# GREATER MANCHESTER

DOING THINGS DIFFERENTLY FOR OUR WORKFORCE

# Labour Market and Skills Intelligence Report

**FinTech**

**Published May 2021**

**Contents**

# PURPOSE OF REPORT

This report provides an employer-led and current understanding of skills and talent needs required across our FinTech business landscape in Greater Manchester (GM). The intelligence has been gathered from conversations with a variety of sources and stakeholders including existing employer networks and sector bodies, Universities, MIDAS, the Growth Company, Local Authorities, Recruitment Agencies, and national skills facilitating organisations. GMCA would like to thank everyone who has contributed to this report for their time and contributions, we hope you continue to be involved in future talent development activity related to FinTech.

The report is intended for a large variety of stakeholders to support in understanding the skills and talent needs within our regional FinTech industry. Recommendations made will not necessarily lead to GMCA led work and skills activity. They are intended to help summarise and support stakeholders to understand where their actions may fill gaps and support talent development for the industry. FinTech sits within Digital and is identified as one of the 4 key sectors for Greater Manchester in the Local Industrial Strategy (published June 2019). The recent Government FinTech review[1] undertaken by Ron Kalifa identifies FinTech is a key part of the financial inclusion agenda. This report supports and feeds in to wider GMCA policy and strategy including:

- Greater Manchester Strategy
- Greater Manchester Local Industrial Strategy
- Greater Manchester COVID Recovery
- Greater Manchester Work and Skills Strategy.


GMCA will coordinate wider dissemination and translation of this intelligence for different audiences in GM. Additionally, GMCA will look across devolved powers in the work and skills team and wider authority to see where objectives, projects, and activity can better align based on this intelligence. The overall vision for this work is to be a key contributor in developing a fully aligned labour market response in GM

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[1] [Kalifa Review of UK Fintech](#)

where there is credible, current, employer led and shared understanding of the jobs, talent, and competencies employers need across our Local Industrial Strategy (LIS) frontier and foundation sectors.

The report sets out an overview of the intelligence available relating to the skills required to meet our FinTech Sector requirements across Greater Manchester. The objectives of this intelligence are as follows:

- Provide a better understanding of the progression pathways to roles within the FinTech sector in GM
- Identify which occupations need to be prioritised to meet current and emerging skills shortages.
- Better inform and implement existing skills provision for the benefit of GM residents and FinTech employers
- Identify opportunities for the skills system (including skills providers and employers) can act to support the talent pipeline for FinTech.
- Understand the future trends within the FinTech sector – in particular, how these trends will impact the existing workforce and future skills needs
- Understand the impacts of COVID19 and Brexit on the skills-base within the sector, including challenges and opportunities and how the skills provision can best fit with COVID-19 recovery plans.

GM residents need to be able to understand the opportunity GM's FinTech sector provides, and the occupations and progression pathways as well as the technical skills and wider competencies and attributes required in different areas of the industry and at different levels. There is the need for key stakeholders working with different groups to be able to translate these key skills and labour market messages for the following groups:

- Young people
- Influencers – teachers, parents, careers advisors and work coaches
- People looking to switch careers or looking for work
- Skills providers of all types
- Employers
- Individuals wanting to progress in work.

This intelligence was gathered in late 2020 and early 2021 and is accurate as of the release date of this report. This review was conducted after being identified as an area requiring deeper exploration in the GMCA Industry labour market skills intelligence report 'Digital and Technology, version 1[2]. The data and intelligence gathered as part of this report will be enhanced and added to as the sector, policy landscape, and economic situation evolves.

The report is intended as an initial platform of intelligence and research, which will be built on and updated by GMCA. Upcoming developments in the COVID-19 pandemic and the UK's withdrawal from the EU will continue to shift the economy. These shifts, in addition to new technological developments evolving at a rapid pace and the recently published national FinTech review will have large and long-lasting impacts on the FinTech sector. GMCA understands the need to regularly update this intelligence accordingly. Plans are laid out towards the end of the report for further intelligence gathering and research. GMCA will be looking at where recommendations and intelligence from this report can be embedded across work and skills programming.

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# EXECUTIVE SUMMARY

With the sector being relatively new and identified as a key industrial sector for both the UK-wide and GM economy, support for FinTech organisations is of increasing importance. This report looks primarily at how the skills challenge in FinTech is met within Greater Manchester, to inform and guide better responses from GMCA, local authorities, employers, providers, and other stakeholders.

Key findings from this report include:

- **FinTech is an important sector for Greater Manchester** employing almost **10,000 people**.

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[2] [Industry Labour Market and Industry Skills GMCA Report Digital and Tech 2020](#)

- In general, the FinTech sector has **prospered as a result of the COVID-19 pandemic** as a result of **digital acceleration**.

- Employers told us there are skills gaps in the following areas:
  - Roles of increasing technical ability e.g., **mid-senior Developers, Data Specialists and Cyber Security Specialists**.
  - Trends in the sector point towards **AI, Cyber, Big Data, Quantum Computing and Blockchain**.
  - **Customer Services/Sales –** employers are noticing changes in younger generations communication skills such as written and verbal communication skills, which they perceive to be of poorer quality.
  - **Customer Success –** employers said candidates need to understand the full customer journey. A wraparound human touch complements increasing automated processes requiring specific soft skills.

- Colleges, universities, and private alternate training providers deliver digital and technology programmes for the sector that **generally meet the skills demand** for technical professions. There are some employers in the sector who would like to see **modular stackable courses** to quickly enable areas of business priority skills shortages to be developed.

- Employers felt there are **good quality providers delivering digital bootcamps** that meet the need for entry level skills demand for technical professions. However, there is a lack of training targeting in-work progression for technical roles, in particular mid-senior developers.

- Apprenticeships are **well respected as an entry route** for people into FinTech. However, there are many employers, in particular SMEs, who have not yet started using the newer apprenticeship standards.

- **There is a need to demystify the sector.** Employers feel there is a lack of clearly defined job roles in certain fields and a lack of understanding and guidance about potential career paths.

- Employers, in particular SMEs and/or startups who **do not have an established 'Employer Brand' find it more difficult to attract and retain mid-senior technical talent**. This can result in having to outsource contractors, which can be expensive.

- **SMEs at times lose good talent to larger organisations** who can offer more horizontal opportunities not necessarily for better pay, such as project work and managing a team.

- **There was concern expressed regarding qualified candidates leaving the region** some employers feel like they are missing out on top talent to areas such as London.

- Despite improvement in recent years, **diversity and demographics remain challenges** for the sector. There is an underrepresentation of women and ethnic minority workers working in many roles, in particular leadership roles.

- There are limited **Mentorship Schemes in place.** Employers welcome these schemes to assist with in-work progression. Access to female mentors could help improve this underrepresented group.

# RECOMMENDATIONS

Full and detailed recommendations are given at the end of this report, but a list of the core recommendations can be found below. These recommendations are not likely to be short-term fixes, and several require a long-term culture change around the sector. They act to summarise key areas of activity based on the greatest need – activity which will need input from all corners of the sector, including employers, skills providers, schools, college, universities, local government, and sector bodies.

*General:*

1. The skills system should undertake a review to ensure it is meeting immediate skills gaps in **mid-senior developer, cyber security, and data roles covering emerging trends in AI/ML, blockchain and Quantum Computing.**

2. Training programmes should explore offering similar modules that are delivered part of degrees and apprenticeships so that **modules can be accessed separately to meet the needs of businesses and emerging FinTech trends**.

3. Relevant training should include **sales and customer service skills** with a focus on customer success specifically meeting the needs of the FinTech

sector. Communication skills and specific soft skills should be delivered as part of the curriculum.

4.  Relevant training needs to develop skills in **Recruitment & Selection** to **create more diverse talent pipeline** raising better awareness amongst FinTech employers on **government initiatives**.

5.  When in place the **Local Skills Improvement Plan** lead might want to give consideration to appointing a FinTech representative as a way to become a leading FinTech cluster/regional hub.

6.  GMCA to monitor if the **government adopts the recommendations as set out in the recent FinTech Khalifa review**. In particular, if there will be an 'Independent Steering Committee' who will play a role in understanding the current and future FinTech skills gap.

*Entry Level:*

7.  **Progression routes, potential future careers, and occupation pathways** should be made clearer and linked to **formal qualifications** and **professional certifications**.

8.  GM to explore Innovate Finance's **'FinTech for Schools Initiative'** to invigorate appetite amongst young people who may wish to explore a future career in FinTech.

9.  Building **valuable links between local FinTech employers and schools** to improve the reputation of the FinTech sector. In particular, female role models / **enterprise advisors** from developer, data and cybersecurity backgrounds should be encouraged to engage.

10. **Course educators** to be supported and provided with the latest developments in FinTech and LMI to ensure students and learners are receiving careers information based on GM employers' current and emerging skills needs.

11. Employers are increasingly seeking specific **soft skills in individuals wishing to pursue a career in the FinTech sector**. The GM Bridge team should continue to support schools and businesses to work together to identify what the required soft skills are.

12. Continuing working towards **T Levels being positioned as a leading option** with both further education colleges and employers. Continuing to promote **Digital Pathways**, including FinTech, including the SME market.

*In-work progression:*

13. Explore **Mentorship Schemes** as a way to help individual's working in the FinTech sector to progress in their careers.
14. The creation of an **online academy for FinTech** potentially starting by providing entry level material to support lifelong learning.
15. Employers to explore **secondment opportunities through innovative partnerships** as a way to retain and upskill staff.

# 1. INTRODUCTION

1.1    Financial technology (FinTech) is one of the world's fastest growing and in-demand industries. **FinTech refers to new technology coming into the financial sector that has the potential to disrupt the industry**. Over the past decade, the UK has been undergoing a FinTech revolution – in jobs, innovation, improvements to people's lives and in increased opportunities in global trade. Ron Khalifa, in the recent published national review states "*Fintech is not a niche within financial services. Nor is it a sub-sector. It is a permanent, technological revolution, that is changing the way we do finance.*"[3]

1.2    FinTech consists of a wide ecosystem of technology-driven and technology enabled businesses ranging from established financial services, software vendors to emerging digital service providers. It encompasses discrete FinTech sectors such as InsurTech, RegTech, PayTech, Blockchain/crypto, and wealth management, which focus on specific areas of the financial services value chain. This report gathers skills intelligence from a variety of these sub sectors. Trends that are reshaping the FinTech and Financial services sectors, which provide opportunities for industry growth can be found at Appendix One.

1.3    FinTech is an important sector for both the UK and Greater Manchester's economy. Greater Manchester's Local Industrial Strategy[4] (published June 2019) sets out the long-term strategic aspirations to grow our existing and emerging sector strengths including in FinTech. Through this Local Industrial Strategy Greater Manchester aims to build on its position as a leading European digital city region and capitalise on the links between digital, creative, and other industries in the city-region that feed innovation in FinTech.

1.4    According to the Whitecap Consulting Greater Manchester FinTech Ecosystem Report[5], Greater Manchester contains 109 FinTech businesses, including established financial organisations, tech firms, as well as the FinTech startups and scaleups. The number of organisations is growing indicating that the sector is

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[3] Kalifa Review of UK Fintech
[4] GM Local Industrial Strategy
[5] Whitecap Consulting Greater Manchester FinTech Ecosystem Report 2020

an important area of the Greater Manchester economy both in terms of productivity and employment opportunities. It is a frontier sector for the region. Almost 10,000 people in Greater Manchester are estimated to work in a FinTech related role.

1.5    FinTech is a broad category defined as the application of technology to improve financial products and services. Arguably, it can be challenging to categorise companies and jobs, especially in the absence of standard measures such as Standard Industrial Classification (SIC)[6]. FinTech data at a both a national and regional level is limited. The sector sits across finance and technology businesses as well as other industries.

1.6    Drawing upon the closest matching sectors – the latest NOMIS[7] data shows the number of Technology jobs within Greater Manchester is around 50,000 (representing 3.7% of total employee jobs excluding farm-based agriculture in Greater Manchester). This has remained relatively stable over the past 5 years with a mean of 46,800 employee jobs. The number of Financial and Insurance jobs within Greater Manchester is 44,000 (representing 3.2% of total employee jobs excluding farm-based agriculture in Greater Manchester). This has remained relatively stable over the past 5 years with a mean of 43,400 employee jobs.

Challenges and Opportunities for Greater Manchester

1.7    The FinTech sector is facing various challenges and opportunities on a national and global scale, these challenges are also reflected within Greater Manchester:

- FinTech plays an important role in the UK-wide economy. In 2020, investment into UK FinTech stood at $4.1 billion (£2.9 billion) more than the next 4 European countries combined. By 2030, forecast predict that direct FinTech

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[6] Standard Industrial Classifications (SIC)
[7] NOMIS REPORT

gross value added (GVA) contribution to the UK economy will be £13.7bn, with job creation contributing to 70% of this.

- Access to the right level of highly skilled talent to realise this growth remains one of the biggest challenges.[8] In Greater Manchester, employers said they require talent and skills at all levels and are specifically in need of mid-senior technical technology skills.

- A national review[9] into the UK's financial technology sector was published at the end of February 2021 this identifies opportunities to support further growth in the sector. FinTech presents opportunity to improve financial services for the benefit of businesses, consumers, and government.

