



# Future Skills in Financial Services

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Global Futures  
& Foresight





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## Foreword

We are living through an ongoing evolution in how IFS organisations operate and a fundamental transformation in how they work. Digital transformation and automation are shifting the skills and experiences that IFS operations are both looking for in new hires and wish to cultivate among existing professionals. This represents significant talent, leadership and organisational challenges for companies at a time when accelerating change in the form of fintech, consumer demand and an uncertain macroeconomic backdrop present risk and disruption.

Competition for talent is intensifying. How talent needs will change and how organisations can prepare for the future, will come to define the winners of tomorrow. Identifying and acting on these changes ahead of time is critical.

In this report, we look at how an array of IFS business models could be impacted and shaped over the coming decade, with special consideration of what this means for the skills needed to compete and prosper. Since the precise details of the future remain unknowable, this report develops scenarios that can initiate individual and corporate thinking for where exactly they want to go in the expanding IFS ecosystem and how they can get there.

Change may well be uncomfortable, but irrelevance is more so, both for IFS organisations and IFS professionals. For those with the foresight to change before it is forced on them, the outlook is bright.

Paul Sweetman  
Director, Financial Services Ireland



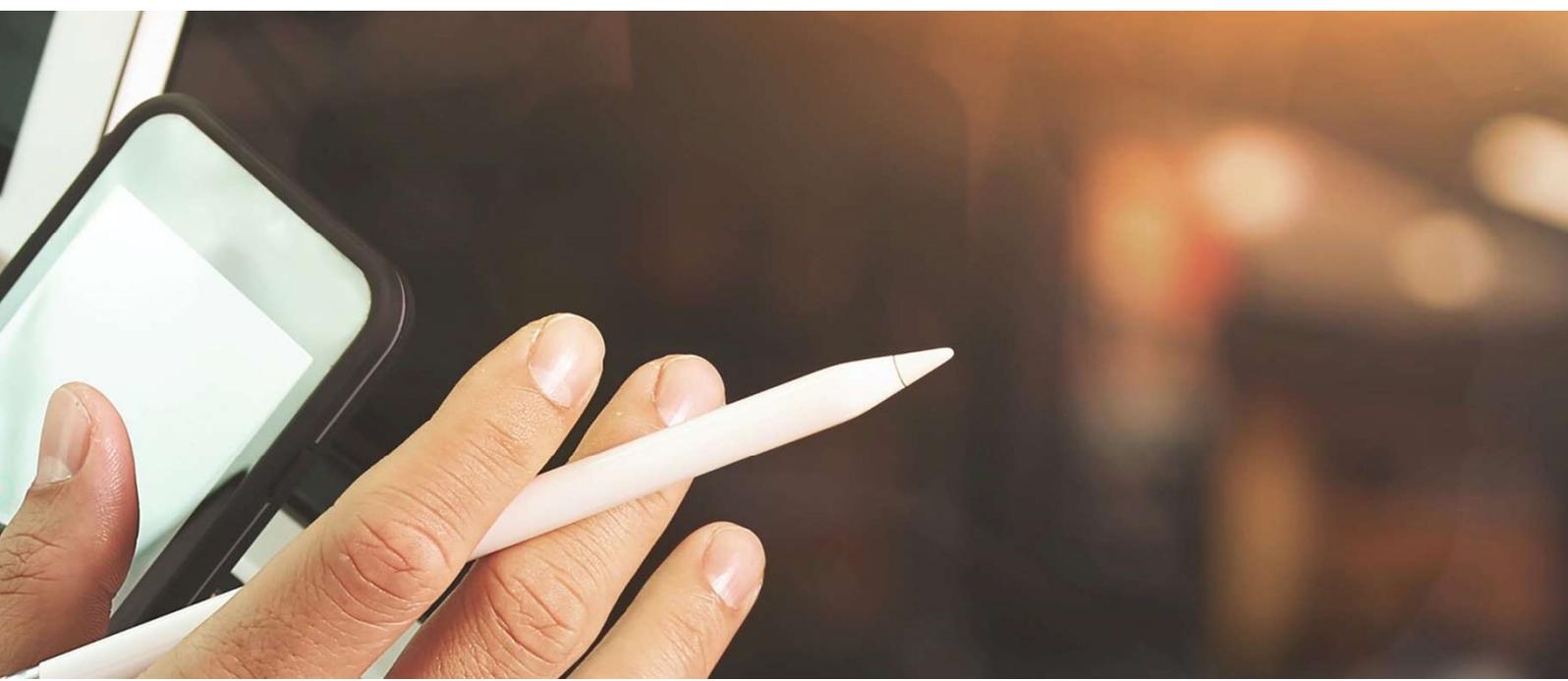
## Executive Summary

The coming phase of technological disruption is set to change financial services (IFS) more than the Great Recession. A third digital revolution is unfolding that will significantly impact what organisations do, how they do it and who they use to do it. As IFS organisations readjust to the demands and possibilities of digital and the challenge from fintech, the imminent intelligent era will amplify many of the changes and introduce new issues of its own.

The future of IFS in Ireland will likely be markedly different than its past, in terms of not just the technology and processes in play, but the talent and strategies needed to compete in new value pools and markets. Talent pathways into IFS are set to broaden, with the addition of new job roles and the reorganisation of traditional ones. The addition of A.I., while potentially replacing a range of back-office jobs and redesigning others, is also set to create new ways of doing things,

demanding new skills and competencies and emphasising the ability to rapidly develop and diffuse a range of professional skills across the organisation. What IFS does, as well as how it does it, will continue to evolve as market and sectoral boundaries become more fluid and technological capability matches consumer demand. This will compel IFS structures, in banking, insurance, asset management and funds to evolve too, challenging the capacity of IFS leadership to adapt and evolve.

With the new skills and competencies required for success increasingly difficult to locate in a single organisation, new partnerships, forms of collaboration and ecosystem capabilities will come to define the success of IFS organisations. This area is one of many that Irish IFS organisations must look to improve upon if they are to be future ready and able to both adapt to and shape the ever-changing IFS environment.



## Moving at the pace of the consumer

Artificial intelligence (A.I.) is forecast by 64 percent of Irish CEOs to significantly change the way they do business<sup>1</sup>, but whether IFS organisations in general have the requisite flexibility, talent strategies and change management prowess to change at speed remains an open question. Some 76 percent of consumers now expect organisations to understand, and presumably act upon, their individual needs,<sup>2</sup> yet many IFS providers remain overly product focused. While a lack of core personalisation is perhaps most obvious within banking and insurance, the issue extends to other IFS sectors such as funds, asset and investment management. Kathrin Hamilton, a partner at Baillie Gifford, an Edinburgh-based investment manager suggests that ‘...a lot of firms have been focusing on accumulating assets rather than delivering outcomes for their clients<sup>3</sup>.’ The application of advanced analytics at both sectoral and consumer levels will result in personalised products and services at all levels, requiring shifts in how all IFS sectors manage future customers<sup>4</sup>. Broadly speaking, the ‘...industry has put most of its brains trust and innovation into product development, and customers just don’t need that. What they need is service innovation<sup>5</sup>.’

Fintechs are helping define standards of service innovation and often using advanced analytics and machine learning to help provide it. In China, successful IFS incumbents such as Ping An have responded to the fintech challenge by investing heavily in digital capabilities. This has included crafting an ecosystem of its own by scaling Fintech-like offerings and skillsets. Fintech accelerates the trend towards using advanced analytics, delivering superior user design and customer service as well as working alongside automated systems. Since 71 percent of Irish adults use Fintech services in one form or another, versus a global average of 64 percent<sup>6</sup>, the need to revamp skills across IFS sectors in Ireland would seem pressing.

Indeed, the misalignment between consumer expectations and current reality could have profound market consequences, with, for example, one in ten European banks potentially disappearing over the next five years<sup>7</sup> and up to half of all asset management firms by 2030<sup>8</sup>. Gartner, somewhat controversially, forecasts that by 2030, 80 percent of IFS organisations will either go out of business or be rendered irrelevant by a blend of new competition, changing customer behaviour and tech advancement<sup>9</sup>. Avoiding such a destiny will require consumer-centric offerings and practices with regards to collaboration, technological adoption, and the crafting of new business models. Such moves will, in turn, help define the appropriate talent composition for each organisation.

<sup>1</sup> Source: PwC, 'Finding Growth in an Uncertain World,' 2019 <https://www.pwc.ie/publications/2019/finding-growth-in-an-uncertain-world-ceo-survey-irish-analysis.pdf>

<sup>2</sup> Source: Phelps, S 'Mind The Customer Expectation Gap,' 2017 <https://www.forbes.com/sites/stanphelps/2017/01/27/mind-the-customer-expectation-gap/#768f9ef57cb7>

<sup>3</sup> Source: Bloomberg, 'Asset Managers With \$74 Trillion on Brink of Historic Shakeout,' 2019 <https://www.bloomberg.com/graphics/2019-asset-management-in-decline/>

<sup>4</sup> Source: Ernst & Young, 'The Impact of Wider Integration of Data Analytics and Automation on Manpower in the Singapore Financial Services Sector,' 2019 [https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/\\$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf)

<sup>5</sup> Source: Gilbert, m 'The Future of Fund Management? It's Vinyl,' 2018 <https://www.bloomberg.com/opinion/articles/2018-11-02/the-future-of-fund-management-it-s-vinyl>

<sup>6</sup> Source: Ernst & Young, 'Ireland emerges as a developed world leader in FinTech adoption,' 2019 <https://eyfinancialservicesthoughtgallery.ie/ireland-developed-world-leader-fintech-adoption/>

<sup>7</sup> Source: FinExtra 'One in ten European banks to disappear over the next five years,' 2019 <https://www.finextra.com/newsarticle/33853/one-in-ten-european-banks-to-disappear-over-the-next-five-years>

<sup>8</sup> Source: CNBC 'Number of asset managers to halve by 2030: KPMG,' 2014 <https://www.cnbc.com/2014/06/16/number-of-asset-managers-to-halve-by-2030-kpmg.html>

<sup>9</sup> Source: Ernst & Young, 'Ireland emerges as a developed world leader in FinTech adoption,' 2019 <https://eyfinancialservicesthoughtgallery.ie/ireland-developed-world-leader-fintech-adoption/>

## Data driven destinies

More than 20 percent of IFS decision-makers have limited trust or else active distrust in their analytics, whereas only 33 percent have a high level of trust in the way their organisation uses different types of analytics<sup>10</sup>. Within three years, more than half of significant new business systems are forecast to incorporate real-time contextual data - dubbed 'continuous intelligence' - to improve decisions<sup>11</sup>. Few if any current IFS organisations are ready for this technologically, let alone in terms of culture, leadership, talent or structure.

By 2025, nearly a fifth of the data generated worldwide will be marked as 'critical' to daily life, and nearly a tenth seen as 'hypercritical<sup>12</sup>,' yet most IFS business models remain poorly equipped to adapt to technological disruption<sup>13</sup>. Banks, for example, feature around 1 percent of white-collar employees working in advanced analytics. Tech companies, while clearly operating a different business model, average close to 3 percent of staff aligned with advanced analytics. The most analytically advanced digital native companies feature 10 percent in this role<sup>14</sup>. Among investment professionals, a slightly higher 17 percent are currently learning data analysis coding languages like Python, R, and MATLAB, while 12 percent are currently learning data visualization like Tableau and QlikView<sup>15</sup>.

Addressing this continuing imbalance is vital, since '...the pattern of 'life data' could emerge as an innovative way to de-commoditise consumer financial products<sup>16</sup>.' However, IFS organisations must learn to walk before they can run. On average, just 19 percent of Irish IFS leaders suggest the information they receive for key business decision making is adequate, with a paucity of analytical talent the most common cause<sup>17</sup>. Traditional financial institutions and fintech start-ups alike are looking for more candidates with A.I, machine learning and data science skills. IFS job listings requiring A.I and advanced analytical skills have reportedly increased by nearly 60 percent in the past year<sup>18</sup>. In part this is to remedy poor data hygiene. For example, around half of some IFS sectors are identified as not doing enough to verify the validity and accuracy of their data, leaving them vulnerable to false insights that could lead to bad decisions<sup>19</sup>.

