skills is amplified when they are applied with solid industry knowledge, suggesting that skills development is integrated with on-going industry education. It is also observed that skills and industry knowledge are significantly correlated, indicating that both constructs are interconnected in the FinTech industry. The statistical results highlight the significance of industry knowledge as a foundational element for FinTech professionals to acquire the requisite skills to work in the industry. With an in-depth understanding of the FinTech environment, FinTech employees enhance their skills that align with the industry's demands. It is also deduced that as employees enhance their technical and soft skills, they contribute to a deeper understanding of industry practices, fostering a cycle of continuous improvement. The statistical findings imply that FinTech companies in Mauritius should prioritise industry-specific training and development programmes. The investment made in industry education will create a knowledgeable workforce that is capable of leveraging advanced skills, thus creating a culture that values continuous learning and adaptation.

Multiple Linear Regression

Table 3: Multiple Linear Regression

	Unstand. Coefficients		*Standard. Coefficients*	*Sig.*	*R*	R^2	*F-ratio*
	B	*Standard Error*	*Beta*				
(Variable)	4.087	2.147		.000***	.498	.248	14.52
Industry knowledge	.163	.039	.404	.000***			
Skills	.021	.011	.192	.051**			

The results shown in Table 3 indicate that the model supports the explanatory power (*p*-value - .000, F-ratio = 14.52). The continuous cycle of knowledge, skills and talent development reported a strong and linear regression (R = .498), and the R^2 shows that industry knowledge and skills account for 25% of variance in FinTech employees' performance. The regression equation derived from the model is:

$Y_t = \alpha + \beta_1$ Industry $knowledge_t + \beta_2 Skills_t + u_t$

Where;

Y_t = FinTech professionals' performance

u_t = Stochastic error term

The regression analysis also validates industry knowledge (B = .163) as the most contributing factor to performance, followed by skill (B = .021). The results suggest that improving industry knowledge leads to better employee's performance in comparison to skills. β of .404 (*p*-value = .000) further emphasises this particular relationship, demonstrating the importance of industry knowledge in contrast to skills. The results are consistent with the correlation analysis, converging to a conclusion that industry knowledge is a critical determinant of performance in the FinTech industry. Skills, though less influential than industry knowledge, the results (B = .021, *p*-value = .051) evidence that they still contribute to performance. The β of .192 shows that the effectiveness of skills is significantly enhanced when coupled with industry knowledge, validating the cycle of knowledge, skills and talent development. Interestingly, the results statistically proved that FinTech professionals possessing industry knowledge and skills are more likely to deliver enhanced performance as they apply knowledge effectively to use their skills, especially in a VUCA environment (Araújo et al., 2021; Patricia, 2023).

Skill Gap Analysis

Soft Skills

Table 4: Soft Skills Gap Analysis

Soft Skills	*Expected Soft Skills*		*Self–Assessed Soft Skills*		*Independent Sample Test*		
	Mean	*SD*	*Mean*	*SD*	*Mean Diff*	*t-Value*	*p-Value*
Written communication skills	4.1429	1.14550	3.5824	.93174	.56044***	2.632	.240
Oral communication skills	4.2143	1.13389	3.2637	1.19103	.95055***	3.734	.755
Presentation skills	3.8929	1.34272	3.5495	1.08795	.34341**	1.380	.110
Empathy skills	4.1071	1.25725	3.2527	1.12144	.85440***	3.425	.480
Friendliness skills	4.0714	1.33135	3.6044	1.13411	.46703**	1.827	.240
Motivates others	3.9643	1.23175	3.7912	.99461	.17308**	.760	.130
Social intelligence skills	4.5000	.83887	3.7582	1.00378	.74176***	3.545	.491
Networking skills	4.9643	.18898	3.3077	1.20823	1.65659*****	12.588	**.000**
Knows how to influence	4.6071	.62889	3.5275	1.07848	1.07967****	-6.582	**.001**
Storytelling	4.4643	1.07090	3.4176	1.09611	1.04670****	4.442	.463
Cross-function collaboration	3.8571	1.38013	3.4176	1.16491	.43956**	-1.526	**.039**

Soft Skills	*Expected Soft Skills*		*Self–Assessed Soft Skills*		*Independent Sample Test*		
	Mean	*SD*	*Mean*	*SD*	*Mean Diff*	*t-Value*	*p-Value*
Coordination	4.0357	1.31887	3.5495	1.17628	.48626**	1.859	.399
Teamwork	3.4286	1.16837	2.9121	1.25298	.51648***	1.937	.965
Delegation	4.2143	1.16610	3.3407	1.19462	.87363***	3.403	.733
Negotiation	3.5714	1.06904	3.0330	1.26886	.53846***	2.033	.675
Analytical	3.8571	1.26825	3.5275	1.13862	.32967**	1.304	.857
Problem-solving	3.2857	1.15011	3.3736	1.17991	-.08791*	.347	.705
Critical thinking	3.6071	1.22744	3.3297	1.16481	.27747**	1.088	.617
Decision-making	3.2143	1.25778	3.1538	1.21035	.06044	.229	.573
Logical reasoning	3.7500	1.35058	3.1978	1.13744	.55220***	-1.960	**.020**
***** = extremely influential skill gap, **** = very influential skill gap, *** = somewhat influential skill gap , ** = slightly influential skill gap, *= no skill gap (exceeds employers' expectations)							

