The Digital Skills Gaps in the Fintech Industry

Author

Dr M. Stanton
Lecturer in Computing and Deputy IoC Lead, Manchester Metropolitan University

Dr C. Spence
Reader in Economic Analytics and Head of Future Economies Analytics

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Executive summary

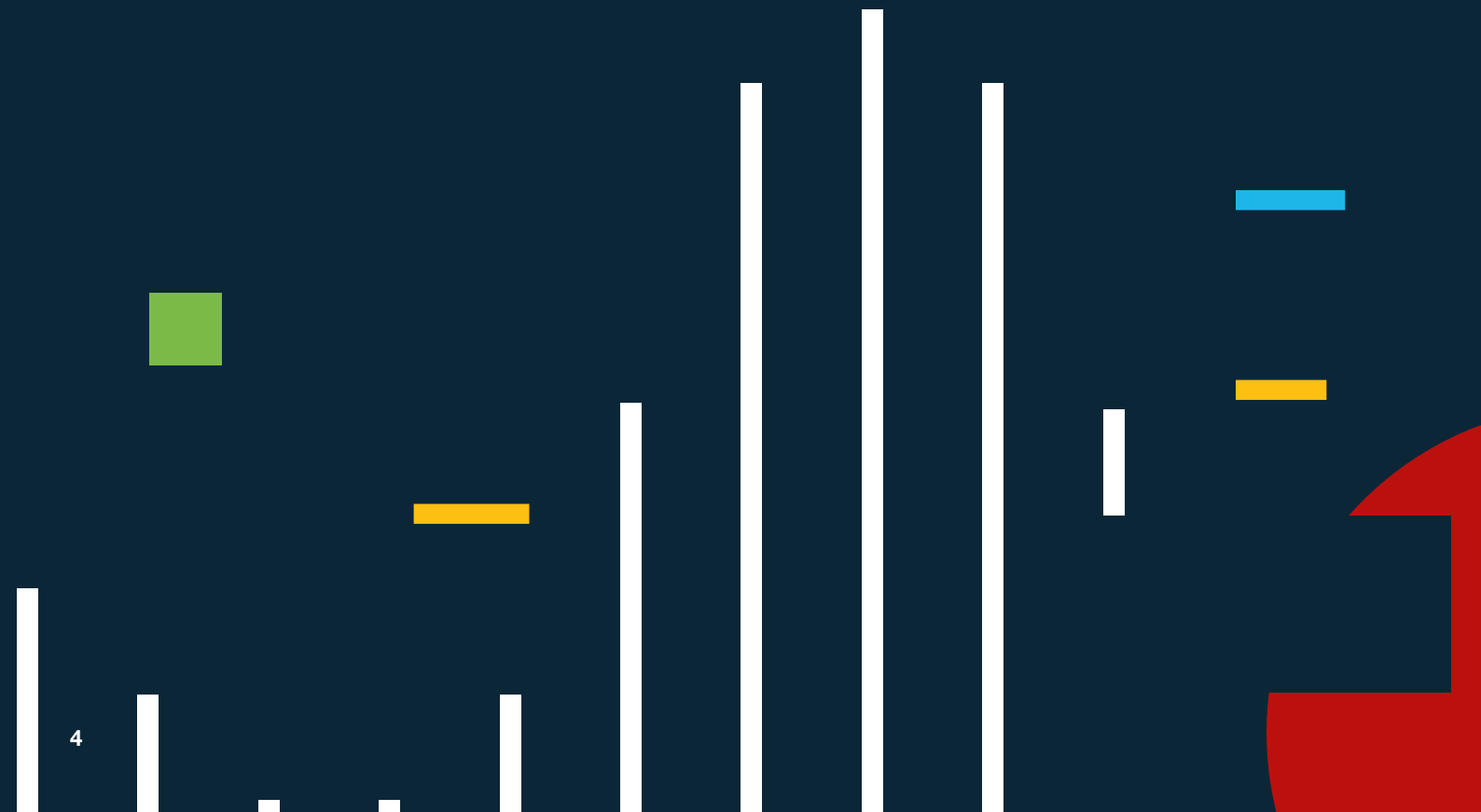
This report provides a summary of the FinTech sector including recent changes, and trends which might exist, with a particular emphasis on technological variables key to the evolution of the sector. It has been commissioned and developed jointly by the Institute of Coding and Manchester Metropolitan University and is aimed at the HE sector, as a means of providing some insight into the developments that will be required to ensure future FinTech programmes remain up to date, and relevant to the employers in the industry. Relevance of learning and increasing the employability of students are key strategic aims of the institute of Coding and this report forms part of the set of deliverables for Theme 3, which has a focus on digitising the professions. The report provides an assessment of evidence, which considers the existence of skills gaps in the sector, with a particular emphasis on the subjects that students are taught at University, and the skills demanded by employers. It also considers the skills which may be expected to grow in demand in the future, based on industry trends and changes expected in the future.

