Enabling the Workforce of the Future:
The Role of Learning and Development

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Trainers' Learning Skillnet

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Foreword

ENABLING THE WORKFORCE OF THE FUTURE: THE ROLE OF LEARNING & DEVELOPMENT

The Irish Institute of Training and Development (IITD) and Skillnet Ireland and are pleased to present the Trainers' Learning Skillnet research report, **Enabling the Workforce of the Future: The Role of Learning & Development.**

Business leaders know that changes in technology, longevity, work practices, and business models have created a tremendous demand for continuous, lifelong development. They are also keenly focussed on how technologies such as robotics and AI will change jobs. However, while some jobs are disappearing due to advances in technology, many more are being transformed. In response to this evolving landscape, Learning & Development Professionals are prioritising strategic imperatives such as transitioning to the future of work, the redesign of work and jobs, and reskilling the workforce to support the ongoing evolution of organisations.

It is an imperative that Learning & Development professionals shift their focus from the dominant paradigms that the profession relied on for the past 50 years and examine more contemporary ways in which to improve their practice as professionals. The reality is that the future has started and we need to invest in breakthrough thinking and innovation to sustain success and face up to the challenges of the new business, customer and market paradigms.

Organisations must develop strategies and continue to resource, structure and mobilise their Learning & Development teams to instil an end-to-end cultural focus on learning, from the top of the organisation to the bottom, if they are to meet the talent challenges that lie ahead.

We would like to acknowledge all those who contributed to this research report and applaud the work of Professor David Collings and Dr John McMackin of DCU Business School in conducting the research and completing this study. We would also like to thank all the member companies of Trainers' Learning Skillnet and other learning and development professionals who participated in the research.

IITD is delighted to work with our colleagues in Skillnet Ireland to deliver this research project focused on the future skills requirements for Learning & Development professionals; global research which will set the agenda for learning and development professionals in the future. We encourage all stakeholders to consider the many ways we can be innovative within our organisations and develop our workforce's capacity in the new world of work.

Sinead Heneghan
CEO, IITD

Trainers' Learning Skillnet

IRISH INSTITUTE OF TRAINING & DEVELOPMENT

Executive Summary

- Digitisation, AI and Robotics are already having a significant impact on work in many sectors and this trend is expected to increase in pace and intensity in the near term. While predictions vary there seems little doubt that most, if not all, jobs will be affected to some degree, with low skill manual work particularly vulnerable to permanent replacement. While online platforms underpin interesting developments often described as the gig economy, this does not emerge as a core response to the future of work in our study.

- The future of work is happening now, and we find cause for concern that the terminology, combined with ongoing pressure to deliver current skills, may be leading many learning and development (L&D) practitioners to delay engaging fully with these critical and current developments.

- Organisations in this study that report positive engagement with the future of work share a common characteristic that can be described as a 'north star', which is a clear understanding of what they want the outcome of their future of work engagement to be. For instance, one insurance organisation's future of work response is framed in terms of their commitment to sustainability, and this underpins their commitment to sustaining employment by reskilling the current workforce as changes unfold. This in turn generates positive commitment to the change agenda from their workforce.

- We discern a trend towards individualised learning pathways, enabled by increasingly sophisticated learning management systems. The demand for individualisation is driven by an increasing range of employee entry points for many organisations, as employers turn to external hiring for experience and skills in areas such as digital and data analytics not previously available in their organisations.

- The need to adapt and develop new skills at all career stages is driving a shift towards lifelong learning, and a greater focus on learning in the flow of work. We report examples of experiential learning programmes that involve talented employees spending substantial blocks of time away from their core roles, in locations that may span both national borders and the boundaries of the organisation. This creates tensions between the short-term costs to units and businesses, when individuals have reduced capacity in their core roles, and the longer-term benefits of such programmes. Adapting to these changes poses challenges not only for employers but also for institutions in the learning and education sectors, as developments such as micro credentials threaten to disrupt traditional accreditation models.

- The skills required by L&D professionals are changing, with clear growth in importance of relatively new skills areas such as digital, data analytics and online content development and curation, as well as business and sectoral expertise. With traditional L&D skills also still in demand, leaders in L&D face importance strategic choices about structure and specialisation within their teams reflecting what L&D skills they feel are core/non-core.
- In terms of measurement of the return on investment of L&D, in aggregate professionals in this study rate their processes as unsophisticated and ineffective. Our research unearthed examples of good practice but the holy grail of systematic measurement of the business impact of L&D appears to be as elusive as ever.
- Our report concludes by offering a 'Six Step Process for Enabling the Workforce of the Future' built on the many excellent practices brought to light in this research.

SECTION **ONE**

Introduction

Understanding and meeting the future skills needs of Irish industry will be central to economic and social stability and progress over the coming decades. The current research is premised on the assumption that workforce development and lifelong learning should be at the heart of this transformation, and that the learning and development (L&D) profession will be charged with developing an adaptable model of excellence to deliver on this agenda. This is a challenging ask for the L&D profession, and to date, there has been a dearth of evidence-based guidance for those seeking to meet this challenge.

However, the reality is that in the current environment, L&D leaders do not have the luxury of devoting their resources or attention exclusively to concerns about the future. Many are already under considerable pressure to meet current skills needs, with organisations facing difficulty sourcing talent not only in critical areas such as engineering, information technology (IT), and finance but also for operational and manual roles[1].

The current research is motivated by a recognition of the need to improve preparedness for the future of work in organisations. For example, some 54 per cent of respondents to a recent Deloitte survey acknowledge that they don't yet have the programmes in place to enable the skills of the future[2]. Worryingly, IBEC's 2019 HR trends survey confirmed that only 15 per cent of respondents ranked reskilling their workforce in their top five HR priorities[3]. While this is perhaps understandable given current pressures, these figures nevertheless are cause for concern. This is especially true in light of the findings in this report that many of the changes often referred to as the 'future of work' are, in reality, already happening and having a significant

1 IBEC. "HR Update 2019: Key Pay And HR Trends". Dublin, IBEC. 2019.

2 Dobberowsky, A. "Courage In The Face Of A New Skills Economy". https://www.td.org/insights/courage-in-the-face-of-a-new-skills-economy. 2018.

3 IBEC. "HR Update 2019: Key pay and HR Trends". Dublin, IBEC. 2019.

impact. In the words of the Economist Intelligence Unit 'The lack of engagement between policymakers, industry, educational specialists and other stakeholders that must inform… [the impact of AI and robotics on employment] is therefore alarming'[4].

The current environment presents a unique opportunity for L&D to play a leadership role by spearheading their organisation's strategic response to the changing future of work. A key challenge for L&D leaders in this regard is managing the tension between meeting current skills requirements and enabling the workforce of the future. This report seeks to support L&D leaders and professionals in meeting these challenges by providing evidence-based guidance on what is happening and how they can respond.

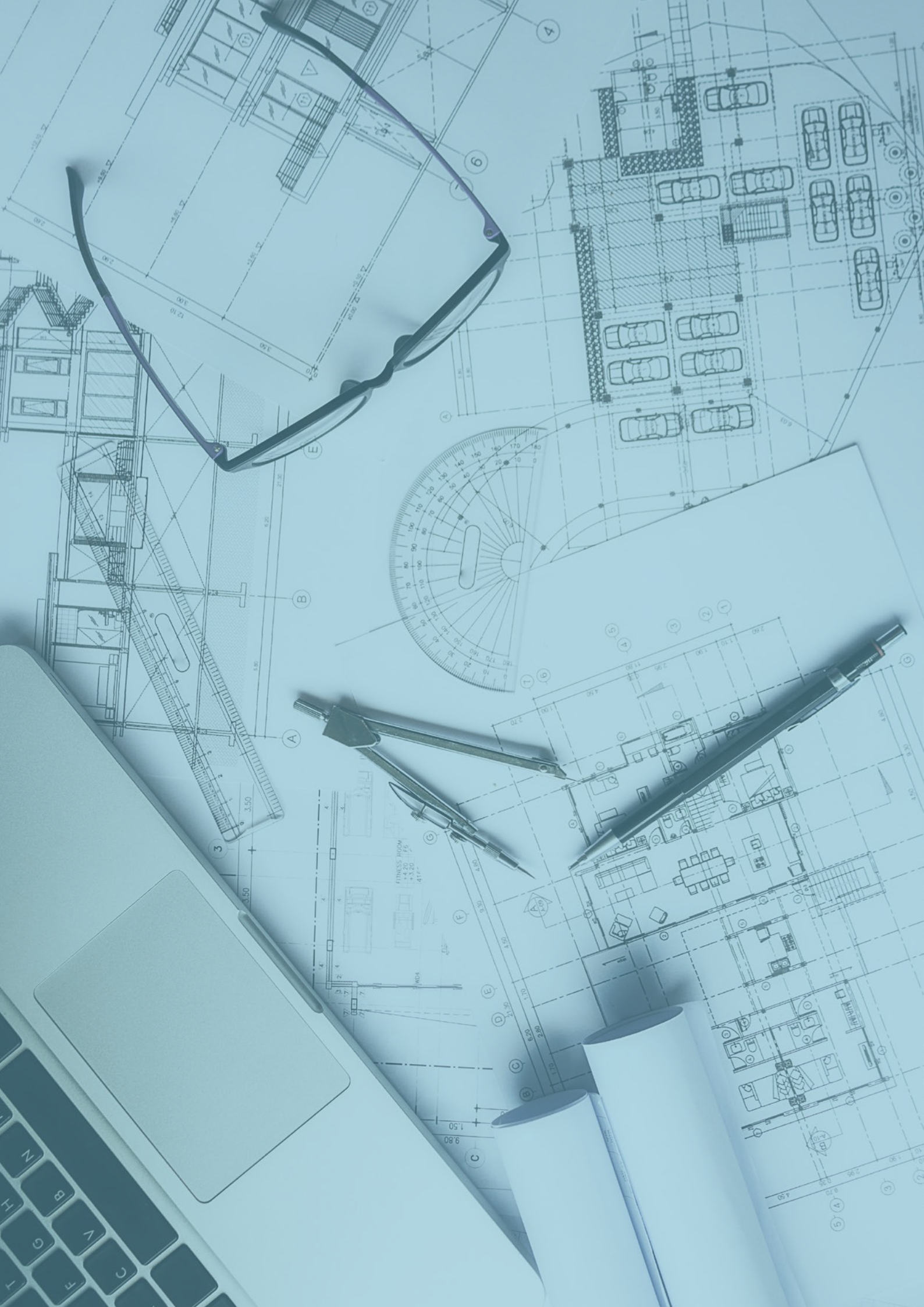
Skillnet Ireland funded Trainers' Learning Skillnet and the Irish Institute of Training and Development (IITD) to conduct this research, which was conducted over a 12-month period. The research process included focus groups, in-depth interviews with senior business and L&D leaders spanning a range of sectors and geographies, as well as a survey of IITD members.

The research set out to explore the role of the L&D function in enabling the workforce of the future. We were guided by the following sub-questions:

- What changes in the future of work are affecting L&D, and what is the likely impact?
- What implications have these shifts for the future of the L&D function structurally and in terms of its relationship to other HR Centers of Excellence (COEs)?
- What capabilities are needed by L&D professionals and functions to deliver on the skill requirements of the future of work?
- What are the key gaps relative to current L&D capability?
- Who are the key stakeholders who need to be aligned?
- How should we measure the effectiveness of L&D?

The report begins with a summary review of the literature on the topic of the changing future of work that is most relevant to L&D. We then outline the method underpinning our empirical research, followed by a presentation of our key findings. We conclude with some recommendations for how L&D can fulfil its potential to play a leadership role in their organisations' strategic response to the changing future of work.

4 Economist Intelligence Unit. "The Automation Readiness Index: Who Is Ready for the Coming Wave of Automation?." London: Economist Intelligence Unit. 2018.



SECTION **TWO**

Introduction

Framing a literature review for this report has required us to make some difficult choices about what to include but equally what to exclude. We were guided by what is most relevant for this specific piece of research as evidenced by our emergent findings. The future of work is a 'hot topic' globally, with new publications on the topic emerging almost daily from consultancies, academics, institutions, Government agencies and commercial organisations. The range of topics addressed under the 'future of work' heading is also very wide, ranging from demographics to big data, technology and AI, to the gig economy and beyond. Perspectives vary too, from cognition and learning through careers and hiring practices, to use of technology in respect of all of these[5]. A comprehensive review of that research is clearly beyond the scope of this report. We have identified two main changes that appear most likely to have a significant skills impact, and are therefore most relevant from an L&D perspective. The first is the impact of technology, encompassing, digitization, AI and robotics; the second is the gig economy. We focus our literature review on those topics, which also emerged as the most significant in our empirical research, while accepting that others, such as demographics, may appear equally important in some contexts.

Technology and the Future of Work – Digitisation, AI and Robotics

Technology is changing how businesses create and capture value, how and where we work, and means of communication and interaction[6]. Digitisation is described by many as a key driver of the 'fourth industrial revolution'. The fourth industrial revolution is a term that was coined by the World Economic Forum following a German high-tech project on 'Industry 4.0'[7]. Broadly, the fourth industrial revolution speaks to the potential impact of 'cyber-physical systems' which blend hardware, software, and people to complete work. An excellent example of this potential comes from healthcare. A study of cancer detection in images of lymph node cells found an error rate of 3.5 per cent in pathologist-only diagnoses and an error rate of 7.5 per cent in AI-only diagnoses. However, when insights from AI and pathologists were combined, the error rate fell to an impressive 0.5 per cent[8]. This highlights the potential synergies of human-technology interaction in that context.

5 Hagel, J., Schwartz, J. and Bersin, J. "Navigating the future of work: Can we point business, workers, and social institutions in the same direction?". Deloitte Insights. 2017.

6 Montealegre, R, and W F. Cascio. "Technology-driven changes in work and employment." Communications of the ACM 60, no. 12. 2017: 60-67.

7 Balliester, T. & Elsheikhi, A. "The Future of Work: A Literature Review." Geneva, Switzerland: International Labour Organization. 2018.

8 Wang, D., Khosla, A., Gargeya, R., Irshad, H. and Beck, A.H. "Deep Learning for identifying metastatic breast cancer". 2016. Available for download https://arxiv.org/pdf/1606.05718) (last accessed 29.10.2019).

The massive amounts of data generated by digital business processes, combined with more powerful and affordable technologies used to process this data, will affect every organisation on the planet. As firms rush to adapt their business models to capture the opportunities of these changes, they are also debating what skills are required in their workforce, what size of workforce is needed, and what shape this may take.

Artificial Intelligence

AI is defined as 'the capability of a machine to replicate intelligent human behaviour and human decision-making capabilities.'[9] This includes systems that 'can sense their environment, think like humans, learn and then take action as a result'[10]. Central to the extension of AI is cognitive utility, extending its role in augmenting human work are technologies such as natural language processing (where machines can understand and process language used by humans), machine learning (algorithms enabling the system to learn), and machine vision (algorithms that inspect and analyse images)[11]. AI is already in use in households as well as across many businesses and industries; examples include intelligent personal assistants using voice recognition (Siri, Alexa, Cortana). When we engage with a contact centre we may transition seamlessly from human to chatbot and back again, while learning management systems enable the provision of personalized learning[12]. Indeed, the growing prevalence of AI is reflected in predictions that global spend on AI in the workplace will increase from US$1.8 billion in 2016 to US$59 billion in 2025[13].