Table 4 shows the employers' expected and the employees' self-assessed soft skills in the FinTech industry. The mean values for employers' expected soft skills range from 3.2143 to 4.9643, whereas the mean values for employees' self-assessed soft skills range from 2.9121 to 3.7912. The results as reflected by the mean values of the expected soft skills demonstrate that networking skills, knowing how to influence, social intelligence and storytelling skills have higher mean values, standing at 4.9643, 4.6071, 4.5000 and 4.4643, respectively. Employees working in the FinTech industry are expected to maintain and build professional relationships to access new ideas, resources and market insights (Patricia, 2023). The soft skill pertaining to the ability to influence another is also essential as it secures funding and closing deals in the FinTech industry, and social intelligence is indispensable as it promotes better teamwork, conflict resolution and customer relations (CFTE Insight Report, 2022). However, the employers' expectations regarding the soft skills, including problem-solving (3.2857) and decision-making (3.2143), were low. The low expectations can be attributed to the importance that employers place on hard skills due to the nature of the FinTech industry. The mean values for the self-assessed soft skills among the FinTech professionals were relatively low, with the largest mean value of 3.9643 indicating that they can effectively motivate others. The mean difference results reported that there is an extreme skill gap in terms of networking, a very influential skill gap in knowing how to influence others and a storytelling gap. Interestingly, no significant skill gap is identified in decision-making skills, suggesting that the employees are adequately aligned with the employer's expectations. This finding is consistent with Madanchian et al. (2017), who claim that in the FinTech industry, employees are given the autonomy to make decisions given that the companies operate in a VUCA environment where rapid decision-making is consequential. An examination of the statistical significance of the mean differences showed that only four soft skills had a statistically significant mean difference out of 20 soft skills analysed. These are networking skills (p-value = .000), knowing how to influence (p-value = .001), cross-functional collaboration (p-value = .039) and logical reasoning (p-value = .020).

Hard Skills

Table 5: Hard Skills Gap Analysis

Hard Skills	*Expected Soft Skills*		*Self-Assessed Soft Skill*		*Independent Sample Test*		
	Mean	*SD*	*Mean*	*SD*	*Mean Diff*	*t-Value*	*p-Value*
Portfolio management	3.3929	1.22744	3.3187	1.17264	.07418***	.290	.628
Data structure (i.e SQL)	3.5000	1.31937	3.4286	1.16565	.07143***	.275	.216
Data visualisation (Tableau)	3.3214	1.12393	3.6264	1.05038	-.30495*	1.321	.993
Web development (HTML / CSS)	3.4643	1.37389	3.5165	1.13884	-.05220*	.202	**.047**
Computer skills (Office Suite, CRM Systems)	3.7143	1.32936	3.3516	1.18672	.36264**	1.374	.162
Financial markets	3.9643	1.17006	3.3407	1.26684	.62363***	2.318	.697

Hard Skills	Expected Soft Skills		Self-Assessed Soft Skill		Independent Sample Test		
	Mean	SD	Mean	SD	Mean Diff	t-Value	p-Value
Data analysis (R, MySQL)	3.7143	1.21281	3.3956	1.21910	.31868**	1.211	.995
Social media tools	3.7500	1.35058	3.5385	1.11861	.21154**	.832	.079
Workflow programmes (Zaper / Airflow etc.)	4.0357	1.17006	3.5495	1.23165	.48626**	1.848	.687
Project management	3.7143	1.24297	3.8571	1.09109	-.14286*	.687	.424
Data-driven decision making	4.1429	1.32537	3.5055	1.03681	.63736***	2.657	.069
Data cleaning	4.5714	1.10315	3.7253	1.02270	.84615***	3.758	.261
Coding (Python, Java, C++, Solidity, PHP)	4.7143	.71270	3.0989	1.28283	1.61538*****	6.356	**.002**
Test and learn	4.1429	1.40671	3.5385	1.07814	.60440***	2.406	.053
Digital tools such as Canva, Google Analytics	4.3929	1.19689	3.5055	1.07882	.88736***	3.709	.912
Prototyping	4.2143	1.28689	3.7582	1.10896	.45604**	1.831	.223
Business development	4.4643	.96156	3.7363	.91694	.72802***	3.632	.932
Payment systems	4.6429	.86984	3.6374	.97201	1.00549****	4.901	**.036**
Financial regulations	4.4643	.99934	3.9231	.87217	.54121**	2.773	.354
Application of financial technology	4.5714	.95950	3.6923	.95093	.87912***	4.269	.259
***** = extremely influential skill gap, **** = very influential skill gap, *** = somewhat influential skill gap , ** = slightly influential skill gap, *= no skill gap (exceeds employers' expectations)							

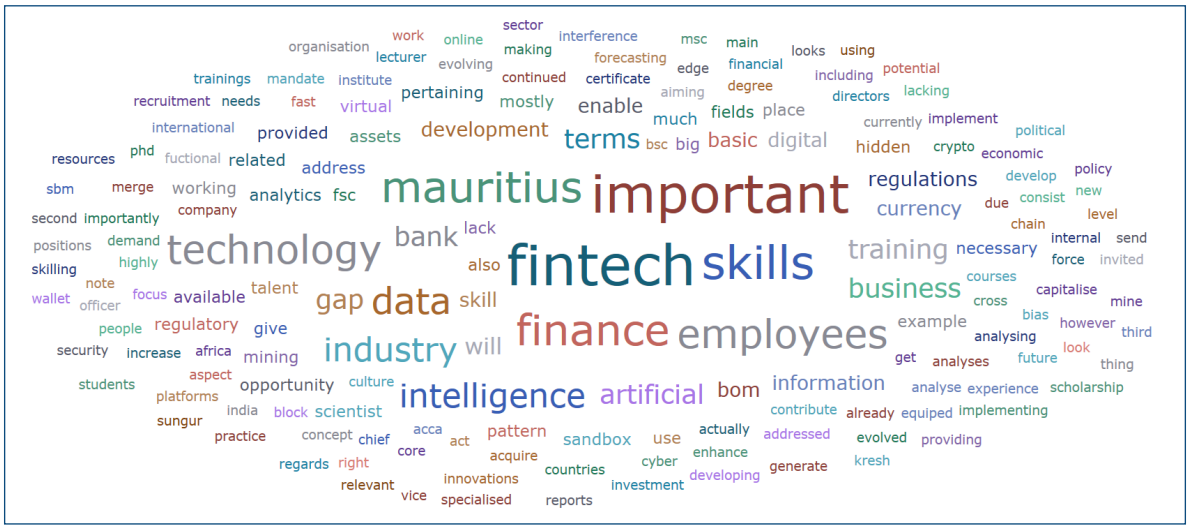
Table 5 presents the results of the mean values of the expected hard skills and the self-assessed hard skills. A plethora of studies (Bott, 2019; Lyu & Liu, 2021) emphasised the significance of hard skills in the FinTech industry. The mean values pertaining to the employers' expected hard skills indicate that they hold a strong expectation in reference to coding (Python, Java, C++, Solidity, PHP) (4.7143), payment systems (4.6429), data cleaning (4.5714), financial technology (4.5714), business development (4.4643), financial regulations (4.4643), digital tools such as Canva and Google Analytics (4.3929), risk management (4.2143) and test and learn (4.1429). Lyu and Liu (2021) indeed corroborated that these hard skills are increasingly becoming common prerequisites in the FinTech industry. As technological advancements progress and regulatory frameworks evolve, coding languages become significant. Kuzmina-Merlino and Saksonova (2018) added that collectively, these skills define the competencies to innovate, adapt and lead in the transformative FinTech sector. However, the mean values of the self-assessed hard skills among the FinTech professionals reveal that they acknowledge having moderate proficiency in most of the hard skills, such as financial regulations (3.9231), project management (3.8571) and risk management (3.7582), business development (3.7363) and data cleaning (3.7253). The results demonstrate that the FinTech professionals have a foundational level of expertise in these skills, which they acquired through education and on-the-job experience. However, the moderately self-assessed proficiency in areas indicates learning opportunities. It is interestingly discovered that there is an extreme skill gap in terms of coding, followed by payment systems. The extreme skills gap in coding stems from the rapid evolution of technology (Dinçkol, 2021) while the gap in the payment system challenges FinTech professionals' experience in keeping pace with regulatory changes, emerging technologies and evolving consumer expectations (Bradford, 2024). The FinTech professions are, however, found to have exceeded the employers' expectations in terms of web development (HTML/CCSS), data visualisation (Tableau) and project management. These skills are commonly taught at the university level, reflecting the significance of industry knowledge in developing hard skills. Further examination of the statistical significance revealed that web development (p-value = .047), coding (p-value = .002), and payment systems (p-value = .036) are statistically significant.