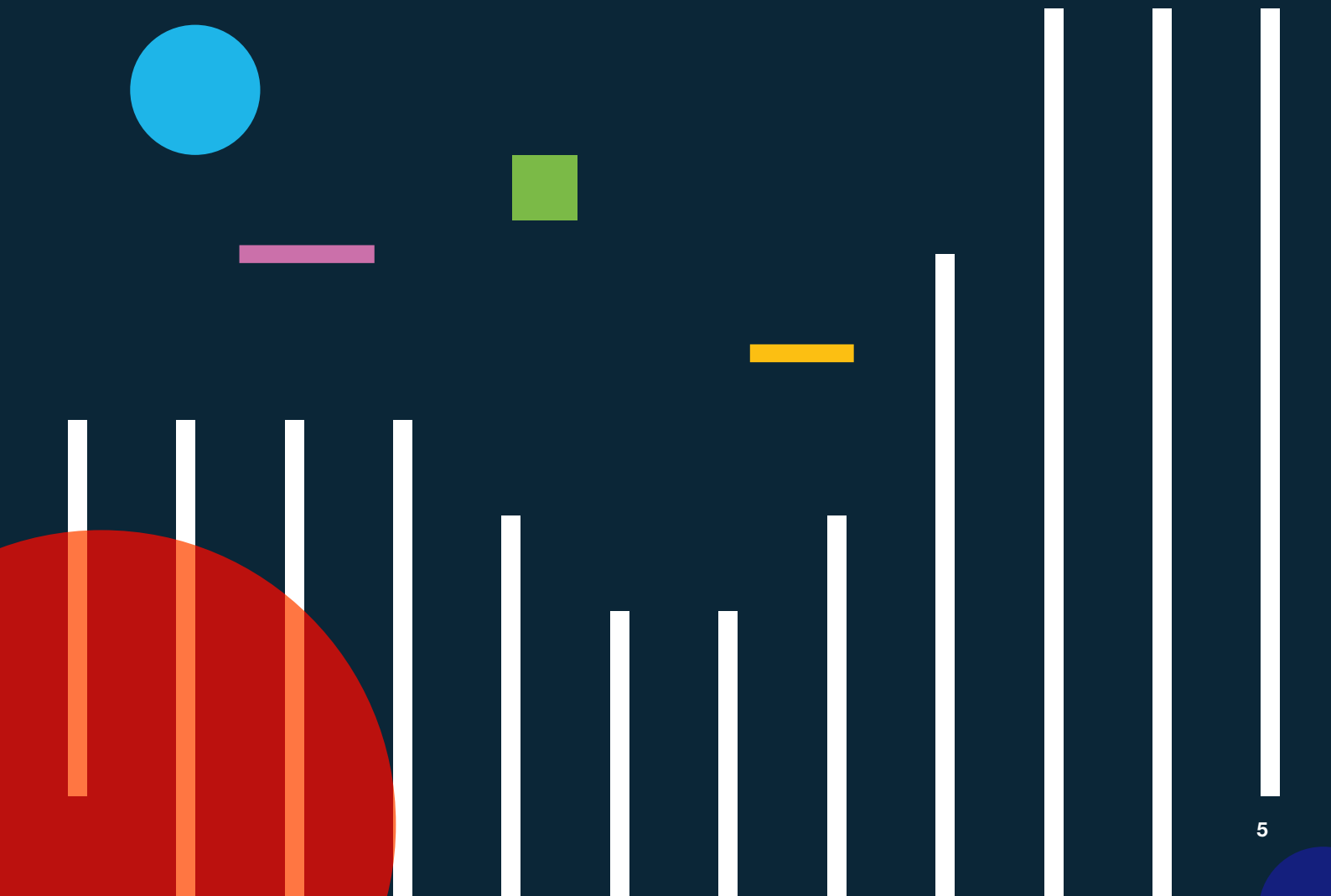
There is a clearly identified skills gap, with skills shortages commonly being cited as being in: blockchain and distributed ledgers, cybersecurity, programming, machine learning, AI and deep learning, and soft skills. Industry 4.0 also is found to be related to FinTech, and therefore skills gaps relating to advanced manufacturing may also be considered to contribute to the FinTech Skills gap.

