TECHTALENT CHARTER

Routes to Tech

Learner perceptions of non-traditional tech training pathways

What is the Tech Talent Charter?

The Tech Talent Charter (TTC) is an industry-led, government-funded membership network (750+ organisations), committed to driving diversity and inclusion in tech and securing the future of the tech talent pipeline for all. The TTC was created because solving the diversity problem in tech requires a collective effort across organisations, industries, and sectors. Our broad base of Signatories includes companies and industries of all sizes, non-profit organisations, charities, leading UK educators, and government departments.

TTC provides concrete measurement and insights into diversity in the tech ecosystem, and actionable ways forward, by gathering, curating, and distributing innovative practices, techniques, and ideas. We are focused on action and measurable insights, so we require TTC Signatories to make a number of commitments. This includes providing a senior-level sponsor, having a plan in place to improve inclusion, collaborating with our membership, and submitting annual diversity data. With this data, and through other research projects with our partners, we surface new insights to inform diversity and inclusion (D&I) practice in the UK tech ecosystem.

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Tech Talent Charter's Routes to Tech research

In our 2021 Diversity in Tech survey, 580 UK businesses identified the biggest challenges to their D&I efforts. Attracting diverse talent was the most frequently reported issue and in fifth place was tech skills. Since then, this concern has continued to dominate conversation on the future of the UK tech ecosystem.

In response to our findings in 2021, we began a deeper dive into the topic of routes to tech, developing a multi-phase project that has brought together employers, digital skills providers, and government to capture best-practice, areas of need, and suggested ways forward.

During the first phase of the project, we worked with the Institute of Coding (IoC) and Attest to undertake research to understand how learners from tech/digital skills providers and other alternative routes into tech were perceived by tech hiring managers. The goal of this first phase of work was to understand existing levels of awareness and attitudes towards non-traditional (i.e. non-degree) digital skills programmes and providers.

Our new phase of research was created in collaboration with Attest and supported by the Department for Science, Innovation and Technology (DSIT). What follows are our latest insights into learner/worker perceptions of new routes to tech careers.

New findings

Learner perceptions of non-traditional routes to tech

For this report, Tech Talent Charter conducted a survey in the UK in collaboration with Attest on 16 February 2023. The total sample size was 500 people working in digital, IT or tech roles, consisting of 100 women and 400 men, to represent average proportions of gender diversity in the tech industry. Within the digital, IT and tech categories, 39.0% of respondents worked in IT operations, 30.4% were in software engineering/development roles, and 10.4% were in data roles.

For the purposes of this report, we consider government-funded tech skills bootcamps and alternative tech skills bootcamps to be non-traditional routes to tech, and all other routes we consider traditional. Whichever training route they used, most respondents (78%) reported that they would not have been able to secure their current role without tech training, emphasising the importance of such training in the UKs digital skills strategy.

Our findings show that nearly 1 in 6 tech workers gained their skills through a non-traditional tech bootcamp. Just over half of them used a bootcamp funded by the Department for Education. We also found nearly twice as many tech workers now obtain their skills through non-traditional tech skills programmes than they do through apprenticeships. This means that non-traditional learning routes into tech careers are now the third most common skill pathway to a tech job after University study (41.2%) and Learning on the job (20.2%).

1 in 6 tech workers gained skills through a non-traditional tech bootcamp

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How do tech workers obtain tech skills?	
Method of learning	**% who gained skills with method**
University study	41.2%
Learned on the job	20.2%
Self-taught	13.2%
Apprenticeship	7.6%
School study	3.4%
Taught by family or friends	0.4%
Government-funded tech skills bootcamp	8.0%
Alternative tech skills bootcamp	6.0%
Proportion of workers who gained tech skills through a non traditional learning pathway:	14%

Learner experience

How do people feel about the training they received?

To understand more about learner sentiment towards their tech training experiences, we asked respondents to what extent they agreed or disagreed with a series of statements on how they feel about their tech training, and combined the ‘agree’ and ‘strongly agree’ options to understand the overall positive sentiment.

Experiences across all tech skills programmes

The feeling that "the training was worth the time and money" was similar for respondents from non-traditional routes to tech (88.6%) and respondents from traditional routes to tech (84.8%). Looking at the overall sample, the majority of respondents felt that their training was worth the time and money (85.3%), gave them the technical skills they needed (89.2%), and left them feeling positive about their tech career opportunities (86.7%). A significant number of respondents also felt that their training gave them the non-technical skills they needed (64.7%) and a career network relevant to their new field in tech (78.3%). 85.5% of the respondents felt that their training delivered what it said it would, and 88.2% felt that it enabled them to take a positive career step in tech.