- In 2020, in many cases, COVID-19 has acted as a catalyst to innovation for the FinTech sector. It has accelerated a shift to more efficient digitisation and use of innovative technologies.

- UK citizens are becoming digitally active and 71% are now using the services of at least one FinTech company[10].

- The FinTech sector will be pivotal in creating financial inclusion for everyone as part of the government's 'levelling up' agenda.[11]

- Greater Manchester has developed a strong reputation as the FinTech capital of the North and is identified as an 'emerged cluster' in the recent government Kalifa FinTech review.[12]

- Trends towards artificial intelligence and automation in many sectors presents valuable opportunity for the FinTech sector.

- FinTech companies in Greater Manchester form an integral part of the supply chain to several financial services companies and many banks and financial services firms have FinTech departments, drawing on supply chains.

- The FinTech revolution in financial services links organisations with varying degrees of cybersecurity maturity levels. Cybersecurity is critical to ensuring consumers and businesses can leverage the benefits of FinTech.

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[8] [Kalifa Review of UK Fintech](#)
[9] [Kalifa Review of UK Fintech](#)
[10] [Fintech_Sector_Strategy_web](#)
[11] [New levelling up and community investments](#)
[12] [Kalifa Review of UK Fintech](#)

# Industry Context

## Skills Shortages

1.8    The UK FinTech Census 2019 surveyed approximately 250 companies to understand the opportunities and challenges faced by the sector. 53% of respondents stated that attracting suitable talent was their biggest challenge. **Software engineering, system architecture** and **development** was cited as the most in-demand skillset (ranked first by 52% of firms), but also the hardest to find. The second most valuable, and equally difficult to source, was **data analytics** and **data science** skills (ranked top by 19% of firms).

1.9    Research from the World Economic Forum in 2018 shows that emerging roles – such as, **data analysts, AI** and **machine learning specialists, designers**, and people who work in **innovation roles** – which currently account for 15% of the financial services workforce globally, are expected to account for 29% of the workforce by 2022[13].

## Workforce Demographics – Greater Manchester

1.10    As discussed earlier in the report there is limited workforce demographic data available 'specific' to the FinTech sector. This section draws upon data from both the digital and tech sectors. Numerous studies show that diverse teams outperform others[14] and considering the lack of women and ethnic minorities in senior FinTech roles in the UK, arguably the industry needs to diversify its workforce if it wants to innovate. Demographic trends are discussed below and provide an evidence base to suggest that Greater Manchester FinTech businesses have an important part to play in achieving the government's social mobility pledge[15]. The Greater Manchester Social Value Framework 2020[16] provides a strong basis for how employers can use collective power to tackle inequality.

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[13] The Future of Jobs - Reports - World Economic Forum (weforum.org)
[14] The Five Business Benefits of a Diverse Team - CMI
[15] Social Mobility Pledge
[16] Social Value  Greater Manchester Combined Authority

## Gender

1.11    Over the last 10 years in the UK[17] the average gender division of the workforce was 76.01% Male and 23.99% Female. This ratio is reflected within Greater Manchester and has remained relatively static over the past 10 years.[18] The gender imbalance in the FinTech sector across the UK is well documented and is particularly low, with women making up just 29% of the employee base[19]. In general, Technology has a demographic tilt towards male workers occupying most positions at all levels. PWC research with over 2,000 A-Level and university students shows that the gender gap in technology starts at school and carries on through every stage of girl's and women's lives. Only 27% of female students surveyed said they would consider a career in technology, compared to 61% of males, and only 3% said it is their first choice.[20] The survey identifies only 5% of women in the technology sector having a senior leadership position.

1.12    At a regional level, employers told us there is a gender imbalance in tech roles with the main workforce being younger males. Manchester Digital Skills Audit 2021[21] shows an increase in the number of women working in the tech industry in the North West from the previous year, the figure goes back to the 2018 figure for all job roles at 36%. However, for technical roles this figure falls to 18%. Continuing to address the gender imbalance through initiatives and programmes will help to attract and retain more women to the sector. In the UK, the Women in Finance Charter (WIFC) was launched in 2016 to bring about gender equality in financial services and the WIFC runs a campaign to include the FinTech sector.[22]

## Young People and Technology Careers

1.13    The BBC (2021) report the UK is heading towards a catastrophic digital skills shortage disaster.[23] A difficulty in making technical professions seem appealing

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[17] Workforce jobs - Nomis - Official Labour Market Statistics (nomisweb.co.uk)
[18] Labour Market Profile - Nomis - Official Labour Market Statistics
[19] UK FinTech - State of the Nation
[20] women-in-tech-report PWC
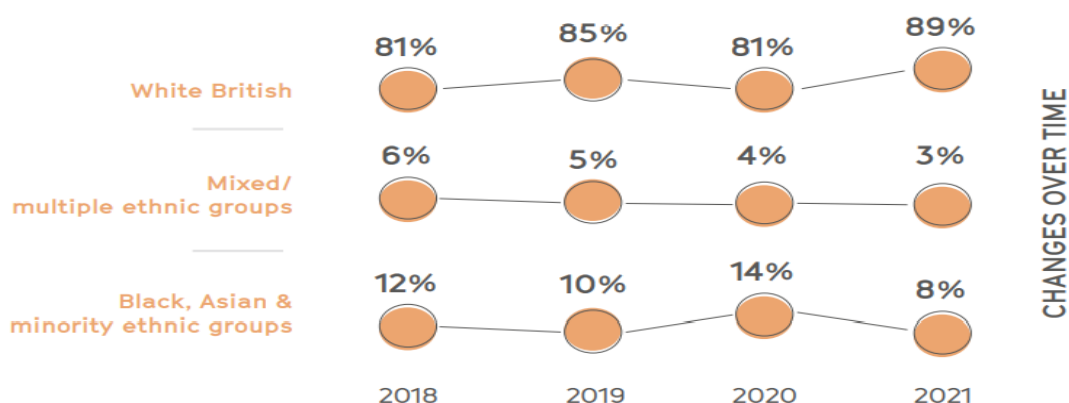[21] The Digital Skills Audit 2021 Manchester Digital
[22] Women in Finance Charter | UK Finance
[23] UK 'heading towards digital skills shortage disaster' - BBC News

to young people and especially young women is an issue and the number of young people taking IT subjects at GCSE has dropped 40% since 2015. Neil Gockmann, Chief Executive of WorldSkills UK, goes on to report "*there is a challenge with the teachers not always understanding career prospects. Opportunity for employers to go into schools to explain the range of job opportunities and help join the dots between what young people study in school and what that could lead to as a career - such as coding might sound boring but saying it could lead to a career in 3D game design might sound more exciting*".

## Ethnic Minorities

1.14    Employers told us the ethnic background of the FinTech workforce is skewed towards people from a white background. Manchester Digital Skills Audit 2021[24] reports on average across the tech industry in the North West, 89% of employees are of a white ethnic background, which is 2% higher than the national average. Figure One shows a decline in diversity amongst most ethnic groups over the past 4 years this calls for a focus to encourage more diversity into the industry.



**Figure One: Manchester Digital Skills Audit 2021: Ethnicity Makeup in the tech industry in the North West**

## Age

1.15    The changing population age structure will affect different parts of the labour market.  Employers in Greater Manchester said the workforce in the main is dominated by a younger age range. Figure Two shows Manchester Digital Skills

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[24] The Digital Skills Audit 2021 Manchester Digital

Survey 2021. Results show that 50% of all individual respondents in the North West were aged 34 and under. An interesting finding is there is a lower number of individuals aged 16-24 within the tech sector in the North West compared to the rest of the UK.
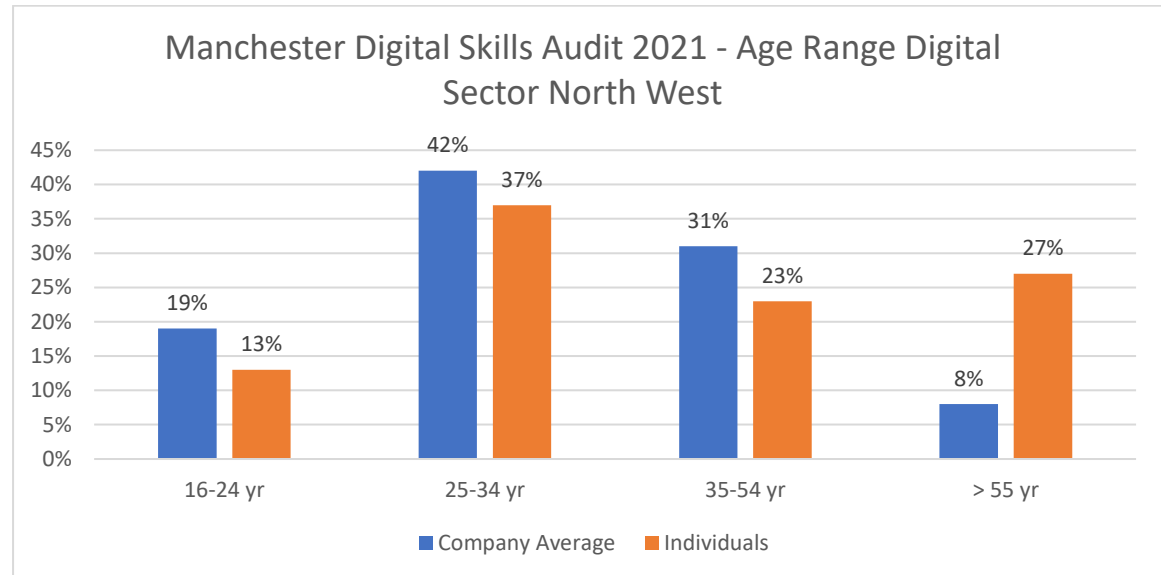


**Figure Two: Manchester Digital Skills Audit 2021: Age Range Digital Sector – Northwest**

1.16 Figure Three shows the age profile of UK industries and the gendered division of work in the UK in 2019. The IT sector have a large proportion of males working between the ages of 25 to 54[25]. The Greater Manchester Independent Inequalities Commission[26] identifies that the growth in older workers, those aged 50+, over the next two decades represents one of the biggest changes in the workforce composition in Greater Manchester. This calls for Greater Manchester FinTech employers to review their practices and refresh these were appropriate to ensure they have diverse practices in place.

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[25] CIPD Report – Benefits of an Older Workforce – October 2019
[26] Independent Inequalities Commission - Greater Manchester Combined Authority

**Figure Three: CIPD Report 2019 - Age Profile of UK workforces (Male in Teal, Female in Orange)**

# 2. BACKGROUND

## Policy landscape

2.1     Globalisation, increasing automation, technological change along with an ageing population and workforce means that jobs and sectors, and therefore the skills, are unlikely to be the same in the future.[27]  As digitalisation grows it will have a significant impact on employment and skills in the decades ahead, at all levels and in all sectors. It is important for education and training providers to ensure curriculum content and delivery is continually shaped to meet emerging skills needs.

2.2     The Treasury-commissioned review of FinTech was published in February 2021 chaired by Ron Kalifa[28]. The review found FinTech presents a valuable opportunity to improve financial services for the benefit of consumers, businesses, and government. Over 70% of digitally active adults in the UK use a FinTech service – significantly above the global average. The review identified 25 clusters of FinTech's across the UK each at different stages of growth and development, with different focus areas and specialisms. Clusters are recognised as powerful economic and social development tools that empower innovation and show more resilience.  Of these 25 clusters, Greater Manchester is identified as an established high growth cluster - 'The Pennines' comprising Greater Manchester and Leeds.

2.3     Five workstreams provided recommendations on: skills and talent, investment, national connectivity, policy, and international attractiveness. Relevant to this skills intelligence review, the following skills and talent recommendations are made:

- Retrain and upskill adults in support of UK FinTech by ensuring access to short courses from high-quality education providers at low cost

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[27] UKCES The Future of Work: Jobs and Skills in 2030
[28] Kalifa Review of UK Fintech

- Create a new visa Stream to enhance access to Global Talent for FinTech scaleups
- Build a pipeline of FinTech talent by supporting FinTech scaleups to offer embedded work placements to Further Education and Higher Education students and Kickstarters.

# Resilience during COVID-19

2.4    The COVID-19 pandemic has shaped a different narrative requiring a quick transition from physical to digital, and during lockdown as banks closed branches moved to telephone support services and reliance on digital banking and digital payments has become fundamental. This can lead to opportunity for cyber-attacks as criminals exploit the vulnerabilities of large numbers of people working remotely. Such attacks can lead to information loss, can damage reputations, strain business relations, and have severe legal consequences. According to the Growth Company's Situation Report and Business Survey[29] the sectors reporting an increase in sales over the previous 8 weeks up to 1st February 2021 included digital and technology and professional and financial services. This shows the sector remains resilient in despite of the ongoing pandemic.

2.5    One of the main commitments made by government since the 2019 election campaign has been to 'level up' the UK's underperforming regions so that everyone can get a fair share of future prosperity. The pandemic has widened the regional skills gaps that already existed across the UK and deepening inequalities[30]. Investment in skills is central to the government's commitment to "building back better" from the COVID-19 pandemic. The national FinTech review[31] encourages FinTech organisations to use the review recommendations to flag the importance of UK FinTech in providing employment opportunities, especially for young people, and reducing inequalities and exclusion by promoting financial inclusion[32].