The research carried out for this report finds that Fintech is a fast-moving sector, and that the more successful university programmes include some industry involvement. It also suggests that tailored programmes are likely to provide the best solution to skills gaps.

Note:

The majority of the evidence in this report was gathered before the COVID-19 pandemic started. The global pandemic will have changed the industry in a number of ways, not least of which is the, possibly permanent, change to the way in which our cities are used. The report entitled “UK FinTech: Moving mountains and moving mainstream” (EY, 2020) considers the impact of the global pandemic on the UK FinTech industry and should be considered along with the recommendations of this report.





Introduction

The aim of this report is to provide a comprehensive overview of the FinTech sector as whole, this includes an overview of its characteristics, the challenges it faces, and skills demand in the sector. An understanding of this sector is particularly important in ensuring that businesses, as regulators are ready to facilitate and enable the sector to prosper and grow as it evolves. The report begins with a summary of the sector including recent changes and an analysis of trends which might exist, with a particular emphasis on technological variables key to the evolution of the sector. This will be followed by an assessment of evidence which considers the existence of skills gaps in the sector, with a particular emphasis on what students are taught on University programmes, and the skills demanded by employers. Such research becomes key in ensuring the state of learning and development clearly meets the demands of the FinTech sector, enabling it to thrive.

The report will also consider the skills, the demand for which may be expected to grow in the future, based on industry trends and future developments. The overall aim of this report is to consider how to create an environment which encourages the growth of businesses in the FinTech sector, the crucial role of different stakeholders, and how different components may need to converge for optimum success.


FINTECH

The FinTech Industry

The word ‘FinTech’ combines the fields of technology and finance to change the traditional way in which financial services are run within different business models (Eickhoff, et al. 2017). Although it may seem to be a recent discovery of the linkage between the two fields, it has existed and evolved over time.

There are three key eras of FinTech starting from the analogue context, through to the process of digitalisation of finance with the creation of digital financial services, and finally the post-2008 era of FinTech. The latest stage is by far the most revolutionary in that it poses the question, not only of what kind of FinTech products or services that are produced, but also who delivers them, and how the rapid advancement of developing technology applies to that process (Arner, et al. 2016).

There are limitations associated with the evolution of FinTech. These include the regulatory burden, (Arner, 2016), (Arner et al., 2016), (Treleaven, 2015), as well as the reliance on the supply of skilled labour to effectively benefit from technological innovations. Reports on the subject have clearly indicated that in order for the supply of labour to meet the demands of FinTech, skills need to be elastic, ever-changing and dependent on innovations and changing practices (Bennet, 2018).

The UK FinTech industry is already significant, and continues to grow. It was estimated that the industry had £6.6 billion in revenue in 2015, attracted £624 million in investment, and employed 61,000 individuals (EY, 2015). By 2019, the investment into UK FinTech increased to £3.6bn (EY, 2020).

The FinTech Adoption Index (EY, 2017) indicates an average FinTech adoption rate of 30%, with 46% on average in emerging markets such as Brazil, China and India, illustrating continually increasing adoption. Of the countries assessed, it was noted that China has the highest adoption rate, at 69% followed by India at 52% and the UK at 42%. The UK adoption rate is more recently reported to have increased to 71%, with only India being reported as having a higher adoption rate (85%) (EY, 2020). This along with the increased investment in FinTech in the UK indicates a positive attitude towards the industry in the UK, and with the banking sector adopting some of the technologies that have driven FinTech, it is becoming more mainstream, and more regulated (Chetanay, 2020).

As the sector continues to grow it is crucial that an understanding of the factors that foster and promote FinTech growth is developed. The four key attributes crucial for a well-functioning FinTech ecosystem are considered to be: the availability of talent, capital, policy and infrastructure, and demand (EY, 2017; 2020).

UK Higher Education has a significant role to play in the development of talent, and therefore needs to ensure the relevance and currency of the learning that students undertake. It can also contribute to policy and decision making, by developing world class research in FinTech and its associated technologies.

Technological Trends

In order to fully understand the existence of a skills gap it is important to consider the technological trends in the FinTech sector. The fast-paced nature of technological change has, in turn, led to the rapid development of the FinTech industry, causing uncertainty. For example, a Price Waterhouse Cooper (2016) reported that 81% of banking CEO's are worried about the speed of technological change. This concern is caused by the need to constantly adapt to new systems as digital technology evolves over time (Adomavicius et al., 2008).