*Financial professionals everywhere will increasingly need to be data conversant and analytically minded, as will the systems they inhabit.*

Bad decisions form just one area of weakness that a lack of data competence could expose. Four of the top ten 'at risk' capabilities in IFS organisations cited by PwC centre on data and analytics. These include using insights from

<sup>10</sup> Source: Liddy, J 'Trust in a digital environment', 2018 <https://home.kpmg/xx/en/home/insights/2018/06/trust-in-a-digital-environment-fs.html>

<sup>11</sup> Source: Ross, A 'Gartner: top 10 data and analytics technology trends for 2019', 2019 <https://www.information-age.com/gartner-data-and-analytics-technology-trends-123479234/>

<sup>12</sup> Source: Sikdar, R 'Smart cities to become the norm by 2025', 2018 <https://www.itpro.co.uk/big-data/30541/smart-cities-to-become-the-norm-by-2025>

<sup>13</sup> Source: Fleming, R 'Four Models to Weather the Turbulence in Banking', 2018 <https://www.bain.com/insights/four-models-to-weather-turbulence-in-banking>

<sup>14</sup> Source: Brahm, C 'Solving the New Equation for Advanced Analytics Talent', 2019 <https://www.bain.com/insights/solving-the-new-equation-for-advanced-analytics-talent>

<sup>15</sup> Source: CFA Institute, 'Nearly Half of Investment Professionals Expect Their Roles to Substantially Change within the Next Decade,'

2019 <https://www.cfainstitute.org/en/about/press-releases/2019/nearly-half-of-investment-professionals-expect-roles-to-change-within-next-decade>

<sup>16</sup> Source: Matthews, j 'How Can the Financial Services Industry Benefit from the Internet of Things?' 2017 <https://themarketmogul.com/can-financial-services-industry-benefit-internet-things/>

<sup>17</sup> Source: PwC, 'Research highlights challenges faced by the financial services sector,' 2019 <https://www.pwc.ie/media-centre/press-release/2019/research-highlights-challenges-faced-by-financial-services.html>

<sup>18</sup> Source: Liu, J 'Finance jobs requiring A.I. skills increased 60% last year—here's what they look like,' 2019 <https://www.cnbc.com/2019/09/25/finance-jobs-requiring-ai-skills-are-growing-and-here-are-examples.html>

<sup>19</sup> Source: FinExtra 'Fake data' will make banks vulnerable – Accenture,' 2018 <https://www.finextra.com/newsarticle/31978/fake-data-will-make-banks-vulnerable---accenture>

big data and advanced analytics in workforce decision-making<sup>20</sup>. There is a clear and evident need for such skills to penetrate further than just those working with modeling. For example, hedge-fund Bridgewater Associates has a vision for the business whereby intelligent software will make around 75 percent of all management decisions<sup>21</sup>. Likewise, 80 percent of insurance executives report that their organisations are using data to promote critical and automated decision-making.

*An estimated 97 percent of business decisions are made using data that the company's own managers consider unreliable<sup>22</sup>.*

As IFS organisations become digital, tech and IoT companies, skills to combat cyber threats will grow more important. Cybersecurity is viewed as the top threat to business growth for 88 percent of IFS leaders in Ireland<sup>23</sup>, and thus will become a critical fulcrum of future skills, organisational design and strategy.

#### Key messages:

- Working with intelligent machines and algorithms will become a key future success factor for finance professionals.
- Analytical skills will be needed across many roles and beyond traditional ones such as modelling and underwriting.
- Conversely, in an era mediated by A.I., human-centric skills (whether soft/professional or even liberal arts style skills) will become key factors of differentiation for talent looking to get ahead.

<sup>20</sup> Source: PwC, 'Financial Services: Preparing for tomorrow's workforce, today,' 2019 <https://www.pwc.com/gx/en/industries/financial-services/assets/pwc-fs-preparing-for-tomorrows-workforce-today.pdf>

<sup>21</sup> Source: Centigen 'How automation is giving hedge funds a crucial competitive edge,' 2019 <https://centigen.co.uk/how-automation-is-giving-hedge-funds-a-crucial-competitive-edge/>

<sup>22</sup> Source: Cusano, J 'POOR DATA CAN UNDERMINE INSURERS' AI PROJECTS,' 2018 <https://insuranceblog.accenture.com/poor-data-can-undermine-insurers-ai-projects>

<sup>23</sup> Source: PwC Ireland 'Research highlights challenges faced by the financial services sector,' 2019 <https://www.pwc.ie/media-centre/press-release/2019/research-highlights-challenges-faced-by-financial-services.html>

## IFS in the intelligent era

A.I. is forecast to place 2.5 million financial jobs at risk<sup>24</sup>, while Edelman foresees a reduction of up to 25 percent of total current financial services jobs<sup>25</sup>. For some economies, this figure is higher, with 32 percent of existing UK jobs in financial services estimated to be endangered by 2030<sup>26</sup>.

The implications for the various sectors within IFS are myriad.

- Such reductions could save banks \$1 trillion,<sup>27</sup> and reduce current staffing levels by 1.7 million in the U.S and Europe by 2026<sup>28</sup>.
- The insurance industry predicts it could lose 1 in 5 current jobs to automation within the next 5 years<sup>29</sup>.
- By the year 2025, PwC foresees 20 percent fewer asset management firms due to continued fee pressure and acquisitions,<sup>30</sup> while half of all asset management may be endangered by 2030 as new technology combines with demographic and consumer shifts to transform the industry<sup>31</sup>.
- One in five finance jobs across the global capital markets – around

400,000 in total – will have disappeared by 2030<sup>32</sup>.

- Fund management workforces are likely to shrink, and of those who keep their jobs, ‘...up to 40 percent will need fundamental retraining on the use of analytical tools<sup>33</sup>.’

*48 percent of CFA Institute members and candidates expect their role to be significantly different or nonexistent within five to ten years<sup>34</sup>.*

It is likely that A.I. will impact 100 percent of all IFS jobs. A.I.’s job displacement effect can be categorised into three waves: ‘...algorithmic (until early 2020s), augmentation (to late 2020s), and autonomy (to mid-2030s). The first wave will impact relatively few jobs – perhaps 3 percent. By the mid-2030s, however, up to 30 percent of jobs could be automated – mostly those involving clerical and manual tasks<sup>35</sup>.’ All three tracks of automation are already well underway. Investment firm Legg Mason is in the process of eliminating around 120 positions, or 12 percent of its staff, while in January 2019 State Street announced plans to dismiss

<sup>24</sup> Source: Harris, A ‘AI Could Kill 2.5 Million Financial Jobs—And Save Banks \$1 Trillion,’ 2018 <https://www.fastcompany.com/40568069/ai-could-kill-2-5-million-financial-jobs-and-save-banks-1-trillion>

<sup>25</sup> Source: Gamm, S ‘Edelman CEO: 25% of financial services jobs will be eliminated by automation,’ 2019 <https://finance.yahoo.com/news/edelman-ceo-25-of-financial-services-jobs-will-be-eliminated-from-automation-184625335.html>

<sup>26</sup> Source: Howard, LS ‘Robots Could Steal 32% of Jobs in UK Financial Services by 2030: PwC,’ 2017 <https://www.insurancejournal.com/news/international/2017/03/24/445581.htm>

<sup>27</sup> Source: Harris, A ‘AI Could Kill 2.5 Million Financial Jobs—And Save Banks \$1 Trillion,’ 2018 <https://www.fastcompany.com/40568069/ai-could-kill-2-5-million-financial-jobs-and-save-banks-1-trillion>

<sup>28</sup> Source: Economist Intelligence Unit, ‘The marriage of high tech and high finance,’ 2017 <https://perspectives.eiu.com/financial-services/future-financial-services-transforming-industry/article/marriage-high-tech-and-high-finance>

<sup>29</sup> Source: Insurance Times ‘Mass replacement of insurance jobs by robots within 5 years – report,’ 2019 <https://www.insurancetimes.co.uk/mass-replacement-of-insurance-jobs-by-robots-within-5-years-report-1430646.article>

<sup>30</sup> Source: Piper, N ‘20% of asset managers won’t exist in 2025, PwC says,’ 2019 <https://citywireusa.com/professional-buyer/news/20-of-asset-managers-wont-exist-in-2025-pwc-says/a1252388>

<sup>31</sup> Source: CNBC ‘Number of asset managers to halve by 2030: KPMG,’ 2014 <https://www.cnbc.com/2014/06/16/number-of-asset-managers-to-halve-by-2030-kpmg.html>

<sup>32</sup> Source: Buck, G ‘One in five’ finance jobs to be lost to automation,’ 2019 <https://ctmfile.com/story/one-in-five-finance-jobs-to-be-lost-to-automation>

<sup>33</sup> Source: Gilbert, M ‘What a fund management job will look like by 2028,’ 2018 <https://www.benefitspro.com/2018/03/20/what-a-fund-management-job-will-look-like-by-2028/?sreturn=20191104154140>

<sup>34</sup> Source: CFA Institute, ‘Nearly Half of Investment Professionals Expect Their Roles to Substantially Change within the Next Decade,’ 2019 <https://www.cfainstitute.org/en/about/press-releases/2019/nearly-half-of-investment-professionals-expect-roles-to-change-within-next-decade>

<sup>35</sup> Source: PwC Ireland, ‘Finding growth in an uncertain world,’ 2019 <https://www.pwc.ie/publications/2019/finding-growth-in-an-uncertain-world-ceo-survey-irish-analysis.pdf>

1,500 workers<sup>36</sup>. Both announcements chiefly concerned positions based in the United States

Wells Fargo foresees 10 percent of current jobs being completely automated by 2030, but with between 20 and 30 percent of call centre jobs set for replacement<sup>37</sup>. Indeed, back office work is cited by the Financial Times as the least future proof area within the funds sector. It notes that ‘...when Atlanta-based fund house Invesco recently cut 1,300 jobs after absorbing rival OppenheimerFunds, this included 850 losses from a single office in Denver that had performed administrative functions. Only about a dozen investing staff were dismissed<sup>38</sup>. There remains the possibility that some of these forecast back office positions may not be lost per se, but rather the role outsourced to third parties, especially in areas such as custodianship<sup>39</sup>.

For those that remain in back office positions, the use of automation is likely to shift the composition of the role. Workers conversant and capable of parsing the analytics produced by automated systems will not only manage to do their current tasks with greater ease, but also look to expand their load of value-add activities for clients, investors and the organisation in general.

## Scaling A.I.

IFS organisations interested in strategically using A.I. at scale will require ‘...multidisciplinary talent that can bridge infrastructure, development tools, programming languages, A.I., and machine learning<sup>40</sup>.’ They will also likely create new hybrid IT roles spanning human and A.I. input and figure new ways of best serving the IFS workforce, in terms of what is possible as well as where work is done, with who and how. Ultimately and beyond just the IT department,

*IFS organisations must become a place to learn yet 54 percent across all industries say that they have no programs in place to build the skills of the future<sup>41</sup>.*

42 percent of insurers view A.I. as the technology having the greatest future impact for their organisations<sup>42</sup>. Indeed, it could allow for personalised pay-as-you-go policies and shift coverage towards prevention as data enables a technological – and professional revolution<sup>43</sup>.

*44 percent of organisations have not yet determined how their automation strategies will affect their workforce<sup>44</sup>.*

<sup>36</sup> Source: Bloomberg, ‘Asset Managers With \$74 Trillion on Brink of Historic Shakeout,’ 2019 <https://www.bloomberg.com/graphics/2019-asset-management-in-decline/>

<sup>37</sup> Source: Merchant, B, ‘Goliath Is Winning’: The Biggest U.S. Banks Are Set to Automate Away 200,000 Jobs,’ 2019 <https://gizmodo.com/goliath-is-winning-the-biggest-u-s-banks-are-set-to-a-1838740347>

<sup>38</sup> Source: FT, ‘Asset management: how safe is your job?’ 2019 <https://www.ft.com/content/f2e2ff29-0f48-4a87-84af-dfd5380b7e95>

<sup>39</sup> Source: FT, ‘Asset management: how safe is your job?’ 2019 <https://www.ft.com/content/f2e2ff29-0f48-4a87-84af-dfd5380b7e95>

<sup>40</sup> Source: Ghosh, B et al ‘Taking a Systems Approach to Adopting AI,’ 2019 <https://hbr.org/2019/05/taking-a-systems-approach-to-adopting-ai>

<sup>41</sup> Source: Bersin, J et al ‘From careers to experiences: New pathways,’ 2018 <https://www2.deloitte.com/insights/us/en/focus/human-capital-trends/2018/building-21st-century-careers.html>

<sup>42</sup> Source: Accenture, ‘Key Insights From Technology Vision 2019 For Insurance Highlighted In 6 Charts,’ 2019 <https://insuranceblog.accenture.com/key-insights-from-technology-vision-2019-for-insurance-highlighted-in-6-charts>

<sup>43</sup> Source: Frary, M ‘How hyper-personalisation can transform insurance,’ 2019 <https://www.raconteur.net/risk-management/personalisation-insurance>

<sup>44</sup> Source: Horton, M ‘Automation with intelligence,’ 2019 <https://www2.deloitte.com/us/en/insights/focus/technology-and-the-future-of-work/intelligent-automation-technologies-strategies.html>

For professionals in such organisations, the need to get ahead with retraining and continuous learning is even more pressing than usual yet they risk falling victim to learning the wrong skills at the wrong time.