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[29] The Growth Company - COVID19 Situation Report and Business Survey
[30] New world. New skills - PwC UK
[31] Kalifa Review of UK Fintech
[32] Build Back Better: our plan for growth

# Brexit Impact

2.6    The recent government national FinTech review[33] calls for the need to create a visa stream to enable access to Global Talent for FinTech scaleups. As immigration from the EU decreases due to the impact of Brexit, some organisations may find it more difficult to recruit from their usual labour base, in particular for specialist technical skills. However, none of the Greater Manchester employers spoken to as part of this review felt the shortage of skills is as a result of post-Brexit.

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[33] Kalifa Review of UK Fintech

# 3. GREATER MANCHESTER FINTECH ECOSYSTEM

## Business Makeup and Workforce

3.1     In 2020 Whitecap Consulting[34] produced a report on the FinTech sector ecosystem in Greater Manchester. Greater Manchester has developed the largest regional FinTech ecosystem in England outside of London. There are 109 active FinTech businesses within the region such as MoneySuperMarket, OakNorth, Raisin, Autotrader, Klarna, Ayden and Crowdcube. Of these there are 39 FinTech startup and scaleup businesses, more than any other city region. The FinTech sector contributes £540.6m GVA to the Greater Manchester regional economy and it is estimated that 9,685 people are currently directly employed within FinTech related roles across Greater Manchester.

3.2     There is a strong collaborative network between startups, scaleups, established organisations and other stakeholders. In 2019 a dedicated FinTech Committee was launched by MIDAS and pro-manchester. FinTech North was established in 2016 it is an event-based initiative, which aims to help build the FinTech community. Greater Manchester has several independent bodies working to represent, connect and address the issues faced by the sector, including organisations such as MIDAS, pro-manchester, and Manchester Digital, as well as FinTech North.

3.3     Figure Four shows Whitecap Consulting findings and recommendations in relation to talent across Greater Manchester.

| Key Findings | Recommendations |
|---|---|
| • As is the case across the rest of the UK, senior tech talent is not always readily available and can be expensive to secure. | • It would be beneficial for more career paths in FinTech related roles to be articulated more clearly. |

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[34] Whitecap Consulting Greater Manchester FinTech Ecosystem Report 2020

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|---|---|
| • Manchester is investing in graduate and entry level talent which will combat the shortage in years to come.<br>• Graduates are keen to stay in the region but a more pro-active link between businesses and the universities could increase retention rate. | • Organisations should continue to invest in the development of graduate and apprenticeship talent, considering their own academies and development schemes and working.<br>• A more proactive link between businesses and the universities could increase the graduate retention in the region. |

**Figure Four: Whitecap Consulting findings and recommendations in relation to talent**

- o Financial Sector

3.4     There are over 230,000 people employed in the financial sector[35]. There are 4,300 financial services firms in Greater Manchester. The core strength of the region is in ecommerce and there is a strong presence of organisations in fields such as payments, consumer lending, and debt management. The recent national FinTech review identifies the largest sub-sector of FinTech within 'The Pennines' is RegTech, Lending and Payments[36]. Some of the businesses in Greater Manchester include RBS, AJ Bell, Barclays, BNY Mellon, Co-op Bank, HSBC, and RBS / NatWest and Cyber Security firms, such as GCHQ. Medium-sized businesses include Freedom Finance, Together, Think Money, and Ocean Finance.

- o Tech Sector

3.5      MIDAS conducted a LinkedIn data analysis, finding 88,000 people have Manchester on their profile and work for a company in the tech industry. As of 2020, Manchester has 5 ecommerce tech unicorns (a unicorn business refers to a company that is valued at over $1 billion (c £727 million) and is held privately). The Hut Group, Boohoo, AO.com, Autotrader and Onthebeach.com. In recent

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[35] Whitecap Consulting GM FinTech Ecosystem 2020

[36] Kalifa Review of UK Fintech

years tech roles have been created in the region by major brands including Jaguar Landover, Hewlett Packard, GCHQ, Amazon, Moonpig and TalkTalk.

3.6     There are a number of representative bodies supporting the tech sector in Greater Manchester: Manchester Digital is a membership body that aims to promote the interests of tech companies; Tech Manchester connects players in the tech community, furthering engagement and collaboration and raising the city's profile; and The Manchester Tech Trust promotes and supports tech enterprise.

# 4. GREATER MANCHESTER FINTECH LABOUR MARKET

## Jobs Advertised in Greater Manchester

4.1     It is challenging to categorise companies and jobs for FinTech especially in the absence of standard measures such as Standard Industrial Classification (SIC) codes. In comparison to other sectors the number of job vacancies in Greater Manchester for digital organisations has seen a steady stream over the past year in despite of the COVID-19 pandemic.  On the 18th of March 2021 there were 39,175 live job vacancies in Greater Manchester. The sectors with the largest number of vacancies in Greater Manchester were ICT (6,631), Teaching (3,629); Sales (3,481), Trades and Construction (3,376), and Accounting and Finance (3,034).

4.2     Most live job adverts for IT and Accounting are for the Manchester and Sale/Trafford localities.  The following table shows the top 15 IT Job Postings in Greater Manchester – Q4 2020. Software Developer, Wed Developer and Computer Support Specialist were the top 3 roles advertised.

| IT Role | Job Postings |
|---|---|
| Software Developer / Engineer | 3,107 |
| Web Developer | 819 |
| Computer Support Specialist | 708 |
| Computer Systems Engineer / Architect | 425 |
| IT Project Manager | 337 |
| Information Security Engineer / Analyst | 332 |
| Software QA Engineer / Tester | 309 |
| Database Administrator | 245 |
| Computer Programmer | 242 |
| Systems Analyst | 240 |
| Data Engineer | 172 |

| | |
|---|---|
| Network / Systems Support Specialist | 161 |
| Network Engineer / Architect | 139 |
| Graphic Designer / Desktop Publisher | 132 |
| UI / UX Designer | 132 |

**Figure Five: IT Job Postings in Greater Manchester – Q4 2020**

4.3    The following table shows the top 10 job postings IT soft skills required in Greater Manchester for Q4, 2020. Communication Skills, Problem Solving and Creativity were the top 3 most in demand soft skills.

| Skill | Skill Postings |
|---|---|
| Communication Skills | 1390 |
| Problem Solving | 826 |
| Creativity | 591 |
| Writing | 545 |
| Planning | 521 |
| Troubleshooting | 455 |
| Organisational Skills | 453 |
| Mentoring | 420 |
| Research | 417 |
| Detail-Orientated | 407 |

**Figure Six: IT Job Postings Top 10 Soft Skills Required in Greater Manchester – Q4 2020**

4.4    The following table shows the top 15 IT skill postings required in Greater Manchester for Q4 2020. SQL, JavaScript, Software Development were the top 3 most in demand IT skills.

| Skill | Skill Postings |
|---|---|
| SQL | 1641 |
| JavaScript | 1523 |
| Software Development | 1414 |
| Microsoft C# | 1261 |
| DevOps | 1044 |
| Software Engineering | 958 |

| .NET | 950 |
|---|---|
| Python | 918 |
| Java | 903 |
| LINUX | 660 |
| SQL Server | 596 |
| Hypertext Preprocessor (PHP) | 573 |
| Git | 551 |
| Microsoft Azure | 529 |
| Project Management | 482 |

**Figure Seven: IT Job Postings Top 15 Digital Skills in Greater Manchester – Q4 2020**

# Career Opportunities

4.5     The potential career opportunities available in FinTech are exciting. A basic occupational map for the core job roles within the FinTech sector is shown in Figure Eight. This has been collated in collaboration with industry employers and the application of this will vary between each organisation. The roles can be split into two main areas: technology roles and general/ancillary roles. General roles are typically made up of the following departments (larger sized businesses will tend to have these teams more so than smaller sized who might have one person covering various areas): Sales, Customer Service; Marketing; HR/OD; Legal; Finance; and Business Support Services.



**Figure Eight: Occupational map for the core roles within FinTech**

4.6 There are variants in job titles tending to vary by sub-sector and by department. Further details on job roles can be found at Appendix One. Some typical FinTech technology job roles include:

- Blockchain Developer;
- App Developers;
- UI/UX;
- Financial or Business Analysts;
- Product Manager;
- Compliance Expert;
- Cybersecurity Analyst;
- Data Scientist;
- Quantitative Analyst.

## Career Progression Pathways - employer's feedback

4.7 Employers spoke about how FinTech roles are not always easily understood by individuals of all ages. There is difficulty in formulating clear progression pathways for technology roles due to crossover, with the potential to move into different roles dependent on the individual's preferred career choice and their previous experience. The skills of one developer in the payments sector, might be similar in terms of the skills of another developer in wealth management. What is difficult to quantify is how much of their experience would be transferable because the business makeup might be different.

4.8 Employers raised some concerns in setting out clearly defined career paths as they felt this could limit opportunity for individuals to transfer into the technology department from other departments – including new entrants and career switchers. In 2020, a review was undertaken by GMCA on industry labour market and skills in the Digital and Tech Sector. At that time Manchester Digital worked with an employer forum exploring the wider narrative around skills needs in different areas of digital. The objective of this work was to understand from an

employer perspective how to break down job areas within the digital sector and better understand progression routes[37].

4.9    As part of this FinTech review a major bank reviewed the previous work undertaken and felt the roles are equally applicable to the FinTech sector. The career paths can be found on the GMCA website (Industry Labour market and skills intelligence report – Digital and Technology, Appendix Two)[38]. Example career pathways and some 'in demand roles' in Greater Manchester where employers said skills shortages exist can be found at Appendix Two.

## Demystifying the FinTech Sector for Young People and Career Switchers

4.10   When exploring how we are best to explain the sector and a career in FinTech to individuals, employers said that it was important to keep roles broad to not exclude valid roles across the sector. An employer felt listing titles of jobs at school might not be helpful as some of the role titles could be off putting. Focusing on what these roles do in a wider context will help younger people 'think outside the box' in terms of what is possible for them in the future. An example shared by an employer was trying to pigeon-hole tech skills at the age of 14 won't work as the fear of not understanding what is already perceived as 'geeky' will be compounded by words such as 'Full stack engineer'. There needs to be a 'bigger picture' conversation focusing on values helping the younger generation join the dots for themselves.

4.11   In general, employers agreed there needs to be more clarity on what it means to work in FinTech from a skills perspective. Labelling a role such as 'Compliance Manager / Engineer' most likely isn't the best way to attract people to the sector. Instead **making re-skilling accessible through soft skills** – such as written skills and explaining what this means would be better and more understandable.

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[37] Skills for Growth - Greater Manchester Combined Authority
[38] Skills for Growth - Greater Manchester Combined Authority

4.12   A large banking organisation spoke about the sector needing to do some more work around making FinTech an **exciting proposition**, **retaining talent in the region and promoting roles** across the FinTech sector. Employers said they could achieve this with carefully drafted adverts to better promote the sector. Employers suggested hosting a school event, onsite or remotely, to introduce students to financial services and technology, having 'open days' for young people or career switchers to attend and ask questions. They also felt bringing FinTech businesses into schools would be worthwhile e.g., developers going into the school to teach explaining what the role means in simple terms.

4.13   Employers seek a clear set of technical skills and mindsets. One employer talked about how they had made short videos on real life examples of working in the sector. A suggestion by the employers was to look at show casing further case studies bringing things to life. The following case study provides an example of a young person, Daniel, who decided to switch his career.

**Leadership Through Sport and Business. Case Study: Daniel, aged early 20's:**

**What career did you want growing up?** I wanted to be a doctor. I was doing a chemistry degree but two and half years into the course I realised I didn't want to do it anymore.

**How did you come across Leadership Through Sport and Business?** A google search for apprenticeships and living in Bolton working at NatWest was ideal.

**What is your role?** UX Apprentice, Digital, designing websites and apps so that users have a better experience. The apprenticeship is for four years and I am six months in.

**What motivated you to apply for the digital apprenticeship?** I am really good with computers. Growing up by age twelve I had built a computer. Technology is an interest to me I can express my skills better it's not as academic.

**What's the support been like through LTSB?** Fantastic. at the enrolment we had a three-week bootcamp learning about life skills, and interview skills before the interview with NatWest. Building on skills for customer facing roles, working in teams of people.

**How was your early experience in the workplace?** Initially I was not placed in the digital team but was then transferred to the UX team, which meant I could learn about the role. For the first six weeks it was learning about the company and team. The support has been fantastic. They have an apprenticeship council run by existing apprenticeships in their 2nd and 3rd years of study and they support all apprentices. They run courses on skills in the workplace, email communication.

**Where do you see your future career?** I'd like to stay at NatWest the support is fantastic. There are vertical progression opportunities and horizontal, you can transfer between teams to gain different experiences.

**Are there clear career pathways?** Absolutely yes. Within UX there are lots of different roles from building websites, project management, UX design leads, team management, UX, UI and DX.