With this digital technology evolution, there is an increased demand for new technologies to be implemented by various businesses. Some of the most recent technology trends reported to impact the FinTech industry include Blockchain and Distributed Ledger; Programming; Machine Learning, AI, Big Data and Deep Learning; and Cybersecurity (Iyer, 2018). Such rapid changes in digital technologies inevitably influence the growing demand from employers in seeking employees with specific skill sets. Whilst the number of FinTech companies is predicted to more than double by 2030 (Bennett, 2018), 61% of employers across the UK state that they have experienced a skills shortage during 2017.

The key technological advances which have fuelled the development of the FinTech sector are considered to be: Big Data, Industry 4.0, and Blockchain. Each of these is discussed here.

Big Data

Big Data is data which is considered too large to be comparable or relatable using traditional relational database technology. It is considered to have certain characteristics, such as high volume, velocity or variety. For example, data generated by electronic devices, including both structured and unstructured data (IBM, No Date). Structured data is known for having various data types such as number, date, address, characters and name which are easily processed, entered, stored and analysed using conventional and stable technologies. Unstructured data, however, may consist of audio, video and images, which are not suitable to be stored, or analysed in the same way as structured data (Praveen, 2017).

With predictions of Big data doubling at least every two years between 2010 and 2020 (Inside Big Data, 2017), new technologies are required in order to be able to extract and make use of it (Katal et al., 2013). As (Kh, 2018) suggests, FinTech companies are customer-focused. Big Data can therefore be used to segment customers in order to analyse online behaviour and spending habits depending on gender, age and geographical location. Big data can also aid the detection of fraud by recognising unusual or suspicious activities and alerting the account holder. Finally, Big data can contribute to improving the overall customer services for the FinTech industry, through meeting the increased demand for personalised packages and services. Therefore, Big data plays a crucial role in the evolution of FinTech and the digital technology trends as with the FinTech industry growing so is the need for ability to use and extract Big data (Kh, 2018).

Industry 4.0

Industry 4.0, also known as the fourth industrial revolution, is aimed at using digital technology to further automate processes and systems which normally required either physical or human capital. Although to some extent it may seem as a further development of the third industry revolution of combining information technology and electronics to facilitate the automation within production and business processes rather than a revolution on its own. However, unlike previous industry revolutions, Industry 4.0 is predicted to be much faster due to the interconnectedness of systems, processes and technology, thus bringing significant changes to systems in each sector, making an industry-wide impact (Nead, No Date). With Industry 4.0, technology will not just complement the work of other services but act as a complete substitute, including the most technically-driven services available.

With the rise of Industry 4.0, the impact on employment is significant, affecting, in particular, engineers and financial engineers. Additionally, new FinTech companies entering the market are already equipped with up to date automation processes, whereas banks will need to implement these changes step-by-step. Unless banks are the first to introduce the newest and latest technologies they will be deemed as less competitive than their FinTech peers (Mlađenović, 2018). With this particular trend the needs of employers, seeking employees with the skills and knowledge of the FinTech industry, becomes clear.

Blockchain

Blockchain can be referred to as a variety of terms, such as an algorithm, a data structure, a suite of technologies or a group of distributed peer-to-peer systems with a common application area. The most common purpose behind blockchain is its distributed ledger function that anyone has the access to, acting as a 'peer-to-peer' platform (Drescher, 2017). The aim is to record transactions between two parties within a single block in a way that is effectively permanent and verifiable. This way integrity is achieved and maintained each time a block is created (Lakhani and Iansiti, 2017). As all the blocks need to be verified by other users within the peer-to-peer network, changing or tampering with the data in any way is hard to achieve (Drescher, 2017). Therefore, through the use of blockchain it is possible to make the financial industry's infrastructure a lot less expensive causing disintermediation, which is achieved by removing the need for overhead specifically dedicated to confirming authenticity as well as those responsible for moving money, tax transactions and adjusting various contracts.

However, in a survey on whether blockchain technology should be taken into account, 57% of respondents said they were unlikely to respond to this trend (PWC, 2016). The rest of those surveyed recognise the importance of blockchain (PWC, 2016), as demand is growing rapidly for employees with specific skills related to blockchain. As (Forbes, 2017) suggests IBM and Mastercard have established and filed over 80 patents each for blockchain-technology but companies simply cannot find sufficient employees with the right skills to develop those patents further.

Skills Gaps in the FinTech Sector

"The FinTech industry is experiencing a persistent skills gap" (Iyer, 2018).