Experiences of non-traditional skills programmes

When we look at how people felt about their training through non-traditional (bootcamp) routes specifically, they were slightly more positive overall. For each of the statements asking how people felt with the training they received, people from non-traditional routes chose positive responses (‘strongly agree’ or ‘agree’) to a greater extent than the overall sample on all statements, and negative responses (‘neither agree nor disagree’, ‘disagree’ and ‘strongly disagree’) to a lesser extent than the overall sample.

In particular, non-traditional learning options were more frequently regarded as delivering to the learner’s expectations than traditional skill pathways. And importantly, they were also more often credited for giving the learner a career network relevant to working in tech.

How do learners feel about their training experiences?

Did learners agree or disagree?	Non-traditional routes	Traditional routes
Gave me the technical skills I needed	91.4%	88.8%
Gave me the non-technical skills I needed	65.7%	64.5%
Enabled me to take a positive career step in tech	88.6%	88.1%
Delivered what it said it would deliver	94.3%	84.1%
Left me feeling positive about my tech career opportunities	90.0%	86.2%
Gave me a career network relevant to my new field in tech	88.6%	76.6%
Worth the time and money	88.6%	84.8%

How does training affect career outcomes?

Our research also sought to uncover insights on how significant learner's feel their tech training experience was in helping them achieve a career in tech.

Though the majority of all respondents felt that tech training was important in enabling them to achieve a tech career, a higher percentage of respondents who predominantly gain their tech skills through a bootcamp believed they would have been able to get their current role without tech training (32.9%) compared to those who did predominantly gain their tech skills through traditional routes (20.2%). When asked if they felt like the training they received enabled them to take a positive career step in tech, a higher percentage of respondents who gained their tech skills through a bootcamp also strongly agreed (55.7%) compared to respondents who gained their tech skills through other means (46.5%).

More research is needed into this specific area to find out more about the types of people who take non-traditional training routes. One hypothesis is that there is self-selection bias at play. The fact that bootcamps are a relatively new and lesser known learning experience could mean that they attract people who are also more 'non-traditional' in their approach to work and education in general. By taking a new and less mainstream approach to acquiring skills, they've already demonstrated that they might have a higher degree of independence in their career decision-making, more of an "early adopter" profile and risk appetite, and higher self-reliance on achieving their desired career outcomes.

Tech training: buyer’s remorse

To better understand how tech workers feel toward the idea of tech training programmes in the present, having undertaken training in the past, we asked whether they would do anything differently if they had their chance to do things again.

A third (33.3%) of respondents who gained their tech skills via a non-traditional skill programme answered that they would retrain with the same training provider. This compares to just 18.1% of respondents who gained their skills though traditional pathways. This suggests that respondents who gained their tech skills via a bootcamp experience higher satisfaction with their training provider and training choices than those who took traditional routes, once final outcomes have been established. This finding underlines that bootcamps are a successful way for people to learn tech skills, and that people from non-traditional routes are more confident in the effectiveness of their training programme.

33.3% of respondents who gained their tech skills via a non-traditional skill programme answered that they would retrain with the same training provider

Compared to just 18.1% of respondents who gained their skills through traditional pathways.

Demographic breakdown

With our survey, we were able to disaggregate our sample by certain demographic characteristics based on the size of the individual segments. Two important lenses of our data were gender and age.

Gender

Viewing our research results from a gendered lens showed that perceptions of tech training experiences were similar across many of the factors we surveyed. There were no significant differences in the feelings of women and men towards the training they received. This is good news insofar as it implies that women who choose to undertake tech training perceive as much value in their learning experience as the majority of tech learners. It also suggests that tech training routes of all types offer experiences that are broadly fair across gender lines. Though this is encouraging, it's important to contextualise that our findings reflect a group who have already self-selected into the tech industry and therefore this result will not reflect the challenges or push factors that inhibit women from training or joining the tech industry more widely.

Our survey did throw up one significant difference when we viewed through a gendered lens. It was that women were more likely to report learning on the job as their primary method of gaining tech skills (28.0%) than men (18.3%). This finding could point to a hypothesis for further exploration: that women are less likely to actively seek out tech careers but if the right work-based circumstances present themselves, they may find new, previously unrecognised or unsought appeal in tech occupations. Though requiring further research, this thought-provoking finding draws attention to the importance of taking a system-thinking approach to efforts to improve the diversity and availability of tech trained talent. The tech talent pipeline is inherently multivariate and attention should be paid to all factors that influence it, including early education and social influence.