Qualitative Data Analysis

Word Frequency Analysis

Using the data collected from the six key stakeholders in the FinTech industry, Atlas, a common qualitative tool, is adopted to present the findings. Fig. 7 below shows the common wordings that were recurrent in the transcripts of the six participants. The most apparent terms observed

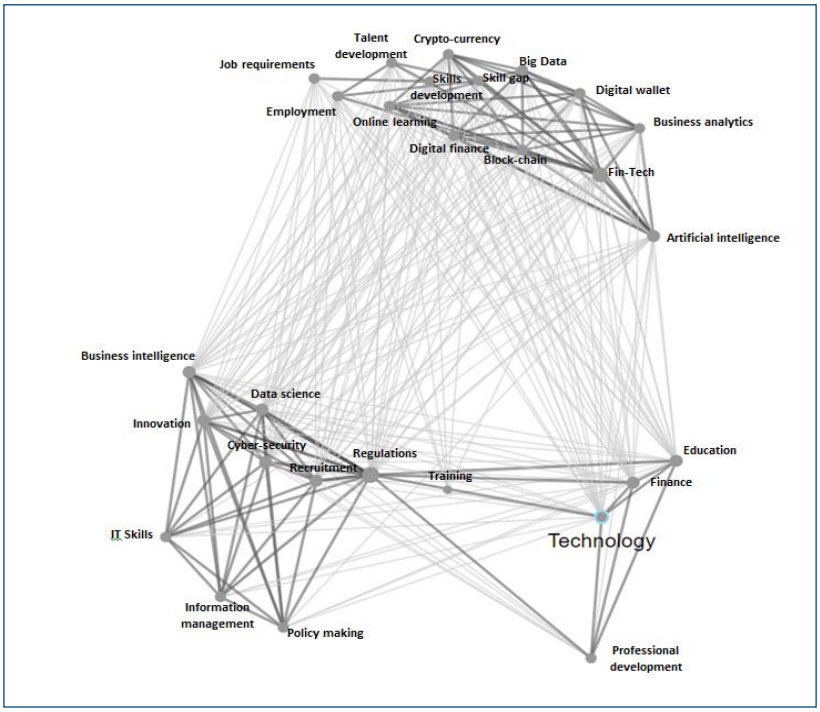
involve Mauritius, FinTech, skills, finance, technology, data and intelligence. The largest words, such as FinTech, Technology and Mauritius, highlight the principal focus area in the FinTech industry of Mauritius. In regard to the words such as skills, training, data and intelligence, it suggests that there is a significant emphasis on the need for skilled employees who can handle advanced technological and analytical tasks. Operational and strategy themes also emerged from the quantitative analysis, whereby terms such as bank, industry, employees and business reflect the operational as well as strategic considerations in the FinTech industry. Finally, the presence of key terms such as artificial intelligence as an emerging trend suggests the incorporation of AI technologies in the FinTech industry.



Source: Atlas.ti (2024).

Fig. 7: Wordings Analysis

Code Co-Occurrence Analysis

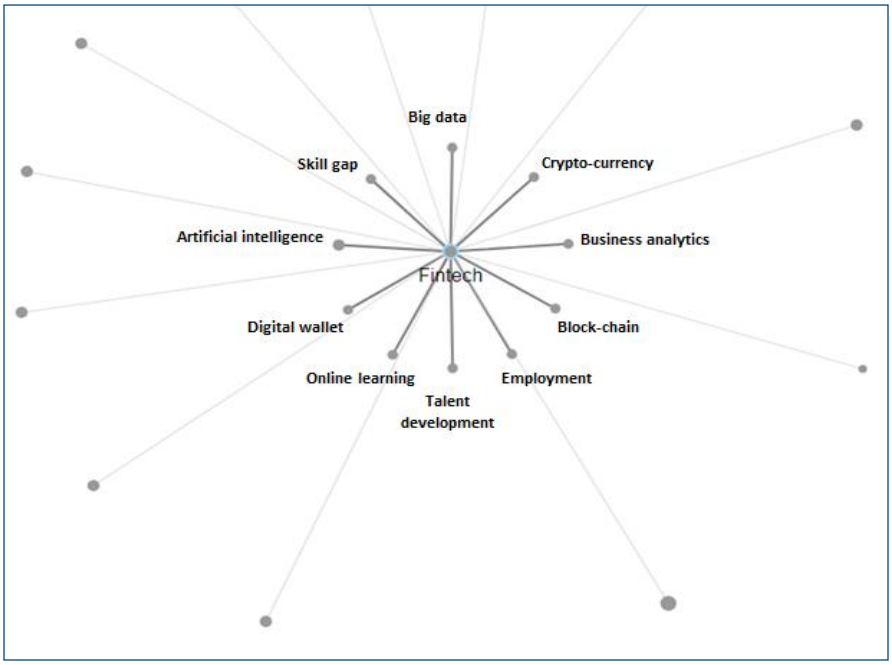


Source: Atlas.ti (2024).