As with a growing interest in blockchain, FinTech companies and financial institutions such as banks demand employees with the right expertise to execute the use of technologies to the best of their capabilities. Also, in order to maintain competitiveness, FinTech firms are dependent on fast and continuous evolution of technologies. Therefore, access to the right candidates and talents in the right geographies is vital (Rai, 2018). A prediction made by LinkedIn shows the global skills gap for candidates with the appropriate tech experience and/or expertise will stand at 1.5 million by 2020 (Iyer, 2018). This is a concern, especially for the UK as it is the biggest FinTech hub in Europe, employing 76,500 people as of April 2018 (Reddy, 2019), and it is host to 17 out of the top 50 FinTech firms internationally. The UK achieved $564 million worth of funding, which was invested across British FinTech start-ups in the first few months of 2017, according to KPMG's and H2 Ventures report 'FinTech100' in 2016 (Rai, 2018). The persistent skills gap in the FinTech industry is further illustrated by (Iyer, 2018) who notes the gap exists due to employers' needs changing constantly, and they therefore need to find the most suited candidates with the right skillset to match the growing demand of newfound alternatives within the FinTech industry. The existing skills gap is worsened by highlighting the difficulties of a limited pool of Tech candidates available which, it is predicted, will be further diminished post-Brexit due to the decreased inflow of EU Tech graduates (Sengupta, 2019). A Business Insider (Chetanay, 2020) report states that tech-focused vacancies in the UK banking industry rose from 23% to 30% between 2017 and 2019, and at the same time fintech vacancies dropped from 48% to 46%. The UK FinTech report by EY (2020) confirms that the shortage of talent is still a major problem, and suggests a strategy for reducing the gap.

As (Iyer, 2018) suggests the most sought-after skills include, blockchain and distributed ledgers expertise, cybersecurity, programming, machine learning, AI and deep learning and lastly soft skills. High demand for these skills is a direct result of the growing trends in digital technology, showing the clear connection between the skills in demand and the digital technology trends complementing one another. Most, if not all of the skills mentioned above, require previous experience in the particular field, however the length of experience required varies depending on the firm. As indicated in Figure 1, which depicts skills in demand in FinTech, it is clear to see how good knowledge of programming languages is needed predominantly in three out of five skills areas in order to be able to meet the demand. On the other hand, not all skills require coding, the last set of skills, soft skills, refers to the type and personality a person has and whether they would be a good fit for the FinTech industry. Although the industry is primarily focused on finding candidates with the appropriate technical skills, personal attributes which enable someone to communicate effectively have equal importance. Soft skills include the ability to build relationships, work well in a team with a good foundation of analytical and critical skills that will aid creative solutions to various unexpected problems.

Additionally, adaptability and flexibility are vital in such a fast-paced environment such as FinTech as resistance to change may impair the ability to adapt and deal effectively with rapid change within the industry (Iyer, 2018). This can be further evidenced by a survey by (PWC, 2017) which states that 20% of FS CEOs agree that skills such as emotional intelligence are very difficult to recruit, with 49% of FS CEOs claiming emotional intelligence is very important to the organisation. Therefore, even though the technical skills gap is clearly evident, so is the skills gap for soft skills as technology cannot completely replace human skills such as creative and critical thinking.

Skill	Requirement	Previous Experience
Blockchain & Distributed Ledgers	C, C++, Java, Blockchain	At least 6 months – some firms require 2-4 years
Programming Skills	Java, JavaScript, C++, C#, Python, SQL	Dependant on the particular firm
Machine learning, AI & Deep Learning	R, Python, Weka, NumPy, MathLab, D3.js, ggplot, SQL, Hive, Pig, MongoDB, Cassandra, Hbase, Applied Statistics, Distributions, Statistical Testing, Regression Analysis	Dependant on the particular firm
Cybersecurity	Dependant on the particular firm	Dependant on the particular firm
Soft Skills	People skills; emotional intelligence, communication & empathy, creativity and problem-solving skills, adaptability and flexibility	Dependant on the particular firm

Table 1: In demand skills for the FinTech industry with the specific requirements and previous experience needed for specific job roles (Iyer, 2018)