**What advice would you give to a careers team or anyone wanting to explore a career in digital, in terms of key messages?** Make use of the free resources available on the internet like coding. There are loads of websites – I used freecodecamp.org and learnt about HTML and CSS. Start simple and then move on.

**What would you say is the most important soft skill?** Curiosity – learn as much as you can.

# 5. GREATER MANCHESTER FINTECH SKILLS DEMAND

As a key frontier sector for Greater Manchester, a clear picture of the FinTech skills demand in Greater Manchester is crucial.

## Technical skills and job roles in demand in Greater Manchester

5.1    Employers were in agreement that there was a strong talent pipeline in the region, in part due to schemes such as degree apprenticeships and coding schools. From our conversations with Greater Manchester employers the most important FinTech skills are also the most difficult to hire as follows:

- **Software developers (mid-senior level)**
- **Cyber security**
- **Data science.**

5.2    In general, all employers felt there was a **shortage of technical skills at a mid / senior level.** The most challenging roles to fill tend to be around **5-7 years of experience**. The **software developer** is still very much the number one skill set in demand. The demand follows the wider Financial Services industry in that we've moved to a world where Full Stack is the norm rather than siloed server or client-side development. Software developers could expect to become involved in a projects ranging from building a platform for a new digital bank, to building an electronic marketplace for a disruptive Insurtech business.

5.3    In general, employers said skills shortages are in **Cyber Security, Data Analyst, Artificial Intelligence, Machine Learning, and developer/programming skills** (mid-senior level). When probed further key programming skills include C#, ASP, .net ASP, .netCore HTML, Java Script, Angular, React, Ionic, SQL, PHP, Node, Typescript, AWS, MongoDB, as well as many others. Some employers and partners said there is a rising demand for

**blockchain** experts. A study conducted by LinkedIn in 2018[39], found the demand for blockchain developers is increasing by 30% year on year.

5.4    The **user experience (UX)** is often the disruptive driver behind FinTech businesses, offering a more customer friendly approach than their more established competitors to take market share. Therefore, developers with an appreciation for design as well as architecture and development are in demand.

5.5    Employers said **Data Specialists** are in great demand. As technology disrupts and redefines financial services, it also generates vast amounts of useful data that needs to be scrutinised, analysed, and interpreted. Employers and some higher education establishments spoken to as part of this review said knowledge of **Machine Learning, Artificial Intelligence (AI), and Big Data** is essential.

5.6    The skills shortage we are seeing in Greater Manchester mirrors the national perspective. The UK FinTech Census 2019 surveyed approximately 250 companies to understand the opportunities and challenges faced by the sector. 53% of respondents stated that attracting suitable talent was their biggest challenge. Software engineering, system architecture and development was cited as the most in-demand skillset (ranked first by 52% of firms), but also the hardest to find. The second most valuable, and equally difficult to source, was data analytics and data science skills (ranked top by 19% of firms). The national FinTech review[40] highlights in 2020, 43% of job adverts from UK FinTech scaleups were seeking data skills, 44% technology skills and 35% business skills.

5.7    Some of the roles employers said they would be recruiting to include Software Developer, Full Stack Engineer, API Developer, Test Engineer, AWS Engineer, Service Desk Analyst, iOS Developer, Senior Developer, BI Developer, Information Security Engineer, Integration Developer. Trainee Financial Advisor. This list is not exhaustive there will be other roles.

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[39] The 5 Most In-Demand Skills in The FinTech Industry
[40] Kalifa Review of UK Fintech

5.8     Some of the roles employers said they would be recruiting to include Trainee BI Developer, Application Support Analyst, DBA, Infrastructure Engineer, Software Architect. Trainee Financial Advisor, Mortgage Admin, Mortgage Advisor. This list is not exhaustive there will be other roles.

5.9     Some of the 'hard to fill' roles employers said they would be recruiting to in the next five years include Automation Engineer, AWS Engineer, iOS Developer, and API Developer. This list is not exhaustive there will be other roles.

# Non-technical skills and job roles in demand in Greater Manchester

5.10    **Customer Services** - is an important department for many FinTech organisations. It is a key skill with many employers looking for individuals with the right attributes. One employer spoke about candidates needing to be able to demonstrate good customer service skills with the ability to understand the technical side of the business to be able to talk through customer queries. Some employers said there can be pockets of higher turnover levels in their customer service teams, this however does not lead to skills shortage as there are plentiful applicants. Employers suggested **customer service** and **telephone skills training** e.g., at a GCSE level would strengthen the quality of candidates. Communication skills is discussed at a later stage in the 'soft skills' section of this report.

5.11    **Customer Success** - employers spoke about the growing importance of customer success in an ever-increasing competitive market. Individuals must have excellent customer service skills being able to proactively engage with customers with the ability to articulate customer feedback to technical and product design teams for future R&D purposes.

5.12    **Specialist Product Knowledge** - an investment platform company said their customer services team need to understand both the finance and technology side of things, such as general financial skills including stock markets, but this can be

taught providing the candidate has the right attributes. They felt young people can be set up in their education learning around the basics such as 'curiosity', this could lead to individuals readily being able to self-learn on job role specific areas such as stocks and shares. The same company said they employ Investment Managers and that prior to Artificial Intelligence they would require skills in data as well as maths, however this is no longer the case as machines now do the analysis.

## Employers' confidence – hard to fill roles in the future

5.13    Employers in general were confident companies such as Code Nation, North Coders, Tech Returners etc., will help to boost the tech shortage. Although many employers felt there most acute skills shortages - **cyber, data, blockchain and mid-senior developers, and some mid-technical skills** will be difficult to find.

5.14    Some employers felt skills needs can be achieved by making use of **apprenticeship schemes** and 'growing your own future talent organically'. Many employers are offering more **flexible ways of working**, which has been catalysed by the ongoing COVID-19 pandemic. This is an important step forward as it might widen opportunities for everyone such as people with caring responsibilities to enter a career in FinTech. As we heard previous there is an underrepresentation of women in tech roles and employers offering flexible ways of working might help to close this gap as well as skills gaps in Greater Manchester.

5.15    Employers who are more established and have a good **internal brand** in general felt more confident that they will be able to access required skills in the future. One employer talked about increasing their internal brand to attract strong talent *"Being recognised as a "Good Employer" coupled with having a flexible approach to the location of our people helped us meet skills shortages".*

5.16    From our discussions with some employers, in particular SMEs, they said that it is hard to access school leavers and graduate hires. They do not always have

the resources needed to compete for the best talent. **Innovate Finance**[41] are the industry body representing FinTech and they worked with its members to launch the UK FinTech Jobs Board in April 2019, creating one central platform for the industry to post roles and connect with potential candidates. Greater Manchester FinTech employers may wish to explore this as a way to advertise roles.[42]

## Soft Skills

5.17    Employers said FinTech professionals need to build up a portfolio of soft skills to achieve long-term success. Some of the non-technical 'soft skills' Greater Manchester employers said they most look for in candidates is shown below.
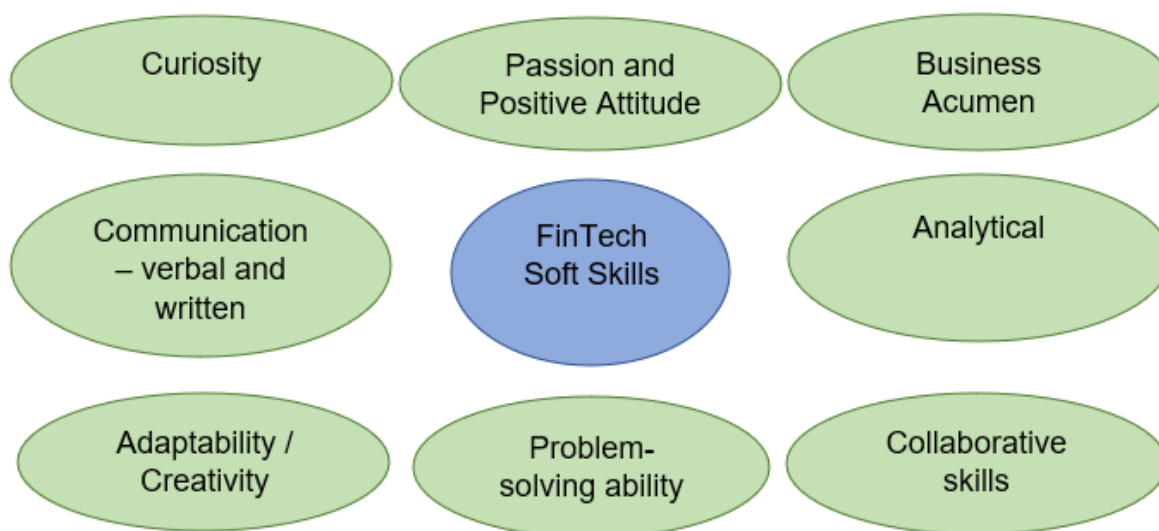


**Figure Nine: Most in demand 'Soft Skills' Greater Manchester FinTech employers most look for in candidates**

5.18    In addition to employers looking for skills in 'digital communication' there is still a requirement for good standards of '**traditional' communication skills** such as telephone and professional letter/email writing skills with effective use of professional language and tone. Employers explained generational differences prevail amongst customers and will do for some time, for example, older people tend to prefer speaking to someone rather than through a 'chat bot' so a service that is solely digital/online is not always appropriate. Employers in general felt

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41 FinTech Jobs Board - Innovate Finance
42 UK FinTech - State of the Nation

there are noticeable **generational differences in the workplace** in terms of how people communicate. One employer spoke about younger people often find picking up the telephone alien to them. Employers felt this could be due to social media changing 'traditional' mechanisms of communication, leaving a disconnect/gap between what younger and older generations perceive as being 'appropriate' communication skills in the workplace.

5.19    An employer spoke about the need for developers being able to speak to clearly communicate the aspects of a technology project to a range of stakeholders and that simply having a computer science degree is not enough. Traditional backgrounds for software development careers are no longer innovative. In the dynamic environment of finance, newer automation technologies will mean less of a focus on task-oriented activities, and a stronger focus on **problem solving and thinking outside the box**.

5.20    FinTech employers are looking for people with **strong business acumen**. With increasing **collaboration** between FinTech startups and legacy financial institutions being the current trend, the ability to find a common solution and drive innovation, both internally and with external partners, is vital. FinTech professionals are required to have **analytical** and **critical thinking** skills that can help them find creative solutions to such problems. Being an expert in tech skills can sometimes lead to a narrowed focus, instead of embracing **creative thinking**, which is in particular what FinTech start-ups need.

5.21    **Adaptability, taking the initiative** – Fintech workers need to be adaptable to deal with the rapid changes occurring in the industry. For example, they might need to be able to deal with 'legacy' and 'modern' systems. Some FinTech organisations don't tend to be hierarchical, in particular SMEs and so are looking for people who can evidence **initiative** as they won't always have direction.

5.22    **Leadership and Management** – Senior professionals working in FinTech roles need to manage teams and motivate a range of personalities.

## Entry Level Roles

5.23    The range of skill levels required within Greater Manchester's FinTech sector is varied. Some entry level technical roles require no qualifications upon entry and many individuals may then be trained up to at least Level 3. Technical roles at a mid to senior level are more highly skilled roles taking much longer to reach competency.

5.24    Some technology roles and roles in support/ancillary teams such as Legal, HR, Marketing are attached to professional associations e.g., IT - The Chartered Institute for IT (BCS), HR: The Chartered Institute for Personnel and Development (CIPD). HR, legal and marketing roles often have lower-level roles with no pre-entry requirements and clear routes to progress their career.

5.25    Employers explained the FinTech sector employs a wide range of people from many different educational backgrounds. It was noted that an entry level role does not necessarily mean that no qualifications/skills are needed to apply for the position. The role might be an entry role but the person needs to be a graduate with a degree. An employer shared that they prefer to take 18–19-year-olds with no previous knowledge as they are in a strong position to equip individuals with what they believe are skills for success from the outset.

5.26    In the main, technology and some non-technology roles, such as customer service, require as a minimum entry level GCSE Maths and English, Grade 4 (previous C) or above, which can arguably limit the candidate pool. Employers explored **lowering the entry requirements for some roles** as a way to open out and diversify the talent pipeline. An example is the requirement for a GCSE grade 4 (previous C) or above – some employers now support individuals to achieve these when in role. The following offers a case study of Natwest who changed traditional recruitment practices to diversify the talent pipeline giving individuals opportunity who may otherwise not get the chance.

**Leadership Through Sport and Business (LTSB) Case Study**

Leadership Through Sport and Business is a national social mobility charity.  LTSB works with employers to prepare and support bright young people aged 16-24 who face disadvantage (e.g., who were eligible for free school meals, from areas of low attainment, or face personal disadvantage) into secure, sustainable, high-quality careers in business and finance, digital, data, and customer service roles.

LTSB's partnership with the NatWest Group led to successfully recruiting 60 Digital, Data and Customer Service apprenticeships in 2020 across the country, including in Greater Manchester.  The charity is recruiting for over 90 new roles in 2021.  LTSB looks for young people who are passionate about the roles on offer.  Candidates attend an intensive training bootcamp where they receive employability training and an insight into the employers' workplace, with bootcamps for some roles incorporating work experience.  Successful completion of the bootcamp and work experience guarantees the young person an interview for an apprenticeship and, if successful, a permanent job.