Fig. 8: Code Co-Occurrence Analysis

FinTech is the central theme according to the co-occurrence analysis represented in Fig. 9, highlighting its relevance and connection to multiple sub-themes. The placement of FinTech in the code co-occurrence analysis indicates its fundamental role in connecting a range of associated technologies and practices. It also highlights the significance of financial technology innovations in modern financial services. The analysis interestingly revealed linked nodes highlighting the key areas in FinTech, among which it includes digital finance tools that are directly connected to FinTech. Correspondingly, cyptocurrency, blockchain, digital wallets and big data are essential elements of the digital finance ecosystem. The connecting nodes towards skills development, online learning and professional development indicate the obligation for constant education and skills enhancement to keep up with the pace of FinTech developments. The nodes relating to business analytics and data science underline the essential role of data in informing financing technologies, while the inclusion of regulations and cybersecurity points highlights the important consideration of compliance as well as security in the Mauritian FinTech industry.

Code Co-Occurrence Analysis of FinTech



Source: Atlas.ti (2024).

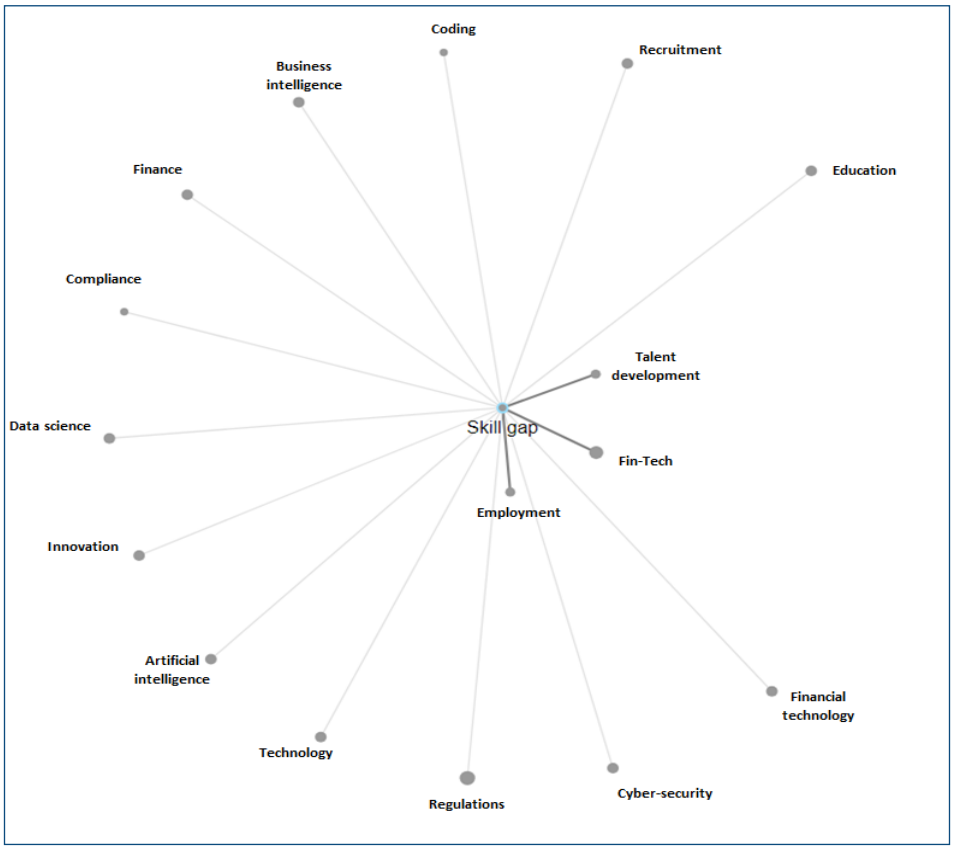
Fig. 9: Code Co-Occurrence Analysis on FinTech

A code co-occurrence analysis zooming in on FinTech as demonstrated in Fig. 9 shows that the emerging themes are big data, crypto-currency, business analytics, blockchain, employment, talent development, online learning and digital wallets, artificial intelligence and skills gaps. Big data and business analytics as emerging themes indicate their necessity in the FinTech sector to enable data-driven and smarter decision-making. Financial technologies, including big data, are important to carry out real-time analytics on transaction data and customer behaviours, while business analytics in FinTech improve regulatory compliance and fraud detection capabilities. Moreover, the presence of cryptocurrency and blockchain in the analysis suggests the participants' expertise in the Mauritius FinTech industry. Blockchain, which is a foundational technology for cryptocurrencies, offers a decentralised ledger that improves security in financial transactions. Hence, in the FinTech industry, this particular technology, while expanding crypto-currencies, also supports efficient transactions related to smart contracts and identity verification.

Central to the FinTech theme also consist the sub-themes employment and talent development, highlighting the

high potential of the FinTech industry in Mauritius. It is accordingly deduced that as FinTech companies have opportunities for growth and development, there is a growing demand for skilled professionals who are conversant with the emerging technologies, including artificial intelligence, blockchain and machine learning. A skill gap is also noted in the FinTech industry in Mauritius, whereby to close this gap, online learning platforms are increasingly becoming important. These platforms are flexible and offer continuous professional development programmes for FinTech-related technologies.