Robotics

Robotics is also impacting significantly on how value is generated and captured in organisations. Although robots have been deployed in manufacturing for decades, traditionally they were limited in their capability and that, combined with prohibitive costs, limited their impact on work. However, more recent advances in technology have drastically reduced costs of making robots, leading to much more widespread deployment in business contexts, including warehouses and logistics. For example, in the past three years, Amazon has increased the number of robots completing the 'picking' task in its fulfilment centres from 30,000 to 55,000, exemplifying the advances in capability in that space[14]. Robotics offers the potential to cut labour cost by 20 per cent in such contexts. These advances are reflected in predictions that the global spend on robotics will be US$188 billion in 2020, representing a 100 per cent increase since 2016[15].

What will the Impact of Technology be?

The impact of these and other technological changes on the workplace is difficult to predict with certainty, but there is universal agreement that significant change is inevitable. Two contrasting potential scenarios are widely discussed.

An optimistic scenario highlights the potential productivity gains and job creation through emerging industries and new roles required to manage a digital organisation[16]. In this scenario, the introduction of AI and robots will increase competitiveness and demand, and will have a positive impact on labour wages for high-skilled jobs[17].

A more pessimistic scenario, on the other hand, predicts significant job losses from automation and augmentation[18]. While AI will impact the entire workforce, employees in less complex roles are most

9 Capgemini Consulting. "Artificial intelligence benchmarking". Paris, France: Capgemini Consulting. 2018.

10 PwC. "The Economic Impact of Artificial Intelligence on Ireland's Economy". Dublin, Ireland: PwC. 2017.

11 Jarrahi, MH. "Artificial intelligence and the future of work: Human-AI symbiosis in organizational decision making." Business Horizons 61, no. 4. 2018: 577-586.

12 The British Academy & The Royal Society. "The Impact of Artificial Intelligence on Work: An Evidence Synthesis on Implications for Individuals, Communities, and Societies". London, UK: The British Academy & The Royal Society. 2018.

13 Servoz, M. "AI: The future of work, work of the future", Brussels, Euorpean Commission. 2019.

14 West, D M. "The future of work: robots, AI, and automation". Brookings Institution Press, 2018.

15 Servoz, M. "AI: The future of work, work of the future", Brussels, Euorpean Commission. 2019

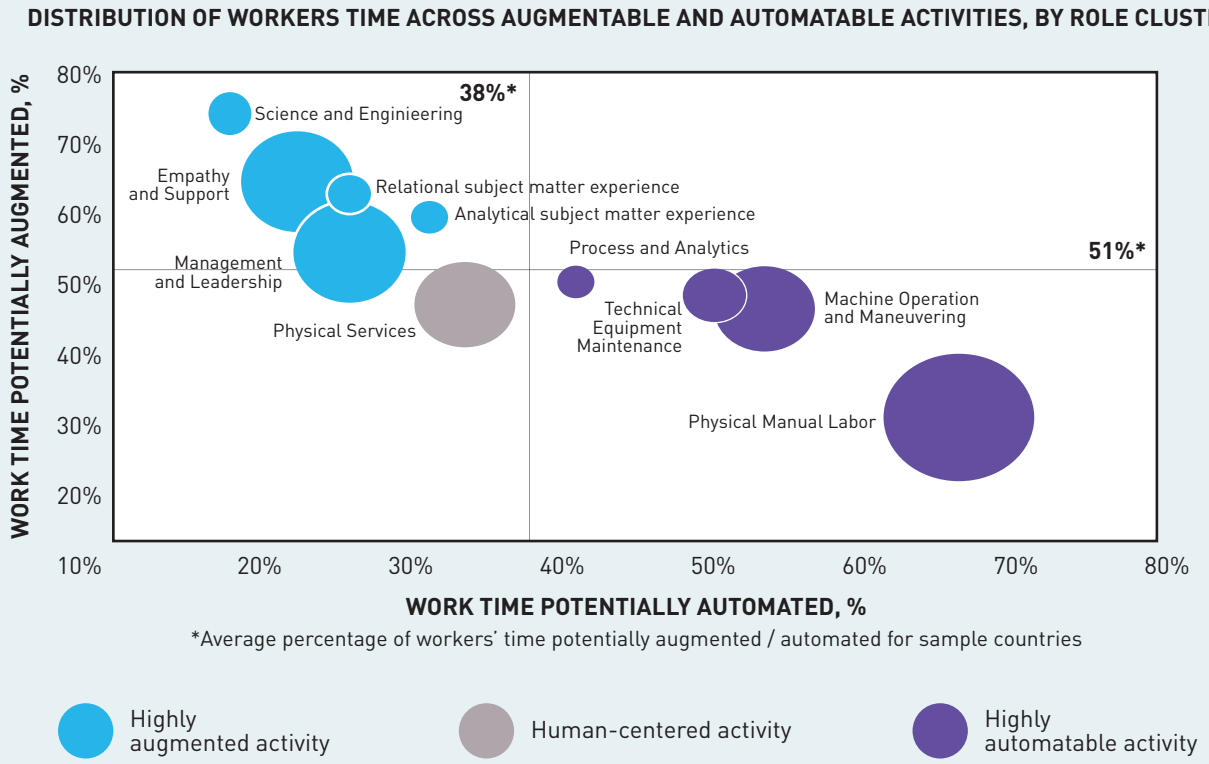
16 Blit, J., St. Amand, S. & Wajda, J. "Automation and the Future of Work: Scenarios and Policy Options". Waterloo, Canada: Centre of International Governance Innovation. 2018.

17 International Federation of Robotics. "The Impact of Robots on Productivity, Employment, and Jobs". Frankfurt am Main, Germany: International Federation of Robotics. 2017.

18 Daheim, C. & Wintermann, O. "2050: The Future of Work: Findings of an International Delphi-Study of the Millenium Project". Gütersloh, Germany: Bertelsmann Stiftung. 2016

likely to face disruption by automation. In the US, up to an estimated 47 per cent of jobs could be replaced in the next twenty years[19]. Employees in such roles require proactive support as they must often manage a 'double disadvantage', that is, limited financial and job security as well as lower proficiency in high-demand skills and unequal access to training and development[20]. As a result, the global unemployment rate could increase from a low of 6 per cent to an estimated 11 per cent in 2020 and 24 per cent by 2050 if organisations do not adapt to new technologies. Highly automatable activities include physical and manual labour, machine operation and manoeuvring, and technical equipment maintenance with activities including science and engineering, empathy and support, and management and leadership considered highly augmentable[21]. Figure 1 is one prediction of the possible impact on AI and robotics on a range of occupations.

FIGURE 1 ▸ WORKERS' TIME POTENTIALLY AUGMENTED OR AUTOMATED BY TECHNOLOGY (%)



Source: Accenture (2018) Inclusive Future of Work: A Call for Action. (Reproduced with permission.)

19 Frey, C. B. & Osborne, M. A. "The Future of Employment: How Susceptible Are Jobs to Computerisation? Technological Forecasting & Social Change", 114(c), pp. 254-280. 2017.

20 Accenture. "Inclusive Future of Work: A Call for Action". Dublin, Ireland: Accenture. 2018.

21 Ibid.

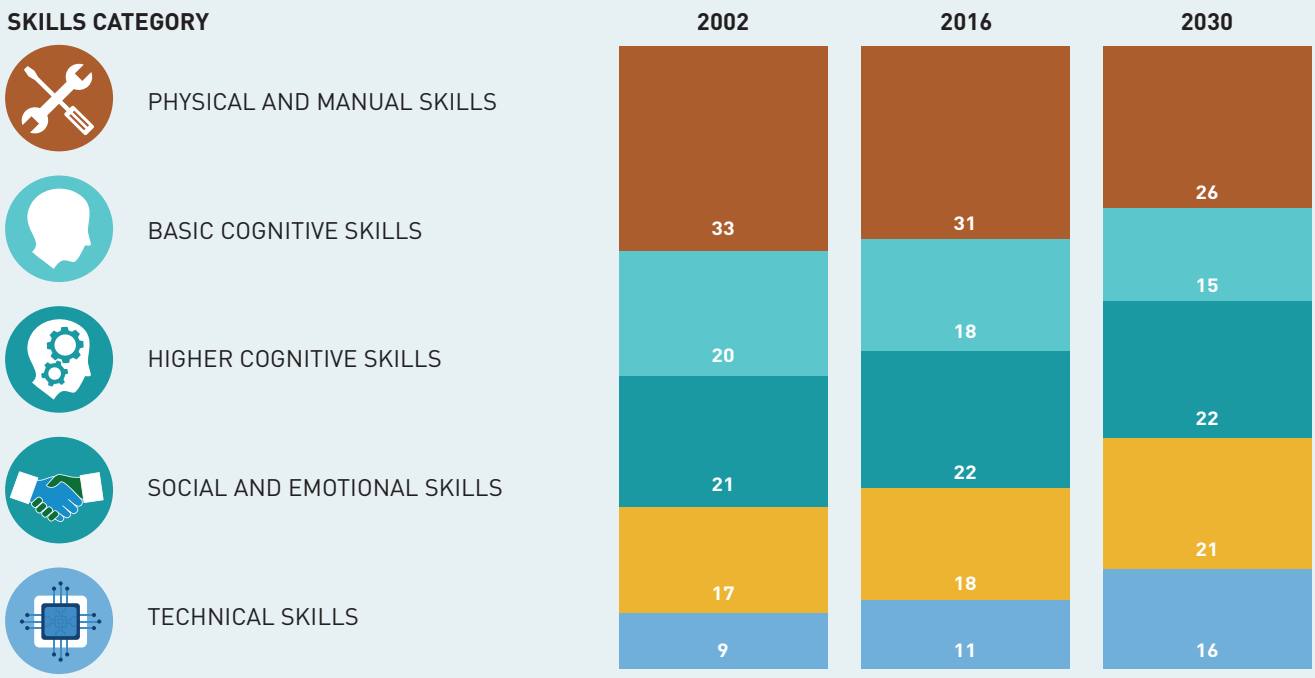
The New Jobs and Skills Landscape

The changes outlined above will inevitably result in the emergence of new jobs and require the acquisition of new skills by employees. Although there is some question over the data on which it is based, by one estimate, 65 per cent of children starting school in 2017 will be employed in jobs that do not exist today[22]. One-tenth of the workforce is estimated to be in occupations that are likely to grow, while one in five are in positions that will shrink[23]. The only certainty is that many, and probably most, current employees will be required to acquire new skills to be prepared to add value in the digital economy.

There is a good deal of consensus about some general trends in terms of workplace skills. For example, demand for physical and manual skills will decrease significantly by 2030, as illustrated in Figure 2. In Ireland, an increasing emphasis has been placed on developing transferrable skills. These include fundamental skills (e.g. literacy and numeracy), people related skills (e.g. communication, teamwork, and customer service), conceptual skills (e.g. problem solving, innovation, and creativity), and technology management[24]. In a digital environment, most workers will require technical and digital skills, ideally complemented by human competencies such as social and emotional skills, problem-solving, and communication.

While a high percentage of the Irish labour force hold third-level qualifications, participation rates in lifelong education and training are relatively low by international standards. This is a concern because future work will require employees to re- and upskill throughout their career, with learning extending well beyond the attainment of post-secondary educational qualifications. Continuous changes in the skill sets required in future organisations place the L&D function in an organisation at the forefront of enabling the achievement of organisational objectives.

FIGURE 2 ▸ EVOLUTION IN SKILL CATEGORIES (% OF TIME)



Source: McKinsey (2018) Automation and the Future of Work: Skill Shift[25]. (Reproduced with permission.)

22 Accenture. "New Skills Now: Inclusion in the Digital Economy". Dublin, Ireland: Accenture. 2017.

23 Bakhshi, H., Downing, J. M., Osborne, M. A. & Schneider, P. "The Future of Skills and Employment in 2030". London, UK: Pearson. 2017.

24 Shanahan, M. "Ireland's Future Skills Needs to 2020". Dublin, Ireland: Expert Group on Future Skills Needs. 2010.

25 Bughin, J., Hazan, E., Lund, S., Dahlström, P., Wiesinger, A. & Subramaniam, A. "Automation and the Future of Work: Skill Shift". New York, NY: McKinsey Global Institute. 2018.

The Future of Work – The Gig Economy

The second stream of research considered here concerns the impact of the increase in atypical employment and the shift towards more freelance employment relationships. Improvements in technology and connectivity facilitate 'more efficient matching between the demand and supply of labour, products and tasks'[26]. Examples of this abound in the so-called platform economy, in which online platforms such as Uber, Linkedin Profinder, UpWork, Freelancer and many others connect consumers and employers directly with workers. A key characteristic of platform work is that client interactions tend to be relatively short; for example, a few minutes, hours, or days. The type of workers involved in platform work range from highly skilled and highly paid freelancers, such as computer programmers and consultants, to low-paid service workers who are employed on-call during inconvenient hours[27].

The term 'gig economy/gig work' is sometimes used interchangeably with 'platform economy' but the 'gig economy' is actually a wider concept. The Cambridge Dictionary (2019) defines the gig economy as 'a way of working that is based on people having temporary jobs or doing separate pieces of work, each paid separately, rather than working for an employer.'[28] The range of such alternative employment arrangements extends well beyond platform work and includes contract firm workers, independent contractors, and temporary workers[29].

Definition is not just an academic issue in this context because it has serious practical implications.

For example, one widely cited report interprets the gig economy to include services beyond the provision of labour. 'Our definition encompasses people who provide labour services as well as those who sell goods or rent assets' (McKinsey, 2016, p.4), concluding that '20 to 30 per cent of the working-age population in the United States and the EU-15, or up to 162 million individuals, engage in independent work.'[30]

Our review of the literature yielded the following insights about the gig economy. The issue of definition bedevils analyses of the economic significance of the platform economy and the gig economy, resulting in widely varying estimates of their scale and impact. There is little doubt that there has been significant growth in non-employment income generation in recent years, but there is a high level of agreement among analysts that most gig work involves the generation of supplementary income as opposed to core employment[31]. It appears that in the US at least, 'The increase in the various self-employment activities has not occurred in people's 'main job' or as their main source of income'[32]. For most sectors, the impact on employment in medium to large organisations appears to have been marginal. These US trends seem to be mirrored in the Irish economy, with the ESRI reporting that 'the evidence does not support the view that the incidence of contingent employment has been increasing steadily over time in Ireland'[33].

Given the widespread public discourse on the growth of the gig economy and its potential impact on the workplace, we nevertheless consider it important to explore the role it is playing in organisations and the implications thereof for L&D.