The benefit of the apprenticeship means the young person can study to gain a qualification while putting new skills to use in work, earning a competitive salary, and being supported professionally by LTSB's coaches for the early stage of their career.

*"It is really important to support the young people to help them believe it's possible, and for employers to coach them along the way, motivating them to achieve and succeed.  Employers benefit from opening up their recruitment processes, otherwise recruiting from the same pool of candidates limits opportunity to bring in diverse talent and puts up barriers for many young people.  LTSB offers amazing untapped talent - it's out there and this is not necessarily always in graduates as perceived by some employers.  We help employers to think differently about their usual recruitment process and give them opportunities to engage meaningfully with candidates in relevant environments.  Some employers we work with have, for example, lowered the age limit for candidates to be interviewed, or removed elements of testing.  Today, young people expect employers to be evidencing a culture of equality, diversity, and inclusion from the get-go at the recruitment stage.  Some organisations could be doing more to step away from traditional methods of recruitment and academic requirements.  It is a missed opportunity.  We have some excellent talent and committed young people who have gone on to do amazingly well with employers"*. **(Shamaine Armstrong - Head of Youth Engagement)**

5.27    Due to the variety of jobs that are available, there is no single point of entry, for example, applicants don't necessarily need to have an IT or Finance background. Successful candidates have had backgrounds in areas as Art Design, Graphic Design, Business Analyst. An example given by an employer was a previous apprentice from MMU retrained from working in dance to a technology role. They look for more rounded individuals with transferable soft skills, this is discussed at an earlier stage in this report.

5.28    Employers said, in particular for more junior roles, it is important not to pigeonhole too much as most skills can be transferable. It may be better to look at specific roles and experience for each role. The example given was many people in development teams haven't come from a finance background. It was attributed that people from **creative backgrounds** are sought after in the sector.

5.29    Exploring further possible **routes into** the sector employers said that people working in sales and recruitment often make the move into FinTech teams, as these people often have the right competencies to succeed. They welcome people from sales background, recruitment, account management. It was noted that some roles are generic such as payments and candidates may have worked in retail taking payments or HealthTec.

5.30    **Bootcamps** such as coding bootcamps are often a good way into the sector these tend to be shorter sharper courses up to 16 weeks. Employers said there are high quality coding/developer bootcamps in Greater Manchester. Some employers felt bootcamps with a guaranteed apprenticeship scheme in place would make courses more available to a wider group of people. Learners often self-fund and have no accompanying salary so it can be hard financially, in particular for career switchers. Further details on Bootcamps are discussed at a later stage in this report.

5.31    **Apprenticeships** are still the preferred route for some roles, in particular customer service and lower entry roles such as in digital. Some larger employers have **internal apprenticeship schemes in place.** Further details on Apprenticeships are discussed at a later stage in this report.

5.32    In general, employers agreed that **entry roles are well served** and there is no shortage of talent at an entry level, it is more the experience of people with 5,6,7,8 years of experience, but some employers feel it may be catching up. **There aren't as many relevant training programmes for mid-senior technical,** in particular developer roles.

# In Work Progression

5.33    In general, employers felt there is ample entry level talent the issue is more regarding career progression. Sometimes there are not enough **promotional opportunities,** which can result in people leaving either the organisation or the sector. Employers shared differing business models and opportunities for promotion is sometimes reliant on the growth of the business. One employer shared they had an internal performance programme called 'Momentum', which assesses employees, gives them focus and highlights what support is required to ensure everyone is moving forward in alignment with personal and business goals.

5.34    Employers spoke about models designed to help with career promotion. BCS provide a RoleModel*plus*[43] a **skills mapping platform**, built to layout for IT leaders, learning and development leads and HR departments exactly what digital skills exist within their organisation. It enables employers to build role profiles, career pathways and demonstrate development opportunities for employees. The mapping can make opportunities for career promotion crystal clear and can show individuals how their job role and career opportunities suit their skillset that they may never have considered before, and all being aligned to industry-agreed standards.

5.35    SFIA[44] is another model used by some FinTech employers. It describes skills and competencies required by professionals in roles involved in information and communication technologies, digital transformation, and software engineering. SFIA gives individuals and organisations a common language to define skills and expertise in a consistent way and is accessible to all involved in the work as well as people in supporting roles such as human resources, learning and development, organisation design, and procurement.

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[43] RoleModelplus - BCS
[44] The global skills and competency framework for a digital world SFIA

5.36    Greater Manchester FinTech businesses and careers inspiration activities could explore RoleModel*plus* and SFIA as a way to articulate a clear and consistent route of career progression – further work could be done in this area.

5.37    **Harnessing and keeping talent in the region can be a challenge**. There is a real opportunity for FinTech businesses to showcase their work across Greater Manchester as a way to retain people in the region. 'Employability Day' is a national campaign providing opportunity for employment support organisations and employers to celebrate their hard work supporting people to enter or progress in employment.

5.38    Employers said there is a critical need in Greater Manchester for mentorship schemes. In general, support is good at an individual learner level while studying/learning, for example during a bootcamp course. There is however a lack of employer support in terms of having access to a mentor longer term to help an individual be able to progress in their career. An employer spoke of their own personal experience when transferring to a career in FinTech. They felt it is more than just recruiting someone to the role it is about developing the person when in role that employers need to be thinking about. In general, employers felt industry mentors would be helpful for career switchers. Employers spoke about creating a Greater Manchester network/community of early careers mentors (in work) to help with in work progression enabling individuals to train to mid-senior level.

5.39    Employers said mentorship schemes could operate through a partnership with other businesses this would also help support SMEs to upskill their staff quickly. An example given was for employers to organise between them a 6-week secondment (e.g.,1 day per week). A further idea was running "innovation days" where an individual from each business would attend e.g., a developer to help solve a problem which has arisen in another business.

5.40    Employers reported a shortage of competent mid-senior developers. There is a difficulty in recruiting and retaining talent at this level, which has led to a wage inflation. Skills shortages across developers vary depending on the FinTech

subsector. One employer spoke about the shortage of SCALA developers, a very specialised role. Others spoke about the shortage of java script at a senior level and a recruitment agency said they recently struggled to find ANGULAR skills. Whitecap Consulting also found that senior developer talent is not consistently readily available in Greater Manchester, this is a further consistent finding with the rest of the UK. The upskilling of existing developers in the workforce is important, along with attracting new talent to the sector as a whole.

5.41    In cases where there is a demand for specialised mid-senior technical skills, there is potential opportunity to develop further links between industry and academia developing suitable courses or experiential learning opportunities to help more organisations develop specialist skills quickly in these areas. For example, The University of Manchester is partnering with IBM to run a programme to improve digital skills in Greater Manchester.

5.42    When asked what the most important factors are to help retain mid-senior talent employers said tech stack, working with the latest technology, time to do proof of concepts/research along with flexible working including the opportunity to work from home. They also felt access to parking is attractive when working in the office. A positive working culture with effective leadership is important with good support and access to mentoring to help individuals progress in their roles.  Larger sized businesses tend to have a HROD team and therefore are better equipped to upskill people from entry level roles to mid-senior technical roles. They typically have mentoring and performance management schemes in place with clearly defined pathways and pay scales. Whereas SMEs do not tend to have internal HROD teams and therefore struggle to find the resource/time to mentor new starters.

5.43    When asked how Greater Manchester could help to close the mid-senior technical skills gap in Greater Manchester suggestions included highlighting apprenticeships more so at schools, rather than focusing on colleges and universities. An employer said they felt over time, the 'mid-level' gaps will be filled by those undertaking apprenticeships, at which point the pond will be bigger and

there will be more fish to catch. A large part of the answer to the shortage of tech roles may simply come with time and in several years from now the tech talent pool will be stronger. In the meantime, Whitecap Consulting in their report suggest continuing to focus on the training and retention of the region's graduates, which exceed 36,000 in number each year and the development of a pool of nongraduate tech talent are clearly areas of priority, along with enhancing the levels of engagement between the business community and universities[45].

5.44   Whitecap Consulting found that Greater Manchester's talent network is cyclical, with the large tech firms providing a training ground which subsequently acts as a feeder of skilled individuals into the wider sector[46]. Employers corroborated this finding. In general, employers reported high employee retention rates across the FinTech sector. Some employers reported losing candidates to the lights of London, although they feel as a result of the pandemic a shift in remote and flexible working practices might mean more people are inclined to apply for jobs out of area as they will be less likely required to travel into the office.

5.45   Some SMEs report losing more experienced talent to larger employers as individuals believe it will enhance their CV. Larger organisations tend to have more teams with multiple layers of management creating promotional opportunities. It is not always a move for a better salary but instead to provide the person with greater responsibility, such as managing people.

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[45] Greater-Manchester-Whitecap Consulting FinTech-Ecosystem-Report-2020
[46] Greater-Manchester-Whitecap Consulting FinTech-Ecosystem-Report-2020

# 6. GREATER MANCHESTER FINTECH SECTOR OPPORTUNITIES

## Diversity

6.1     Diverse workforces are now widely recognised as commercially beneficial due to better performance. Gender equality in tech roles by 2025 is listed as one of the key measures in the Greater Manchester Combined Authority's (GMCA) Digital Strategy[47]. It was suggested by employers that diversity is a missed opportunity and could be adding to the skills gap in the sector. Employers spoken to as part of this review said they felt they need to do more to diversify the workplace, which will involve looking at new recruitment processes, including reviewing and refreshing content of adverts ensuring language targets and appeals to all groups.

6.2     A large employer said they felt diversity is not just about the organisation's corporate social responsibility it is imperative for it to be part of the organisation's culture. Tech Manchester who are part of the inclusion coalition, provide an initiative that aims to share best practice in Greater Manchester, and they support a mentoring programme called 'Female Tech Founders'.

6.3     A further opportunity for Greater Manchester employers is Findexable[48] who provide a real-time ranking of all cities worldwide where there's a cluster or community of FinTech companies and is supported by data and analytics allowing benchmarking for investors and organisations. Diversity Q[49] is asking private FinTech orgnisations from around the world to get involved with a real-time diversity study to establish where they are going wrong with diversity and will track progress and offer business advice to improve their diversity. Through this collaboration it will help to build a progressively more diverse FinTech sector.

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[47] Digital Strategy - Greater Manchester Combined Authority
[48] The Global Fintech Index® | Fintech Rankings | Findexable
[49] Global fintech community asked to participate in diversity study (diversityq.com)

6.4    FinTech employers might wish to explore becoming voluntary members of the Greater Manchester Good Employment Charter and by doing so could strengthen future talent pipelines[50].

## Government Initatives

6.5    Some employers, in particular SMEs are not aware of the full range of government initiatives available to them. In the main most employers use apprenticeships and graduate schemes but have not used volunteers, kickstart, job shadowing/work experience, industry placements (T Levels) or traineeships. This is a potential missed opportunity – it will be important for partners to raise awarness on these schemes across FinTech businesses in Greater Manchester.

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[50] Greater Manchester Good Employment Charter

# 7. SKILLS PROVISION

GMCA is keen to develop effective, high trust relationships with providers, delivering positive long-term impact for Greater Manchester residents. Developing better and more productive candidates/employees starts with our local residents and with the quality of school and Further Education (FE) provision.  Providers of training in Greater Manchester include a wide range of institutions, universities, colleges, private companies, and individual consultancies. The provision of training for the FinTech sector is generally good. Many technical roles are learnt in a practical and "hands-on" way, often supplemented by classroom theory teaching.

7.1     This section provides a brief overview on the following areas covering FinTech:

- Schools
- Further Education
- Higher Education
- Other training provision.

## Schools

7.2     Greater Manchester offers a credible career inspiration service offering and various initiatives are in place to connect schools with industry as a way of providing real-life careers information to young people. GMCA's Bridge GM[51] team aims to bring schools and employers together through three main schemes:

7.3     GMACS (Greater Manchester Apprenticeship and Careers Service) [52] – The online portal helps young people explore and design their next steps before leaving school. It showcases what Greater Manchester can offer and provides a direct way to apply for courses, jobs, and apprenticeships. The portal provides a bank of different role profiles to bring to life - roles, pathways, and organisations

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[51] Bridge GM
[52] GMACS

etc., for young people.  FinTech employers are encouraged to work closely with this team.

7.4    <u>Meet Your Future</u> campaign focusses on demystifying the workplace giving young people a line of sight to opportunities through workplace safaris and work shadowing. There is a campaign to offer opportunities to young people across Greater Manchester to connect with employers, learn about the changing world of work and complete projects linked to the workplace. Greater Manchester FinTech employers should be encouraged to get involved in this work as a way to showcase the roles, skills needed and opportunities across the sector.

7.5    <u>Enterprise Advisors</u> are industry experienced individuals who work closely with school leadership teams to design and implement effective careers engagement. At the time of writing this report there are currently approximately 160 Enterprise Advisors supporting schools across Greater Manchester. Some of the employers from the financial sector supporting this scheme include Royal London, Deloitte, PwC, Open Money, Together Money, Nazia Haque Wealth Management, Nationwide Building Society, The British Business Bank, and The Kensington Mortgage Company. A recommendation from this report is to have FinTech representatives working with schools.