Machine learning will be able to compete with workers in areas of codified, repeatable tasks and jobs. McKinsey notes that ‘...within commercial banks, relationship managers, underwriters, and portfolio managers still spend more than 40 percent or more of their time on non-core administrative, repetitive, and automatable tasks<sup>45</sup>.’ Insurance leaders are already exploring robotic process automation, with AXA having announced three bots in their organisation able to save 18,000 work hours per year. With an increasing range of A.I. solutions being pioneered by FinTechs, new skills and methods will be needed within IFS organisations for managing risk, which Ernst & Young suggests ‘...will require a general shift in the baseline to take a more proactive approach rather than a reactive stance toward risk<sup>46</sup>.’ The floor of base skills is likely to ‘rise’ as a result.

This is repeated across multiple work silos; with 70 percent of all IFS firms currently using machine learning in production environments<sup>47</sup>. In doing so, machine learning is changing the attributes necessary to build successful IFS organisations. For one it will enable institutions to turn A.I. driven operations and back offices into external services. BlackRock and Ping An stand out as

examples of incumbents internally developing world-class services that are then externalised to create new revenue streams<sup>48</sup>.

Such pathways suggest machine learning may lead to job creation, as well as robotic replacement. Furthermore, ‘...automating tasks previously done by humans in the asset management industry should theoretically reduce costs. Lower fees will likely increase demand for IFS and, subsequently, the need for more staff to service new customers<sup>49</sup>.’ Opimas, while predicting a 90,000 personnel reduction in the global asset management industry by 2025 (out of a total industry figure of 520,000), also foresees the creation of 30,000 new jobs for technology and data providers<sup>50</sup>.

Within individual organisations, the benefits of intelligent business will accrue somewhat unevenly – both to those able to work with such systems and to certain job roles. Underwriters, for example, will be able to use A.I. systems to monetize many of their new data streams, with insurers potentially able to generate as much as \$28 billion in the next five years by monetizing data, algorithms and platforms<sup>51</sup>.

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<sup>45</sup> Source: Buehler, K et al ‘How ‘digital’ will change commercial banking,’ 2018 <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/digital-blog/how-digital-will-change-commercial-banking>

<sup>46</sup> Source: Ernst & Young, ‘The Impact of Wider Integration of Data Analytics and Automation on Manpower in the Singapore Financial Services Sector,’ 2019 [https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/\\$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf)

<sup>47</sup> Source: Columbus, L ‘Why AI Is The Future of Financial Services,’ 2019 <https://www.forbes.com/sites/louiscolombus/2019/08/15/why-ai-is-the-future-of-financial-services/#60142b2f3847>

<sup>48</sup> Source: World Economic Forum ‘The New Physics of Financial Services,’ 2018 [http://www3.weforum.org/docs/WEF\\_New\\_Physics\\_of\\_Financial\\_Services.pdf](http://www3.weforum.org/docs/WEF_New_Physics_of_Financial_Services.pdf)

<sup>49</sup> Source: Wagner & Hager, ‘Finance Needs People Who Work Well With Robots,’ 2019 <https://www.bloomberg.com/news/articles/2019-08-20/finance-needs-people-who-work-well-with-robots>

<sup>50</sup> Source: Newell, R ‘Artificial intelligence: Smart advantage,’ 2018 <https://www.ipe.com/reports/special-reports/top-400-asset-managers/artificial-intelligence-smart-advantage/10025005.article>

<sup>51</sup> Source: Cusano, J ‘Poor data can undermine insurers’ ai projects,’ 2018 <https://insuranceblog.accenture.com/poor-data-can-undermine-insurers-ai-projects>



## Redefining work

Over 60 percent of workers have a positive view of the impact of A.I. on their work, ostensibly freeing them up from routine tasks to focus on more interesting and rewarding work. Indeed, not having such technologies can prove harmful since frustration with outdated, slow or complex workplace technology ranks as a top ten reason for Australian employees leaving their job<sup>52</sup>.

*Two-thirds acknowledge that they must develop their own skills to work with intelligent machines<sup>53</sup>.*

It is estimated that by 2022, as we shift from the digital to the intelligent eras, professionals across all industries will likely require an extra 101 days of learning, in order to be able to do their jobs effectively<sup>54</sup>.

*35 percent of all employees are set to require up to six months of additional training<sup>55</sup> while two-thirds of workers see their job changing significantly at least every five years because of technological advances<sup>56</sup>.*

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<sup>52</sup> Source: Which 50, 'Gartner Says Outdated Technology Is Pushing Australian Workers Out The Door,' 2019 <https://which-50.com/gartner-says-outdated-technology-is-pushing-australian-workers-out-the-door/>

<sup>53</sup> Source: Hintermann, F 'Getting Your Employees Ready for Work in the Age of AI,' 2019 <https://sloanreview.mit.edu/article/getting-your-employees-ready-for-work-in-the-age-of-ai/>

<sup>54</sup> Source: Eisenberg, J '6 ways to future-proof universities,' 2019 <https://www.weforum.org/agenda/2019/02/6-ways-to-future-proof-universities>

<sup>55</sup> Source: Crush, P 'Why you must create space for workplace learning,' 2019 <https://www.raconteur.net/business-innovation/workplace-learning-space>

<sup>56</sup> Source: Adecco 'Future proofing the workforce,' 2018 [https://future-skilling.adeccogroup.com/downloads/Adecco\\_-\\_Future\\_skilling\\_report\\_2018.pdf](https://future-skilling.adeccogroup.com/downloads/Adecco_-_Future_skilling_report_2018.pdf)

<sup>57</sup> Source: CFA Institute 'Nearly Half of Investment Professionals Expect Their Roles to Substantially Change within the Next Decade,' 2019

Few if any institutions have the capacity to deliver these training requirements without outside collaboration in an era of lowering skill half-lives, necessitating new partnerships, skill learning pathways and accreditation standards. While tech related skills are central to change, T-shaped skills, which are ranked 3.5 times higher in importance than technical skills, will be key. T-shaped skills can be defined as combining both domain-specific specialist knowledge and wider professional connections, understanding, and perspective. They are unsurprisingly the most difficult to find skills within the investment industry<sup>57</sup>. Such requirements are reflected in other sectors, such as in the 79 percent of insurance brokers that suggest that this very wave of new technologies and automation is placing a premium on personal relationships for clients<sup>58</sup>.

In total, perhaps only 20 percent of current employees have the skills required for their current and future roles<sup>59</sup>. Even by 2025, more than one-third of the skills believed essential for today's workforce are forecast to have changed<sup>60</sup>, with creativity, emotional intelligence and analytical thinking coming to the fore.

Close to 66 percent of organisations have not yet considered what proportion of their workforce needs to retrain due to automation<sup>61</sup>. Even in roles where impact from automation is already being felt, 38 percent have not yet engaged in employee

<https://www.cfainstitute.org/en/about/press-releases/2019/nearly-half-of-investment-professionals-expect-roles-to-change-within-next-decade>

<sup>58</sup> Source: Scott, M 'Exclusive: More than half of brokers fear for the future of their business as market uncertainty grows,' 2019 <https://www.insurancetimes.co.uk/news/exclusive-more-than-half-of-brokers-fear-for-the-future-of-their-business-as-market-uncertainty-grows/1430375.article>

<sup>59</sup> Source: Ross, A 'Gartner warns skills shortage could hamper digital transformation efforts,' 2018 <https://www.information-age.com/gartner-skills-shortage-123474620/>

<sup>60</sup> Source: Marr, B 'The 10 Vital Skills You Will Need For The Future Of Work,' 2019 <https://www.forbes.com/sites/bernardmarr/2019/04/29/the-10-vital-skills-you-will-need-for-the-future-of-work/#6e419e133f5b>

<sup>61</sup> Source: Horton et al 'Automation with intelligence,' 2019 <https://www2.deloitte.com/us/en/insights/focus/technology-and-the-future-of-work/intelligent-automation-technologies-strategies.html>

retraining. Ideally, reskilling should be based on how organisations foresee their individual workers interacting with A.I. In the absence of such plans, specific skills prescriptions are nearly impossible to generate.

Also worth considering is the myriad of possibilities created by intelligent automation to build a skills based (as opposed to job based) workforce, meaning work could come to be redefined by<sup>62</sup>:

- 'The outputs and problems the workforce solves, not the activities and tasks executed.
- The teams and relationships people engage and motivate, not the subordinates they supervise.
- The tools and technologies that both automate work and augment the workforce to increase productivity and enhance value to customers.
- The integration of development, learning, and new experiences into the day-to-day (often real-time) flow of work.'

The churn in 'jobs' likely to emerge from intelligent automation almost certainly suggests that workers will need retraining<sup>63</sup> along a broader spectrum than has traditionally been assumed. The formation of ad-hoc team based working – however problematic in IFS – is likely to necessitate a range of professional and even entrepreneurial skills not found in many traditional IFS staff.

<sup>62</sup> Source: Horton et al 'Automation with intelligence,' 2019 <https://www2.deloitte.com/us/en/insights/focus/technology-and-the-future-of-work/intelligent-automation-technologies-strategies.html>

<sup>63</sup> Source: Ready, B '4 key financial services trends in the new age of work,' 2019 <https://www.weforum.org/agenda/2019/01/4-key-trends-in-financial-services-in-the-new-age-of-work/>

<sup>64</sup> Source: Eckenrode, J 'The derivative effect: How financial services can make IoT technology pay off,' 2015

## New IFS models

Deloitte suggests that as many as 50 percent of all sensors (such as IoT devices or linked gadgets) deployed by 2020 could be of use to the financial services sector, up from 33 percent in 2015 and 25 percent in 2013<sup>64</sup>. Consequently, new businesses may emerge to meet the market need for access to these data flows<sup>65</sup>. ' Together with the Internet of Things (IoT), automation could compel financial services to become '...embedded directly into the user activity itself as a native, not a separate, function<sup>66</sup>. ' Real time insurance could help shift the industry model from compensation to prevention, whether through real time personalised alerts or IoT monitoring of water pipes, for example. Banking could shift into an advisory service, helping consumers meet their short or long term goals by providing timely prompts regarding spending or even the availability of better offers elsewhere. Funds could become more personalised and better match a range of client preferences, not to mention customer servicing. The opportunities in such a move would appear significant, but are matched only by talent and skills challenges not necessarily core to IFS organisations traditional operations such as interface design, data proficiency, collaboration and innovation.

The spread of the IoT will broaden data footprints, shifting models significantly. Jon Carter, Deutsche Telekom's UK Head of Business Development for the Connected Home, suggests that the '...IoT will have a huge disruptive effect on insurance and we could see an upending of their entire

<https://www2.deloitte.com/us/en/insights/focus/internet-of-things/iot-in-financial-services-industry.html>

<sup>65</sup> Source: Matthews, J 'How Can the Financial Services Industry Benefit from the Internet of Things?' 2017 <https://themarketmogul.com/can-financial-services-industry-benefit-internet-things/>

<sup>66</sup> Source: Wadwha, S, ' This is what might happen when robots take over banking,' 2016 <http://uk.businessinsider.com/the-rise-of-automation-in-banking-and-finance-2016-8?r=US&IR=T>

model<sup>67</sup>,’ with the ‘...first be(ing) the ones that define the landscape and capture the future value, as well as protect(ing) themselves from further disintermediation.’

The concurrent shift into digital identities could be a key enabler for IFS organisations to deliver a broader range of services, both connected to existing offerings and in many cases, new areas. A centralised consumer data profile, outlined by the World Economic Forum, as ‘...residing in an account where it would be controlled, managed, exchanged and accounted for<sup>68</sup>,’ by around 2028, could enable a range of IFS organisations to reposition themselves as trusted advisers able to deliver value over a wider remit.