26 OECD. "Automation and Independent Work in a Digital Economy." 2016.

27 Spreitzer, G. M., Cameron, L. & Garrett, L. "Alternative Work Arrangements: Two Images of the New World of Work". The Annual Review of Organizational Psychology and Organizational Behavior, 4(1), pp. 473-499. 2017.

28 Cambridge Dictionary "Gig Economy". Cambridge, UK: Cambridge University Press. 2018. Retrieved From: https://dictionary.cambridge.org/dictionary/english/gig-economy [01 November 2019].

29 Gallup. "The Gig Economy and Alternative Work Arrangements". Washington, DC: Gallup. 2018.

30 Manyika, J., M. Chui, B. Brown, J. Bughin, R. Dobbs, C. Roxburgh, and A. H. Byers. "McKinsey Global Institute; 2011. Big Data: The next frontier for innovation, competition, and productivity." 2016.

31 Sundarajan, A. "The Future of Work". Finance and Development. June 2017; pps. 6-11.

32 Mishel, L and Wolfe, J. "Nonemployer establishments grew in 2016 but their real revenues were stable". Working Economics Blog, Economic Policy Institute, Posted June 2018.

33 Mc Guinness, S., Bergin, A., Keane, C., & Delaney, J. Measuring Contingent Employment In Ireland. ESRI Research Series No. 74. 2018.

Conclusion

The future of work is happening now. Our literature review highlights the impact that technology has already had on many aspects of work. It seems inevitable that many lower-skilled jobs will be replaced by technology, creating an urgent need to reskill those workers. Many higher-skilled jobs are also likely to be impacted, creating a need to develop lifelong learning capabilities and an adaptable skill set across the workforce. These effects seem likely to be amplified as work continues to evolve and the skills requirements shift. All this means that the skills that enabled organisational effectiveness in the past are unlikely, in many cases, to be enough to deliver on even the near-term objectives of many organisations. Other findings unearthed in our review also give cause for concern. The widespread recognition of the impact that a shortage of skills has on organisations' ability to deliver on their current strategy is worrisome. A further concern is the indication that organisations are generally poorly prepared for the future of work. This can partly be explained by short-term operational pressures, but the reality is that these changes are coming quickly, and a failure to adapt is likely to impact significantly on business performance. As we have seen, current labour market pressures highlight the limitations of organisational skills strategies that are over-reliant on external resourcing to meet skills needs[34,35]. Our literature review raises doubts about the extent to which the gig economy is transforming work and how significant this is in how organisations adapt to the future of work. We will shed further light on this question through this research. We argue that L&D offers the key lever through which organisations can sustainably adapt to the future of work. In the remainder of this report, we will consider how L&D can lead organisations to enable the workforce of the future.

34 PwC. "Shaping Ireland's Future Talent Landscape". PwC. https://www.pwc.ie/survey/2017-pwc-hrd-pulse-survey.html. 2017.

35 IBEC. "HR Update 2019: Key pay and HR Trends". Dublin, IBEC. 2019.


NEW PRODUCT
GROUP C
MAIN GROUP
PRODUCT A
B-C PREFER C
GROUP B

SECTION **THREE**

Methodology

Data for this study were gathered in three ways:

- Three focus groups with key stakeholders nationally in Ireland with 16 participants
- 45 in-depth semi-structured interviews with L&D professionals, HR leaders and business leaders in 19 organisations globally
- An online survey with 251 responses from L&D and HR professionals in Ireland.

Focus Groups

We conducted three focus groups in May 2019. The objective of these focus groups was to understand the policy and institutional context of the future of work in Ireland and how key national stakeholder groups were thinking about and preparing for the future of work. The three focus groups were:

- Professional body representatives
- Policy and government representatives
- Educational and employers representatives

Appendix 1 provides a list of the organisations that participated in these focus groups[36]. These focus groups proved very useful in contextualizing our research and helped us in developing the schedule of questions for the interviews.

Semi-Structured Interviews

The objective of our semi-structured interviews was to get a deep understanding of how organisations are preparing for the future of work and the particular L&D initiatives they are developing and deploying to future proof their workforces. Additionally, we sought to understand the capabilities required by the L&D professional of the future and the key metrics by which organisations were measuring the ROI of investment in L&D.

Our interview schedule was developed based on the trends and themes that were unearthed in our literature review, combined with insights from our focus groups. This is presented in appendix 3.

Our research design was premised on gaining multiple perspectives on these questions. We began by selecting target firms which represented a range of sectors and industries. We obtained agreement for participation from 20 firms[37] in sectors as diverse as apparel, the creative sector, food and beverage, logistics, pharmaceutical, professional services, technology, and telecoms. These organisations are headquartered in a number of countries including Germany, Ireland, Slovenia, Sweden, Switzerland, and the USA. Those organisations that agreed to be named as having participated in the study are listed in appendix 2.

To achieve our aim of multiple perspectives, we conducted multiple interviews in each of our case firms. Our request was for three interviewees: an L&D leader, a HR leader, and a business leader with a good perspective on the impact of the future of work on skills in their organisation. In a number of cases, we completed only two interviews owing to availability. In total, we completed 45 interviews. Our interviews included CEOs, COOs, CHROs, VPs, Directors and Regional Directors, as well as L&D and HR leads. The interviews were conducted with individuals based in Ireland, Germany, Slovenia, and the USA and many interviewees had global or regional remits.

Interviews were conducted between June and November 2019, with an average duration of 50 minutes. Most were conducted in person, but some were conducted by phone owing to logistical issues. All were recorded, with the participant's consent, and transcribed.

Survey

The final stage of our data collection was a survey of L&D and HR professionals. The aim of this survey was to validate some of our initial findings amongst the wider L&D and HR community. The survey was distributed electronically to the Irish Institute of Training and Development's mailing list in September 2019. We received some 251 responses. In reporting this data we have rounded percentages meaning some may not total to exactly 100%.

36 We did issue invitations to a number of other bodies who did not send a representative.

37 One organisation withdrew from the study owing to some staffing changes.

TABLE 1 ▸ % OF SURVEY PARTICIPANTS BY SIZE OF ORGANISATION & PARTICIPANT ROLES

Organisation Size	%	Participant Roles	%
< 100 employees	33.09%	Senior HR role	12.14%
100 to 499 employees	22.30%	Other HR role	2.14%
500 to 999 employees	14.39%	Head of Learning and Development	14.29%
1000 to 4999 employees	20.86%	L & D manager	15.71%
5000 to 24,999 employees	5.04%	L & D Specialist	19.29%
> 25,000 employees	4.32%	L & D Officer	1.43%
		Other	35.00%

TABLE 2 ▸ SECTORS IN WHICH SURVEY PARTICIPANTS ARE EMPLOYED

Industry	%	Industry	%
Professional, scientific or technical services	19%	Transportation or warehousing	1%
Utilities	1%	Accommodation or food services	2%
Manufacturing	4%	Information	2%
Educational services	25%	Public service and administration	11%
Wholesale trade	1%	Finance or insurance	10%
Health care or social assistance	6%	Telecommunications	1%
Retail trade	4%	Other	10%
Arts, entertainment or recreation	2%		


Global Equities
Global Bond
MSCI EM
S&P 500 Index
Jan-08
Jan-01
Jan-04
Energy
Industrial
Oil
Aggregate
71%
19%
7%
3%

SECTION **FOUR**

Research Findings

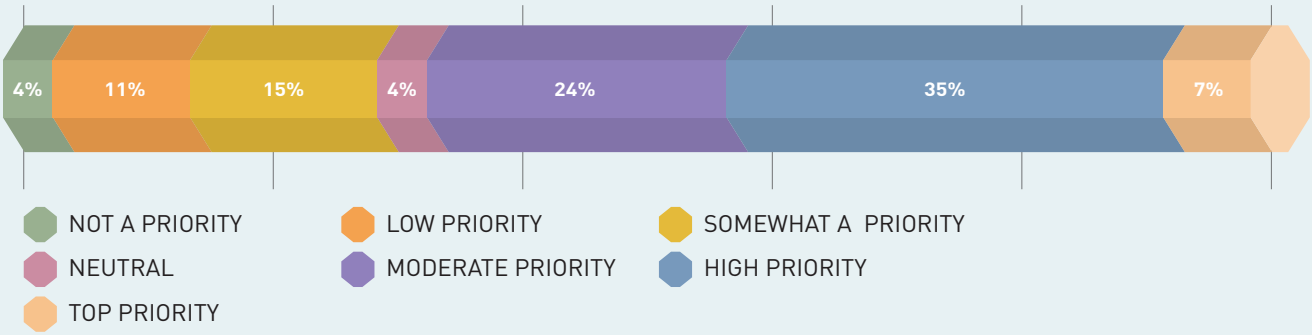
Our data collection resulted in a range of rich insights into the role of L&D in enabling the workforce of the future. In this section, we summarise the findings from our research. We begin by outlining the main factors which are influencing how organisations are thinking about the future of work. Our research suggests that a clear sense of direction differentiates those organisations that are further along the journey in enabling the workforce of the future. We term this the North Star. Establishing a baseline of skills in the organisation was identfied as vital in identifying gaps in current capability in the context of anticipated changes in work and skills. We then consider trends in ownership of responsibility for L&D, pointing to the increasing individual ownership of L&D. We conclude with a consideration of the key capabilities required by the L&D professional of the future and how organisations are thinking about measuring the return on investment of L&D.

We begin by considering the drivers of change in L&D.

The Change Drivers - What Got Us Here, Won't Get Us There.

The future of work and the implications it will have for the workforce are emerging as key strategic issues for organisations in Ireland and globally. Our survey data confirm that over four in ten professionals say that preparing for the future of work is a high or top priority for their organisations, as shown in Figure 3.

FIGURE 3 ▸ THE PRIORITISATION OF THE FUTURE OF WORK



Our focus groups confirmed the priority being accorded to the future of work across Government, employers and professional bodies. They emphasised that the future of work is moving quickly from concept to current reality, causing stakeholders to shift focus to identifying the next steps they need to take to respond to these developments.

However, while most respondents to our survey were relatively confident about their ability to meet their current skills needs, their confidence in their ability to meet future skills needs was much lower. Specifically, while 53 per cent of respondents felt their ability to meet current skills needs was very good or better, only 30 per cent of respondents were as confident about their ability to meet future skills needs. Almost one in five organisations rated their confidence in meeting future skills needs as poor or very poor. This reinforces the insights generated from our literature review that many organisations are inadequately prepared for the future of work.

We now turn to how technology is impacting on the world of work.

The Impact of AI and Technology

A key theme that came up time and again in our interviews was a sense of 'what got us here, won't get us there', a recognition that changes in technology, including the increasing impact of artificial intelligence and robotics, combined with changing customer and client expectations, are challenging traditional ways of doing work across all sectors. IBM, for example, has widely shared its view that 100 per cent of roles in its organisation will be impacted by AI over the next five to 10 years. As IBM CEO, Ginni Rometty recently argued: 'While only a minority of jobs will disappear, the majority of roles that remain will require people to work with the aid of analytics and some form of AI, and this will require skills training on a large scale'[38]. In our interview, the US-based Talent Director at another global technology company framed this challenge more broadly.

> "Machines are evolving the world of work, and that is not going to slow down. So, that presents challenges that really go beyond just making sure (our firm) has talent... It's a matter of maintaining human dignity in a lot of cases and making sure that they [employees] get upskilled and feel relevant and that they can contribute to society. It's a big mission, but I think we're all proud to undertake if we're working in this space."

While the impact of AI on work may arguably be amplified in technology companies, there is little doubt that the effects will, as highlighted in our literature review, be felt to some degree across all industries and sectors. Our research in industries as diverse as banking, professional services, food businesses, the insurance industry, and pharmaceuticals shows that executives are acutely aware of changes coming down the track which are likely to significantly impact on the skills needs of their workforces.

In one organisation in the apparel industry, a Director of Talent noted:

> "So, there's definitely this theme of automation that is leading in all areas, I would say. Which then requires our existing employees to be reskilled to a certain extent, so what we do see is that below [certain] levels, they are replaced. And either they are replaced per location or they are replaced through robot and computers. But of course, we do have an interest to hold on to the workforce so then the topic around upskilling and reskilling becomes a question."

Similarly, the HR Director at an organisation in the food sector questioned:

> "How do we shift work from people to much more autonomous technology? There is absolutely a shift to...ramping up the level of digitization in our work processes. So, we would have a lot of people in finance who spend a lot of their time churning data and...we are looking at...digitizing an awful lot of that. There's a huge amount of work going on there."

38 Bukszpan, D. "Why IBM is using A.I. to find jobs for people who don't have a college degree". CNBC. 2019.

The same HR Director told us that the talent and skills challenge had moved up 8-10 places on their organisational risk agenda, reflecting the growing recognition that what got them to where they are, will not get them to where they need to be.

The Gig Economy

Interestingly, although we expected the contingent workforce or gig economy to be a strong theme in how work was being managed in our case firms, it was much less central than we expected. While some organisations did point to the potential of the gig economy in terms of skills availability where skills were tight, actual reported examples of the use of gig work were relatively rare. (We did, however, hear of an interesting example of the potential of **internal** gig marketplaces as a means of developing skills internally, as highlighted later in this report.) As an example of the limited use of the external gig economy, one firm in the creative sector, where we expected higher numbers of freelancers, reflected on trends in their organisation:

> "I suppose [the trend of freelancers is], nearly in the opposite direction in some ways because typically [creative industries] in Ireland were always freelance. Really, [this industry] was always kind of a freelance scenario. We very much have tried to get the skillset in house and I suppose that's for a couple of reasons. The practicalities of having everybody on site and working closely together, that's very important. We do use certain roles that are freelance roles, but... realistically, we're trying to grow the business and grow the industry in Ireland so that it can be in house."

This trend is reflected in other organisations. The CHRO of a firm in the IT sector noted that the percentage of freelancers in their business has dropped from 30 to 20 per cent in recent years. He suggested that the legislative context in Ireland and particularly in the UK in the context of IR35 and other recent changes there, very much work against the freelance model. We did see examples of the effective use of freelancers in some organisations, however. A global technology company told us how it is tapping into freelancers to help with the integration of new technologies in the business. These individuals are contracted on a relatively short-term basis, to work with employees on-site and develop their capabilities in the new technologies.

Overall, however, our conclusion is that despite the hype and indeed potential of the gig economy as a means of tapping into key skills externally, the gig economy does not feature as a core component of strategic responses to the changing future of work, as reported by our respondents.