7.6    In 2019 Innovate Finance launched 'FinTech for Schools'[53] with the aim of inspiring the next generation of FinTech leaders and raising young people's ambitions for innovation in financial services. The FinTech for Schools campaign is designed to encourage young people to understand the increasing importance of digital skills in the workplace, with an emphasis on ensuring the sector is appealing to girls. A recommendation from this review is for Greater Manchester to explore introducing the 'FinTech for Schools' initiative across Greater Manchester schools.

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[53] FinTech for Schools - Innovate Finance – The Voice of Global FinTech
FinTech For Schools

# Further Education and Adult Education

7.7     There are approximately 10 general FE colleges in Greater Manchester: Bolton College, Bury College, Burnley College, Hopwood Hall College, Oldham College, Tameside College, The Trafford College Group (Trafford and Stockport), The Manchester College, Wigan and Leigh, and Salford City College. Each offer an array of academic and vocational courses ranging from GCSE's, GCA's, access courses, T-Levels, Apprenticeships, and diplomas.

# Technical Education

7.8     Apprenticeships and T Levels are based on occupations and are aimed at learners who feel they may wish to pursue a technical education route into work as opposed to taking a traditional academic path.

## T Levels

7.9     This new suite of technical qualifications aims to meet the challenges of improving skills levels. T Levels are a two-year high-level qualification and courses have been developed in close collaboration with employers and businesses so that their content meets industry needs and prepares students better for work. They have been developed in collaboration with more than 200 businesses including multinationals like Fujitsu and Skanska. T-Levels offer a mix of classroom-based learning and 'on the job' experience during an Industry Placement of at least 315 hours (45 days) over the two-year course but they can last longer. Employers can offer Industry Placements as a block, day release or a mix of these, and can discuss sharing part of the placement with another employer, if necessary.

7.10    FinTech employers have more choice when it comes to the training of staff in entry-level roles. Many T Level students will be able to move on to an apprenticeship at level 4 or higher, building on the knowledge, skills, and behaviours they have acquired from the T-Level course. These placements become the talent pipeline for employers to shape and nurture their future workforce. FinTech employers could benefit from having a partnership with a T

Level provider, this would help create more entry level jobs and opportunities for young people from a range of backgrounds leading to a more diverse workplace.

7.11    In the main employers spoken to as part of this review were not aware of what T Levels are. There is a real opportunity to build on this to make sure Greater Manchester FinTech businesses are at the forefront of T-Level development. It will be important to give consideration to the the recent government national FinTech review[54], which recommends hosting a 45-day T Level placement could be a challenge for a rapidly scaling FinTech business. Placements should therefore be rotated between FinTech employers. FinTech placements could be offered to students enrolled on the digital business services and/or finance T Level courses.

## Apprenticeships

7.12    Occupational Standards contain a list of the skills, knowledge, and behaviours an apprentice will need to have learned by the end of their apprenticeship. The Digital Route is subject to emerging and fast-moving technologies and presents a challenge to ensure that apprenticeship standards are up to date and fit for purpose. There are currently 26 apprenticeships available under the digital route, at levels 3-7. Figure Ten shows examples of digital apprenticeship standards as well as other transferable qualications relevant to the FinTech sector[55].

**APPRENTICESHIP QUALIFICATION LEVEL**

|  | Higher Technical Occupations | | | Professional Occupations | |
|---|---|---|---|---|---|
| Level | 3 | 4 | 5 | 6 | 7 |
| Developer | Software Development Technician AND Digital Front-End Developer (occupation | Software Developer | | Computer Science/Software Engineer (occupation awaiting development) AND Digital User Experience (UX) Professional | |

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[54] Kalifa Review of UK Fintech
[55] Institute for Apprenticeships and Technical Education

| | | | | |
|---|---|---|---|---|
| | awaiting development) | | (Occupation awaiting development) | |
| **Tester** | | Software Tester | | |
| | | Ass Technical Director (visual effects) | | |
| **Dev Ops** | IT Solutions Technician | DevOps Engineer | Digital and Technology Solutions Professional | |
| | | | | Systems Engineer |
| | | | | Game Software Development Engineer |
| | | Assistant Technical Director (visual effects) | | |
| | | Automation and Controls Engineering Technician | | |
| **Cyber Security** | Cyber Security Technician | Cyber Intrusion Analyst<br><br>And<br><br>Cyber Security Technologist | Cyber Security Technical Professional | |
| **Data** | Data Technician | Data Analyst | Data Scientist | Artificial Intelligence (AI) Data |

| | | | | |
|---|---|---|---|---|
| | | Data Architect<br><br>AND<br><br>Data Architect (occupation awaiting development) | | Specialist |
| **Risk / Data** | | | | Actuary |
| **Insurances** | Insurance Practitioner | Insurance Professional | Senior Insurance Professional | |
| **Mortgage** | Mortgage Advisor | | | |
| **Financial Advisor** | Workplace Pensions Advisor | Financial Advisor | | |
| **Investment Management / Banking** | Investment Operations Technician | Investment Operations Specialist | Relationship Manager (banking) | Senior Investment and Commercial Banking Professional |
| **Management / Leadership** | | | | Digital and Technology Solutions Professional |
| **Customer Service** | Customer Service Specialist | | | |
| **Customer Advisor** | Senior Financial Services Customer Advisor | | | |
| **Sales** | IT Technical Salesperson | Sales Executive | Business to Business Salesperson | |
| **Marketing** | Digital Marketing | | Digital Marketer | |

**Figure Ten: Example Apprenticeship Routes – Digital / FinTech related[56] and Digital Business Services Pathway:[57]**

7.13    In Greater Manchester 2,055 people have started digital apprenticeships since the apprenticeship reforms of 2017. Figure Eleven shows the number of digital apprenticeship starts. The numbers had been steadily increasing year on year until the COVID-19 pandemic significantly reduced start numbers in 2020.



Digital Apprenticeship starts in GM
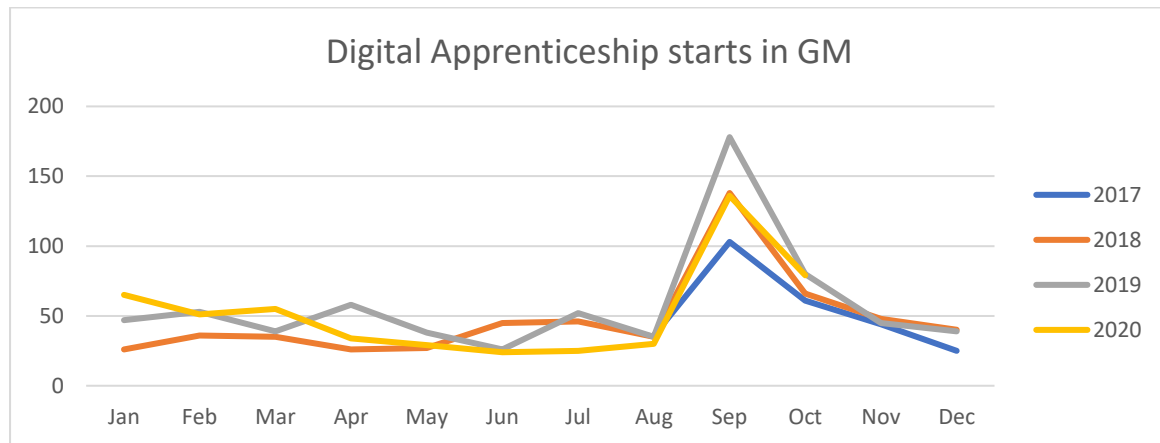
**Figure Eleven – Digital Apprenticeship starts in Greater Manchester between 2017 to 2020**

7.14    Digital apprenticeships have been averagely affected by the pandemic when compared to other sectors, standing at -13% with Catering and Hospitality at -55%. While all types of apprenticeship starts were affected by the pandemic, higher level (4-7) apprenticeships were relatively resilient. Figure Twelve shows the most popular digital apprenticeship standards among learners in Greater Manchester.
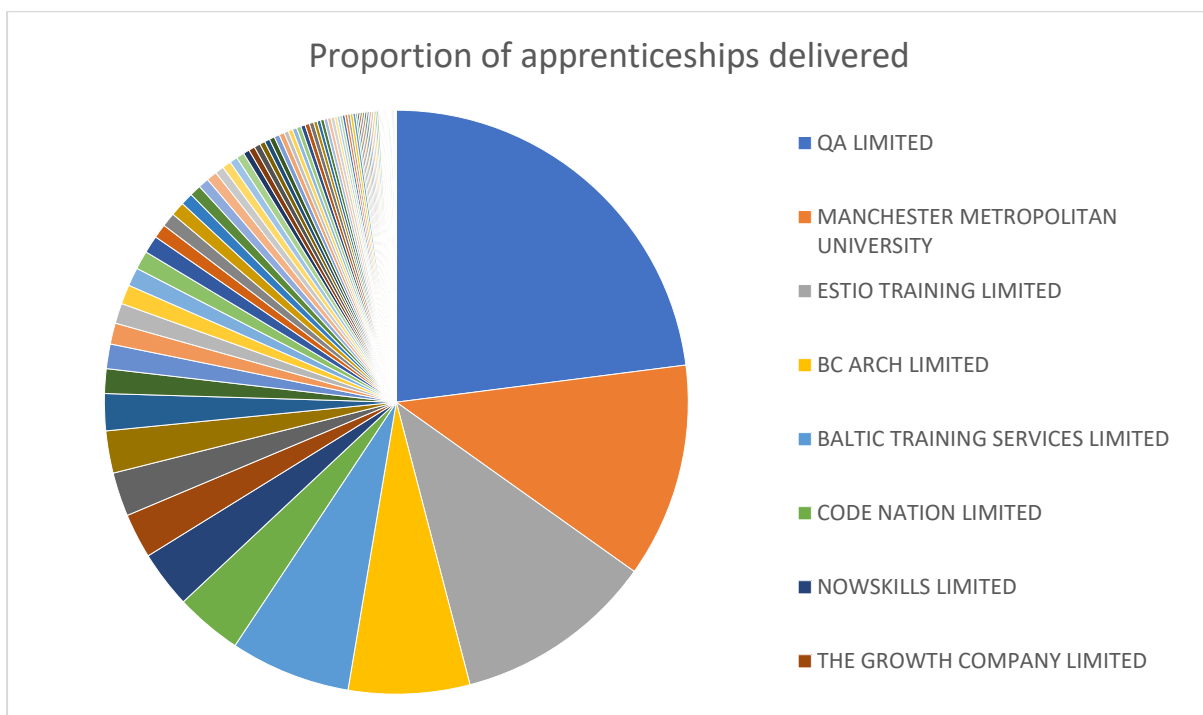
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[56] [Occupational Maps / Institute for Apprenticeships and Technical Education](#)
[57] [Occupational Maps / Institute for Apprenticeships and Technical Education](#)

| Standard | Level | Total starts since 2017 |
|---|---|---|
| Infrastructure Technician | 3 | 638 |
| Digital and Technology Solutions Professional | 6 | 326 |
| Data Analyst | 4 | 267 |
| Software Developer | 4 | 249 |
| Software Development Technician | 3 | 134 |
| Network Engineer | 4 | 100 |
| IS Business Analyst | 4 | 87 |
| Digital and Technology Solutions Specialist | 6 | 73 |
| Cyber Security Technologist | 4 | 57 |
| Software Tester | 4 | 41 |

**Figure Twelve - the most popular digital apprenticeship standards among learners in Greater Manchester**

7.15    Figure Thirteen shows a significant proportion of apprenticeships are delivered by a few large training providers in Greater Manchester. QA Limited delivers 24% of the most popular standards, and nearly a third of infrastructure technician apprenticeships. MMU delivers most Digital and Technology Solutions Professional / Specialist degree apprenticeships. Code Nation specialise in software development training and deliver nearly a third of software developer (level 4) apprenticeships. In general, FE colleges deliver fewer digital apprenticeships in, with most focusing on infrastructure technician.



Proportion of apprenticeships delivered

- QA LIMITED
- MANCHESTER METROPOLITAN UNIVERSITY
- ESTIO TRAINING LIMITED
- BC ARCH LIMITED
- BALTIC TRAINING SERVICES LIMITED
- CODE NATION LIMITED
- NOWSKILLS LIMITED
- THE GROWTH COMPANY LIMITED

**Figure Thirteen – Providers proportion of apprenticeships delivered in Greater Manchester**

7.16    The software developer (level 4) apprenticeship has grown in popularity as software development technician (level 3) has declined. All software apprenticeships are more common among new recruits than existing employees, with the difference being most stark for L4 software developer. Code Nation specialise in software development training and deliver nearly a third of Software developer (level 4) apprenticeships. The Growth Company also delivers a significant number of Software developer apprenticeships. QA delivers the majority of Software development technician (level 3). Estio is a significant provider of all 3 software apprenticeships. Employers generally see courses as high quality.

7.17    An employer shared they promote their apprenticeship scheme more widely to teachers and parents by working with GMCA's Bridge GM team and each time they advertise they are in undated with applicants. The last two apprentices they appointed had no relevant technology/digital experience with one of them was a female Sports Science graduate. OpenMoney, a FinTech, runs apprenticeship schemes across many areas of the business providing structured career progression. Although some startups can't offer a structured career development path, they can provide alternate responsibility and the opportunity to shadow senior leaders. For example, at Collctiv, a graduate employee works alongside the CTO[58].