New roles will not only create a new cadre of professionals, but also likely shift demands within existing jobs too that differ from the historic norm.

*There is no manual for how financial institutions should manage the talent transformation that A.I. will precipitate<sup>69</sup>, yet if the half-life of a job skill is now about five years as research claims, continuous disruption is baked into organisations whether we tacitly accept it or not<sup>70</sup>.*

This will compound broader market change. The most likely impact of the platformisation and commoditisation of IFS is that mid markets positions are likely to erode. Along with balancing talent needs, increased competition, the advance of fintech, regulation, market demands and digitisation are likely to broadly bifurcate IFS strategies into niche players and ecosystem hubs, driving very different structures and core competencies at either end of the spectrum. Since these various future models will have competing and different talent needs, there is a need for incumbents to consider where their strengths are, where their weaknesses are and what partnerships and ecosystem positioning is appropriate in seeking to deliver such a transformation.

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<sup>67</sup> Source: The Digital Insurer 'Insurance of Things – how IoT shows prevention is better than cure for Insurers,' 2019 <https://www.the-digital-insurer.com/blog/insurtech-insurance-of-things-how-iot-shows-prevention-is-better-than-cure-for-insurers/>

<sup>68</sup> Source: The Economist, 'Data is giving rise to a new economy,' 2017 <https://www.economist.com/news/briefing/21721634-how-it-shaping-up-data-giving-rise-new-economy>

<sup>69</sup> Source: World Economic Forum 'The New Physics of Financial Services,' 2018 [http://www3.weforum.org/docs/WEF\\_New\\_Physics\\_of\\_Financial\\_Services.pdf](http://www3.weforum.org/docs/WEF_New_Physics_of_Financial_Services.pdf)

<sup>70</sup> Source: Kasriel, S 'Skill, re-skill and re-skill again. How to keep up with the future of work,' 2017 <https://www.weforum.org/agenda/2017/07/skill-reskill-prepare-for-future-of-work/>



## Talent

Globally, some 62 percent of senior leaders in the banking industry express a belief that the digital talent gap is widening. This figure is likely reflected across other IFS sectors as much as it is across other non-financial organisations. As the needs of all IFS organisations shift, they will undoubtedly attempt to recruit people who match their needs<sup>71</sup>.

*'The face of finance is changing. Existing finance roles will morph, and instead we will see a focus on independent thinking, values, and teamwork as the repetitive and routine is replaced by automation<sup>72</sup>.'*

Despite the impact of A.I. and machine learning, not all professionals in IFS will need – or should aspire - to be data scientists. As financial expert Chris Skinner notes, '...dealing with technology is very different to dealing with money; furthermore, dealing with money through technology is very different to dealing with technology through money<sup>73</sup>.' What is broadly needed is an ability for professionals to work within and alongside increasingly automated systems. Being able to use such technology will be table stakes, starting with an understanding of where and how it can be used to engage the customer as part of building a more consumer-centric service.

The more professionals develop skills that leverage tech to drive a commoditized transaction, the more room – and ability - they will have to advise their customer around the moments that matter and interdict in value adding ways.

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<sup>71</sup> Source: Ernst & Young, 'The future of talent in banking: workforce evolution in the digital era,' 2018  
[https://www.ey.com/Publication/vwLUAssets/ey-the-future-of-talent-in-banking/\\$File/ey-the-future-of-talent-in-banking.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-future-of-talent-in-banking/$File/ey-the-future-of-talent-in-banking.pdf)

<sup>72</sup> Source: CFO 'Four Key Skills for a New Era in Finance,' 2018  
<https://www.cfo.com/training/2018/10/four-key-skills-for-a-new-era-in-finance/>

<sup>73</sup> Source: Skinner, C 'When Will Amazon Launch Its Bank?' 2019  
<https://www.iris.xyz/fintech-center/fintech/when-will-amazon-launch-its-bank>

# Future talent depends on models

## Banking

The gap between ‘what’s possible’ and business as usual is widening, rendering the latter unsustainable. At one extreme, Deutsche Bank's ex-head of equities believes this could mean banking careers are over<sup>74</sup>. Ernst & Young believes people are expected to have four or five ‘careers’ within a bank<sup>75</sup>.

An Accenture study aiming to quantify and understand the structural changes occurring within banking noted that the ‘...overarching takeaway from the study is that a digitally enhanced version of business as usual is unlikely to be a winning strategy for banks competing in the digital age<sup>76</sup>.’ Simply adding digital skills to an otherwise standstill IFS workforce, it seems, is insufficient in and of itself for future success.

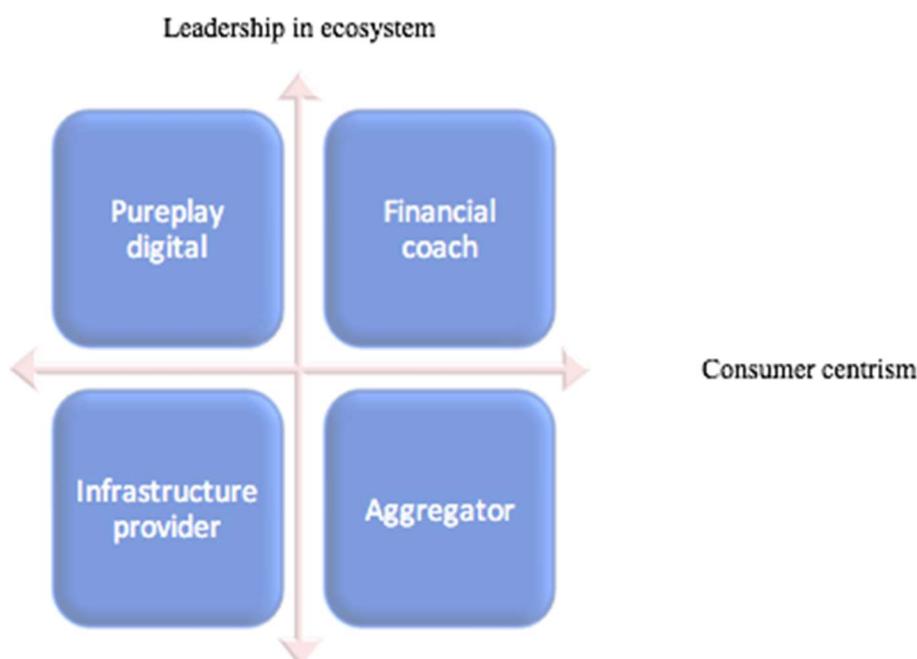
Four broad although not mutually exclusive, models could emerge from the turbulence set to impact banking<sup>77</sup>, each with differing talent footprints and needs as outlined below.

### 1. Pureplay digital

Digital pure play banks, exemplified by Atom in the UK, run off a lower cost base with growth fueled by data analysts, algorithm developers and interface design specialists. Frontline staff are likely to use the latest tech, including avatars, to interact with customers.

Key jobs: Data analysts, Interface designers, Algorithm developers, CX agents

Key skills: Customer service, Zero interface design, Data analysis



<sup>74</sup> Source: Butcher, S 'Deutsche Bank's ex-head of equities says banking careers are over,' 2017 <https://news.efinancialcareers.com/uk-en/271667/do-banking-jobs-have-a-future>

<sup>75</sup> Source: EY, 'The future of talent in banking: workforce evolution in the digital era,' 2018 [https://www.ey.com/Publication/vwLUAssets/ey-the-future-of-talent-in-banking/\\$File/ey-the-future-of-talent-in-banking.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-future-of-talent-in-banking/$File/ey-the-future-of-talent-in-banking.pdf)

<sup>76</sup> Source: McIntyre, A 'How Banks Should Navigate Through Digital Disruption As Their North Star Shifts,' 2018

<https://www.forbes.com/sites/alanmcintyre/2018/10/18/how-banks-should-navigate-through-digital-disruption-as-their-north-star-shifts/#5eadd0593ee7>

<sup>77</sup> Source: Fleming et al 'Four Models to Weather the Turbulence in Banking,' 2018 <https://www.bain.com/insights/four-models-to-weather-turbulence-in-banking>

## 2. Financial coach

Managing big events, from weddings to moving home, could see banks partner with the wider ecosystem, and provide services that reach across current industry boundaries. Banks could thus develop a more holistic understanding of money management<sup>78</sup>. Collaboration and soft skills become key in building such relationships, while various bank areas act as linked but distinct areas of innovation and ideation. New management for networked organisation is required.

Key jobs: Personal financial coach, Fintech & ecosystem developers, Behavioural psychologists  
Key skills: Collaboration with third parties, Customer service, a range of professional skills

## 3. Infrastructure provider

IFS providers become the 'infrastructure' in an open banking environment. Banks may even extend their core infrastructure to other financial institutions to remain consumer centric, but need to undergo substantial organisational and strategic change. Traditional frontline skills replaced by a focus on network architecture and a cutting-edge IT system.

Key jobs: System designers, CIO, Ecosystem cybersecurity management, Chief Trust Officer, Digital process engineers  
Key skills: Change management, Third party management, Cybersecurity

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<sup>78</sup> Source: Skinner, C '(Some) Big Bank CEOs believe that banks must reincarnate or die,' 2018 <https://thefinanser.com/2018/06/big-bank-ceos-believe-banks-must-reincarnate-die.html/>

## 4. Aggregator

Banks may increasingly look like an IT company with a sector specific license<sup>79</sup>. The economics of aggregators hinge on earning greater loyalty from customers and taking a fee for various value-added transactions flows. There is, however, a significant cultural shift in moving from control to curation.

Key jobs: Digital leaders, Digital process engineers  
Key skills: Data analysis, Change management/Leadership, New management paradigm

<sup>79</sup> Source: Walter, D 'Design thinking gives you an edge over your competitors,' 2017 [https://thenextweb.com/worldofbanking/2017/07/31/banks-beat-competitors-with-design-thinking-and-so-can-you/#.tnw\\_fm3a86G](https://thenextweb.com/worldofbanking/2017/07/31/banks-beat-competitors-with-design-thinking-and-so-can-you/#.tnw_fm3a86G)

## Asset management and investment

As we move toward the 2020s, technology is becoming a prerequisite for the asset management industry. Currently, only between 20 and 30 percent of asset managers qualify as digital pioneers<sup>80</sup>, which given the need for asset managers to adjust to a range of change vectors, is less than encouraging.

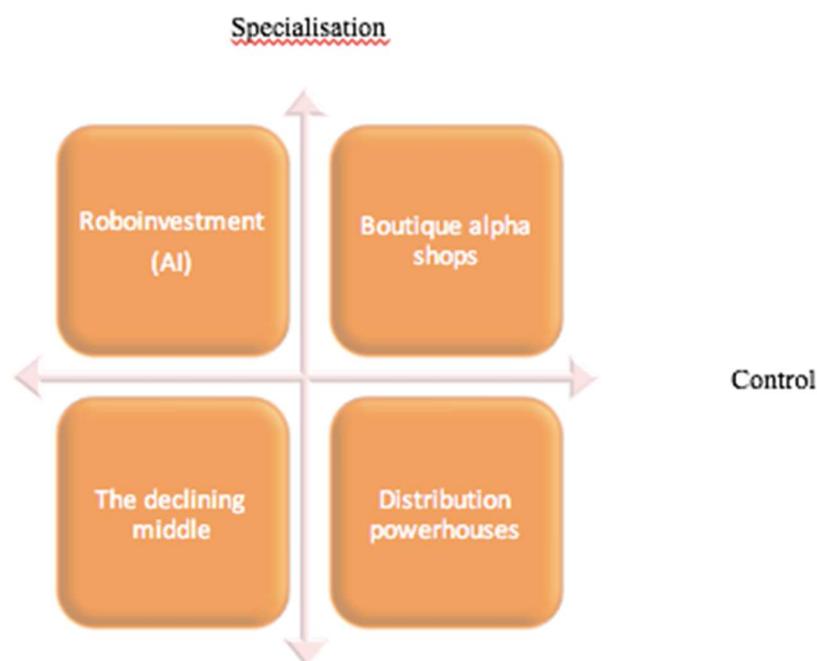
A.I. is prompting investment managers to shift their business models by replacing or altering core differentiating capabilities<sup>81</sup>. This could even occur at the product level, for example '...passive products could increasingly develop active characteristics as models mimic complex strategies or develop their own<sup>82</sup>.'