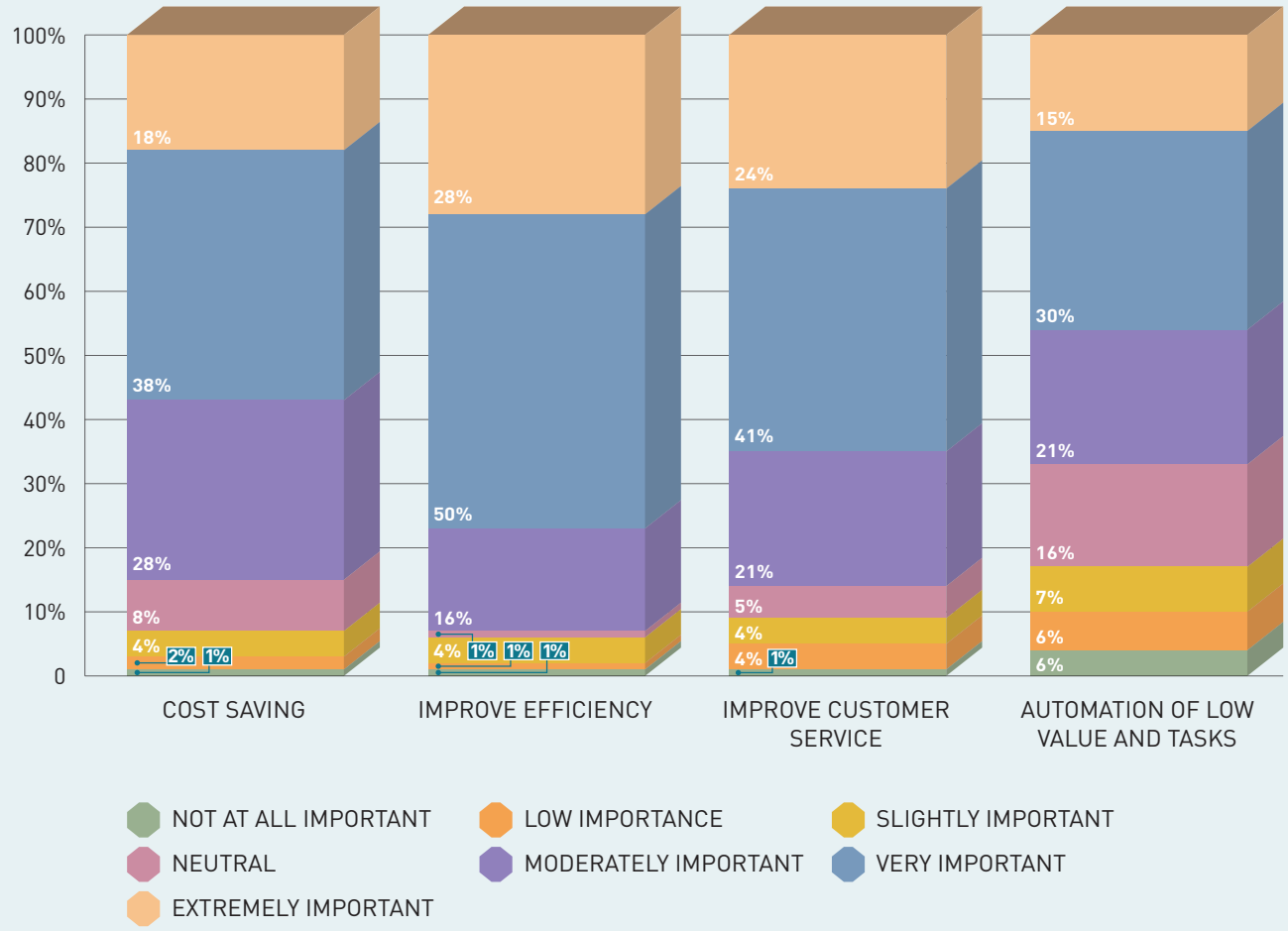
KEY MESSAGES

- The global trends of digitisation, automation and use of AI, as highlighted in our literature review, are already having a profound impact on work as reflected in this research.
- The impact of these trends is recognised as a key strategic issue across all sectors, as reflected in its position on the risk registers of major organisations.
- The automation of work is creating a significant and growing need for reskilling of workers.
- Few organisations feel they are as prepared as they need to be for the future of work.
- The use of gig workers does not yet appear to be a central feature of organisations' strategic responses to these changes.

Focus and Strategy - Finding Your North Star

One thing that distinguishes the response of more progressive firms in our research to changes in work is a clear sense of direction that informs how they are approaching the future of work from a skill perspective. In reality, there are a range of possible outcomes that an organisation may wish to achieve through adapting technology-driven changes in work. For example, as illustrated in Figure 4, respondents rated as 'very important' goals as diverse as cost-saving, improved efficiency, improved customer service and automation of low value add tasks. This suggests a range of drivers for the adoption of technology and what organisations expect from such investments.

FIGURE 4 ▸ DRIVERS BEHIND THE USE OF TECHNOLOGY



Our research suggests that investments in technologies that affect work must be fully aligned with the organisation's strategy if the full benefits are to be realised. An organisation in the finance sector spoke about their 'North Star', a metaphor that nicely captures the value of such direction. We found that organisations that are further along on the journey of planning for the future of work have a clear understanding of where and how AI and other trends are likely to impact on the nature of work and skills in their organisation. They also have a strategy for how they will embrace these challenges and what they hope to achieve by doing so. We offer some examples to illustrate this point.

Sustainability as a North Star

An organisation in the insurance sector recently initiated a project to assess how roles in that organisations were likely to be impacted by AI and other advances. Their regional pilot research suggested that some 15 per cent of jobs in that region will be displaced by automation, with a further 50 per cent requiring some augmentation or updating of skills over the next five to 10 years. This research has provided the impetus for a strategy in the business focused on the future of work. Addressing this issue is seen as a key element of the firm's sustainability strategy.

Their Talent Lead for EMEA told us

> "[This organisation has] invested a lot in putting the sustainability strategy in place around things such as the environment, ...but actually this [future of work] is one of the streams of sustainability. So, we actually do want to go on a re-skilling journey with our employees and we're planning on investing very heavily in that."

This means a focus not only on ensuring the business has the skills it needs for the future, but also managing headcount through natural attrition and ensuring that employees have the opportunity to reskill to ensure they remain valuable contributors to the business. In reflecting on how these changes might impact work, their EMEA Talent Lead notes

> "We know it's going to change, we know it's going to be things like, can we get our claims people to do a little bit of programming, or program the chat box themselves, so if there's a storm, we don't need (to call) an IT person, the claims processor can just (programme the change) then the customer gets, 'If you've been affected by the storm…' And then the chatbot works away. But it's that type of stuff, that we just don't know how that's all going to work yet, how to make that granular."

The Head of Claims in the same organisation recognises the potential of technology to transform the nature of claims processing.

> "Success means…that we're making data-driven decisions. What that will do if we crack the data analytics, it makes for a very different claims handling job because a lot of the decisions are going to be… data-led decision making, so it changes that claim's handler role significantly, I think, and it turns those individuals more into customer agents, and negotiators almost. They will need to be able to negotiate and sell the decision rather than make the decision."

Customer service as a North Star

A number of the organisations we studied identified improving customer service as their driving principle. For example, a global logistics company pointed to how they view automation and digitisation as opportunities to improve customer experience. They clearly articulated the view that time freed up by automation should be used to improve the customer experience. Indeed, this focus on improving customer experience was very consistently referenced across our three interviewees in this organisation. A key takeaway here concerned the value of this messaging for employees. In this organisation, open communication that capacity created by technology would be applied to enhance customer service has reduced the fear amongst employees of the impact of the future of work on their jobs. We also saw evidence of the value of open communication with employees about the direction that the future of work would take in a finance organisation in our research. Interestingly, in that organisation, the trade union representing workers has also embraced a number of digital upskilling initiatives in the firm, recognising that efforts to reskill and upskill employees are essential to sustain employment. This positive engagement with internal stakeholders such as trade unions appears an important step on the journey towards more effective workforce enablement.

Another organisation is very explicitly on a journey from being a well-established telecoms company towards becoming a tech company. This has shifted the focus from what they need to deliver for their customers to how they deliver it, bringing technology to the fore and representing their North Star. In this organisation, an example of the impact on workforce composition was seen in the software development team, where roles which have been traditionally outsourced, because they were not viewed as central to their strategy, are increasingly bring brought inhouse. In the broader sense, for this firm, digital skills are seen as key to service delivery in all areas of the business, increasing the requirement for digital skills development.

People capabilities as a North Star

Our final example is of a finance organisation which was clearly on a journey to digitise the business. This was the firm from which we developed the idea of the North Star. In this organisation, a recent analysis led to the identification of five critical people capabilities (CPCs), with a significant emphasis on digital and technological capability, which were central to delivering on their digitization strategy. These people capabilities now frame their entire people strategy. Their Head of L&D summarised their value and intent.

"These five critical people capabilities... they are the five key skills that we know every person in this organisation is going to need going into the future... and we are using that as our North Star when it comes to capability build for the future. All of our talent development programs are designed around these capabilities. Our performance management processes and performance management conversations have been realigned around these conversations. Our recruitment processes, all of our HR processes, now, these are the five things that we look for in the future. That's a very big piece of work, to re-engineer all of your HR processes (in this way)."

"People are seeing it happen in branches, for example. We don't need the same number of cashiers taking coin. But we've retrained those staff on how to sell products. We've gotten them the right qualifications and we're pivoting them into roles to help customers, and into digital adoption, and how to move customers onto the app …."

This organisation has been very transparent about their understanding that they 'know the world of work is changing' and that the five CPCs will enable the workforce to meet these future needs.

KEY MESSAGES

- Organisations that report positive progress in adapting to changes in the world of work seem to be guided by a 'North Star', a shared understanding of what they want the outcome of these adaptation efforts to be.
- This 'North Star' reflects the strategic priorities and purpose of the organisation. Our examples include sustainability; enhanced customer service; and the development of people capabilities that will enable the organisation and its people to adapt to a digital future.
- A further benefit of a 'North Star' is in enabling clear messaging to employees about the implications of changes in the future of work for them and their jobs, allaying fears and generating support for change.

Establishing a Skills Baseline

Once a direction has been established, the importance of understanding the current skills and capabilities of employees came through strongly as a key starting point for thinking about the implications of the future of work from a skills perspective. The HR Director of a technology firm noted that planning for future skills is a two-step process.

"Ultimately, the driving requirement here is matching up supply and demand. Step one is you understand your supply. Step two is what way is demand going... We're just in the 'go live' phase of what has been a nine-month project... We will have a full inventory of skills for the first time. We will know what we have. We will know where we have them and we will know what level they are [at]."

There was a sense within this organisation that this new framework, which was developed in collaboration with the Technology Ireland ICT Skillnet, would aid in identifying skills gaps more quickly and to move more quickly to fill any of those gaps or deficits. For this organisation, the 'North Star' is an understanding of the importance of meeting client needs and ensuring they keep pace with evolving technologies in ensuring that they continue to meet those needs. The insurance organisation with sustainability as its north star which we discussed above is another example of an organisation that had, in collaboration with some consulting organistions, been effective in identifying skills baseline.

A caveat raised by a number of the larger organisations in our sample was the challenge of completing such skills audits acrosss so many roles, business units, and geographies in an organisation of over 100,000 people when the pace of change was very high. In those organisations we saw evidence of pilot exercises, or attempts to establish skills baselines at business unit, regional or in some other meaningful element of the organisation structure as a means of progressing this.

An interesting trend that came through in a number of firms was the impact that shifting hiring pipelines are having on the baseline capabilities of new employees, and how this impacts on the expectations of L&D.

The Impact of Hiring Pathways

The impact of changes in hiring patterns on demands for skill development was another recurring theme among interviewees. An example from a professional services firm has been a shift from a hiring model premised almost exclusively on recruiting graduates as the main route into the organisation, to a much more varied pipeline with significant numbers of external hires, partly driven by growth in areas beyond the traditional strengths of the business. The Head of L&D in that organisation described this change:

> "I think there's a real mixture in a professional services firm. So the traditional model would have been the vast majority of employees came via a graduate program, so came with a degree or a master's and were coming in to pursue the profession, including professional exams. So, you kind of had that initial period but you were coming qualified for the vast majority, and they came up through that graduate program. We've seen in the last few years a significant change, in that we've had a huge number of people join in at an experienced hire level. In the last year alone... over 300 people have joined at an experienced hire level."

She also reflected on the increasing importance of digital skills for their business model and the increase in hiring of colleagues with digital skills and experience, which is affecting skills development requirements. This was a view that was shared by interviewees in other organisations. Specifically, these shifts in terms of when and how people entered the organisation challenged traditional assumptions around skill development, for example in terms of leadership development. The Head of L&D elaborated.

> "We stopped and looked at our strategy, our manager development strategy, because no longer could you assume that somebody had come through this (internal) path when they got to manager. That's no longer the case because we have experienced managers coming in, so that's why we changed to think well actually, what should be offered to a manager?"

Thus, we see a shift in terms of the expectations of L&D premised on these shifts in the profile of individuals joining the organisation.

KEY MESSAGES

- Understanding the current skills profile of the organisation is an essential foundation for organisations in adapting to changes such as digitisation and the automation of work. Our respondents described significant investments in skills audits as a way to build this foundation.
- The next step is understanding how skills demands are evolving and what skills are likely to be required in the future.
- A key trend affecting how development needs are changing is the increasing diversity of profiles of people joining organisations. L&D offerings will be challenged to adapt to a wider range of needs as the range of backgrounds and experience of new hires increases.