Code Co-Occurrence Analysis of Skill Gap

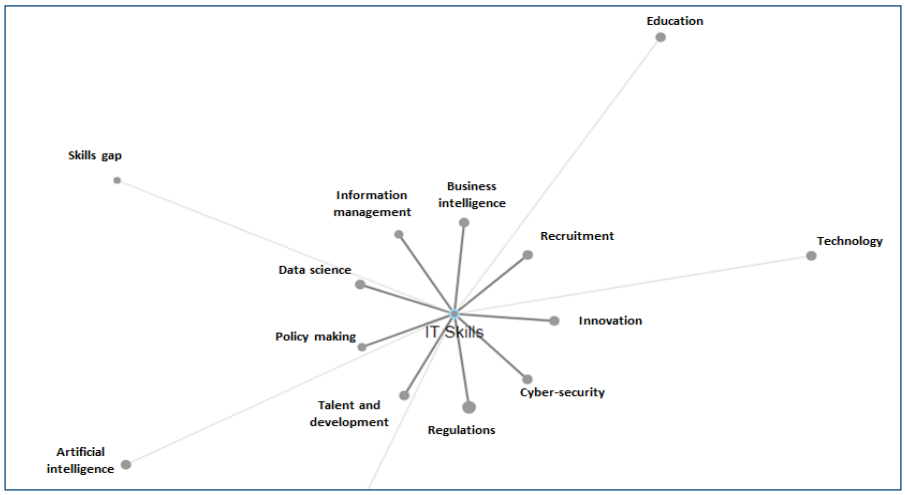


Source: Atlas.ti (2024).

Fig. 10: Code Co-Occurrence Analysis on Skills Gap

While zooming in on the skills gap, the analysis presented in Fig. 10 shows that the primary emerging themes are talent development, FinTech, and employment. The prominence of FinTech in the primary themes highlights the rapid growth of this particular sector, the shortage of skills, and the evolving nature of the skills requirements in the industry, which required talent development. One way to address the skills gap in this industry is through talent development, where the current workforce is prepared with the necessary skills. The secondary themes developed from the analysis involve the various skills that are missing in the FinTech industry, comprising artificial intelligence, technology, IT, cybersecurity, financial technology, data science, business intelligence and coding. It is moreover, found from the analysis that there is a significant skills gap when recruitment employees and education stands out as an effective strategy in addressing the skills gap in the FinTech industry.

Code Co-Occurrence Analysis of IT Skills



Source: Atlas.ti (2024).

Fig. 11: Code Co-Occurrence Analysis on IT skills

The code co-occurrence analysis focusing on IT skills revealed valuable insights into the related IT skills that are consequential in the Mauritian FinTech sector. In reference to Fig. 11, the skills that emerged are information management, business intelligence, cybersecurity, regulations, policymaking and data science. Recruitment having a direct connection with IT skills indicates that this particular industry is increasingly relying on IT skills. Likewise, IT skills are essential for developing regulations and for the purpose of policy-making in the FinTech industry. Education as the secondary theme demonstrates that education is essential to acquire the important IT skills. It is additionally found that there is a significant skill gap related to IT in the industry. It is furthermore concluded from the analysis that finance coupled with IT skills is indispensable for the FinTech industry.

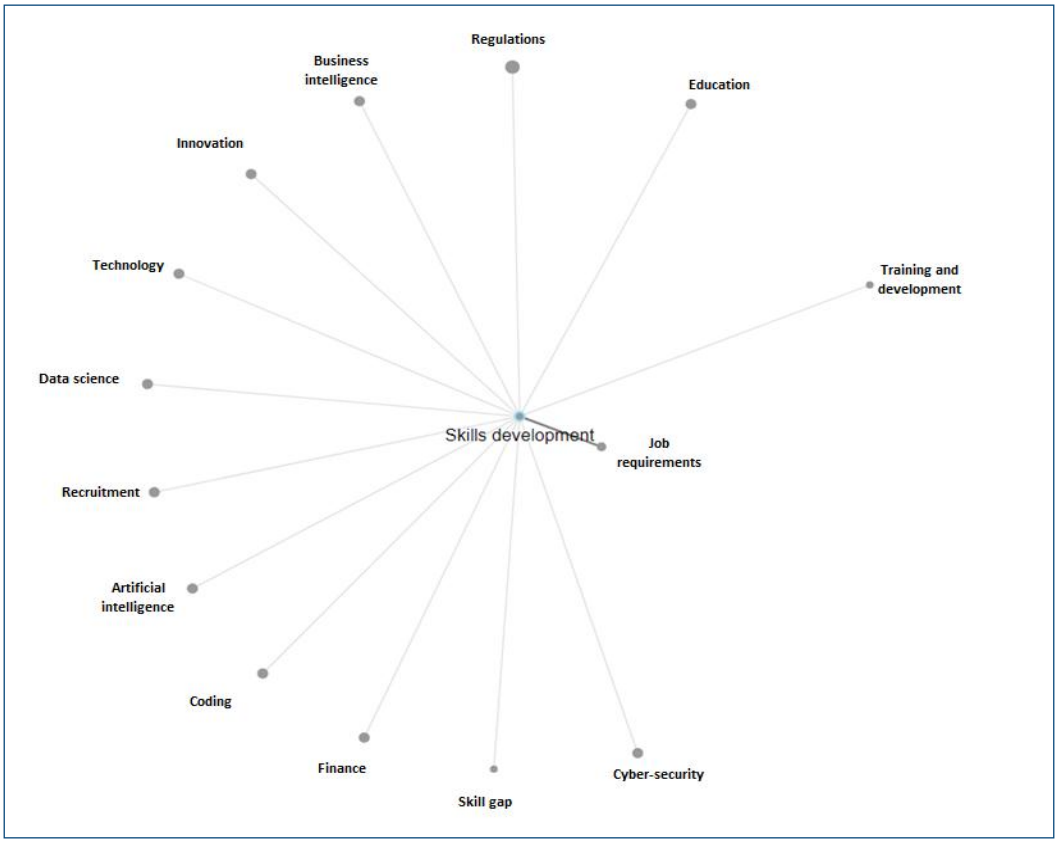
Code Co-Occurrence Analysis of Talent Development

Source: Atlas.ti (2024).