## 1. Roboinvestors

Assets on wealth management platforms, including so-called roboadvisors, are expected to nearly double in the next five years<sup>83</sup>. With it, autonomous personal finance could represent the future direction of financial planning<sup>84</sup>. It is also estimated that '...if computing power and data generation keep growing at the current rate, then machine learning could be involved in 99 percent of investment management in 25 years<sup>85</sup>.' Proving advice and access to a range of models could become a viable career pathway.

Key jobs: Human-Machine manager, P2P guide

Key skills: Coding, Curation, CX



<sup>80</sup> Source: Fages et al 'Global Asset Management 2019: Will These '20s Roar?' 2019 <https://www.bcg.com/publications/2019/global-asset-management-will-these-20s-roar.aspx>

<sup>81</sup> Source: World Economic Forum 'The New Physics of Financial Services,' 2018 [http://www3.weforum.org/docs/WEF\\_New\\_Physics\\_of\\_Financial\\_Services.pdf](http://www3.weforum.org/docs/WEF_New_Physics_of_Financial_Services.pdf)

<sup>82</sup> Source: World Economic Forum 'The New Physics of Financial Services,' 2018 [http://www3.weforum.org/docs/WEF\\_New\\_Physics\\_of\\_Financial\\_Services.pdf](http://www3.weforum.org/docs/WEF_New_Physics_of_Financial_Services.pdf)

<sup>83</sup> Source: Wealth Management, 'Assets on Wealth Management Platforms to Nearly Double by 2022,' 2018 <https://www.wealthmanagement.com/technology/assets-wealth-management-platforms-nearly-double-2022>

<sup>84</sup> Source: Janowski, D 'Why fintechs, not advisors, are driving change in financial planning,' 2018 <https://www.financial-planning.com/opinion/the-emerging-fintech-edge-startups-have-on-advisors>

<sup>85</sup> Source: Kumar, N 'How AI Will Invade Every Corner of Wall Street,' 2017 <https://www.bloomberg.com/news/features/2017-12-05/how-ai-will-invade-every-corner-of-wall-street>

## 2. Boutique Alphashops

Analysts expect to see an increasingly binary formula for success within the industry. One ‘...option comprises boutique alpha shops—small, focused, nimble businesses that can achieve alpha by using capacity-constrained strategies<sup>86</sup>.’ It is plausible that active will become very boutique, ‘looking very much like hedge funds do now<sup>87</sup>.’

The adviser’s skill set thus changes from being an investment expert to being a client coach. When technical knowledge is codified as part of the tech infrastructure of a company, personal and professional skills will ascend in importance.

Key jobs: Personal Risk manager, Emerging Tech Specialists, Extended Reality Designer  
Key skills: Data analysis, CX, Digital skills among all employees, Human-machine employee management, Teamwork

## 3. The declining middle

Business as usual is not an option for future success for asset managers, yet Boston Consulting Group ‘...doubts about the ability of firms in the middle to reinvent themselves to the degree necessary to create sustainable business models. All of them will have to evolve significantly to be successful, and some will not make it to 2030.’

## 4. Distribution power houses

Another ‘...option for the majority lies at the opposite end of the scale: distribution powerhouses with more than \$1 trillion in Assets Under Management that offer a full spectrum of products<sup>88</sup>.’ The service will be how the business makes its money; asset management itself will likely become fully commoditized, and essentially free<sup>89</sup>.

Key jobs: Digital leaders, Digital process engineers, Ecosystem engineers  
Key skills: Data analysis, Change management/Leadership, New management paradigm, Cybersecurity

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<sup>86</sup> Source: Fages et al ‘Global Asset Management 2019: Will These ‘20s Roar?’ 2019 <https://www.bcg.com/publications/2019/global-asset-management-will-these-20s-roar.aspx>

<sup>87</sup> Source: Gilbert, m ‘The Future of Fund Management? It’s Vinyl,’ 2018 <https://www.bloomberg.com/opinion/articles/2018-11-02/the-future-of-fund-management-it-s-vinyl>.

<sup>88</sup> Source: Fages et al ‘Global Asset Management 2019: Will These ‘20s Roar?’ 2019 <https://www.bcg.com/publications/2019/global-asset-management-will-these-20s-roar.aspx>

<sup>89</sup> Source: Gilbert, m ‘The Future of Fund Management? It’s Vinyl,’ 2018 <https://www.bloomberg.com/opinion/articles/2018-11-02/the-future-of-fund-management-it-s-vinyl>.

## Insurance and Reinsurance

So far ‘...only a small number of organizations have reimagined their business processes to optimise collaborative intelligence<sup>90</sup>.’ It is critical to do since while A.I. is probably not on the cusp of being able to replace most jobs in the immediate future, people using A.I. are starting to replace those who don’t or can’t<sup>91</sup>. This trend will likely only accelerate as a result of the shift from the digital to the intelligent era.

### 1. Preventative services (includes real time contextual offers)

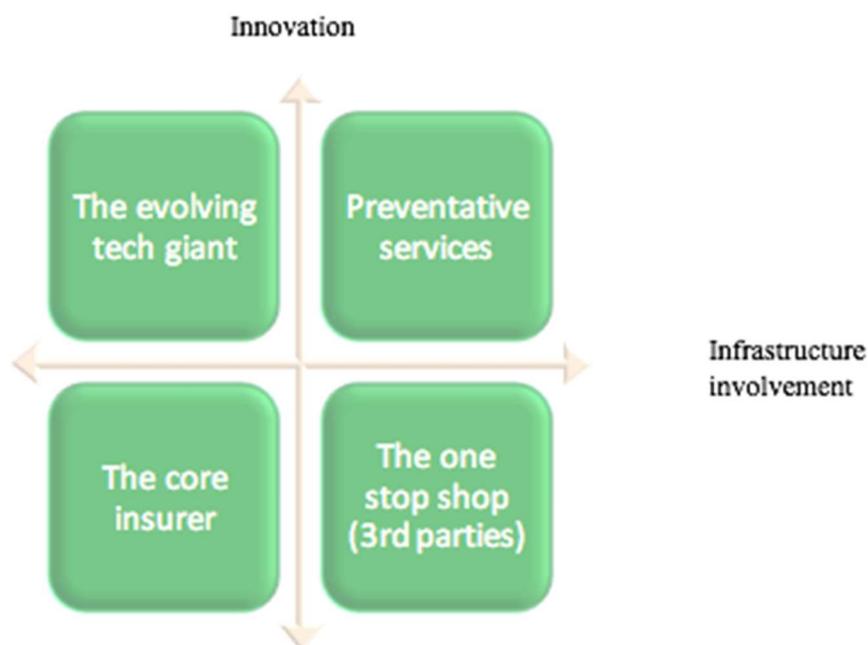
Predictive analytics shifts business models from compensatory to preventative in nature, with Cognizant forecasting the insurance model changing from 80 percent of revenue from claims to preventing business disruption or individual loss<sup>92</sup>.

Key jobs: Leadership roles, Systems architect, Customer Service Agents

Key skills: IoT management (partnerships, technical expertise), Real-time underwriting. Change management, Ecosystem development

## 2. The evolving tech giant

Several Chinese insurers are actively building new revenue streams on their tech capability. ‘Ping An for example, is selling its facial-recognition technology to the travel industry while Zhong An, a new insurance player, sold tens of different technology products to 200 clients in 2017, generating sales of \$6.4 million<sup>93</sup>.’ Ant Financial, which counts insurance amongst its broad product and service range has agreements to provide biometric identification and A.I.-enabled risk management systems to several Chinese banks, as well as launching an A.I. managed service for asset management firms<sup>94</sup>.



<sup>90</sup> Source: Wilson & Daugherty 'Collaborative Intelligence: Humans and AI Are Joining Forces,' 2018 <https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces>

<sup>91</sup> Source: Ransbotham et al 'Reshaping business with artificial intelligence,' 2017 <https://sloanreview.mit.edu/projects/reshaping-business-with-artificial-intelligence/>

<sup>92</sup> Source: Cognizant, 'The Future of Insurance: 8 Fact-Based Takeaways,' 2017 <https://www.cognizant.com/perspectives/the-future-of-insurance-8-fact-based-takeaways-part1>

<sup>93</sup> Source: Hu, M 'Lessons from China's Insurtech Leaders,' 2019 <https://www.bcg.com/industries/insurance/digital/lessons-from-chinas-insurtech-leaders.aspx>

<sup>94</sup> Source: Ghosh, B et al 'Taking a Systems Approach to Adopting AI,' 2019 <https://hbr.org/2019/05/taking-a-systems-approach-to-adopting-ai>

Key jobs: Foresight Executive, FinTech Liaison, Digital Process Engineers  
Key skills: Organisational design, Innovation, Ecosystem creation

### 3. The core insurer

Those that choose to focus on core insurance products and orient skills towards ensuring a perfect customer experience. This group sees >90 percent revenue driven by core insurance product<sup>95</sup>. The investment needed to do well in the pure-play core category will likely be significant.

Key jobs: Financial manager, Foresight executive, Human-machine management  
Key skills: Actuarial science, Real-time underwriting, Marketing, Teamwork

### 4. The one-stop shop for third parties

A series of collaboration and partnerships could see insurers become the architecture from which third parties launch their own services. 84 percent of insurance executives suggest that ecosystems are important to their business strategy, and 54 percent report actively seeking ecosystem opportunities. These figures appear broadly encouraging, since 97 percent of insurers also think they are attractive ecosystem partners. However, less than 5 percent are classified by Accenture as 'ecosystem masters'<sup>96</sup>.

Establishing the skills, culture and tech capabilities to effectively work in ecosystems are vital if incumbents are to prosper. One only need to look at how the ecosystem space is evolving to see that insurers' time window in which they can act is shrinking.

Key jobs: Digital leaders, Digital process engineers, Ecosystem engineers  
Key skills: Data analysis, Change management/Leadership, New management paradigm, Cybersecurity

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<sup>95</sup> Source: Deloitte, 'Insurance of the Future What will it look like in 2025?' 2019  
[https://www2.deloitte.com/content/dam/Deloitte/be/Documents/financial-services/Insurance%20of%20the%20Future-redesign\\_V1.pdf](https://www2.deloitte.com/content/dam/Deloitte/be/Documents/financial-services/Insurance%20of%20the%20Future-redesign_V1.pdf)

<sup>96</sup> Source: Carrier Management, 'Insurers Eager for Business Ecosystems but Not Yet Well Equipped to Participate: Accenture,' 2019  
<https://www.carriermanagement.com/news/2019/06/20/194697.htm>

## Fund management and administration

Of all the sectors covered here, funds present perhaps the least mutually exclusive scenarios, since several could occur within the same organisation. The extent to which each of these below segments is followed though could still have some important repercussions for the roles and skillsets needed.

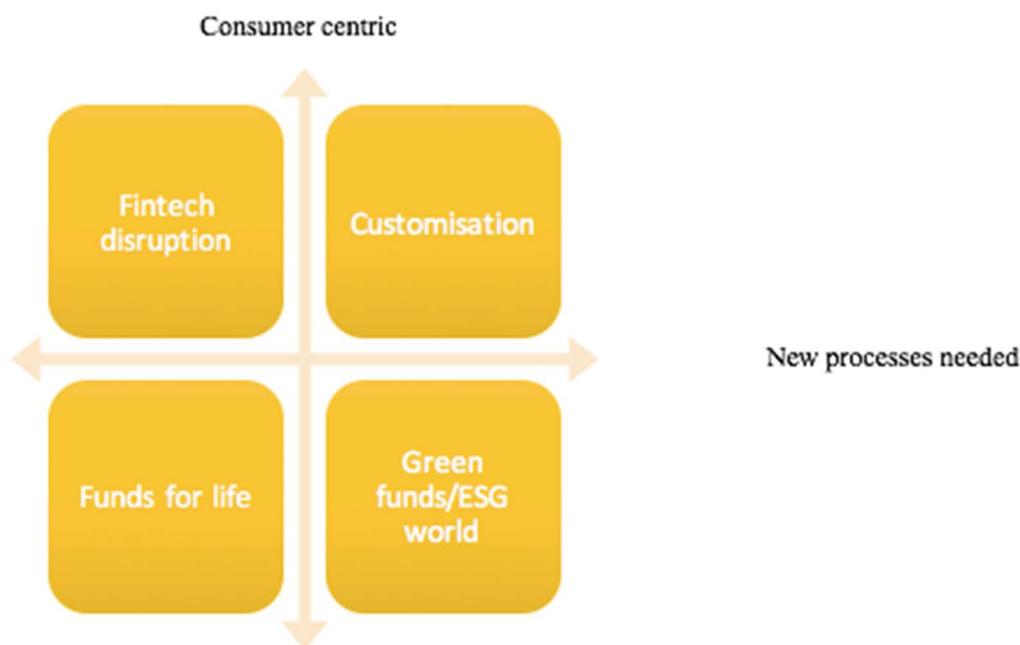
### 1. Fintech disruption

Deep fintech penetration of fund management and administration could have a range of results. First, active funds become specialty shops for which fees are much lower than today<sup>97</sup>. Second, incumbents are forced to deploy energy and expertise to areas where there is poor digitization of data to

help create fluid processes and systems that can help incumbents compete. Professionals help create fluid processes and systems that likely find themselves in a wider array of job titles and functions than at present; for example, the fund administrator role ‘...is likely to converge with either Customer Service and/or Product Sales, focusing less on routine administrative and transactional processes and more on ad-hoc servicing or advisory activities<sup>98</sup>.’ Client service officers ‘...will require skills such as data interpretation and analysis, and advanced digital acumen/literacy in order to leverage data for greater insights in managing communications related matters<sup>99</sup>.’