7.18    While apprenticeships are strong in Digital environments, there is still a lack of awareness on the levy resulting in a £2 billion levy underspend being returned to the treasury - meaning regions are missing out on local skills development. Some FinTech employers told us during this review that they were unaware of the apprenticeship levy and how it works. It would be helpful for partners to further explore ways to raise awareness on the levy, in particular amongst SMEs.

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[58] Greater-Manchester-Whitecap Consulting FinTech-Ecosystem-Report-2020

# Kickstart

7.19    The UK FinTech Government review[59] recommends the Government should drive Kickstart placements in UK FinTech by piloting a FinTech industry Kickstart scheme. This pilot should use a digital service (similar to DCMS's Digital Boost) to allow firms to employ and match with Kickstarters quickly and easily. Greater Manchester could support FinTech firms to access these programmes to develop their talent pipeline.

# Higher Education

7.20    Greater Manchester is home to five major universities (University of Manchester, Manchester Metropolitan, University of Salford, University of Bolton, and University Academy 92), with over 100,000 students[60], over 40,000 of whom are international. Around 36,000 students graduate every year and join the labour market, 46% of which stay within Greater Manchester.

7.21    Careers engagement at universities tend to target larger employers. Larger organisations tend to have recruitment teams some with a dedicated focus on graduate recruitment. They put more resource into attracting and selecting graduates working proactively with universities to secure the best talent and graduates are often engaged well before they leave university. Large organisations such as Barclays and Natwest generally are successful with graduate recruitment campaigns. However, smaller sized businesses report greater difficulty finding the right skills at this level as graduates want to work for the bigger brands.

7.22    Many SMEs are either not invited to attend these careers fairs or when invited they lack resource to be able to attend the event.  At the SME level, they often cannot compete with larger firms in terms of the wrap-around graduate support and career development. SMEs need support to develop graduate schemes to retain talent in the region. Universities could consider encouraging a range of

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[59] [Kalifa Review of UK Fintech](#)
[60] [MIDAS](#)

employers of different sizes to attend careers fairs and sell the benefits to students.

7.23   The supply of graduate talent in FinTech subjects is increasing. FinTech employers felt that universities were not producing the skills required and graduates were not always 'employer ready'. Some employers said they would choose to employ someone with work experience above anything else and therefore bootcamps work better as often people come with some form of work experience. The government FinTech national review [61] highlights the UK must support FinTech scaleups to host university interns by providing the digital brokerage service to connect and place students with FinTech employers. This will promote FinTech as a viable and appealing graduate destination and in time, deepen relations between industry and universities. Greater Manchester universities should continue to strengthen connections with industry focusing on creating a supportive landscape where businesses and academia can work together to innovate and nurture talent.

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[61] Kalifa Review of UK Fintech

## University of Manchester

7.24   The University of Manchester Business school is among the best business schools in the world. Students learn from leading FinTech experts and network with employers at regular events. Funding is enabling the collaboration of academics from across the University to promote multidisciplinary research and support student entrepreneurship in FinTech and related fields and has also enabled the University to progress its FinTech agenda with a new Chair in FinTech, as well as other key academic posts and PhD scholarships over the next five years.

7.25   Courses are academically oriented and courses relevant to FinTech range from undergraduate through to PhD level. The Manchester Alliance Business School (MABS) is exploring stackable short courses targeting trends in the FinTech industry that will meet the needs of Greater Manchester employers. The University is collaborating with a number of FinTech employers including Together Money and Open Money to develop course content[62].

7.26   A number of Manchester FinTech employers have worked with the University of Manchester candidates on consultancy projects often leading to employment post-graduation. In the past, the difference in scale between the universities and FinTech startups has made collaboration difficult. The universities can take months to make research-related decisions, looking for years-long research projects, while FinTech needs are often on a much shorter time scale.  The following case study provides a good example of collaboration between industry and academia.

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[62] [Greater-Manchester-Whitecap Consulting FinTech-Ecosystem-Report-2020](#)

**The University of Manchester – The Manchester Innovation Labs**

The University of Manchester has developed a robust, effective means of engaging with companies, as a mechanism to co-develop research projects that address a business need. The Manchester Innovation Labs comprises a half day workshop, designed and facilitated by creative consultancy FutureEverything, where businesses work in small groups with a team of multidisciplinary academics to develop a research project and pitch proposals for seed corn funding to a panel of experts.

Each lab hosts 3-5 industry partners, working in teams of 4-6, with cross-discipline academic groups. The 2019 FinTech Lab brought an interesting problem from online investment platform Equiniti, which led to a collaboration led by an academic in the School of Social Sciences, giving a great example of how academic expertise can offer insight in the FinTech space beyond the obvious disciplines of computer science and finance.

7.27    At a master's level the University of Manchester offer a MSc Financial Technology (FinTech)[63]. A one-year course combining expertise in finance, computing, risk, and behavioural science. Students look at innovative technologies and the disruptive nature of FinTech business models changing the way companies and consumers interact. The University of Manchester last year launched its first optional module for students of Accounting & Finance and is developing further teaching modules to be available in future academic years. It also has an active interest in this field amongst the wider student population from maths & computer science to social sciences.

## Manchester Metropolitan University

7.28    One of the five biggest universities in the UK by enrolment numbers, Manchester Metropolitan University has well-developed business and computing departments and is aiming to develop ways of integrating financial technology and entrepreneurship topics into the curriculum.  The university already has a comprehensive digital offering and its involvement in FinTech North indicates its intentions to develop its strength in this area.

7.29   Manchester Metropolitan University delivers 'Digital Degree Apprenticeships' a 4-year degree. Feedback from employers who partner with the university is extremely positive. A large banking organisation spoke about their apprenticeship scheme, this along with incumbent work hiring graduates and non-graduates, works well together. It was noted that there is a suite of digital programmes offered including tech solutions, UX degree, digital marketing, and design.

7.30   The university offers a FinTech masters course, which is the first and longest standing course in this area to be offered in the country. It is a stackable qualification and can be undertaken fully online allowing leaners to first complete a certificate and if they later decide to, immediately or following a break in learning, they may go on to complete a diploma and finally a masters. It intends to bridge the gap between vanilla 'developers' and financially literate product leads. The FinTech course cohort has grown 50% year on year, from 11 to 17. The university has constantly sought to engage with the FinTech community, including hosting events run by FinTech North and pro-manchester.

7.31   Large financial companies have been seen to invest in tech talent to suit their requirements at a specific time and have the resource to be able to do so. For example, several years ago when BNY Mellon struggled to recruit a niche type of financial role, it developed a banking qualification in partnership with Manchester Metropolitan University. This created roles and expertise that hadn't previously existed in Greater Manchester and helped encourage other large banks to move similar roles and functions here.

7.32   An academia lecturer spoken to as part of this review said that student cohorts are carefully selected to bring a diverse range of backgrounds to the table to maximise the learning experience. An example is a chartered accountant will have a very different set of skills and experience to a programmer – the aim is for each to learn from others experience and think about what drives a bank to tick and identify the key barriers in a FinTech workplace. All students undertake blockchain programming so that they are better able to understand the 'doing' and interface with programmers when in the FinTech workplace.  The course is split

up across semesters and in the lead up to summer students are offered an industry placement. There is a specialist internal team who works with employers and some of the courses can be tailored to the employers needs if a cohort is large enough.

## Salford University

7.33    Salford University's FinTech masters is a new programme which will be launched in September 2021 and is aimed at both recent graduates and professionals with a financial, IT or business background looking to expand their understanding of technology in finance. The curriculum was developed with Propel Finance and SkyParlour (FinTech PR and Strategy) and experts working in the sector. The course intends to address the knowledge gap created by the pace of technological transformation in financial services and markets, designed to meet the latest employment needs in the FinTech industry. The university has been increasingly visible in the region, attending numerous FinTech events.

## Bolton University

7.34    Bolton University's Centre for Applied Computer Science[64] offers the chance to enter the dynamic and evolving world of digital technology, equipped with the right creative and technical skills. Courses range from e.g., BSc (Hons) Computing (Cyber Security), BEng (Hons) Software Engineering, BSc (Hons) Computing (Data Analyst).  Students develop all the skills needed to pursue a career in software engineering, computer programming, and cloud infrastructure industries.

## UA92

7.35    UA92[65] will be delivering a Digital Upskill Programme from 2021. The new programme offers the chance to complete a software development qualification in

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[64] Computer Science Degree | Programming Courses | University of Bolton
[65] University Academy 92 (ua92.ac.uk)

seven months alongside a work placement with a digital employer and a £2,000 grant. Intrinsic to the design of this programme is ensuring the learning aligns with what employers need but also designing training that provides opportunities for individuals who have been affected by COVID-19 and may be unemployed or looking to switch from a declining sector into digital, including FinTech.

# Other Training Provision

7.36   Education and training provision has long been dominated by more traditional institutions like schools, colleges, Further Education (FE) providers and universities. Independent training providers (ITPs) and other new entrants have struggled to compete and successfully access government funded programmes like Digital Fastrack Funding. There are many alternate good quality alternate training providers in Greater Manchester serving the FinTech/Digital sector. The flexibility of GMCA's Flexible Procurement System (FPS)[66] is meaning new and different types of providers can apply for funding. FinTech courses range from software development to cyber security and coding.

7.37    There is likely going to be a rise in the number of career switchers and people looking to reskill/upskill into digital roles including FinTech. In Greater Manchester we are already seeing this with the 'Switch to Digital Week' in 2020, which saw over 600 registrations. Feedback from participants showed that there is a gap in provision to support those looking for a career in digital, evidencing further work is needed to explore how career switchers can be better supported.

## Bootcamps

7.38   Employers said there are high quality coding/developer bootcamps in Greater Manchester that provide an alternative entry level pathway for people to access the FinTech sector. The traditional academic route is increasingly being opened to more vocational ways of learning with many employers now welcoming

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[66] Flexible Procurement System - Greater Manchester Combined Authority

candidates who have attended informal learning with ed-tech companies such as Northcoders, Code Nation, Manchester Code, Tech Returners, Innovate Her and Code4Girls. Employers feel there are plentiful entry level applicants but there is a lack of provision at a mid-senior level, addressing this level skill set would be helpful.

7.39  The Fast-Track Digital Workforce Fund[67] is an example of a bootcamp, a £3million partnership set up to support both Greater Manchester and Lancashire residents with accessible routes into digital employment, specifically targeting disadvantaged groups and those underrepresented to help them get into digital roles. FinTech employers are encouraged to welcome candidates from both academic and non-academic routes.

# Greater Manchester Training Provision - Employer Views:

7.40  When employers were asked what additional training provision is needed in Greater Manchester to create more opportunities for entry level roles, career switchers and in-work progression employers said **basic web and back-end programming** knowledge would be advantageous as this would be a foundation for junior/apprentice developers and also career switchers.  Some employers felt there is lack of skills within the **platform/infrastructure community**.

7.41  Employers would prefer training courses and qualifications to be more accessible delivered in **modular sessions** so that these can be accessed more flexible around life's commitments. It will also allow greater choice selecting modules based on business priorities and an individual's pre-existing skillset. As discussed earlier in the report there are good examples of providers offering flexible courses and many universities are exploring modular courses.

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[67] Fast Track Digital Workforce Fund - Greater Manchester Combined Authority

# 8. SUMMARY AND NEXT STEPS

8.1     This section aims to collate the learning and recommendations from the intelligence gathering process and sets out key recommendations for sector employers, training providers, and stakeholders. At this stage this is high level and GMCA will look where it can act to support both commissioned and non-commissioned work.

8.2     Recommendations made in this report will not all be progressed or lead to future work at GMCA. Their aim is to support stakeholders including employers, business networks and membership organisations, skills providers, schools, colleges and universities, and sector bodies, with a deep and detailed understanding of the current state of the skills challenge for FinTech businesses in Greater Manchester. Some recommendations will address existing challenges, while others will work towards future talent/skills development.

**Deciding on a FinTech career**
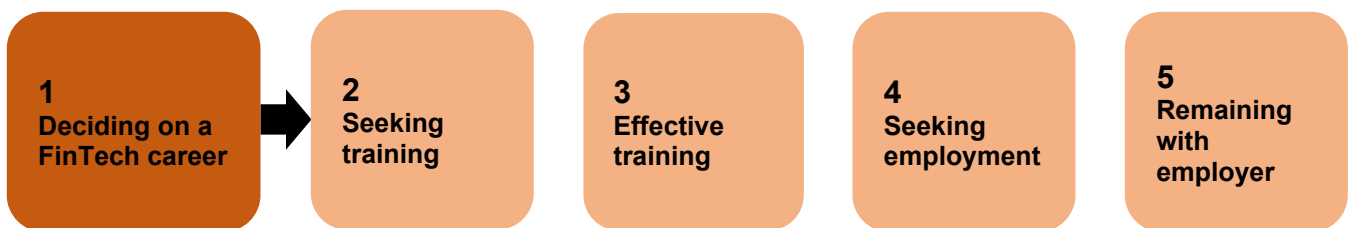


**Challenges**

8.3      Based on employer evidence gathered for this report there are some challenges for individuals and employers at the deciding on a FinTech career stage. The main issues facing the FinTech sector at this level are:

- There is some ambiguity over the definition of FinTech and people often do not understand what job roles and career pathways are available in the sector.