Fig. 12: Code Co-Occurrence Analysis on Talent Development

From the code co-occurrence analysis on talent development in Fig. 12, it is apparent that there is a need for talent development in the FinTech industry due to the skills gap. The rapid evolution of the FinTech industry requires skilled employees to meet the demands of the market. Hence, talent development is a strategy that the participants proposed to address the skill difference found when employing FinTech professionals. The areas that talent development should focus on include business intelligence, finance, data science, artificial intelligence, technology, cybersecurity, coding and compliance.

Code Co-Occurrence Analysis of Skills Development

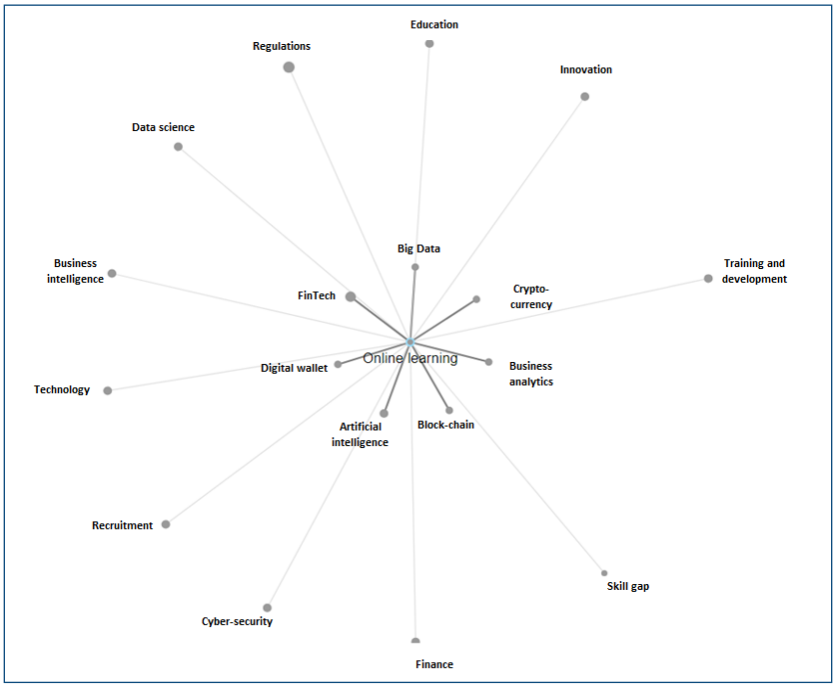


Source: Atlas.ti (2024).

Fig. 13: Code Co-Occurrence Analysis on Skills Development

The code co-occurrence analysis on skills development presented in Fig. 13 indicates that job requirements in the FinTech industry highlight the need for skills development. The analysis validates that there is a skill gap in the industry where training, development and education are indispensable. The areas that should be focused on in the skills development of the employees in the FinTech industry comprise regulations, business intelligence, technology, data science, artificial intelligence, coding, finance and cybersecurity.

Code Co-Occurrence Analysis of Online Learning



Source: Atlas.ti (2024).

Fig. 14: Code Co-Occurrence Analysis on Online Learning

Online learning is one specific strategy that emerged from the code co-occurrence for the skilling and development of the talent of employees in the FinTech industry. The concurrence of primary themes indicates that online learning in the FinTech industry should emphasise big data, cryptocurrency, business analytics, blockchain, artificial intelligence and digital wallets. The secondary themes from the outer circle show that online learning helps to address the skills gap in the Mauritian FinTech industry by providing the employees with education related to data science, finance, innovative tendencies and business intelligence. More so, when recruiting employees in the industry, the FinTech companies should consider implementing online learning programmes for their developing the skills and talent.

Summary of Findings and Conclusion

The FinTech industry is evidently rapidly growing, representing a perfect opportunity for the Mauritian economy (Samuel, 2022; Jackson et al., 2023; Business Magazine, 2024; Statista Market Forecast, 2024). However, this evolution represents a shift from traditional skills to emerging ones (Mehdiabadi et al., 2022; Mazurchenko et al., 2023; Tran, 2023; Jackson et al., 2023). To harness the potential of FinTech in Mauritius, this research developed a cyclical nature of acquiring and improving skills that is statistically validated. This study evidenced that industry knowledge is significant for acquiring skills, following which the employees develop their talent. Given that industry knowledge is delivered at the tertiary level across all universities in Mauritius, uncovering the skills gap was important to determine which industry knowledge academicians should tap onto. By undertaking an independent sample t-test, the study revealed a significant difference in both soft skills and hard skills in regard to the employers' expectations and FinTech professionals' self-assessed skills.

The statistical results revealed that an extremely influential soft skills gap is perceived in networking skills, a very influential skill gap is found in storytelling and knowing how to influence, while a somewhat influential skill gap is validated in written and oral communication skills, empathy, social intelligence, teamwork, negotiation, delegation and logical reasoning. According to the CFTE Insight Report (2022), storytelling, knowing how to influence and social intelligence are categorised as leadership skills important for the FinTech industry. The perceived gap in networking indicates that FinTech professionals struggle to connect and build relationships. This finding is supported by the gap in oral communication, which