Key jobs: Digital leaders, Cross-disciplinary roles

Key skills: Data competency, T-shaped skills (that span front and back offices), Customer service skills



<sup>97</sup> Source: CFA Institute 'Future state of The investment profession,' 2019 <https://www.cfainstitute.org/-/media/documents/survey/industry-ecosystem.ashx>

<sup>98</sup> S Source: Ernst & Young, 'The Impact of Wider Integration of Data Analytics and Automation on Manpower in the Singapore Financial Services Sector,' 2019 [https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/\\$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf)

[https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/\\$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf)

<sup>99</sup> Source: Ernst & Young, 'The Impact of Wider Integration of Data Analytics and Automation on Manpower in the Singapore Financial Services Sector,' 2019 [https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/\\$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/$FILE/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector.pdf)

## 2. Customisation

Many funds are already providing personalisation not hitherto seen. In 2019, ‘...30 percent of new hedge fund accounts were for co-investment or other highly customized strategies compared with 15 percent per year between 2015 and 2018<sup>100</sup>.’ Customisation, no matter who the client, is likely to become the standard in which the unique risks identified for a given customer ‘...are mitigated by a customized, algorithm-created, derivative product with a complicated design but noncomplex and user-friendly engagement<sup>101</sup>.

Key jobs: Algorithm mechanic, Systems engineer, User interface designer, iFinance engineer

Key skills: Customer service, Data skills, A.I. and algorithm understanding

## 3. Funds for life

For incumbents without the ability to enact far-reaching change, shifting product positioning could prove an easier change. Passive funds, for example, could be offered as loss-leaders to attract customers to a wider range of value-add products. However, such moves could threaten the role and supremacy of the fund manager, as does the nature of many of the tasks undertaken in the current role since many are document intensive, repetitive and rules based.

<sup>100</sup> Source: Williamson, C ‘Hedge fund managers are warming up to custom funds,’ 2019 <https://www.pionline.com/hedge-funds/hedge-fund-managers-are-warming-custom-funds>

<sup>101</sup> Source: Viable Opposition, ‘Robo-Advisors - The Future of the Investment Industry,’ 2017 <http://viableopposition.blogspot.com/2017/05/robo-advisors-future-of-investment.html>

<sup>102</sup> Source: Ernst & Young, ‘The Impact of Wider Integration of Data Analytics and Automation on Manpower in the Singapore Financial Services Sector,’ 2019 [https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/\\$FILE/ey-the-](https://www.ey.com/Publication/vwLUAssets/ey-the-impact-of-wider-integration-of-data-analytics-and-automation-on-manpower-in-the-singapore-financial-services-sector/$FILE/ey-the-)

‘In the next 3 to 5 years, managers will need to leverage advanced analytics to gain a wider understanding of the market or economic environment, portfolio positioning, customer behaviours, and possess in-depth knowledge of related regulations<sup>102</sup>.’ Other skills required to manage offshored activities include leading virtual teams and complex problem solving.

Key jobs: Manager, Universal service advisor, User interface designer

Key skills: Virtual team management, Complex problem solving, T-shaped skills

## 4. ESG

More than 90 percent of millennial investors interested in ESG<sup>103</sup> funds<sup>104</sup>. Indeed, Allianz suggests that green investment will be a key component to institutional investors’ approach by 2030<sup>105</sup>. Such developments could enhance trust in the industry, benefiting the wider reach of organisations. The skill profile of investment professionals will have to develop in both ability to understand deep-rooted technological development, and with respect to softer skills. ESG roles could also offer an alternative route into the industry for those from a natural sciences or policymaking background.

Key jobs: Sustainable wealth manager, Chief Trust Officer, iFinance engineer

Key skills: Soft skills, Data analysis, Marketing

<https://www.pionline.com/hedge-funds/hedge-fund-managers-are-warming-custom-funds>

<sup>103</sup> *Environmental, Social and Governance*

<sup>104</sup> Source: Bloomberg, ‘Responsible Investing goes Mainstream’ 2019 <https://www.bloomberg.com/news/sponsors/features/nuveen/responsible-investing-goes-mainstream/>

<sup>105</sup> Source: Yiu, E ‘Global investors to fully adopt green investments by 2030 as trend gathers pace, finds survey,’ 2019 <https://www.scmp.com/business/companies/article/3005579/global-investors-fully-adopt-green-investments-2030-trend>

Key messages:

- As IFS markets bifurcate, a greater spread of skills will likely be needed in comparison to either the recent past or now.
- IFS organisations' future strategies are highly correlated to the skills they will need.
- Machine learning is likely to create many new roles and required skillsets – some of which will require a different cultural approach and mindset than is the case today.



## Jobs of the future

The sheer breadth of jobs within IFS means that, inevitably, some roles will see additional skill requirements that present themselves as natural progressions, while others see a more substantial shift. Where this larger shift occurs, it will likely orient around the ability to work in or alongside automated systems or else contribute in new ways with the expanding raft of data and analytics produced by such systems.

*'...those who use A.I. will displace those who don't, job titles may not change but the nature of work within them will<sup>106</sup>.'*

Even if we see a broad retention of current job titles we are likely to see a raft of new job titles appear alongside them over the course of the next ten to fifteen years. Emerging jobs<sup>107</sup> that could feature across the financial services spectrum include three distinct groups. First are those with links to existing financial jobs, then come those with some skills overlap and lastly, those featuring a skillset that would not be considered traditional within the industry<sup>108</sup>:

### Evolving from current jobs

- **Financial Services Partner:** Data analytics and science could drive new classes of banking jobs. A trusted advisor using algorithms and latest ecosystem knowledge could advise in an on-demand personalised nature.

- **Universal Service Advisor:** While routine questions may be handled by increasingly automated systems, complex issues will need to be handled by technologically adroit experts able to switch between tech mediums to provide excellent CX.
- **Fintech Liaison.** 73 percent of Millennials are more excited about IFS offerings from tech companies than from their bank. Building an ecosystem of attractive offers/partnerships could become a core competency for some IFS organisations.
- **iFinance Engineer:** IoT data and machine learning could combine to allow financial institutions to become a source of knowledge to guide individuals' financial decision-making.
- **Sustainable Wealth Manager:** Sustainable ESG funds are challenging both business and earning models. IFS orgs can also '...add value by sharing knowledge and supporting clients in their transition<sup>109</sup>.'
- **Digital Currency Advisor:** Cryptocurrency advice will be needed.
- **Personal Risk Manager:** Ambient technology could allow real-time risk indexing, allowing services that explicitly seek to avoid it – whether financial or through day-to-day activities.
- **Digital leaders:** 12 percent strongly agree that their org's leaders have the right mindset & only 9 percent strongly agree that their leaders have the right skills to compete in the new economy. Just 13 percent of execs strongly agree that their organisations

<sup>106</sup> Source: FT, 'Asset management: how safe is your job?' 2019 <https://www.ft.com/content/f2e2ff29-0f48-4a87-84af-dfd5380b7e95>

<sup>107</sup> Source: FinExtra, 'HSBC highlights the six new banking careers of the future,' 2018 <https://www.finextra.com/newsarticle/32355/hsbc-highlights-the-six-new-banking-careers-of-the-future>

<sup>108</sup> Source: Hak, A '6 futuristic jobs that will soon exist in the financial industry,' 2019 <https://thenextweb.com/future-of-finance/2019/09/02/6-futuristic-jobs-that-will-soon-exist-in-the-financial-industry/>

<sup>109</sup> Source: Hak, A '6 futuristic jobs that will soon exist in the financial industry,' 2019 <https://thenextweb.com/future-of-finance/2019/09/02/6-futuristic-jobs-that-will-soon-exist-in-the-financial-industry/>

are prepared<sup>110</sup>. A new form of management, at home in the intelligent era and fluent in digital practice, is needed.

- **Emerging Tech Specialist:** Knowing how to align a technology strategically – and in places to the existing legacy tech stack - will be key in getting the most out of tech investments
- **Real-time underwriting:** Continuous underwriting requires both a different process and different technological base and a more involved human-A.I. interface.

### Those with skill overlap

- **Data Scientist<sup>111</sup>:** IFS organisations will be able to evaluate risk in real-time using highly complex formulas. This could lead to a more personalised consumer interaction.
- **Digital Process Engineer:** With new workforce configurations likely – chiefly team working on an ad hoc basis and virtual collaboration between ecosystem partners - a digital process engineer may be needed to analyse, assemble and optimise various workflows.
- **Ecosystem Cybersecurity Manager:** More inter-company collaboration is coming, especially regarding common threats such as cybersecurity.
- **Algorithm Mechanic:** Given the fast-changing environment of shifting regulations, new information, evolving products, not to mention instances of incomplete or outright

false consumer data, algorithms may require near constant tuning.

- **Data Banker:** If data becomes a (personal) commodity, roles will be needed to account and bank it.
- **'Knowledge Broker:** The knowledge market may need a trading system of its own in the future. Brokers could emerge who help clients source the knowledge they desire and place a value on the knowledge others have to sell<sup>112</sup>.

### Non-traditional roles

- **Chief Trust Officer:** IFS may need a point person to right any cyber wrong and enable proactive customer care with regards to data use.
- **Extended Reality Designer:** Overlaying our physical world with a layer of digital data creates new workforce and customer engagement options.
- **Conversational Interface Designer:** Different mediums – from VR/AR to voice will require different interface design as our dependence on the screen lessens.
- **Behavioural Psychologist:** A behavioural psychologist could enable a more holistic understanding of consumers. Together with data driven insight, such roles could better match products and services to customers at various touch points, including in real-time<sup>113</sup>.
- **System Designer:** IFS organisations may need to be reimaged – what

<sup>110</sup> Source: Ready, A 'Dodging Digital Blind Spots,' 2019  
<https://sloanreview.mit.edu/article/dodging-digital-blind-spots/>

<sup>111</sup> Source: Skinner, C 'Jobs of the Future,' 2017

<https://thefinanser.com/2017/08/jobs-of-the-future.html/>

<sup>112</sup> Source: Talwar, R, 2010 <https://fastfuture.com/shop/shape-of-jobs/>

<sup>113</sup> Source: Skinner, C 'Jobs of the Future,' 2017

<https://thefinanser.com/2017/08/jobs-of-the-future.html/>

would a bank look like if designed today?

- **P2P Guide:** Able to provide guidance for navigating the emerging person-to-person finance world.
- **Human-Machine Manager:** Teams using A.I. may need new management and HR practices.
- **Foresight Executive:** Many banks are already appointing futurists. Given the rate of change a full-time team will likely be needed.

*Roles and jobs that blend the best of technology with talent will likely lead to superior customer experience and outcomes<sup>114</sup>.*

Financial professionals of all creeds would do well to enhance what A.I. is unlikely to master in the next five years, such as creativity, originality, initiative, critical thinking, and leadership<sup>115</sup>. It could even be argued that there is a need for a new pedagogy for approaching some of these jobs, since flexibility, adaptability, innovation and other soft skills are notoriously difficult to capture using traditional educational attainment standards. Micro-learning frameworks are likely to be established in the 2020's to capture skills and competences not necessarily implicit in traditional qualifications<sup>116</sup>.