Further evidence of skills gaps in the FinTech sector are indicated by (Bott, 2018) who in a literature review notes that, from the perspective of employers, there is a significant number of technology related skills shortages in the finance industry. When using text analytics to assess FinTech postings on a jobs website and comparing it against undergraduate degree data posted on the websites of 19 universities in Ontario, the author finds that these degrees have a statistically significant weak level of agreement with the skills needed to be employed at FinTech jobs. This has significant implications on the appropriateness of degree courses, with the author recommending integrating technical skills into business curriculum based on the technology used in the industry, building these technical skills into hiring practices in the industry, developing partnerships with industry, creating project based learning initiatives and collaborating with employers to design courses. This is further illustrated by (Mei et al., 2018) who note that with development of the FinTech industry, talent demand in the industry has significantly increased. As such, the authors provide key recommendations on how to ensure the demand needs are met with collaboration between universities and industry, as well as the adoption of new teaching models. The creation of an integrated teaching curriculum which provides practical experience is further strengthened by the fact evidence has found lack of experience to be a crucial element when firms consider potential employees. This stems from higher education and industry leaders' lack of involvement in working together to grasp and portray a better understanding of new FinTech companies to the next generation of students, to then successfully encourage and pioneer opportunities to work alongside various FinTech companies (Rai, 2018). Furthermore, this lack of relevant training and experience can also fuel false information being spread, as 94% of financial services professionals admit suspecting their colleagues of using "Blockchain" and "Artificial Intelligence" as buzzwords without really understanding the meaning, while over 60% claimed that this kind of bluffing is very common which can be perceived as employees falsely claiming to have skills they do not possess just to be a part of the Fintech Industry (Chishti, No Date).

Not only is the lack of opportunity to gain experience missing from the employer, but also from the Universities offering special Postgraduate Master's courses in FinTech specifically designed to build a bridge between employers and potential employees with the right skillset. As shown in Table 2 only two Universities out of nine provide a work experience related opportunity in the form of a Digital Entrepreneurship or a Project at either University of Glasgow or Edinburgh Napier University. This further contributes to the already evident lack of experience that is being presented to potential employees within the FinTech Industry. Table 2 provides a brief summary of the common units all of the MSc courses share, it provides a good link between what is being taught and what is demanded by the Industry, skills demanded by the industry such as Programming Skills, Artificial Intelligence and Blockchain can be clearly seen. This demand is met by what students are being taught at Postgraduate level with modules being offered in those exact areas. Lack of experience offered in such degrees is also illustrated in Figure 2 below, as with the exception of Wrexham Glyndwr University which gives students an opportunity to develop their knowledge of the FinTech industry, with two optional Work-Placement based Projects that could aid students to gain invaluable experience, no other university offers such work experience. Thus, in order to fulfil and sustain the current skills gap, students require better opportunities to gain experience within the FinTech Industry to diminish the overall skills gap that is currently present (Iyer, 2018).

Skills Gaps in the FinTech Sector

University	Degree Level	Degree Name	Key Units (Common Units)
University of Sterling	MSc	MSc Financial Technology (FinTech)	Blockchain, Data Analytics, Data Mining Project Management, Cyber Security, Programming Modules (Python, JSON, XML)
University of Strathclyde	MSc	MSc Financial Technology	Big Data Fundamentals, Security Analysis
University of Huddersfield	MSc	MSc Financial Technology	Managing Big Data, Artificial Intelligence and Mobility
University of Sussex	MSc	MSc FinTech, Risk and Investment Analysis	Blockchain and Crypto Assets, Machine Learning
Manchester Metropolitan University	MSc	MSc Financial Technology	Applied Blockchain Technology, Data Science and Machine Learning, Dissertation
Edinburgh Napier University	MSc	MSc Financial Technology	Data Driven Decision Making, Data Wrangling, Dissertation or Project,
University of Edinburgh Business School	MSc	MSc Finance, Technology and Policy	Blockchain and Cryptofinance, Blockchain, Governance and Policy, Data Value Chains to Constellations, Ethics of Artificial Intelligence, Programming Modules (SAS)
University of Glasgow	MSc	MSc Financial Technology	Big Data Analytics, Cyber System Forensics, Digital Entrepreneurship, Artificial Intelligence in Finance
Imperial College Business School	MSc	MSc Financial Technology	Machine and Deep Learning, Programming Modules (C++)
Wrexham Glyndwr University	BSc (Hons)	Financial Technology Management	Data Analytics and Understanding Big Data, Work Placement, Work-based Project

Table 2: Showing a brief list of common modules in various Masters' courses in FinTech offered by different universities in the UK (Excel, 2019)

Moreover, research carried out by the Centre for Professional Excellence (CPE), provides more insight into the FinTech more specific to businesses in the North West of England. This research, which focused on information and training gaps in both small and medium sized businesses provided an overview of overall skills gaps experienced by businesses and depicted individuals largely in managerial or ownership positions. As indicated in Figure 1 and 2 technological developments, AI, Blockchain and FinTech were cited as areas with the largest information/training gaps with a score of 45 for both smaller and medium sizes businesses. With these areas having higher gaps than issues such as sustainability, resilience to operational disruptions and changing customer demands.