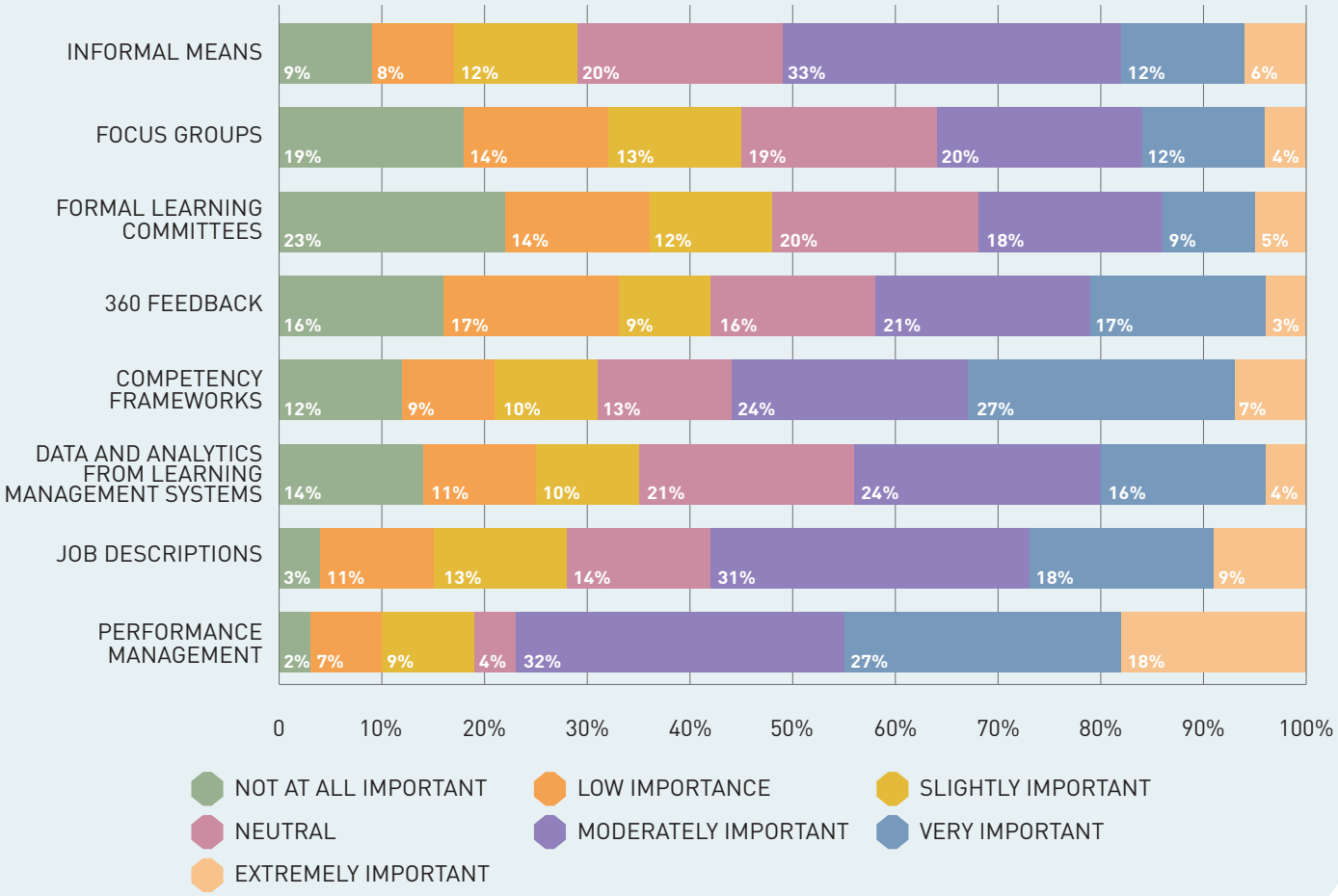
Enabling Learning & Development

A particular focus of this research is to identify trends in how L&D are evolving in response to changes in the world of work. Our research has surfaced many interesting developments and innovative ways in which organisations are responding to them. We summarise these under the headings of Learning Needs Analysis, ownership of L&D, creating space for learning, learning in the flow of work, accreditation or learning, and the metrics upon which L&D should be evaluated.

Learning Needs Analysis

Learning Needs Analysis (LNA) is traditionally the foundation on which L&D is built, so the question of how the changing future of work is affecting LNA is an important one. Our findings suggest that Learning Needs Analysis, especially for current needs, continues to rely on more established HR processes such as job descriptions, performance management and competency frameworks. This is evident in our survey data which shows that performance management, job descriptions and competency frameworks continue to rank as the most important means of identifying learning needs, as illustrated in Figure 5. One respondent in a technology company described these traditional means of evaluating learning needs as comparable to doing so through a rear view mirror.

FIGURE 5 ▸ IMPORTANCE OF APPROACHES TO LEARNING NEEDS ANALYSIS



We did also see some evidence of data from learning management systems feeding into LNAs based on analysis of employees' engagement with those systems, as noted above.

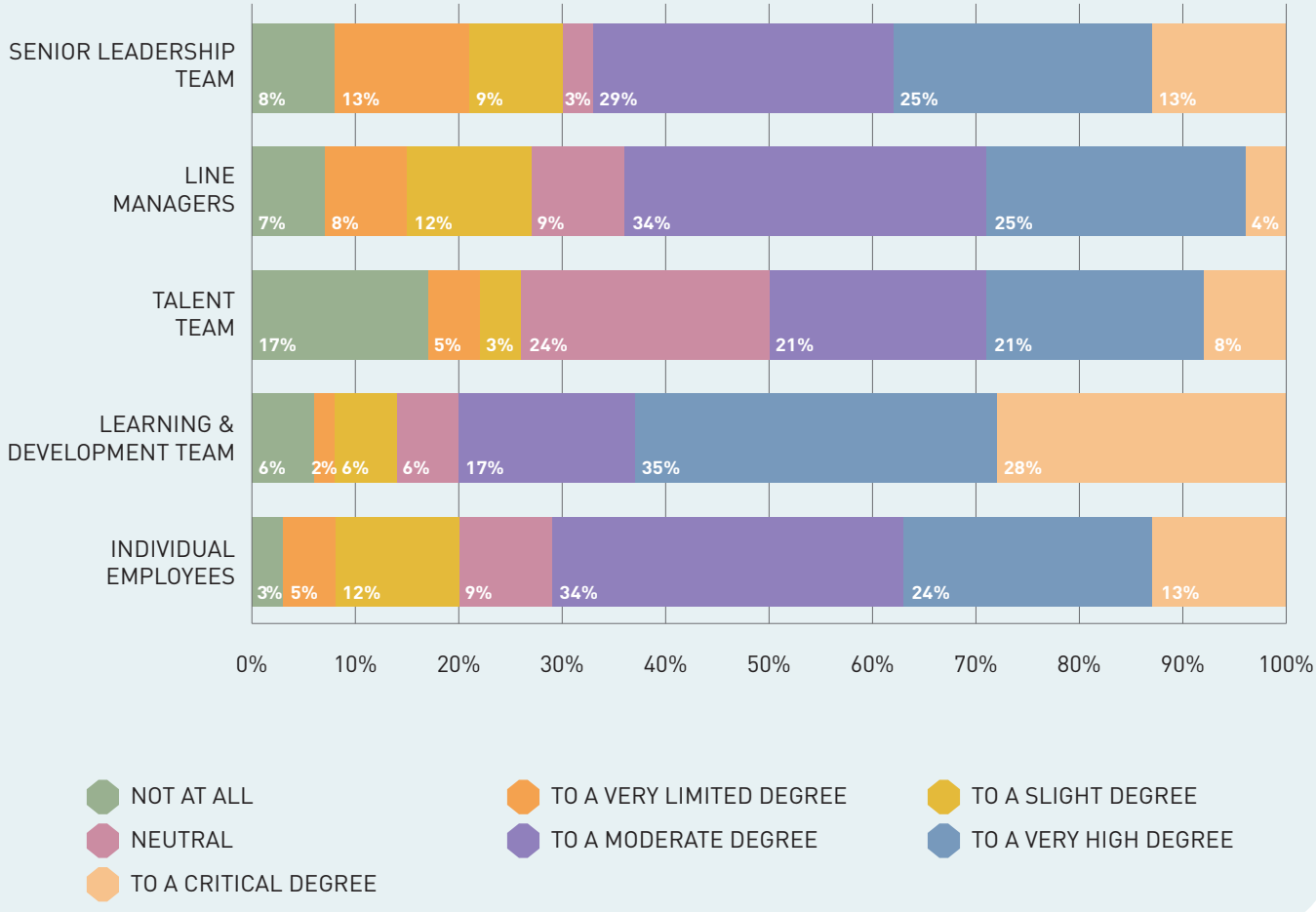
We also observed the emergence of more strategic approaches to Learning Needs Analysis in some of the more progressive organisations in our sample, i.e., those organisations which are more focused on the future of work, and more proactively engaged with enabling the workforce of the future. In these firms, the skills gaps, identified as part of their skills audits and follow up assessments around skills demand, strongly influenced LNAs. The insurance company, which conducted major skills audits to establish their baseline skills and drilled down into how jobs are likely to evolve, is one excellent example of an organisation approaching LNA from this perspective. Another is a professional services firm which has established an L&D steering committee, jointly chaired by the Head of HR and Chief Digital Officer, to focus on the L&D implications of digital transformation in that organisation. A banking organisation has established a strategic capability forum, again composed of business unit heads and HR leaders, which meets quarterly to discuss changing L&D needs and how to meet them. In yet another organisation, a Global Leadership Council, composed of Business Heads and the CHRO, has been charged with ensuring that the organisation has the capabilities to match its growth ambitions into the future. These organisations are seeking ways to overcome the limitations of current organisational processes and structures to gain a more agile and strategic understanding of their organisation's learning needs. These approaches reflect a more strategic engagement with learning needs analysis which are expected to play an important role in enabling the workforce of the future in those organisations.

Indeed, the issue of ownership of L&D was a question we further explored in our research, and we now turn to those findings.

Ownership of Learning and Development

An important trend which emerged consistently across our research was a shift in the ownership of L&D in the workplace. The more progressive organisations in our research clearly emphasised a partnership approach in terms of ownership of L&D, with L&D partnering with line managers and business leaders in driving the process, but with individuals assuming greater responsibility for their own learning. There appears to be a discernible movement away from the established L&D process of more centralised delivery of standardised learning experiences, based on Learning Needs Analysis using aggregated data from job descriptions and performance management. The direction of this movement is towards individualised learning and self-directed learning pathways, enabled by sophisticated learning management systems. While responding organisations reported that they are at very different stages on this journey, the direction and momentum emerged clearly from focus groups and interviews. Our survey data also reflects this trend, as illustrated in Figure 6. In response to a question concerning ownership of L&D in their organisations, 78% of respondents reported the degree of ownership of L&D by the L&D Team as moderate, very high or critical. Notably, however, 70% of respondents also ranked individual employee ownership of L&D as moderate, very high, or critical, a higher total than for either the talent team or the leadership team.

FIGURE 6 ▸ OWNERSHIP OF EMPLOYEE LEARNING & DEVELOPMENT



The Role of Technology in L&D

The adoption of technology in L&D appears to be a critical factor in this trend towards individualised learning. Applications of technology in L&D includes significant investments in learning management systems (LMS) across most organisations in our sample.

The scale of the investment in technology to enable L&D and the strategic priority attaching to it are largely determined by contextual factors such as the sector, the business model, and the size and geographic distribution of the employee population. Leading the choice of the right LMS for their organisation was raised as a challenge by a number of L&D professionals, many of whom would not have a technical background. As with many other aspects of how organisations are responding to the future of work, clarity of the direction the organisation wishes to take, the North Star, is reported by our respondents to be a significant positive in guiding these important decisions.

High quality, relevant content, accessible through any device, at any time, is viewed as a key component in meeting employees' desire to access learning 'just in time, just enough, and just for me'[39]. A number of interviewees spoke to the value of short 'bite-size' pieces of learning accessible though these platforms, meaning individuals could tap into learning when they had even a short window. The L&D Director from an organisation in the banking sector commented on this trend.

> "Because we're in this age of the Internet where if you look at how much an individual is consuming in 10 minutes on Twitter, that's more than probably you would have had in a traditional training manual. We're in this age where people just want the stuff that they need. They just want it really efficiently. What can I do just to get this information, get it done and move on."

That said, in some organisations there was an express desire for more curated content and a recognition of the challenge of capturing value from such platforms. The L&D Director in a pharmaceutical organisation reflected on the importance of putting 'guard rails' on the content to help learners.

> "We've met a load of vendors now in the last few months, and they keep saying, 'We've 4,000 pieces of content, we have 6,000 pieces of content. And the more I hear about it... I'm thinking about how we put guard rails on that for the business. You know, logging into a system that has 6,000 pieces of content. Great. I can spend 40 minutes searching, as opposed to reading a really insightful to the point piece, what I need now."

A number of organisations spoke of the need to achieve a balance between curating content targeted at particular roles or business units while allowing individuals to access relevant content in a timely way. Almost all organisations are actively tracking engagement with these online learning platforms. At the most basic level, this is simply a means of tracking employee activity. However, more progressive organisations are actively using this data to identify trends in learning needs as well as using the data to feed algorithms which suggest content to employees based on their job role or profile.

We did hear concerns expressed about ensuring that employees had time to learn, and we now turn to this question.

Creating Space for Learning

Our research identified an increasing emphasis on creating space for learning during working hours. For example, a professional services firm described an express strategy of each employee having three hours per month for learning. Another firm in the pharmaceutical sector has also committed to employees having 100 hours per year for learning. However, ensuring employees actually have the space to complete this learning is something a number of organisations are struggling with because in practice, meeting operational or client needs is likely to be prioritised over learning time. We saw a number of examples of organisations addressing this challenge by 'red circling' time to ensure learning happened. In a global apparel company, the Chief Technology Officer introduced what was termed a 'power hour' at a set time weekly to ensure Leaning happened in their team. They role modelled this behaviour themselves, and we heard of a real trickle-down effect in their organisation.

39 Peters, K. (2007). m-Learning: Positioning educators for a mobile, connected future. International Review of Research in Open and Distance Learning, 8(2), 1-17.

A similar initiative was introduced in an organisation in the creative sector. The L&D Lead there drew on personal experience in an education role and introduced what she termed 'DEAR' time (Drop Everything and Read) for a set hour bi-weekly in an effort to create time for learning in a very busy environment. This time is blocked in calendars and has received support from the global leadership team. Another excellent example of how organisations were enabling employees to make time for learning came from an insurance organisation. That organisation is currently creating a learning-account model which not only provides resources for individuals to invest in learning programmes that they choose, but also recognises the importance of time and has a time allocation in the account.

Finding the Right Mix

With organisational needs, technologies and capabilities of L&D professionals continuously evolving, a key L&D challenge is finding the right balance between online delivery, classroom-based learning and experiential learning. The way in which a number of our respondents are looking at the delivery of L&D was reflected in this quote from a HRD in the Telecoms industry, focusing on ensuring that employees at all levels have some level of digital capability in that organisation:

> "You've got three learning populations/models. One is, everybody in the business, so everybody's having digital, everybody in the business needs to understand the importance of digital to our business, to our strategy...The other population and is your line manager or leadership population, what do they know about digital? What do they know about digital, and what do they need to know? Not only about digital capability but leading within a digital organisation. So, there's a learning ask of them from a people manager point of view. And then the third bucket is probably the one people most readily go to, which is specific digital skills'...I need to go and teach python - these are functional, deep, specific technical digital skills. And that is where we are almost entirely reliant on external expertise."

Many of our respondents described a heavy reliance on online learning for delivering learning required for all employees. Online delivery is a very efficient way to ensure compliance with regulatory and related requirements. Respondents noted that not only can learning to a required standard be made universally accessible to a geographically dispersed population to a specific deadline, but completion of it can be tracked and verified for internal or external stakeholders. In the section on Ownership of L&D above, we noted the wider opportunities for learning delivery offered by the growing availability of a vast array of high-quality online content, as well as the challenges this presents in curating this to enable employees to access just what they need when they need it. Indeed, the L&D lead in an organisation in the creative industry noted that employees there spent considerable time outside of work updating their skills through content openly available through platforms like youtube. Indeed, many of the employees in that organisation uploaded their own content to these platforms creating a crowd-sourced body of expertise openly available to all.

We also found some interesting examples of how organisations are collaborating to meet the challenges posed by the evolving skill demands. A number of respondents referenced the value of particular Skillnet Learning Networks or other national bodies as a collaborative mechanism, enabling members to combine resources and obtain support to provide L&D offerings that would be beyond their individual resources. As the L&D lead in the creative arts business put it:

> "The industry has grown at such a pace over the last couple of years, ...it's good to have a Skillnet looking across all the participants and gathering the information collectively and going, 'Okay, we need to run a course on this.' "

There is little doubt that there is an increasing emphasis on ensuring that learning happens in real-time in an experiential way. We now turn to trends in this regard.