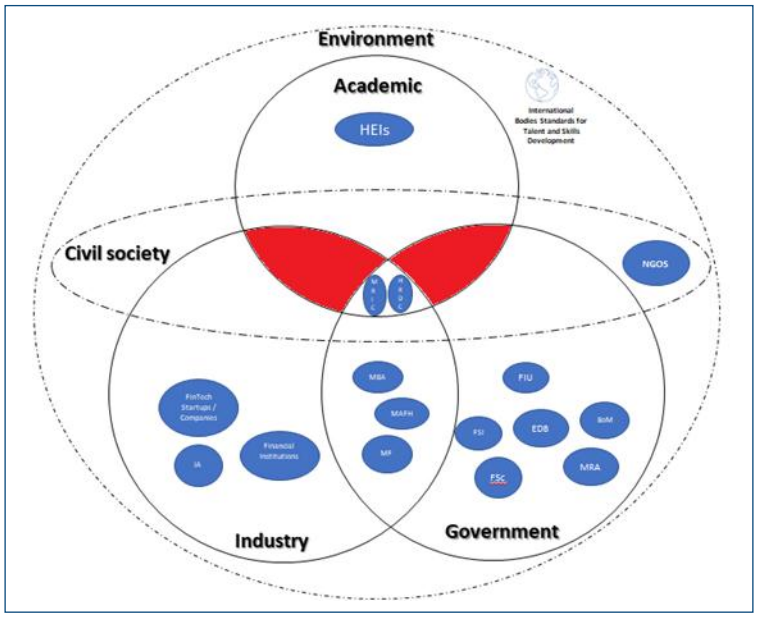
is foundational for clear and effective information exchange, and the gap in storytelling and influencing others that helps in simplifying complex information and making it engaging. Teamwork, negotiation and delegation are grouped under the collaboration skills, and a perceived gap in this particular area limits the employees' ability to work in teams and connect with clients. Finally, a gap in logical reasoning classified as a decision-making skill by the CFTE Insight Report (2022) indicates the FinTech professionals' inability to make sound decisions and solve complex problems in the FinTech industry.

The findings from the independent t-test analysis revealed an important gap in terms of the hard skills among the FinTech professionals. The statistical results support that there is an extreme influential skill gap in regards to coding (Python, Java, C++, Solidity, PHP), a very influential skill gap in payment systems, and a somewhat influential gap in portfolio management, data structure (SQL), financial markets, data cleaning, data-driven decision-making, test and learn, digital tools (Canva, Google Analytics), business development and application of financial technology. In reference to the CFTE Insight Report (2022), coding and data structure skills are grouped under engineering skills, financial market skills are carried as finance hard skills, digital tool skills are classified as digital tool hard skills, and data cleaning, data-driven decision making and test and learn are categorised as data analytics hard skills. The identified hard skill gap highlights the complex and changing nature of the FinTech industry and its reliance on hard skills. As technologies evolve, there is an evident demand for specialised skills, requiring FinTech professionals to adapt and upskill themselves.

Qualitative analysis provides rich findings that align with the statistical findings, highlighting a significant deficiency in skills required in the FinTech industry. The findings from the code co-occurrence analysis on the skills gap validate that the FinTech industry has an important skills gap requiring the talent development of FinTech professionals. The code co-occurrence findings conform with the statistical findings in terms of a lack of skills relating to business intelligence, coding, compliance, data science, artificial intelligence, financial technology, cyber-security and regulations. The convergence between qualitative and quantitative findings highlights an urgent call for talent development in the Mauritius FinTech industry. This alignment validates the presence of skill gaps and emphasises the need for a strategic approach to workforce development.

Proposed Model

Knowledge Generation and Development



Source: Authors' Design (Adapted from Carayannis and Campbell, 2022).

Fig. 15: Knowledge Generation and Development

Adapted from the Quintuple Helix Model, Fig. 15 shows the several stakeholders grouped in a specific helix through which knowledge is generated in the Mauritius FinTech industry. The industry helix is composed of FinTech-start-ups, IA, and financial institutions. FinTech start-ups are at the forefront of technological innovations, driving knowledge through agile development processes and innovation in digital finance. IA, being an important stakeholder in the industry, helix represents the insurers' interests and through research initiatives focusing on areas such as regulatory technology (RegTech), IA generates knowledge. Financial institutions comprising of traditional banks and lending institutions forming the backbone of the financial industry also generate knowledge through their collaboration with technology-driven projects to enhance operational efficiency and customer experience.

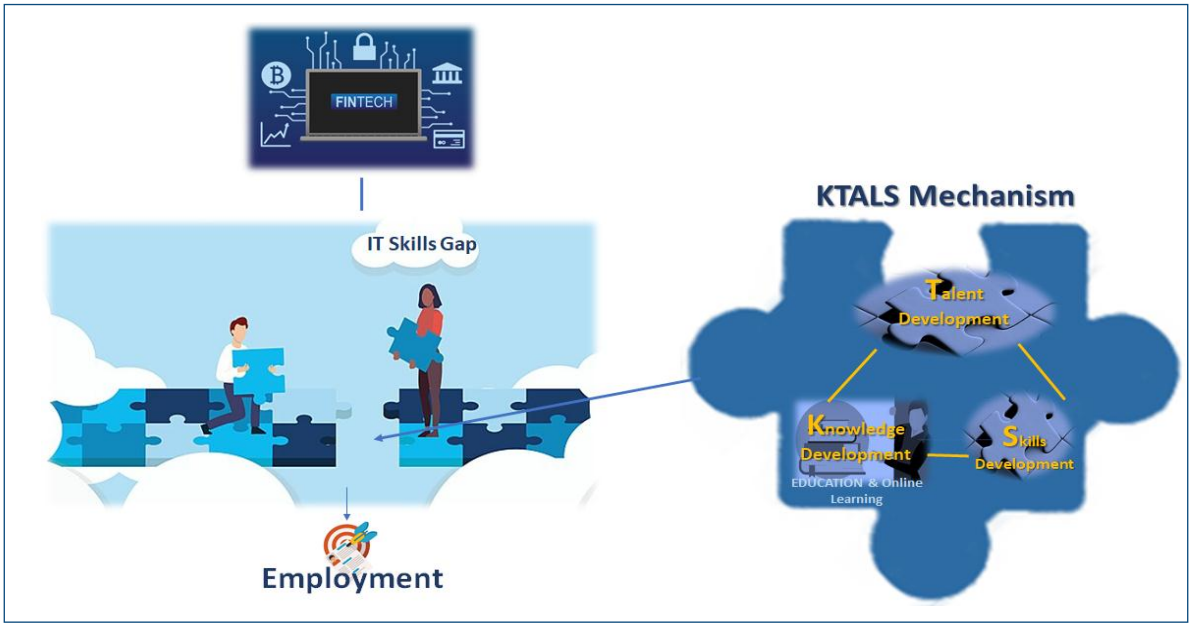
The second helix represented by the government entails FIU, EDB, BoM, MRA, FSC and FSI. FIU has the role of protecting the financial system against illegal activities, and its existence in the FinTech Institutional Framework develops the necessary expertise in compliance that is required in the industry. EDB facilitates investment and drives economic growth in Mauritius. Its position in the FinTech FinTech Institutional Framework is valued for its engagement in understanding market trends, economic conditions and investment opportunities, generating significant knowledge to make informed decisions in the FinTech industry. Central to the government helix is the BoM, which is responsible for monetary policy and the Mauritian financial stability. Its role in generating knowledge pertains to economic research, policy development and statistical analysis that contribute to the FinTech industry. MRA is also an important stakeholder in the government helix that manages tax collection and administration while ensuring compliance with the Mauritian tax laws. As MRA gathers information on taxation and its impact and offers insights into fiscal policies, this knowledge is significant to the FinTech industry. The government helix also encompasses FSC, which focuses on the regulations on non-bank financial services. As it creates regulatory frameworks based on detailed sector analysis, the knowledge created by FSC is also indispensable for the FinTech sector. Finally, FSI is a government training institution that provides educational programmes for professionals in the financial services industry. It disseminates knowledge about the best practices and emerging financial technologies, which makes it an essential knowledge generator in the FinTech industry.