<sup>114</sup> Source: FinExtra, 'HSBC highlights the six new banking careers of the future,' 2018 <https://www.finextra.com/newsarticle/32355/hsbc-highlights-the-six-new-banking-careers-of-the-future>

<sup>115</sup> Source: Hak, A '6 futuristic jobs that will soon exist in the financial industry,' 2019 <https://thenextweb.com/future-of-finance/2019/09/02/6-futuristic-jobs-that-will-soon-exist-in-the-financial-industry/>

<sup>116</sup> Source: Weller, C 'A top futurist predicts the largest internet company of 2030 will be an online school,' 2016 <http://www.businessinsider.com/futurist-predicts-online-school-largest-online-company-2016-12>

<sup>117</sup> Source: Bessen & Kossuth 'Research: Automation Affects High-Skill Workers More Often, but Low-Skill Workers More Deeply,' 2019

## Implications

Depending on their target market, starting point with regards to technology and ultimately, different strategies, talent mixes will diverge from institution to institution and sector to sector. While all IFS organisations possess a technical base to some degree, the organisation and structure of this (in-house vs ecosystem provided for example) will result in varying talent footprints and needs. It should also be remembered that while automation impacts low skilled workers more deeply, it will continue to impact high skill workers more often<sup>117</sup>.

Combining the best of A.I. and human capabilities will likely create more value than either component is capable of alone. Despite the proven power of A.I., '...ethical orientation, transparency, communication, empathy, tacit knowledge, and trust interaction are the key human elements that technology cannot (yet) reproduce<sup>118</sup>.'

However, with only 15 percent of all global executives saying they feel ready to manage a workforce with people, robots, and A.I. working side by side, new approaches will be needed<sup>119</sup>. Adapting to the imbalance of critical talent will likely necessitate approaches not seen before in the IFS sector; a virtual workforce, for example, is noted by Accenture as independently able to '...complete customer-facing and operational tasks to provide increased enterprise scalability and agility<sup>120</sup>.' Management norms, tech infrastructure and corporate culture all

<https://hbr.org/2019/02/research-automation-affects-high-skill-workers-more-often-but-low-skill-workers-more-deeply>

<sup>118</sup> Source: CFA Institute, 'Investment professional of the future,' 2019 <https://www.cfainstitute.org/-/media/documents/survey/investment-professional-of-the-future-v2.ashx>

<sup>119</sup> Source: Milne, J 'Memo to HR - time to play by the digital rules your employees are playing by,' 2017 <https://diginomica.com/memo-hr-time-play-digital-rules-employees-playing>

<sup>120</sup> Source: Accenture, 'Capital Markets Technology 2022,' 2018 [https://www.accenture.com/t20180124T060525Z\\_w\\_us-en/\\_acnmedia/PDF-69/Accenture-Capital-Markets-Technology-2022.pdf](https://www.accenture.com/t20180124T060525Z_w_us-en/_acnmedia/PDF-69/Accenture-Capital-Markets-Technology-2022.pdf)

need to change to enable what is on the face of it, a simple talent shift but one that will likely prove tricky for many IFS organisations.

The shift to platforms emphasises orchestration, external interaction and ecosystem value focus. Corporate practices, internal silos, mindsets and data-ownership issues will likely need to change as a result.

*IFS organisations must become learning organisations, implying the need to develop new learning pathways and partnerships.*

## From Millennials to Boomers

Many IFS organisations start from a handicapped position with regards to digital talent; only 10 percent of young adults are interested in finance as a broad career option<sup>121</sup>, and only 7 percent of U.S. graduates see banking and capital markets as a top industry to work for<sup>122</sup>. Fewer still - just 4 percent of Millennials - are aiming for an insurance career<sup>123</sup>. Globally the IFS industry is set for an imminent deficit of 3 million professionals by 2020. Furthermore, with 40 percent of Millennial/Gen Z workers already in IFS expressing a preference for working in the tech industry, baby boomers are cited by Deloitte as the best bet for filling this gap<sup>124</sup>.

IFS organisations face an interesting (and non-mutually exclusive) choice. They can either change their work models to allow for the 75 percent of millennials that ‘...want the ability to work flexibly and still be on track for promotion<sup>125</sup>’; change their structures to allow for more third party and on demand talent, or try and develop the necessary talent internally. All three have differing learning requirements, from management in the first two scenarios to a broad and sustained effort to upgrade skills in the third.

*82 percent of employees across all industries expect digital to transform their workplace in the next three years.*

Tech infrastructure and sophistication could become key attractions for talent within industries and companies. Talent pathways, IFS organisations value propositions for Millennials and GenZ as employees, and the way in which work is shaped by technology must all be carefully assessed. This is the case for existing jobs, their evolution, and the emergence of entirely new roles that diverge to varying degrees from the traditional skillset found in IFS employees.

<sup>121</sup> Source: GoBrightWing, 'Why You Won't Find Millennials Working in Accounting & Finance,' 2019 <https://www.gobrightwing.com/2019/03/06/millennials-working-in-accounting-finance/#/>

<sup>122</sup> Source: Accenture, 'Top 10 challenges for investment banks,' 2017 <https://www.accenture.com/us-en/insight-top-ten-challenges-investment-banks-2017>

<sup>123</sup> Source: Bellizia et al, 'Reinventing Life Insurance Agency Distribution Globally,' 2019 [https://www.bcg.com/en-](https://www.bcg.com/en-us/publications/2019/reinventing-life-insurance-agency-distribution-globally.aspx)

[us/publications/2019/reinventing-life-insurance-agency-distribution-globally.aspx](https://www.bcg.com/en-us/publications/2019/reinventing-life-insurance-agency-distribution-globally.aspx)

<sup>124</sup> Source: Hatfield and Kejriwal 'Tapping into the aging workforce in financial services,' 2019 <https://www2.deloitte.com/us/en/insights/industry/financial-services/aging-workforces-baby-boomers-financial-services.html>

<sup>125</sup> Source: Ernst & Young, 'The future of talent in banking: workforce evolution in the digital era 2018' [https://www.ey.com/Publication/vwLUAssets/ey-the-future-of-talent-in-banking/\\$File/ey-the-future-of-talent-in-banking.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-future-of-talent-in-banking/$File/ey-the-future-of-talent-in-banking.pdf)

## The global talent pool

*Within Ireland, two-thirds of businesses plan to add to their analytics staff in the next year, yet 79 percent cite difficulty in finding appropriately skilled talent<sup>126</sup>.*

Indeed, Skills Ireland estimates the imminent 2020 demand for analytics roles to reach between 49,000 and 62,000 positions<sup>127</sup>. For context, some 44,000 people are currently employed in the IFS sector in Ireland across 430 companies<sup>128</sup>.

Advanced analytics and data skills form the greatest threat to Irish organisations' growth prospects (84 percent, vs 79 percent globally)<sup>129</sup>. As a result, some '...25 percent of clicks on Irish tech jobs in 2018 came from abroad, up from 17 percent in 2014<sup>130</sup>,' with much of the growth fueled from interest from outside the European Union<sup>131</sup>.

### Key messages:

- Learning styles appropriate to a wide age range – and perhaps even cultures - will be needed.
- Consumer facing skills, whether direct or indirect (i.e. in designing interfaces) will become more highly prized than at present.
- With the origination of talent shifting, the age cohort of professionals widening and the nature of work itself shifting, a new management paradigm for the intelligent age will become a critical success factor for IFS organisations.

<sup>126</sup> Source: O'Brien, C 'Majority of Irish firms struggle to fill data analytics roles,' 2018 <https://www.irishtimes.com/business/technology/majority-of-irish-firms-struggle-to-fill-data-analytics-roles-1.3692344>

<sup>127</sup> Source: Leonard, R 'Ireland's call: we need 50,000 more data scientists as datasci awards returns for their third year,' 2018 <https://irishtechnews.ie/irelands-call-we-need-50000-more-data-scientists-as-datasci-awards-returns-for-their-third-year/>

<sup>128</sup> Source: Irish Times, 'Government says 9,000 financial services jobs created since 2015,' 2019 <https://www.irishtimes.com/business/financial-services/government-says-9-000-financial-services-jobs-created-since-2015-1.3791598>

<sup>129</sup> Source: PwC Ireland 'Finding growth in an uncertain world,' 2019 <https://www.pwc.ie/publications/2019/finding-growth-in-an-uncertain-world-ceo-survey-irish-analysis.pdf>

<sup>130</sup> Source: Ardill, L 'Irish tech employers are facing challenges in recruiting domestic talent,' 2019 <https://www.siliconrepublic.com/careers/irish-tech-employers-recruitment>

<sup>131</sup> Source: Ardill, L 'Irish tech employers are facing challenges in recruiting domestic talent,' 2019 <https://www.siliconrepublic.com/careers/irish-tech-employers-recruitment>

## Learning for the future

With skill half-life shortening and IFS organisations rapidly reconfiguring to face new opportunities and challenges, continuous learning is a must.

*The template used by almost all of today's IFS organisations was primarily '...designed to serve people who were employed in a 9-5 job by a single employer, often for their entire careers'<sup>132</sup>.*

Some multinationals are addressing this head on. Accenture, for example, developed a 'Job Buddy' program that has helped to retrain almost 300,000 employees over the four years to January 2019. The program assesses which roles are most likely to be automated, offers advice on which adjacent roles can be learned within the company and provided relevant training. Within 18 months of launching the pilot, 85 percent of employees for whom it was made available had used the system to assess their current job and enroll in further training<sup>133</sup>. With 76 percent of executives believing internal talent mobility is important, but only 6 percent of companies believing they are excellent at moving people from role to role<sup>134</sup>, such programmes are likely to become more popular.

Within IFS, JPMorgan's \$350 million, five-year global initiative to prepare for the future of

work features several strands. It in part acknowledges that '...the new world of work is about skills, not necessarily degrees,' with one strand involving working with MIT's Initiative on the Digital Economy to identify and forecast future workplace skills, and leverage that knowledge to build and accelerate opportunities internally for upskilling and reskilling. It also features an employee focussed 'skills passport,' that enables tech based employees to assess their skills and provide personalised learning suggestions based on their jobs. The tool also enables employees to explore skills recommended for other roles and compare them with their current skills<sup>135</sup>.

Other training schemes feature the development of T-shaped skills with BNP Paribas Asset Management '...trying to change the relationship between the back/middle and front...the more you can reverse the relationship and have ops teams lead the framework in which the front-office can function smoothly is very efficient'<sup>136</sup>.

PwC notes that '...while IFS leaders recognise the importance of preparing their workforce for the future, other priorities are getting in the way'<sup>137</sup>. Fourteen out of the top 20 'at risk' capabilities centre on the people experience, for example 39 percent report that employees '...do not feel they have control over how they work. Other areas where IFS is behind the curve include developing the physical and virtual working environments needed to encourage collaboration and innovation'<sup>138</sup>. For these

<sup>132</sup> Source: Ready, B '4 key financial services trends in the new age of work 2019 <https://www.weforum.org/agenda/2019/01/4-key-trends-in-financial-services-in-the-new-age-of-work/>

<sup>133</sup> Source: Feloni & Turner 'Accenture's AI program 'Job Buddy' helps retrain workers who've lost jobs to automation, and it could be a game-changing model for other companies to follow,' 2019 <https://www.businessinsider.com/training-employees-on-new-skills-and-technology-what-accenture-learned-2019-1>

<sup>134</sup> Source: Pasch, M 'Why Internal Talent Mobility Is Broken,' 2019 <https://www.innermobility.com/why-internal-talent-mobility-is-broken/>

<sup>135</sup> Source: JPMorgan 'JPMorgan Chase Makes \$350 Million Global Investment in the Future of Work,' 2019

<https://www.jporganchase.com/corporate/news/pr/jpmorgan-chase-global-investment-in-the-future-of-work.htm>

<sup>136</sup> Source: Watkins, J 'BlackRock and Vanguard discuss the future of operations teams within asset managers,' 2019 <https://www.globalcustodian.com/blackrock-vanguard-discuss-future-operations-teams-within-asset-managers/>

<sup>137</sup> Source: PwC, 'Financial Services: Preparing for tomorrow's workforce, today,' 2019 <https://www.pwc.com/gx/en/industries/financial-services/assets/pwc-fs-preparing-for-tomorrows-workforce-today.pdf>

<sup>138</sup> Source: PwC, 'Financial Services: Preparing for tomorrow's workforce, today,' 2019 <https://www.pwc.com/gx/en/industries/financial-services/assets/pwc-fs-preparing-for-tomorrows-workforce-today.pdf>

skills to be learnt, practiced and used at scale, new management and organisational structures are needed within the IFS organisation; one without the other simply won't work.