Learning in the Flow of Work

Our research found examples of the full range of L&D methods and tools being used to deliver learning across responding organisations. The most frequently cited conceptual framework, which seems to guide L&D professionals' thinking on how to optimise the mix of ways in which employees learn was the 70:20:10[40] model.

The influence of this conceptual model is evident in a wide range of innovative practices that could potentially be considered 'experiential'. However, the nature of experiential learning is evolving significantly. These learning delivery techniques extend far beyond on-the-job training, and many of our interviewees described more strategic interventions designed to address significant individual and organisational development needs. Notably, these learning experiences take place both inside and outside the boundary of the firm, locally and globally, and reflect a growing recognition that learning needs to happen 'in the flow of work.'[41]

The Director of Talent at a Global technology firm outlined a vision for how learning and development in the flow of work could be enabled using an 'internal gig economy'.

> "The career models that we have now aren't good enough for the future. So that's why we're...redefining our career framework, focusing on the skills of the future. And this is something that I'm excited to see... Connecting people to work opportunities inside the company that aren't just full-time jobs. Imagine, for instance, if Uber was able to take the same concept that they have and flip it inward and crowd-sourced work for the company, not just for the consumer."

The connection of individuals to development opportunities will be enabled through an internal talent market place, for project-driven roles, which was described as crowdsourcing for skills, where individuals could bid to work on projects where their skills met a need in the project team. Engaging with these projects was viewed as a means of deploying and developing individual capability while also building one's social capital within the organisation.

In an insurance company, we also saw the emergence of more ambitious development programmes for senior leadership cohorts. This reflects a number of trends including greater individual ownership of learning as well as a recognition of the importance of breadth and depth of experience beyond the classroom, both within and beyond the boundaries of the organisation. As summarised by a senior L&D leader there:

> "Our (High Potential Leaders Programme) has evolved from a program that was six months duration and primarily classroom focused formal training delivery, to an experience that will extend over 18 months. There will still be a foundational learning experience as part of that. It will be a cohort led experience which kind of sets the tone for the program, builds trust, builds rapport, builds a network if you like internationally and allows for a feed of context and insights across leadership. But at the core of the program is the 12 months experience that follows and we're positioning that as growth experience. And what we're challenging is that each one of the high potentials who get the benefits of this experience will be asked actually to pro-actively set the course for their own 12-month growth experience. And we will challenge them to undertake, well, a number of things actually, an international job rotation, an international rotation project an externship in a charitable organisation or an insure tech or a charity event. They'll be obliged to participate in an Agile sprint in another European city and they will be asked to undertake local stretch assignments in their BU."

In line with our discussion above, a key challenge in enabling these programmes will be the willingness of line managers to release high performers for such an extended period of time. This is another rich example of the tension between long and short term priorities in L&D. The success of such initiatives seems premised on all stakeholders adopting a longer-term horizon and recognising that any absence will be a brief interlude in a longer career in the organisation.

40 The 70:20:10 model, widely cited by practitioners, is a conceptual model which originated in the 1990s "odds are that development will be about 70% from on-the-job experiences - working on tasks and problems; about 20% from feedback and working around good and bad examples of the need; and 10% from courses and reading" p. iv.in Lombardo, M & Eichinger, R. W (1996). The Career Architect Development Planner (1st ed.). Minneapolis: Lominger.

41 Bersin, J., & Zao-Sanders, M. Making learning a part of everyday work. Harvard Business Review. 2019.

Finally, the HRD at a professional services firm described how it is making a significant investment in the development of capabilities that the firm does not have in-house, using experiential learning:

> "Our head of digital, he has set up a digital team, where people from the business are invited to apply for...the opportunity to take the two years out of the business to be trained up in a very deep dive way on the digital tools, and that they will become accelerators when they go back into their business"

These examples highlight some of the varied and sophisticated ways in which organisations are enabling learning in the flow of work. Learning in the flow of work involves a wide variety of activities, ranging from routine skills development via on the job training, through multi-year development engagements involving local and international activities, within and outside the boundaries of the firm. It also requires buy-in and support from all stakeholders in recognising the balance between short-term pressures and longer-term business value created through these programmes.

A further shift that emerged in our research was around the perceived value and importance of the accreditation of learning. We now turn to that topic.

Accreditation

Traditionally, accreditation of learning through awarding work and occupational qualifications has been a cornerstone of tracking competence globally[42]. There is increasing debate about the ongoing value of macro credentials, or conventional qualifications, in the context of the increasing pace of change in skills, and the emergence of alternatives based on micro-credentials, newer credentials based on digital technologies[43]. Within organisations, the value of accrediting L&D programmes is also being questioned. As one HRD in a global pharmaceutical outlined in commenting on external accreditation of an internal programme, 'We've looked at it...but to be honest, it's incredibly costly; so we're just trying to trial the use of digital badges and kind of badging your own learning'. This perspective was repeated, in varying forms, across many of the organisations, we spoke with. For example, the high cost of traditional educational programmes in the US was cited as a significant factor affecting accreditation in that context.

A number of respondents described a move away from supporting employees in undertaking MBA programmes as an example of the reduced emphasis on traditional externally accredited programmes. In one logistics organisation, there was an explicit policy of not financially supporting MBA, or other traditional educational programmes, although in exceptional circumstances they were supported for key employees or in aiding retention. That organisation has gone one step further and had developed an entire suite of internal programmes that provide development opportunities for employees from entry-level to senior leadership level. There is a clear strategy of this suite being the default offering for internal development with a clear pathway through the programme for employees based on their level within the organisation. In total, the portfolio includes some 30 programmes that are reviewed on an annual basis. The HRD highlighted the value of the programme in this way:

> "But in those 30 programs, we control who goes on them. We control the quality of the delivery. And also, we can really get a fix on return on investment. And return on investment for us can be both financial, and we can measure behavioural impact and behavioural change...I think that's certainly different from what anybody else is doing at the moment in Ireland."

For that organisation, accreditation was generally not important. More broadly, our research suggests a very complex and evolving topography when it comes to the accreditation of learning. A recurring theme in our interviews was that while employees placed significant value on externally accredited learning, for many organisations, the costs were significant while the benefits are less tangible. There were of course expectations where regulatory, occupational, or even client expectations meant that accreditation remained important. We also saw different perceptions based on the cost of education in different markets. Another area where accreditation emerged as important was in terms of apprenticeships, where accreditation seems to be

42 Keevy, J., Rein, V., Chakroun, B., & Foster, L. L. Credentialing in the 21St Century. Workforce Readiness and the Future of Work, 232. 2019.

43 IBID.

important in attracting potential recruits.

More broadly, we did see some debate about how accreditation should be evolving beyond the firm. For example, our focus groups participants acknowledged the need for professional bodies and educational institutions to become more adaptable and flexible in terms of the accreditation of learning. One example highlighted was the efforts by accrediting institutions to adapt their offerings is reflected in the recent launch of the European MOOC Consortium 'Common Micro-Credentialing Framework for MOOCs' in response to demand from learners to develop new knowledge, skills and competencies from shorter, recognised and quality-assured courses'[44]. The need for educational institutions to be proactive in addressing these changing needs was starkly framed by one focus group participant from an educational institution: 'If we're not at the table, we're on the menu.'

In term of micro-credentials or accreditations for smaller chunks of learning, digital badges are emerging as a real alternative. We now turn to the evidence we saw of the use of the same.

Digital Badges

Our research pointed to a number of examples of organisations experimenting with micro-credentials such as digital badges. It is fair to say the reported experience with digital badges was mixed, with most of our responding organisations only having experimented with them at a low level. One challenge with digital badges seems to concern levels and differentiation. As one L&D professional put it 'I'm sceptical of digital badges; I think there's too many of them, and we're using digital badges for everything, but there are some things that are a lot harder than others; there's no gradation'.

One professional services organisation reported a much more positive experience of digital badges reflected in a more sophisticated framework of digital badges. They have developed a narrow suite of digital badges. They are explicitly focused on future skills, such as data visualization, robotics and automation that are deemed to be important for the organisation moving forward. However, the organisation had gone a step further in creating a framework where badges could be awarded at bronze, silver, gold and platinum levels. While a bronze badge is relatively easily attainable, expectations increase significantly as one moves up through the levels. The L&D Director informed us that one external body had already committed to recognising a silver badge for their professional qualification in that area. Interestingly, a business leader in that organisation suggested that these badges were a way for employees to gain support from their employer in developing their capability in a particular area. He provided the following illustration, 'I now have a bronze badge in robotics, I have shown an interest and wish to develop further'. His view was that this was an excellent way of showing an initial commitment from the employee and creating a context where the employer would feel committed to reciprocating that investment.

KEY MESSAGES

- Ownership of L&D seems to be moving increasingly in the direction of individualisation of learning, although the pace and manner in which this is happening varies widely.
- Learning Needs Analysis continues to be dominated by traditional means. Organisations further along the journey of enabling the workforce of the future are experimenting with senior-level groups to explore these important questions.
- There is evidence of significant movement towards learning in the flow of work. The research yielded interesting examples of experiential learning that extends beyond national borders and organisational boundaries.
- The most positive returns to investment in online learning appear to be via delivery of standardised learning to large or dispersed groups of employees. Curation of the wide array of online material now available is a growing challenge for L&D.
- Accreditation is a complex area, presenting challenges as well as opportunities for institutions and other stakeholders.

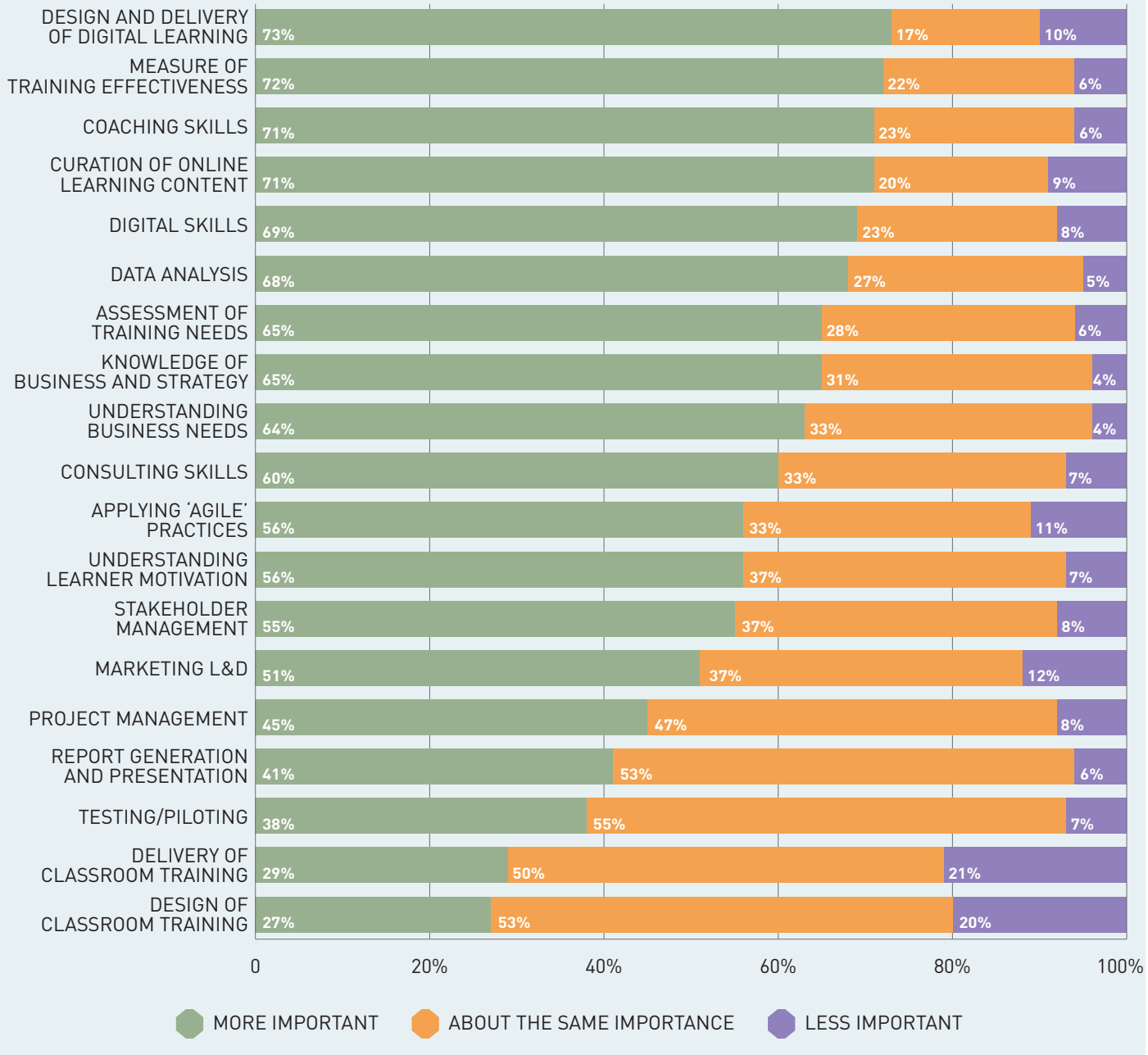
44 https://edtechnology.co.uk/article/european-mooc-consortium-launches-common-micro-credential-framework/ Accessed 16.10.2019

The Future-proofed L&D Professional

One of the clearest takeaways from this research is the central importance of the L&D function and L&D professionals in enabling the workforce of the future. A key question which motivated this study concerned what the L&D professional of the future will need to look like, and which L&D capabilities will be central to enabling the workforce of the future. Our analysis identifies clear trends concerning the growing importance of a number of relatively new skills areas for the L&D professional of the future.

In our survey, we presented a list of 20 skills which had been identified as significant for L&D professionals in our interviews and focus groups, and we asked participants to 'indicate for each skill area whether you expect it will be more important, about the same importance or less important for L&D professionals to be effective in your organisation in the future'. The responses are summarised in Figure 7.

FIGURE 7 ▸ COMPETENCIES IMPORTANT FOR L&D PROFESSIONALS TO BE EFFECTIVE



Our data highlights a very clear shift towards an emerging skill set as central to the effectiveness of L&D professionals, and this skill set is considerably different to those competencies seen as key traditionally. These include digital skills, specifically the development of digital learning and curation of online content and analytic skills, though the latter is arguably true for almost any business unit. The results highlight the growing importance for L&D professionals of knowledge of business and strategy, as well as the consulting and coaching skills to enable the L&D professional to engage fully with and deliver strategic value for the business.

Notably, only a relatively small number (20% or less) suggested that more traditional skills, such as design and delivery of classroom training, are likely to become less important. One interpretation of this is that organisations have yet to fully comprehend the emerging balance between the old and new models of L&D. For now, at least, L&D professionals may be expected to display both traditional and emerging skills, presenting a considerable challenge for L&D managers. In our interviews, we found that more progressive L&D functions demonstrated a strong sense of the capabilities that will be most important for their L&D teams in the future.