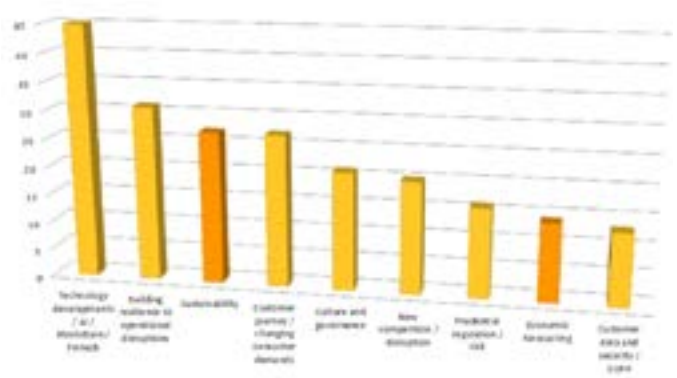


Figure 1: Information and Training Gaps in Smaller Businesses, (CPE, 2019)

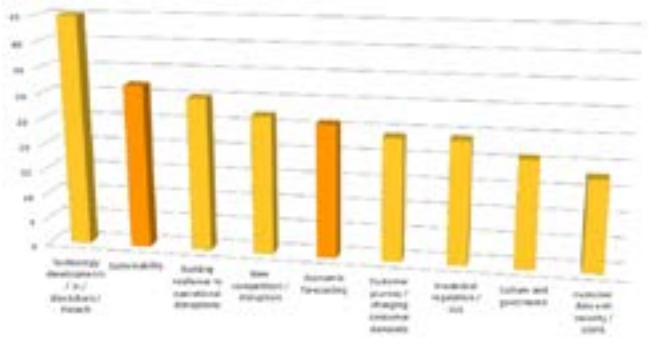


Figure 2: Information and Training Gaps in Medium/Larger Businesses, (CPE, 2019)

Moreover, further insights into the FinTech sector are illustrated in Figure 3, which indicates that businesses assign a score of 350 to the importance of Technology developments, AI, Blockchain and FinTech, but the knowledge and skills of these skills within the business stand at only 250, and is the lowest score out of all areas. Indicating the clear need of skills development in the FinTech sector, especially relative to the perceived importance of FinTech to the business.

Figure 3: Information and Training Gaps, (CPE, 2019)

Skills as a FinTech Growth Enabler

The main component identified in the literature as a FinTech Growth enabler is the development of skills. The importance of developing talent has implications for skills development, and highlights the role of academic institutions and technology companies as stakeholders are stakeholders in this ecosystem. When comparing the FinTech eco-systems of the UK, California, New York, Singapore, Germany, Australia and Hong King, (EY, 2017) note that the availability of Talent in the UK is significantly stronger than that of other countries. This is true for technical skills, financial service expertise and entrepreneurial skills. However, the authors note that the creation of skilled technical employees is crucial, and has significant implications for educators. The author's recommendations include supporting foreign tech graduates to stay in the UK, promoting Fin Tech and STEM subjects in universities and schools, supported by apprenticeships and specialist modules. As well creating specific graduate pathways to FinTech. Moreover, the authors note the industry would benefit with the creation of centres for excellence which aim to encourage a collaborative network with academic institutions and FinTech centres in order to meet future talent demand. The role of education is further illustrated by (UK Government, 2015) who recommend that, to meet the demand for skills created by the FinTech industry, optional FinTech modules in maths engineering and computer sciences courses need to be introduced exposing students to the FinTech industry, and meeting the skill demand. The role of academic collaboration is further illustrated in the global FinTech hub report in which (The University of Cambridge, 2018) highlights the significant role of academic collaboration in order to effectively create FinTech hubs across the world. Beijing, which received the highest FinTech industry ranking in terms of the number of leading FinTech companies, uses top universities and research institutions in order to train the FinTech workforce. In this analysis University interaction has a significant influence on the ranking, due to the importance of the strength of top Universities.