- Among many young people, the perceptions of the sector are not always positive, particularly for technology roles. We know fewer young people are taking IT as a GCSE.
- There is an underrepresentation of females, people from ethnic minorities and disadvantaged backgrounds working in the FinTech sector.
- Employers are increasingly seeking soft skills and candidates can have difficulty articulating what employers are looking for.
- SME organisations have valuable roles to offer but, in many cases, candidates prefer to work for larger organisations who are an 'employer of choice'.

**Recommendations**

- **Demystifying the FinTech sector**.  There needs to be further clarity to help Greater Manchester residents - young people and adults understand the opportunities in FinTech. Job Roles and possible digital/FinTech career paths can be found at appendix two and on the GMCA website (Industry Labour market and skills intelligence report – Digital and Technology – Appendix A).[68]
- **Potential careers and occupation pathways/progression routes should be made clearer** and linked to formal qualifications where possible, with FinTech being included in current curriculum such as digital apprenticeship standards. This should improve early-career engagement and the ability to be able to plan mid-senior career progression.
- It will be important to continue to invest in high-quality training for **careers leaders working in schools, adult education, and private providers such as JCP**. Ensuring current FinTech industry trends, good quality and credible information is being shared.
- Giving consideration to the recent Government FinTech review, building a pipeline of FinTech talent in Greater Manchester could be achieved by supporting FinTech scaleups to offer **embedded work placements** to **Further Education and Higher Education students** and **kickstarters**.

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[68] [GMCA Digital Industry Skills Intelligence Report 2020 - Appendix A Career Paths](#)

- Individuals of all ages from **disadvantaged backgrounds** should receive additional support **building 'self-efficacy' levels**. Being shown career choices alone is not enough.
- **Employer's recruitment strategies should look at upskilling and reskilling opportunities.** This would help to diversify FinTech workforces and strengthen social value in the region.
- To continue supporting SMEs in the FinTech sector to develop their **employer brand**, **sharing good practice recruitment and selection tools**.
- Explore how career switchers can be better supported, through **mentoring schemes**, in particular to enable continuing career progression.

**Targeted career inspiration activity:**
- **Showcase the successes of Greater Manchester FinTech** to invigorate curiosity amongst young people and career switchers (adults of all ages).
- **Targeted campaigns encouraging applications from underrepresented groups** across Greater Manchester would be helpful.
- Further strengthening **employer links** from both large businesses and at a SME level, with schools and FE institutions should be encouraged. This will help to ignite interest among children as well as educators and parents and carers, raising awareness on future career opportunities.
- **STEM Ambassadors, role models** and **industry mentors from developer, data, and cybersecurity backgrounds** and from a non-technology background should be encouraged to engage.
- To continue to support schools to develop a careers programme that will deliver the **Gatsby Benchmarks**. To explore introducing **Innovate Finance's 'FinTech for School's** Initiative across Greater Manchester schools.
- Develop further careers inspiration activities with **primary school children** as many children by the time they enter secondary school have a sense of what they can and can't do.
- **Due to increasing importance for specific soft skills** support schools, education, training providers, partners, and businesses to equip individuals for the workplace using accredited tools, such as the CIPD essential skills builder.

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**Seeking and Accessing effective training**

| 1<br>Deciding on a<br>FinTech career | 2<br>Seeking<br>training | ➤ | 3<br>Effective<br>training | 4<br>Seeking<br>employment | 5<br>Remaining<br>with<br>employer |
|---|---|---|---|---|---|

**Challenges**

8.4    Based on employer evidence gathered for this report there are some challenges for individuals and employers seeking effective training:

- There is a lack of understanding about available types of training and qualification pathways into the sector. It can be difficult for learners and employers to navigate the best route.

- FinTech related degree and apprenticeship programmes is a very common route into the sector and provision at this level is suitable and is of good quality.

- Provision of entry level FinTech courses such as coding bootcamps are plentiful and of good quality although there are limited courses available at a mid-senior technical technology level in particular covering skills in: AI, Cyber, Data and developers, including blockchain.

- The risk is there are too many entry level candidates and not enough promotion opportunities resulting in people either leaving the sector or organisation.

- Given the fast pace of technological change there are limited modular/stackable courses looking at emerging trends such as AI, Data, and Quantum Computing.

- There is a lack of training provision offering customer success sales and customer service training specific to FinTech environments.

- SMEs in particular are not aware of the apprenticeship levy and how it works.

**Recommendations**

- Ensuring the system of **post-16 technical education** in Greater Manchester provides young people with a clear pathway defined by employers.

- Schools/FE/HE and alternate training providers could consider employer's feedback on what they see as being the **strengths and weaknesses** of candidates who they take on from the different study cohorts e.g., apprenticeships, bootcamp, university graduates etc., this should inform future selection processes for prospective candidates.

- Training provision should focus on **'upskilling'** by offering **short sharp accelerator bootcamp courses** (aimed at level 3 or higher). Commissioning activity should take place to fill **immediate skills gaps in mid-senior developer (including blockchain), cyber security, and data.** Programmes meeting this need should be short accelerator type courses (e.g., 8-12 weeks), face-to-face where possible.

- Some employers felt there is lack of skills within the **platform/infrastructure community** this should be explored further.

- FE/HE/Training providers should consider courses in scaling up of **FinTech Skills Development Programmes** for emerging trends such as **AI, MI, Quantum Computing and Data** (aimed at level 3 or higher).

- Commissioning activity should take place to fill skills gaps in **sales and customer services skills with a focus on customer success specifically meeting the needs of the FinTech sector.** Communication skills should be delivered as part of the learning.

- **Further collaboration** between education, training providers and employers regarding curriculum delivery and content would be beneficial.

- Greater Manchester could consider introducing pilots **to stimulate higher technical education and incentivise flexible/modular training provision.**

- Bootcamps with **guaranteed apprenticeship schemes** in place with an **accompanying salary** are encouraged, this will make courses more accessible to a range of people from different backgrounds.

- Facilitate and enhance **peer-to-peer business networks** around skills delivery. Support local business networks, particularly SME focused network groups, to work together and reduce risk by sharing best practice.
- Work should continue to ensure that **T Levels are positioned as a leading option**, for the SME market as well as larger employers, where possible creating a FinTech T Level or incorporating relevant content into a current T-Level such as digital or finance.
- Raise better awareness on the **apprenticeship levy**, in particular across SMEs in the FinTech sector.
- **Local Skills Improvement Plan** – the steering group should consider having a FinTech employer representative who is strong in the field and actively involved across Greater Manchester while feeding in at a national level.

**Seeking employment**

| 1 Deciding on a FinTech career | 2 Seeking training | 3 Effective training | 4 Seeking employment | 5 Remaining with employer |

**Challenges**

8.5    Based on employer evidence gathered for this report there are some challenges for individuals and employers at the seeking employment stage of the talent pipeline. The main issues facing the FinTech sector at this level are:

- FinTech can provide young people and adults of all ages with access to employment opportunities in an exciting and expanding sector. More is needed to support individuals to understand these opportunities.
- Retention starts with recruiting the right people and it is important for FinTech employers to have in place effective recruitment and selection processes to target and source suitable candidates.
- SMEs feel they are not always top of the list for graduates; however, they can offer excellent career opportunities.

- There are plentiful good quality entry level candidates applying for technical roles but not enough adequate candidates applying for mid-senior technical roles. In particular, developers at a mid-senior level are most in demand across Greater Manchester followed by Cyber and Data specialists.

- Employers, in particular SMEs, have difficulty sourcing candidates with 5+ years technical experience.

- Some employers require candidates to have Grade 4 (C) or equivalent Maths and English, which can limit the candidate pool.

- The sector still attracts mainly male and white applicants to most positions, particularly in technical and senior roles.

- Communication skills such as telephone and letter writing/email skills are less professional among younger generations.

- Soft skills are becoming increasingly more important in FinTech. Employers feel young people can have difficulty demonstrating examples of these skills.

**Recommendations**

- Commissioning activity should take place to develop skills in **Recruitment & Selection** – **creating a more diverse talent pipeline** (e.g., aligned with government initiatives, labour market information, the Local Industrial Strategy, and the Social Mobility Pledge). This could be aimed at managers/leaders developed as part of a wider Leadership course or as a standalone module.

- Encourage **diverse recruitment and selection practices** within the Greater Manchester FinTech sector, targeting under-represented groups. Encouraging employers to support DWP and JCP schemes, such as the 'working well programme'[69] and the programme to help over 50s back to work[70].

- Young people and adults can have difficulty understanding what **soft skills** mean and articulating examples of how they demonstrate these skills. Imparting soft skills are as important as technical acumen.

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[69] Working Well - Greater Manchester Combined Authority
[70] Centre for Ageing Better

- The creation of an **online academy for FinTech** starting by providing entry level material to support lifelong learning could work well.
- Opportunity to support individuals looking for a career in FinTech through **mentorship schemes,** supporting at a job entry level and beyond.
- Raise better awareness on **Government Initiatives across the FinTech sector** to create more **diverse talent pipelines,** such as kickstart and apprenticeships.

**FinTech – Remaining with employer and career progression**

| 1 Deciding on a FinTech career | 2 Seeking training | 3 Effective training | 4 Seeking employment | 5 Remaining with employer |
|---|---|---|---|---|

**Challenges**

8.6     Based on employer evidence gathered for this report there are some challenges for individuals remaining in employment and progressing. The main issues facing the FinTech sector at this level are:

- Employers spoke about the disconnect between job expectations of learners, in particular university graduates, often presuming career promotion will happen quickly.
- Employers said there are not always enough promotional roles available for junior employees to progress in, which can lead to a loss of talent.
- The complex nature and unclear progression paths in technical technology roles can make it challenging for individuals to understand how best to progress and make use of their technical and soft skills.
- Employers, in particular SMEs spoke about a lack of resource to support individuals entering roles in some cases they expect individuals to work on their own initiative from the get-go.

- Employers spoke about the lack of access to mentors to help them be able to progress in their careers.
- There are common challenges holding FinTech firms back from investing in training to enable people to progress:
  - SMEs find it difficult to reskill/upskill their staff due to reduced capacity and budgets in comparison to larger organisations who tend to have dedicated HROD teams and clearly defined career progression pathways in place.
  - There is a lack of clarity as to which training providers are credible and which offer the right types of courses.
- Employers spoke about losing mid-senior technical talent:
  - Larger sized businesses report losing talent to areas including London.
  - SME employers said they can lose talent for example, developers to larger sized employers as they often offer higher salaries and/or horizonal career development opportunities.

**Recommendations**

- There is a need to **set clear expectations** early on with students/candidates that promotion comes with experience and time.
- **Industry bodies and employers** should attempt to clarify the levels and type of qualification required to progress within certain fields.
- Employers to consider further **secondment opportunities through innovative partnerships –** this could help retain mid-senior technical talent.
- Employers said there are not always enough promotional roles, which can lead to a loss of talent. FinTech businesses could be creative introducing **'employee retention' strategies** (such as bonuses, CPD, flexible working, secondments, job shadowing) as a way to motivate and engage staff.
- There needs to be a focus on supporting employers and individuals to **upskill for example, existing developers to 'mid-senior' competence** in the quickest possible time. There are examples of frameworks including *SFIAPlus* and *RoleModelPlus*.
- Partners to consider promotional activity to raise even more so Greater Manchester's FinTech ecosystem profile and to support businesses, in

particular SMEs to better their employer brand, this will help to keep talent in the region.

- Explore **Mentorship Schemes** as a way to help individual's already working in the FinTech sector to progress in their careers.

- Encourage FinTech organisations in Greater Manchester to sign up to charters such as the **Women in Finance Charter (WIFC)** and the **Greater Manchester Good Employment Charter,** as a way to retain females working in the sector.

# 9. FUTURE REPORTS

9.1     Intelligence gathering will be an ongoing activity for GMCA and partner stakeholders. This review was conducted after being identified as an area requiring deeper exploration in the GMCA Industry labour market skills intelligence report 'Digital and Technology, version 1[71]. The data and intelligence gathered as part of this report will be enhanced and added to as the sector, policy landscape, and economic situation evolves.

9.2     It will be important for GMCA, partners and employers to keep track of the recent Government review on FinTech[72] and where appropriate take forward review recommendations. From this review there are potential areas for future research although future work of the GMCA will be set according to evolving priorities. Further skills intelligence gathering would be beneficial in the following areas:

o   **FinTech Sub-Sectors** – further work to explore the differences in sub sector skills needs and available training provision. Requirements could then allow for more targeted work in terms of skills delivery.

o   **In-work Progression** – further work to identify successful performance management tools used by FinTech employers that have led to career promotion. This would create an evidence base for good practice supporting individuals to be able to better navigate their FinTech career.

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[71] GMCA Industry Labour Market and Skills Intelligence Digital and Tech 2020
[72] Kalifa Review of UK Fintech