One important theme that did emerge was the possibility that technology may assist L&D teams in moving up the value chain through automation of some more basic elements of the L&D role. One global pharmaceutical organisation has freed up significant capacity through the application of AI to training scheduling:

> "Our Bot went live yesterday for scheduling all of training quarterly in advance. We have a team of eight people…who look after scheduling for all of our global courses, over 700 every quarter. That would have been a bulk of their time, so with the Bots doing that what are they doing? Now they've moved onto…the design of the courses. So, we've been very careful to say, 'You can then move on to that higher value added work.' "

In a banking organisation, the head of L&D argued that he was recruiting fewer people in his team and moving their contribution up the value chain while supporting the team with administrative assistance. While they had, as yet, only adopted technology to a limited degree to free up capability in the team, an added benefit of this change from his perspective was that the nature of work being conducted by L&D professionals was more interesting.

> "I think you need less people that are better-skilled. Even if I look at the consultants that I have now… they're all really, really skilled, their grades are higher in the organisation because I expect more, and I expect somebody just to be able to take something and run it and be really successful. So, the expectation of people has gotten really, really high. But we're reflecting that with the types of people that we're recruiting with how we're rewarding them. For me, it's a better profession for people now. It's definitely where you need a well-rounded skill set. And it's interesting work."

In a Telecoms organisation, the Talent Lead noted the importance of having a balanced team in L&D to meet the specific requirements of the business. They also noted the challenge of finding all of the capabilities required in a single person.

> "I have found it difficult in the past to recruit somebody who's amazing at needs analysis, data analysis, understanding the commercial implications all the way down to instructional design and facilitation…I think we need to be a bit nimbler on that in terms of saying, 'Okay, does each person need to possess all of that? Maybe you structure your team and across the group see the different components of that' "

An alternative approach involved a clear strategy of insourcing digital and analytic capabilities to supplement the core L&D team. The Director of L&D in a Telecoms firm noted that:

> "It's very difficult to have e-learning and development team that can be functionally expert in many of the new skills….my guys aren't digital experts; they're not experts in big data. And neither can they be. Particularly when it comes to specific skill sets…(we) will always be pulling in expert third parties. We're the experts in adult learning; I think when it comes to particularly technical functional skills, I don't have to scale."

While a different approach, there is a deliberate strategy as to how best to meet the capabilities required in the function.

In a third example, the L&D leader in an insurance business focused on operational excellence as the foundation of the L&D capability

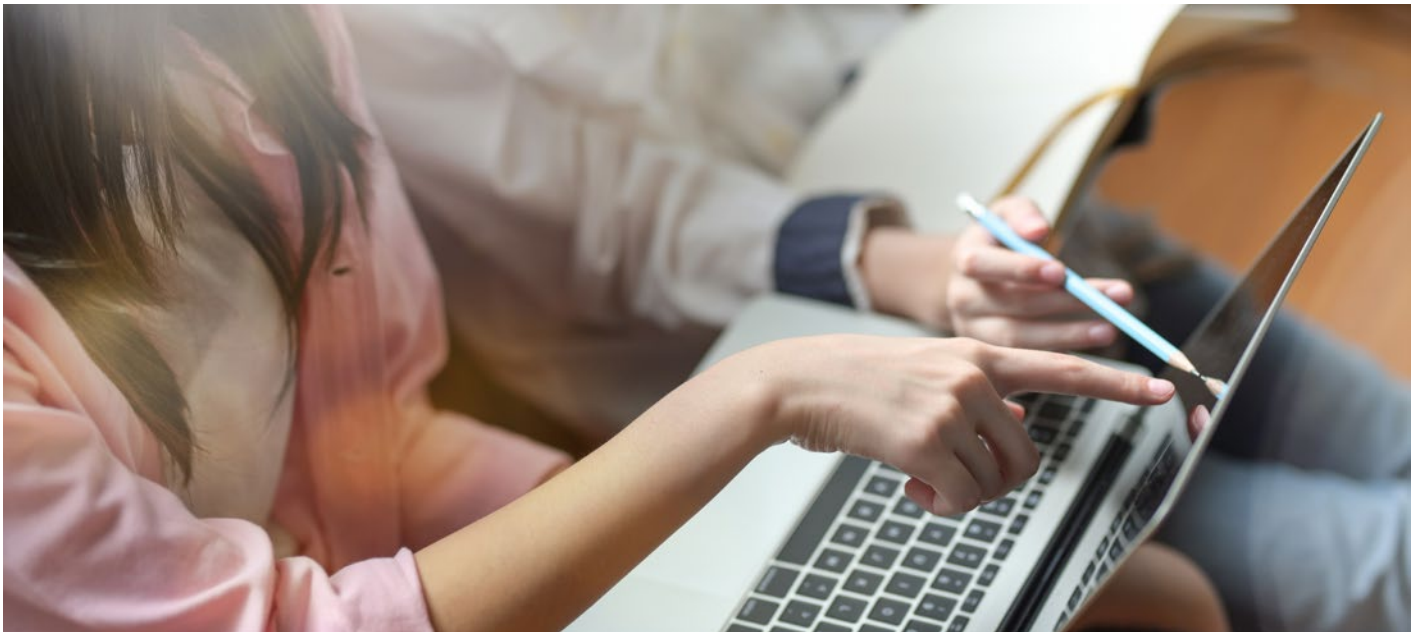
> "Ten of our L&D people across EMEA have all [completed) agile certification, and that's a totally different way of thinking of deploying in HR. For example, we're using sprints in the redesign of our leadership program...we've also been trying to educate ourselves on the future of work and new jobs; you're into analytics very fast around that. And people who like that and understand that are going to thrive."

Indeed, the adoption of agile practices in L&D teams appears to be of increasing interest with some 56 per cent of respondents to our survey suggesting it is likely to be more important in the future. We suggest that this is an approach which offers great potential to firms as they deal with the increasingly complex future of work in their organisations.

Overall, these results point to the shifting nature of the L&D role. Our sense is that organisations are struggling to find the balance between the value of the skills offered by the traditional L&D professional and those likely to become more impactful in the future. Thinking through the balance of capabilities required by the L&D team will also be important in enabling the journey. In moving forward, it will be important to explore options in terms of upskilling those in the function and creating capacity through automation of more operational tasks.

KEY MESSAGES

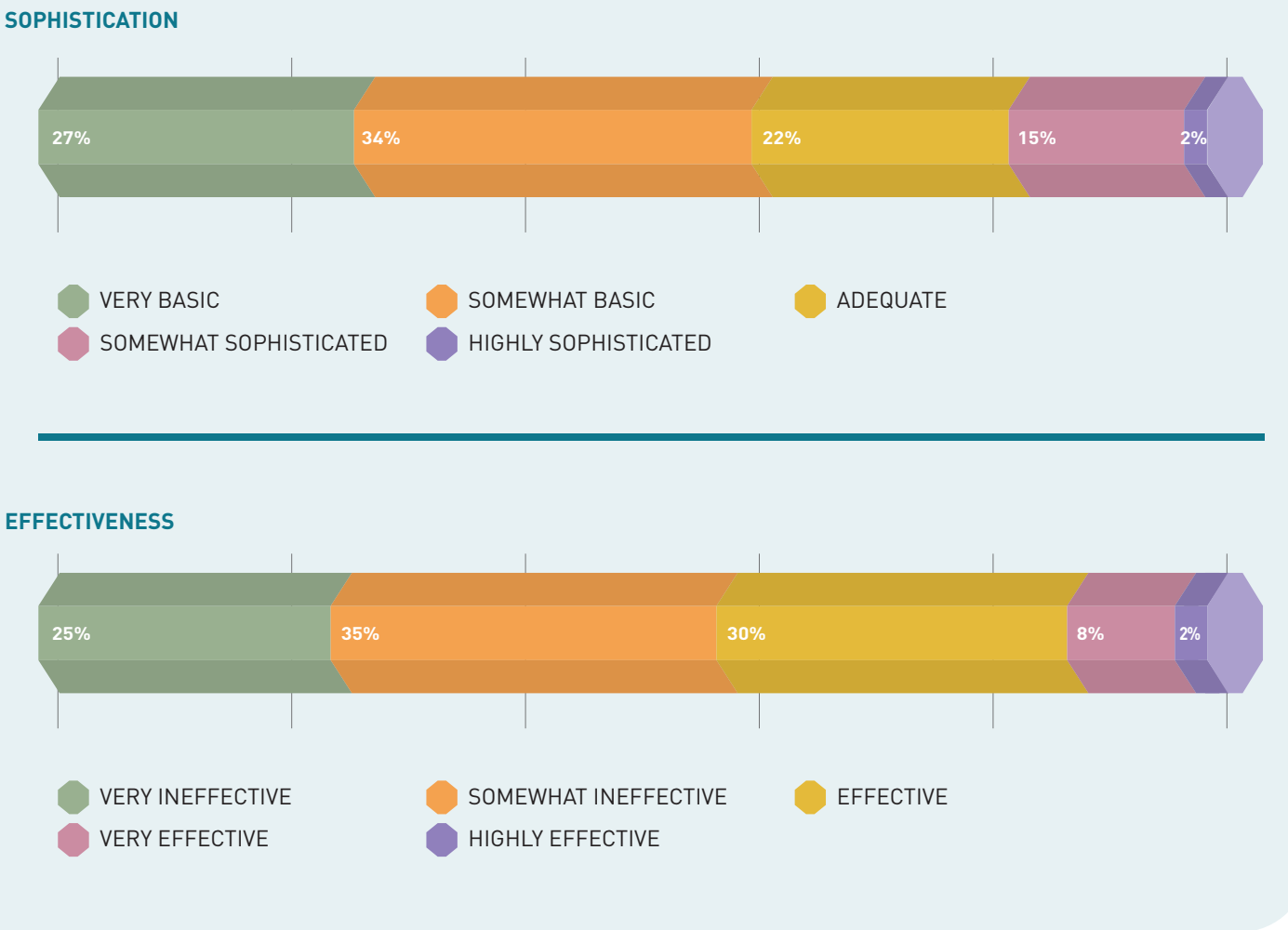
- The range of skills required for L&D to deliver on business needs is evolving, with significant growth in demand expected for skills not previously associated with the L&D function.
- L&D skills growing in importance includes areas such as digital and data analysis, online learning design and delivery, interpersonal and coaching skills, business/commercial awareness, and agile/ operational excellence.
- L&D leaders are faced with strategic choices concerning the core capabilities of their L&D function. With the exception of the largest global teams, this strategy will inform decisions about what stays within the boundary of the organisation and what is in-sourced or out-sourced.
- Technology offers opportunities to automate basic L&D tasks and create the capacity to upskill the team.
- The evidence from this study has important implications for education and development of L&D professionals, as well as for the structure and boundaries of the L&D function.



Measuring the ROI of L&D Investment

Like many areas of human resource practice, practitioners have long struggled to consistently measure the return on investment of L&D interventions. In the absence of commercially credible measurement, the budget allocation required to sustain L&D is vulnerable to constant challenge, especially when resources are tight. With the advent of digitalisation, one might expect that the large volume of data generated from L&D activities would lend themselves to the more sophisticated measurement of the impact of L&D, and returns on L&D investments. However, our research suggests that L&D professionals feel that they still have a lot of work to do in this space. In our survey, we asked respondents two questions with regard to their evaluation of the ROI of L&D. The first focused on the level of sophistication of their measurement process, and the second related to the effectiveness of their approach. The responses to these questions are summarised in Figure 8 below.

FIGURE 8 ▸ HOW SOPHISTICATED/EFFECTIVE IS YOUR ORGANISATIONS APPROACH TO MEASURING THE ROI OF L&D



The figure shows that a majority (61%) of respondents rated the sophistication of their measurement as somewhat basic or very basic, while a similar percentage (60%) rated the effectiveness as somewhat or very ineffective. Notably, only 2% of respondents rated their measurement of ROI of L&D highly sophisticated or effective. Our interviews generally reinforced this perspective, but also emphasised that context is important; for instance, the impact of training on performance in sales roles or contact centres is much easier to measure than many other areas.

KPIs

We further asked interviewees what the focus of ROI measurement should be in the context of L&D. Interestingly, the measurement model most frequently referenced was Kirkpatrick[45] which is widely known amongst L&D professionals. As a Talent Lead in a Telecoms firm put it:

> "Kirkpatrick's model is old, but I think the concept is right, tying the investment in L&D to the fulfilment of commercial objectives...that model has endured because it's valuable...the effects of e-learning have to be seen through a lens of business impact."

Several interviewees suggested that traditional metrics around activity should continue to be collated as a benchmark, albeit recognising the limited value of such metrics. Our respondents argued that such metrics do offer value in terms of measuring compliance with certification or continuing professional development requirements. However, there was a broad recognition that business impact was the 'holy grail' in terms of ROI, but equally that this was hard to measure in terms of isolating the impact of L&D. Some organisations did focus on some of the higher-profile leadership development programmes and tracked the outcome of the projects or assignments associated with these programmes as a means of tracking ROI on those high profile programmes. We also noted a growing focus on career progression, succession measures and percentage of roles filled internally as key metrics. Those organisations which have moved forward with skills audits referred to this baseline and expected this to support the development of important metrics by which the effectiveness of L&D should be evaluated. We expect this to become increasingly important as organisations shift their focus from jobs to skills.

One organisation described progress with a project through their new LMS to track linkages between access of online learning resources, and improvements in behaviour and performance (measured in various ways, including 360 feedback and customer impact) with a particular focus on the digital skills that were central to their strategy.

45 Kirkpatrick, D, and J. Kirkpatrick. "Evaluating training programs: The four levels". Berrett-Koehler Publishers, 2006.

The same organisation is also encouraging employees to track and measure their own learning.

> "We have a digital fitness app...you can go online and just take the test which measures digital fitness, and then you search for resources for...self-development. Then you can retake the test to see how you've improved your digital score."

Although our responding organisations have not yet reached the stage where they could positively evaluate their measurement of ROI on L&D, a number of interviewees spoke about the desire to draw on predictive analytics in forecasting which activities might be most impactful.

KEY MESSAGES

- Most respondents rate the sophistication of their measurement of the impact and ROI on L&D as somewhat or very basic, while a similar percentage (60%) rated the effectiveness of their measurement as somewhat or very ineffective. This suggests there is much to be done in the area of measuring the effectiveness of L&D.
- We saw a number of positive examples of measurement through specific projects and initiatives, but few examples of successful systematic measurement of ROI on L&D investments.
- Given the focus on shifting skills requirements in the future of work, metrics around skills availability, career progression and succession measure are likely to become increasingly important.
- The potential of digitalisation to enhance systematic measurement in L&D was widely recognised, suggesting the potential for significant progress in this space in coming years.

SECTION **FIVE**

Conclusions & Recommendations

The aim of this research was to explore the evolving role of the L&D function in enabling the workforce of the future. This section integrates insights from across this report to offer a set of conclusions and recommendations. We hope these will provide useful guidance for stakeholders in the L&D process in adapting to the workplace changes that are already taking place and are set to continue. We conclude by offering a Six-Step Process for responding to the future of work and enabling the workforce of the future that reflects the best practices we identified throughout this report.