School based implications of FinTech adoption are further illustrated by (Karkkainen et al., 2017) who note that in order to access the full transformative potential of FinTech the educational curriculum needed to be updated in order to balance the knowledge and understanding of technology and finance. In terms of the skills that are demanded by employers in the STEM disciplines, (The Institution of Engineering and Technology, 2017), notes that 59% of organisations which required such skills reported a lack of practical skills, and 43% the lack of work experience. The role of academia is illustrated by 91% of employers, who state that a better integration between work placements and academic achievements would be effective. Moreover, in an interview based analysis of CEO's in the financial services industry, (PWC, 2017) it was found that 72% of CEO's were concerned about skills portfolios of job applications, and 73% were concerned with the speed of technological change, with 81% feeling anxiety about skills shortages. These insights from employers indicate the importance of work based learning and the derivation of occupation specific FinTech skills development, (Karkkainen et al., 2017). In terms of how this translates into the adoption of tangible practices, (Karkkainen et al., 2017) indicates the importance of collaboration between academia and the FinTech industry to train the next generation of Fintech graduates. Author recommendations include an integrated teaching approach with the necessary applications to provide insights into real world applications, placements with Fintech industries, and courses which responds to changes in industry trends. Targeting the issue of upskilling has also become a significant part of trying to diminish the current skills gap in the Fintech Industry. The current lack of training within financial services organisations prevents employees from developing their current digital and FinTech skills, with rising fear of professionals within the Industry that it is too late to train, and expand their FinTech and digital skills further, to catch up with existing FinTech experts (Chishti, No Date). As suggested by (Newman, 2018) leaving employees without training during transitional phases of introducing new technology is the wrong move, while retraining helps employees to match the agility of new innovations. With an already limited pool of tech talent available the best option for employers is to reskill the existing workforce to fill the skills gap (Newman, 2018).

Upskilling can also be seen as a way of keeping current employees within the industry as experienced workers will want to continue to look for starting something new that will enrich their current skill set even further, through offering in-house training. This is crucial in retaining talent and workforce within any organization. Readily available training schemes would allow for newly hired and experienced employees a chance to build a portfolio of various skills to be able to invest and progress in their careers with the opportunity to gain an insight of future career plans. If the FinTech industry lacks in high quality training with a variety of choice, employees could become inclined to leave the industry altogether as there is little or no career advancement available (Bennett, 2018). Additionally, with the ever-changing nature of the FinTech industry it is vital that new training programmes are introduced to continue upskilling the current workforce as new technology and competitors continue entering the industry, introducing more advanced products and services each time. This kind of scenario would lead to an even bigger decrease of talent available in the FinTech industry causing adding even more concern to the ever-growing skills gap.

Conclusion

From the research carried out above it is clear that there is a skills shortage in the FinTech sector globally. It is also clear that the UK is a significant player in the FinTech industry and is maintaining its position.

The features that characterise the FinTech industry are the specific technologies that it relies on, and the fast pace of change in the industry and those technologies. It is also characterised by the need for an adaptable workforce that is equipped with the skills to adopt new technologies quickly. The specific technologies that are most significant from this report are Blockchain, AI, Programming and Cybersecurity. These are commonly cited as areas with skills gaps across other industries, and it is the application of them to the FinTech industry that may be lacking.

The solutions that have commonly been adopted to address the skills gap involve the industry working closely with Universities. Standard University undergraduate programmes are considered less useful than postgraduate programmes, and there must be the flexibility to change rapidly in demand to industry needs. There is also a requirement for work-place learning of some form.

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[35] Peter Bazalgette. 2017. Independent Review of the Creative Industries.

Recommendations

This report is primarily aimed at understanding the role Universities should play in addressing the skills gaps within FinTech. Therefore it is recommended that Universities consider the following:

- Continual monitoring and understanding of the current and future skills gaps, including the skills supply pipeline and the demand for digital and technology skills.
- Working with education policymakers and schools/colleges to help shape the pre-university curriculum and “create a ‘digitally minded’ pipeline of talent”.
- Help to shape the diversity of the talent pipeline, providing role models for pre-university education.
- Support employers play a key role in attracting and retaining a larger and more diverse workforce.
- Universities should collaborate with industry to help increase awareness of FinTech and financial services innovation
- Support the development of alternative programmes of learning, including apprenticeships and work placements to attract talent

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Dr Richard Lane
Assistant Professor, Institute of Coding
richard.lane@coventry.ac.uk

Coventry University
Priory Street
Coventry
CV1 5FB
E: **ioc@coventry.ac.uk**

www.linkedin.com/in/institute-of-coding-952013199
@IoC_CovUni

www.coventry.ac.uk/business/partner-with-us/institute-of-coding
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