Academia is the third helix, which makes up the triple helix model. According to the diagrammatic illustration, academia includes HEIs. HEIs are primary centres for research across different disciplines, ranging between technology, finance, social sciences and economics. Through faculty research and students' projects, HEIs generate new models and theories that contribute to the academic knowledge and practical applications in the FinTech industry. The civil society helix consists of NGOs. Through public discourse, reports and campaigns, NGOs contribute to a broader understanding of issues influencing public opinion and policy. The fifth helix that creates the Quintuple Helix Model is the environment, which is reflected by the global bodies and standards for skills in the FinTech industry.

The intersection between industry and government in the diagrammatic representation, however, revealed that MBA, MF and MAFH are key stakeholders that collaborate, generate and facilitate knowledge between the government and the financial industry. The joint initiatives and the synergy between these stakeholders ensure that the financial products are tailored to the FinTech industry and policies and practices are put in place to promote Mauritian economic growth. MRIC and HRDC are found at the nexus of academia, industry and government. Both stakeholders hold an essential role in ensuring that the educational programmes and research initiatives corroborate with the evolving FinTech industry's needs.

However, after plugging in all the stakeholders in the Quintuple Helix Model, a gap is discovered in two core intersections: (i) industry and academia and (ii) government and academia. This model interestingly gives insights into the missing stakeholders in Mauritius that should collaborate between the (i) industry and academic and (ii) the government and academic to promote FinTech. This gap consequently calls for additional research that should be carried out to promote FinTech in Mauritius.

KTALS Prototype Model



Source: Authors' design.

Fig. 16: KTALS Prototype Model

The study designed a KTALS Prototype Model with the fundamental objective of addressing the skills gap in the FinTech industry. Fig. 16 connects the challenges encountered by the FinTech industry with potential solutions through the KTALS mechanism. The FinTech industry operates as a transformative force in the financial industry, leveraging technologies such as blockchain, artificial intelligence and digital payment systems. However, the IT skills gap presents a significant challenge for the industry, represented by FinTech leaders and employees striving to connect two disjointed puzzle pieces. The puzzle pieces being disconnected represent a barrier to the growth of the industry. The gap as a global issue affects the smooth integration of skilled professionals in the FinTech industry.

To address the skills gap, the study developed a KTALS Mechanism as a strategic solution which is composed of three interconnected pillars: (i) talent development, (ii) knowledge development and (iii) skills development. Knowledge development as the core pillar highlights the importance of education and continuous training in bridging the skills gap. The key focus is to equip the employees with a deep understanding of FinTech-related fields through formal education, professional training and online learning platforms.

As evidenced by this research, knowledge is the foundation of skills in the FinTech industry. Hence, skills development, as a direct extension of this knowledge, enables professionals to apply their learning in real-world settings, driving practical expertise in the industry. This progression naturally leads to talent development, where employees, armed with advanced skills, can excel and seize opportunities in the evolving FinTech industry. By fostering a sustainable pipeline of skilled professionals, this model ensures that the workforce is well-prepared to meet the growing demands of the industry, thereby driving both individual career growth and broader economic development. To conclude, the KTALS Prototype Model systematically addresses talent, knowledge and skills development to bridge the IT skills gap, leading to enhanced employment opportunities in the FinTech industry.

Conclusion

This study uncovers the significant skills gap in the FinTech industry and highlights a critical gap in knowledge creation in Mauritius, as revealed through the Quintuple Helix Model. To address these challenges, the research develops the KTALS mechanism, a

comprehensive approach to knowledge, skills and talent development. This model offers a solution for Mauritius and provides a scalable framework that many countries can adopt. By fostering continuous learning and technological adaptation and creating employment opportunities, KTALS is positioned as a pivotal strategy for nations seeking to strengthen their FinTech industries and achieve long-term economic resilience.

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List of Abbreviations

AML	Anti-Money Laundering
BoM	Bank of Mauritius
CFT	Combating the Financing of Terrorism
CFTE	Centre for Finance, Technology and Entrepreneurship
EDB	Economic Development Board
FIU	Financial Intelligence Unit
FRC	Financial Reporting Council
FSA	Financial Services Act
FSC	Financial Services Commission
FSI	Financial Services Institute
GDP	Gross Domestic Product
GFCI	Global Financial Centres Index
HTML	HyperText Markup Language
IA	Insurers' Association
IFC	International Financial Centre
IT	Information Technology
MAFH	Mauritius Africa FinTech Hub
MBA	Mauritius Bankers' Association
MES	Mauritius Examination Syndicate
MF	Mauritius Finance
MIFC	Mauritius International Financial Centre
MOBAA	Mauritius Offshore Busines Activities Authority
MRA	Mauritius Revenue Authority
PIS	Payment Intermediary Services
P2P	Peer to Peer
SPSS	Statistical Package for the Social Sciences
USD	United States dollar
VAITOS	Virtual Asset and Initial Token Offering Services
VASP	Virtual Asset Service Providers
VUCA	Volatility, Uncertainty, Complexity, and Ambiguity