A key takeaway from the study is that, on average, organisations appear to be relatively poorly equipped to proactively deliver on skill requirements for the future of work. For example, our survey data clearly indicated that just over two in five organisations viewed preparing for the future of work as a high or top priority and fewer than three in ten respondents were confident in their ability to meet their future skills needs.

In Ireland there has been a significant policy-driven investment in raising awareness of the future of work, evidenced through, for example, the work of the Expert Group on Future Skills Needs, the Future Jobs Ireland initiative, the increased investment in Skillnet Ireland, IBEC's Smarter World, Smarter Work campaign among other initiatives. The data above suggest that this awareness has not yet translated into implementable priorities at the organisation level. Our sense is that a key challenge for many organisations lies in balancing the short-term priorities of their businesses with longer-term investment in enabling the workforce of the future. Our research points to the strategic importance of the L&D function in managing these tensions and enabling the workforce of the future. The strategic importance of the challenges posed by the future of work are recognised throughout this research, and these developments place L&D front and centre in terms of the survival and growth of the modern organisation.

However, many challenges are evident, too, and organisations need to act quickly to ensure they are not left behind in the evolving world of work.

The Future of Work is Already Here

The global trends of digitisation, automation and use of AI are already having a profound impact on work as reflected in this research. We worry that the term 'the future of work' has the potential to mislead organisations into deferring action on a set of issues of immediate and strategic importance. The most progressive organisations in our research have already invested significant resources in their adaptation efforts and plan to increase the pace and scale of those activities in the immediate future. However, as noted above, our research is consistent with other research suggesting that most organisations do not feel sufficiently equipped or prepared to respond to these changes. Policymakers and government agencies such as Skillnet Ireland and other national stakeholders have a key role to play in supporting organisations to engage with these challenges and develop the skills and tools to respond.

Clear Direction is Important – the 'North Star'

A key insight from this research highlights the value for any organisation in developing a shared sense of purpose for their adaptation efforts by identifying their 'North Star'.

A 'North Star' is a metaphor to describe what successful adaptation would mean for an organisation. For example, if automation and AI are to replace work currently done by people in the organisation, what is to happen to the surplus capacity created? Our research points to different priorities reflected in different directions or different North Stars. We identified priorities such as sustainability, enhanced customer service and more digital service provision, each of which reflects the unique purpose and strategic priorities of the organisation. This clarity of direction can not only lend purpose and momentum to change efforts but also enables the organisation to communicate clearly to employees what the future of work will mean, to allay fears, retain key talent and gain support from internal stakeholders such as trade unions.

Our research also pointed to a number of key changes which impact on the nature of the L&D role and which should inform L&D strategy and delivery. These include the increasing diversity of hiring pathways which are impacting on the needs and expectations of employees.

Greater Diversity of Profiles Entering Organisations

The growing diversity of hiring pathways was a trend identified in almost all organisations that we interviewed. Employers have adopted a strategy which blends building and buying the new skills and capabilities required by the evolving world of work. This may, for example, be in skills such as data analytics, which previously did not exist in their organisation. A number of our case firms spoke about an increasing realisation that they are overly reliant on external hiring to fill skills gaps, and that they need to shift their focus to increasing upskilling and reskilling initiatives. That said, external sourcing of experienced hires is unlikely to abate. This creates significant challenges for many HR practices, which are built on hiring mainly at graduate level, such as in professional services for example. There would appear to be value for organisations in adopting a more proactive and strategic approach to ensuring alignment between hiring, L&D and career management processes reflecting these differing profiles of new hires.

As a result of these and other changes, we see a clear shift towards more individualised learning pathways.

Towards Individualised Learning Pathways

Established L&D processes tend to focus on centralised delivery of standardised learning experiences, based on Learning Needs Analysis using aggregated data from job descriptions and performance management. We found evidence of movement away from this and towards more individualised and self-directed learning pathways, enabled by sophisticated learning management systems. While responding organisations reported that they are at very different stages on this journey, the direction and momentum is clear from our interviews and survey results. Delivering this more individualised learning presents new challenges for L&D in the skills they need, the technology they rely on and the way they organise their work and their people.

Analysing Current and Future Learning Needs

Consistent with the trends identified earlier, our respondents reported much higher levels of confidence in their ability to identify current skills needs than future skills needs. Given the pace at which changes in work are unfolding, this should be a key concern for business leaders. We report some examples of excellent practices that can serve as useful benchmarks for other organisations seeking to become more proactive in identifying future skills needs. These are often premised on skills audits and analyses of how jobs and skills are likely to evolve in particular organisations. We also saw more progressive organisations establishing senior-level committees focused on how work is evolving and the impacts for skills. Policymakers, influencers such as Government Departments, Skillnet Ireland, SOLAS and professional bodies have an important role to play in encouraging and supporting employers' efforts in this regard.

Learning in the Flow of Work

The 70/20/10 conceptual model was frequently referenced by our respondents, but this research found the nature of the 'experiential' 70% of learning has moved well beyond traditional on-the-job training. This term now refers to a wide range of more strategic interventions designed to address major individual and organisational development needs. Notably, these learning experiences take place both inside and beyond the boundary of the firm, locally and globally, and reflect a growing recognition that learning needs to happen 'in the flow of work'. Examples including the development of an internal 'gig economy' to match individual skills with project needs in the organisation, as well as self-directed, multi-year secondments within and outside firm boundaries as cited in this report

We now turn to the skills required by the L&D professional of the future.

Future-Proofing the L&D Professional

Our research clearly indicated that the expectations of the L&D function and the L&D professional are evolving relatively quickly. Respondents pointed to the increasing importance of digital skills, specifically the development of digital learning and curation of online content as well as data analysis and storytelling skills. Our results also point to the increasing expectation of L&D professionals having knowledge of business and strategy, as well as an understanding of trends in the future of work to inform strategy. There was also an increasing expectation that L&D professionals display consulting and coaching skills in enabling them to deliver strategic value for their organisations. Interestingly, few respondents indicated that the skills traditionally expected from L&D professionals are of reduced importance. This creates a challenge, and the reality is that few professionals will be able to meet all of these expectations. We would also point to the potential of deploying technology in the L&D function to automate lower value tasks, as exemplified by the deployment of a chatbot for scheduling training in one of our cases. This is in line with the expectation that L&D professionals increasingly move up the value chain in terms of the value they can deliver.

As L&D functions attempt to reposition their contribution to value and move up the value chain, it will become increasingly important to develop metrics to show the return on investment in L&D interventions. While our research points to much ambition in this regard, our respondents equally acknowledged the challenges this presents.

Measuring the ROI of L&D

Despite decades of focus on measuring the effectiveness or return on investment of L&D interventions, the vast majority of respondents felt that their effectiveness in measuring ROI was limited. Our survey data confirmed that a majority (61%) of our respondents rated the sophistication of their measurement as somewhat basic or very basic, while a similar percentage (60%) rated the effectiveness of same as somewhat or very ineffective. Worryingly, only 2% rated their measurement of ROI of L&D highly sophisticated or effective. With the increasing scale of investments in L&D technologies and resources, it seems likely that organisational expectations in this regard will also increase. We did see some examples of organisations who had travelled further down the line of measuring the effectiveness of L&D. Current trends towards tracking succession depth, career development and skills gaps are illustrative of some initiatives aimed at quantifying how well organisations are prepared for the future of work. Ultimately, however, the holy grail for many organisations was tracking the business impact of investments in L&D. Successful initiatives here tended to focus on linking high-level L&D programmes such as high potential programmes to specific projects where the impact could be seen. In terms of measuring what successful adaptation to the future of work might look like, we suggest that identification of milestones of progression towards the organisation's North Star may provide a useful starting point.

We conclude by outlining our Six Step Process for Responding to the Future of Work.

Six Step Process for Responding to the Future of Work

1. Find Your North Star and Communicate It

As emphasised throughout this report, the foundation stone is the development of a North Star; a shared understanding across the leadership of the organisation concerning the desired impact on the organisation of automation and AI. In particular, the North Star clarifies how any capacity or talent capabilities freed up by AI/automation will be deployed to support the organisation's strategy. As we have seen, this discussion will be framed by the core purpose and current strategic priorities of the organisation. This report contains examples of a number of different 'North Stars' including–sustainability, customer focus, and reducing cost. Many others are possible – e.g., growth, internationalisation or operational excellence. Change management principles suggest that the ideal process for agreeing the North Star would include as wide a group of stakeholders as possible. Once agreed, communication of this agreed goal can promote positive engagement with the future of work agenda at all levels of the organisation

2. Establish a Skills Baseline

The journey to the North Star begins with an understanding of your point of departure, or skills baseline. Some organisations may already capture this through established systems and procedures. Others, as we have seen in our report, may need to invest time and resources to establish this skills baseline. In the examples cited in this report, development of the skills inventory had taken place over nine to 12 months. The outcome provides the organisation with a solid platform for assessing development needs following step 3.

3. Assess the Impact of Work Changes on Your Workforce

While many respondents expressed concern about the potential impact of AI and automation on their workforce, only a minority appear to have undertaken a systematic analysis of what this impact might be. In the example of the insurance organisation we cited, they have, in partnership with an external analytics business, piloted such a process that identifies 15% of roles which will be replaced by technology and others (a further 50%) which will require skill augmentation in coming years. This type of analysis, combined with the type of skills audit described above, provides an essential evidence base on which to base decisions about future L&D.

4. Align L&D Team and Resources

With a clear direction, a solid understanding of the current skills picture and an understanding of the impact of automation and AI on current jobs, the organisation has the evidence it needs to create a future vision for L&D, to specify the role and structure of L&D, skills of team members and the technology required to reach the North Star. This step will require a stakeholder engagement process similar to that undertaken in step 1. It should also include consideration of the metrics that will indicate what success looks like.

5. Plan and Implement

Step 5 will require time, resources and the skills of project planning and change management. The plan will set out the process, resources and milestones to track progress towards the future vision for L&D. One approach adoped in, albeit a minority of, our organisations was based on the principles of agile organisation. It composed of a series of sprints which provided the agility needed to adapt on the relative uncertainty surrounding both the business environment and the impact of the future of work.

6. Assess and Refresh

As noted consistently in our report, measuring the ROI of L&D programmes is central to moving L&D up the value chains in organisations. Thus, a sophisticated approach to measuing ROI is central to evaluating progress in enabling the workforce of the future. This, combined with ongoing feedback should provide the basis for refinement and ongoing development of the overall programme.

FIGURE 9 ▸ SIX STEP PROCESS FOR RESPONDING TO THE FUTURE OF WORK

APPENDICES

Appendix 1:

Focus Group Participants

Focus Group 1: Professional Bodies

Chartered Accountants Ireland

Chartered Institute of Personnel and Development

Engineers Ireland

Irish Institute of Training and Development

The Institute of Banking

Focus Group 2: Policy and Government

American Chamber of Commerce Ireland

Enterprise Ireland

Invest Northern Ireland

Irish SME Association (ISME)

Skillnet Ireland

Focus Group 3: Education and Employers

CPL

Department of Education and Skills

Irish Universities Association

Morgan McKinley

National Recruitment Federation

National Centre for Digital Learning, Dublin City University

Appendix 2:

Participating Organisations*

Alkermes

Brown Bag Films

Dell

EY

Glanbia

Goodbody Stockbrokers

Kerry Group

Kuehne + Nagel

ICON plc.

NLB Slovenia

PWC

Ulster Bank

Version 1

VHI

Vodafone

Zurich Insurances

*The decision to be named as having participated was entirely at the organisation's discretion and a number preferred to remain anonymous.

Appendix 3:

Schedule of Interview Questions

Section 1: Organisational Readiness

1. **How well does the organisation currently meet the talent requirements of the business?**
2. **To what extent is preparing for the future of work a priority for your business/unit?**
3. **Where does responsibility for meeting the talent needs of the business currently sit?**
4. **What do you see as the key impact of the changing nature of work on (Business, L&D, HR)?**
5. **What are the key skills implications for your workforce of the changing nature of work?**
6. **What have been the organisation's responses to these changes to date?**
   a. **Are others planned?**

Section 2: Organisational structure/ L&D

1. **Who currently owns employee learning and development in your organisation (line management, L&D, HR, Talent, employees)**
2. **What do you think are the strengths and limitations of this approach?**
3. **What changes are happening/ do you envisage/would you like to see?**
4. **What are the key L&D priorities for your organistion as you see it?**

   (for example: Soft skills, Predicting future skills gaps, impact of technology, consistent global programmes, tracking skill development, assessment of competencies)

Section 3: Enabling the Workforce

1. **When does most employee learning typically happen – before joining, while working, on own time (post-school vs lifelong etc)?**
2. **What if any changes are you seeing in 1?**
3. **What impact is this having on how learning happens – online, classroom, self-directed, linked to role?**
4. **How important is accreditation (to the organisation, to the employees)?**
   - **Is this changing?**
5. **How are you thinking about tracking competency development (digital badges, micro credentials)**
6. **Who do you see as the key external stakeholders in L&D for your organisation?**
   - **For each, what if any changes do you envisage in how they contribute to employee learning and how you engage with them**
   - **Training providers (classroom/blended and online); Universities, Professional Bodies,etc.**
7. **What skills does the L&D function/professional of the future need that it does not current have or which are currently underdeveloped?**
8. **What are the key metrics on which L&D should be evaluated?**

About the Authors

David Collings is Professor of HRM and Associate Dean for Research at Dublin City University Business School in Ireland. He previously held faculty positions at the National University of Ireland, Galway and the University of Sheffield and visiting positions at King's College London, Nanyang Business School in Singapore and Cornell University as a Fulbright Scholar. He is a leading international expert on talent management and global mobility. His speaking and consulting engagements include Abbott, Abbvie, Alkermes, Bank of Ireland, Boston Scientific, EADS Airbus, GE, Medtronic, Stryker, Zurich Insurances. He was named as one of the most influential thinkers in the field of HR for four consecutive years by HR Magazine (2014-2017). He has published numerous papers in leading international outlets and eleven books and his work is regularly cited in media and other outlets. His most recent book The Oxford Handbook of Talent Management with Wayne Cascio and Kamel Mellahi published in 2017.

John McMackin is an Assistant Professor in HRM and Organisational Behaviour at DCU Business School and Chairperson of the School's Msc in HR Strategies programme. He was Director of Executive and International Education at the School from 2011 to 2016. John has been associated with the School since 1996 and lectures on a range of management topics with a particular focus on leadership and organisational development, strategic HRM, change management, consulting skills and coaching. He also lectures on Summer programmes at the University of Ljubljana. His research focuses on careers in the future world of work, and change management skills applied to lean/ agile implementation. John was recently appointed Distinguished Principal Research Fellow at the Conference Board.

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Trainers' Learning Skillnet aims to provide relevant training and opportunities to HRD, training and development professionals for their continuing professional development (CPD) at a competitive price and to ensure that all members are provided with the opportunity to keep apace with the everchanging world of learning and development.

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