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Age

Another lens through which we considered tech training experiences was age. The tech industry has notoriously been challenged on youth-bias - an issue of increasing importance in context of the need to upskill an ageing workforce. When comparing responses from participants under and over 30 years old, there were a few significant differences. One notable difference was that more respondents under 30 years old reported that if they could make the decision to train in tech again, they would train again in a different sector, compared to those over 30 years old (26.5% compared to 13.4%).

This could be characteristic of generally higher job mobility at earlier career stages, however future research should dig deeper into the inter-generational differences and how this affects the perceptions and effectiveness of training types. The biggest single generation in this data set is Millennials, and while there are some interesting generational results from this research, the numbers aren't high enough to report with confidence. Gathering data that includes all generations to a greater extent would be valuable, with particular focus on older generations that could reflect recently announced programmes for getting older generational groups back to work.

Apprenticeships

With this research, we were additionally interested in how apprenticeships compared to other tech training routes. The only significant difference between learners who took apprenticeships and other tech skills pathways was that 55.3% of respondents in the apprentice group strongly agreed with the statement that it 'Left me feeling positive about my tech career opportunities', compared to 36.5% in the rest of the group. This is a powerful endorsement of the proximity apprentices feel their training programme brings them toward their desired career outcome. Given that there were only 38 apprenticeship respondents in the sample, any differences should be interpreted with caution and may benefit from being re-examined in further research.

Given their time again, would people still train in tech?

When asked whether they would do anything differently if they could go back in time to train in tech again, the most selected response across all respondents was that they would retrain in tech again (41.62%). More than a quarter (27.1%) said that they would retrain again in the same area of tech (compared to 10.3% who said they would not train in the same area of tech) – and this increases to 36.2% for non-traditional (bootcamp) routes to tech. 20.2% of respondents said that they would retrain with the same training provider (compared to 5.3% who said they would not) – and this increases to 33.3% for non-traditional routes.

Just 3.0% of respondents reported that they would not train in any new skills, 5.86% said that they would not train in tech, and 16.8% of respondents stated that they would train again in a different sector. These findings emphasise that non-traditional tech training programmes are perceived by learners to deliver a more consistently high value to learners over time relative to other tech skill pathways.

41.62% of respondents would retrain in tech again

Summary

Overall, the data suggests that respondents who gained their tech skills predominantly through a bootcamp or non-traditional learning pathway had a higher level of satisfaction with their training provider, their learning choices and were more confident in the effectiveness of their training program. They regard their decision to train through non-traditional routes to tech as a lasting investment that played a significant role in their tech career outcomes. And crucially, non-traditional routes to tech were reported to provide key career advantages that are not seen in traditional learning pathways, such as relevant career networks.

Our research shows that people are very satisfied with their tech training through non-traditional routes, so we can infer that the quality of this training generally isn't in issue. The results also show that this group (non-traditional route learners) still feel they'd have been able to get their role without this tech training (to a greater extent than the overall sample). Our hypothesis is that people who take part in non-traditional training, such as bootcamps, are more keen to take risks with things like training (i.e. take a non-traditional route), leading them to feel less tied to a single training route, and so they have more confidence in their ability to get a tech job through other means.

Future research should assess how specific group preferences for certain learning models emerge and how that might affect training and career choice trends amongst specific demographic groups. With new insights into these preferences, training providers should use these learnings to ensure their programmes and economic models are as inclusively appealing to as many different groups as possible. In improving the supply and diversity of talent in the tech talent pipeline, bringing more entrants to the UK tech talent market through non-traditional routes to tech appears to be a high-quality pathway that delivers positive career outcomes for their participants many years into the future.

Appendix

This research seeks to shed light on leader perceptions of new ways to access a tech career. Segmentation of “traditional” and “non-traditional” training routes is based on what learners in the general population perceive as "new". Apprenticeships are not included in the “non-traditional” categorisation in this research. Whilst apprenticeships are formal education routes, and the evolution of the digital apprenticeship is new in the context of apprenticeships, the concept of an apprenticeship itself is not. This is supported by focus group research with industry experts and employers conducted by TTC as and has emerged in current research being conducted for the Digital Skills Council.

TTC chose not to focus on a distinct category for “self-led learning” in this research because self-led learning is not typically referenced as a defining criteria for how learners perceive gaining skills. Additionally many new models of learning, including bootcamps, can be conducted at a self-led pace (a change expedited by the pandemic and remote learning). Bootcamps are therefore taking place in self-led hybrid environments.

In light of these areas of nuance, we wish to lay a path for future exploration that considers the difference in learner experience and success for formal versus non-formal tech skills provision.