The right talent in the wrong structure will likely result in engagement and retention issues. Since no IFS organisation, or any other for the matter, can at any one time have all the skills and talent it needs, there is a need to design more flexible talent models. 57 percent of IFS executives suggest that they have no capability to use open innovation and crowdsourcing to generate ideas from outside their organisation<sup>139</sup>. There thus needs to be a way not to just retrain existing workers but also incorporate outside-in thinking. In part the latter can be achieved by building talent pipelines into new talent pools in conjunction with more holistic ways of retraining existing staff. For management and leadership within IFS, there is a need to learn 'how to learn.'

These points would seem especially relevant for Irish IFS organisations. PwC research shows that Irish IFS organisations are some way behind the global average on a couple of key indicators. The first relates to innovative collaborations with partners, of which only 25 percent of Irish IFS organisations are planning, compared to 30 percent globally. At 22 percent, Irish IFS organisations are less likely than average (37 percent) to embark on new strategic alliances<sup>140</sup>. Talent alone cannot overcome strategic difficulties for organisations, but the latter compels the need for more agile and flexible talent than ever.

## The new leadership imperative

For IFS managers and leaders developing the cultural and leadership skills to deal with a wider transformation is a prerequisite for success. There is also the need, especially in times of change, to articulate a compelling vision, inspire confidence in others, and disseminate shared values<sup>141</sup>. While technical skills form the core focus for most institutions, human/soft skills will be just as important<sup>142</sup>. Specifically, close human-machine connectivity is likely to shift demand towards complex reasoning, creativity, emotional and social intelligence and sensory perception<sup>143</sup>.

The emotional angle has real world implications since 70 percent of transformation efforts fail.

*'...the organisation never wins the employees' hearts and minds...you need to make sure that your workers have the skills and confidence to embrace the change with you'<sup>144</sup>.*

A critical prerequisite for managers is learning a paradigm of change management appropriate in the intelligent age. Risk selection and management skills will become critical levers of success and require a shift in focus from silos and towards skills led outcomes.

<sup>139</sup> Source: PwC, 'Financial Services: Preparing for tomorrow's workforce, today,' 2019 <https://www.pwc.com/gx/en/industries/financial-services/assets/pwc-fs-preparing-for-tomorrows-workforce-today.pdf>

<sup>140</sup> Source: PwC, 'Financial Services: Preparing for tomorrow's workforce, today,' 2019 <https://www.pwc.ie/media-centre/press-release/2019/research-highlights-challenges-faced-by-financial-services.html>

<sup>141</sup> Source: CFA Institute, 'Investment professional of the future,' 2019 <https://www.cfainstitute.org/-/media/documents/survey/investment-professional-of-the-future-v2.ashx>

<sup>142</sup> Source: KPMG, 'Digital and human labor and its impact on the global workforce,' 2018 <https://home.kpmg/xx/en/home/insights/2018/10/rise-of-the-humans.html>

<sup>143</sup> Source: Daugherty et al 'Revisiting the Jobs Artificial Intelligence Will Create,' 2019 <https://sloanreview.mit.edu/article/revisiting-the-jobs-artificial-intelligence-will-create/>

<sup>144</sup> Source: Gutierrez, L 'The future workforce is everyone's business,' 2019 <https://talentorganizationblog.accenture.com/financialservices/the-future-workforce-is-everyones-business>

Broadly speaking, IFS organisations will need to reimagine their front, middle, and back offices. The requisite changes in ways of doing things runs contrary to layers of accumulated and established methods of working, both within management and the day-to-day operations of professionals.

*54 percent of executives say that having a corporate culture unable to embrace digital technologies is one of their biggest barriers<sup>145</sup>.*

*68 percent of executives say that their organisation needs new leadership to compete in the digital age<sup>146</sup> and only between 7 and 18 percent of organisations possess the digital dexterity to adopt new ways of work solutions, such as virtual collaboration and mobile work<sup>147</sup>.*

Legacy systems simply won't cut it with fifty years of digital transformation happening in the next five years<sup>148</sup>, whether from a technical, cultural, organisational or managerial perspective. To this end, '...executives must be proactive in shaping and measuring culture, approaching it with the same rigor and discipline with which they tackle operational transformations<sup>149</sup>.'

<sup>145</sup> Source: Overby, S 'The Times Are A-Changin' For Change Management,' 2017 <https://www.cmo.com/features/articles/2017/12/25/the-times-are-a-changin-for-change-management.html#gs.vAewvis>

<sup>146</sup> Source: Kane, G 'Common Traits of the Best Digital Leaders,' 2018 <https://sloanreview.mit.edu/article/common-traits-of-the-best-digital-leaders/>

<sup>147</sup> Source: IDM, 'Gartner Says Digital Dexterity is the missing ingredient,' 2018 <https://idm.net.au/article/0012055-gartner-says-digital-dexterity-missing-ingredient>

<sup>148</sup> Source: Cognizant, 'The Future of IT Infrastructure,' 2017 <https://www.cognizant.com/perspectives/the-future-of-it-infrastructure>

As noted by McKinsey, those organisations '...that are able to identify the critical 2 percent of the organization, the people that generate most of the value (now and in the future) are the ones that are going to see extraordinary returns<sup>150</sup>,' when appropriate structures are built around, and to support, it.

*An era in which core staff, expertise-as-a-service and robots will work side by side on teams that form to address a specific initiative - and dissolve as those needs expire<sup>151</sup>.*

Since this implies use of third parties, more contract work, professionals need to develop broader business acumen, networking, mindset and professional skills linked with temporary team working, for example.

*'...history warns us that mastering digital technology won't determine which companies become corporate winners. Instead, making the necessary organizational and leadership changes will<sup>152</sup>.'*

Seen through this lens, what is needed is not just a revolution in the skills of finance professionals, but the skills and typology of IFS organisation's leaders and managers.

<sup>149</sup> Source: Marous, J 'Digital Transformation in Banking Requires Big Cultural Shakeups,' 2018 <https://thefinancialbrand.com/73953/banking-culture-change-digital-transformation-cx-risk/>

<sup>150</sup> Source: Staley, O 'The two people CEOs need most in their life, according to McKinsey chief Dominic Barton,' 2018 <https://work.qz.com/1259950/mckinsey-co-chief-dominic-barton-on-talent-management-and-the-future-of-hr/>

<sup>151</sup> Source: Paredes, D 'Why shapeshifting organisations are the future,' 2018 <https://www.cio.co.nz/article/643851/why-shapeshifting-organisations-future/>

<sup>152</sup> Source: Mukherjee, A 'The Need for Culture Neutrality,' 2017 <http://sloanreview.mit.edu/article/the-need-for-culture-neutrality/>

### Key messages:

- How people work is closely tied to the skills (and tech) they use in their daily tasks. Leaders and managers must learn to craft structures and architectures that enable professionals to flourish.
- Change management skills are vital for those wishing to drive change, and the rate of required change suggests that new paradigms will be needed (e.g for working alongside robots).
- Organisations should have a formalised programme offering a hands-on approach and guidance for professionals looking to stay relevant and add new sources of value.



## Conclusion

The 'Ireland for Finance' strategy calls for 50,000 people to be directly employed by IFS in Ireland by 2025, up from 44,000 at the end of 2018<sup>153</sup>. To achieve this, Irish IFS organisations need not just to identify their preferred operating and business model but map out where automation is likely and what new jobs and skills are needed to make it happen. Achieving the overall figure goes beyond the addition of 6,000 jobs to the wholesale re-imagining of what it is IFS does, how it does it and the complexion, or make up, of the specific talent requirement.

The creation of new revenue streams and business models will require new jobs, reorganisation of current jobs, a new change management paradigm and a careful consideration of how A.I. is grafted into overall structures and strategies. At first A.I. and automation will demand we do things differently, but in time it will allow us to do different things and '...will impact current and future employees in terms of the required speed to adapt to the changing business climate<sup>154</sup>.'

Irish IFS organisations need to develop a more innovative approach to this coming change – for example, via strategic partnerships – if they are to compete with other Financial Services hubs and attract the talent needed to complete their transformation.

Professionals broadly need to develop analytical skills, strengthen their portfolio by examining skills useful for growth areas within their specialisation or adjacent areas and prepare to re-skill and upskill on an almost continuous basis. Given that a more heterogeneous set of skills is likely to be needed in a wider array of IFS models than we have traditionally seen, professionals can be greatly assisted by IFS organisations formally identifying the skills and expertise needed to compete in their planned future<sup>155</sup>. Analytics skills – themselves scarce in Ireland- will form the basis of many skill additions yet will fast become table stakes as other more human skills come to the ascendancy.

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<sup>153</sup> Source: FinExtra, 'Irish government lays down blueprint to grow financial services,' 2019  
<https://www.finextra.com/pressarticle/78218/irish-government-lays-down-blueprint-to-grow-financial-services>

<sup>154</sup> Source: Gorman, C 'The Future of Talent,' 2018  
<https://workforceinstitute.org/the-future-of-talent/>

<sup>155</sup> Source: Ernst & Young, 'The future of talent in banking: workforce evolution in the digital era,' 2018  
[https://www.ey.com/Publication/vwLUAssets/ey-the-future-of-talent-in-banking/\\$File/ey-the-future-of-talent-in-banking.pdf](https://www.ey.com/Publication/vwLUAssets/ey-the-future-of-talent-in-banking/$File/ey-the-future-of-talent-in-banking.pdf)

## What to do about it

- Develop talent magnetism: In the words of Peter Drucker: ‘Developing talent is business’s most important task – the sine qua non of competition in a knowledge economy<sup>156</sup>.’
- Most IFS organisations are on the road to becoming digital, tech or even IoT companies. Talent strategies need to reflect that, drawing on a breadth of talent not seen before in the industry.
- Create learning pathways that allow you to become a learning organisation.
- Talent pathways, employer value propositions for Millennials and GenZ as employees and the way in which work is shaped by technology must all be carefully assessed. This is the case for existing jobs, their evolution, and the emergence of entirely new roles that diverge to varying degrees from the traditional skillset found in IFS employees.
- Adopt advanced technologies at scale. While there is room for prototyping (and creation of sandboxes to test tech in), it will not help shift models in a decisive direction.
- Maximize the use of data and digital models throughout systems and processes, seek to standardise the data across boundaries and silos where possible.
- Review the existing product portfolio and assess where new business opportunities could arise.
- IFS organisations need to define their higher purpose and then construct a model to meet it – insurers for example might decide their higher purpose is in providing protection. Does allowing harm to come to people and then compensating them count as protection? What does protection mean now and in the future? What does that mean we do? Someone will play in this space, how do we?
- Map out where A.I. (and other technologies) can be used tactically – i.e. to drive efficiencies, and where it can be utilised strategically. Engaging with Fintech will require organisational and even cultural changes.
- Create the leadership cadre – and level of board involvement - capable of revamping the technical, cultural and skillsets needed to compete in your envisaged future.

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<sup>156</sup> Source: Castagnino et al ‘8 ways the construction industry can rebuild itself for the 21st century, 2017

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## About the author

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## About IFS Skillnet

IFS Skillnet is co-funded by Skillnet Ireland and member companies. Its aim is to support the IFS sector in maintaining Ireland's position as a top international financial services centre, through ongoing investment in the development of the skills and expertise of this workforce.

The network is led by a steering group which includes member companies and the leading financial services industry associations. It comprises of Financial Services Ireland (FSI), the Federation of International Banks in Ireland (FIBI), Irish Funds (IF), Insurance Ireland, and the Irish Association of Investment Managers (IAIM).

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## About Skillnet Ireland

Skillnet Ireland is the national agency dedicated to the promotion and facilitation of workforce learning in Ireland. Their mission is to facilitate increased participation in enterprise training and workforce learning within Ireland's business community.

They believe that maintaining a highly skilled workforce is essential to national competitiveness. Skillnet Ireland currently supports over 15,000 companies nationwide and provides a wide range of valuable learning experiences to over 50,000 trainees.

Their business is to ensure that your business has the skills it needs to thrive.

For further information see [www.skillnetireland.ie](http://www.skillnetireland.ie)

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