Innovation Capability Development in Ireland

Understanding and enhancing innovation capability and performance

JULY 2019

Trainers' Learning Skillnet

IRISH INSTITUTE OF TRAINING & DEVELOPMENT

STRATEGICINNOVATIONPARTNERS

CONTENTS:

Innovation is the game-changer that pushes us individually and collectively in our organisations beyond existing boundaries or limits and allows the world of business to continually advance.

FOREWORD

Skillnet Ireland and the Irish Institute of Training and Development (IITD) are pleased to present the Trainers' Learning Skillnet research report *Innovation Capability Development in Ireland.*

We live at a time of technological change that is unprecedented in its pace, scope and depth of impact. Harnessing the progress made possible by increased digitalisation is the surest path for organisations to deliver on their future innovation and talent agenda.

Innovation is the game-changer that pushes us individually and collectively in our organisations beyond existing boundaries or limits and allows the world of business to continually advance. Learning and development professionals report that one of the most critical issues facing them is unlocking the latent innovation capacity that exists in their organisations to build a culture of innovation.

Changing organisational culture to support innovation tends to be challenging. Over time, innovation training can produce cultural shifts yielding benefits: people understand strategy better, feel more connected to leaders and contribute to an environment that supports diversity and dialogue about new ideas and innovation. It is critical to create mechanisms for reinforcing innovation learnings over time and supporting managers and employees in their efforts to evolve their skills. One of the most powerful ways to do this is to focus not only on the innovation training interventions themselves, but the passion, skills and capabilities of the learners.

Our intent with this research is to support organisations and learning and development professionals by sharing insights that will assist them in building a culture of innovation and facilitate the development of innovative capability. The findings and recommendations from this research highlight exciting possibilities for organisations to develop impactful learning interventions to develop people to think innovatively about how work is organised and how to ensure the best alignment of people and technology with the right opportunities within organisations.

We would like to acknowledge all those who contributed to this research report and applaud the work of Laurence Knell 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. We encourage all stakeholders to consider the many ways we can be innovative within our organisations and develop our workforce's capacity for innovation.

Paul Healy
Chief Executive, Skillnet Ireland

Sinead Heneghan
CEO, IITD

EXECUTIVE SUMMARY

With an increased emphasis on innovation as a key capability for national and organisational success, it is ever more imperative that effective innovation capability development processes are understood and implemented.

Against the backdrop of an increased Irish Government policy focus on innovation, this research project seeks to understand the key parameters of innovation training capability development in Ireland as it is currently practiced. Specifically, the research was intended to:

- Provide an objective external evaluation of the current state of innovation training in Ireland.
- Survey the current landscape of innovation training across a representative sample of organisations – techniques and approaches used, degree and emphasis, perceived outcomes etc.
- Understand what is happening, what is not happening, and what is successful.

Based on responses to a nationwide survey of businesses and organisations and interviews with a wide range of stakeholders, a number of key conclusions emerged. These include the following:

- Innovation is recognised as being of critical importance by organisations in Ireland.
- Leadership support at an organisational level is necessary for innovation and innovation training to be effective.
- An innovation strategy is crucial for innovation to be successful.
- Greater focus on innovation capability development is required.
- Gaps exist in the current provision of innovation training, both in terms of content and in comparison to best-practice.
- Experiential learning is important, but it is not sufficient for innovation.
- More coherent programmes are needed to support innovation in SMEs and not-for-profits.
- Structured, specific evaluation of innovation training is required.
- Skillnet Ireland and Skillnet learning networks can support enhanced innovation capabilities.
- Industry bodies have an important role to play in supporting innovation training.
- Government and semi-state bodies should maintain a focus on innovation and innovation capability development.

It is hoped that these findings will support enhanced engaged with innovation capability development in Ireland by stakeholders at all levels, including Government and state agencies, industry bodies, organisations, education and training providers and individuals.

INTRODUCTION

More than just a catchphrase, innovation is one of the defining individual and organisational capabilities of the 21st century. Whether considered on an individual or organisational level, the need both to innovate and to be innovative is regarded as essential for longer-term success. Yet beyond the headlines, very little is known about what is actually being done to ensure that skills and capabilities for innovation are maintained and, indeed, enhanced.

While it is tempting to assume that this lack of knowledge is a purely Irish phenomenon, a scan of the available literature would suggest that these gaps also exist in many other countries. Despite the widely accepted importance of innovation, there is a marked lack of empirical studies into the impact of education and training programmes on innovation and innovation systems (Borrás and Edquist, 2014). As Jones and Grimshaw (2012, p.3) point out, "for the most part the training/skill-innovation inter-linkages remain under-researched", yet understanding this relationship is critical.

As Desjardins et al. argue:

> Disentangling the relationships between learning and innovation at different levels is not only relevant for those interested in adult learning, organisational learning, and human resource development, but also for those interested in formal education.
> (Desjardins et al, 2016, p.142)

Consequently, the potential implications of this gap in knowledge are significant for a wide range of stakeholders:

- For Government and policy makers, a clear understanding of the current innovation training landscape is required in order to support a thorough assessment of the effectiveness of innovation policies in the Irish economy.
- For State and other agencies focused on supporting enhanced innovation knowledge of current practice, it is necessary to support the assessment of current innovation support programmes and to inform decisions on the most effective programmes to develop and implement.
- For businesses and other organisations seeking to innovate, knowledge of the key elements of best practice innovation training is key to making optimal decisions and choices relating to innovation training and other internal supports.
- For providers of consultancy and training, a lack of robust data and poor understanding of the current innovation training landscape can result in – ironically – a lack of new thinking in the types of innovation training required.
- For individuals seeking to enhance their own innovation capabilities, a clearer understanding of the current availability of innovation training is required to support better decisions and enhanced personal and professional development.

This unique research into innovation capability development in Ireland has been undertaken by Laurence Knell of Strategic Innovation Partners. The research seeks to address these gaps by establishing a baseline of knowledge of the current innovation training landscape in Ireland.

The report is structured as follows:

- Section 1 outlines the basis of the research purpose.
- Section 2 details key elements of the current Irish innovation policy context.
- Section 3 provides a brief overview of the theoretical background to creativity, innovation and related training concepts.
- Section 4 details the methodology of the research including both the online survey and interview process.
- Section 5 outlines the key results from the online survey.
- Section 6 provides details of the interviews with key industry stakeholders.
- Section 7 includes a range of conclusions and recommendations.

As with any research this study has encountered a number of specific limitations. Chief amongst these has been the relatively low response rate at certain points in the process, though in itself this tells an interesting story regarding rates of engagement with innovation training.

This research project was designed to investigate current approaches to innovation training in Ireland.

Section 1

Research Purpose

RESEARCH PURPOSE

This research project was designed to investigate current approaches to innovation training in Ireland. From that starting point it was hoped to establish which are the most impactful forms of innovation training, delivering the most effective outcomes for both individuals and organisations.

Aims and objectives

More specific aims and objectives of the research were to:

- Provide an objective external evaluation of the current state of innovation training in Ireland.
- Survey the current landscape of innovation training across a representative sample of organisations – techniques and approaches used, degree and emphasis, perceived outcomes etc.
- Understand what is happening, what is not happening, and what is successful.

Beyond practical relevance for informing the development of more effective innovation training practices in Ireland, implications for the broader policy context is also of critical importance.

Upskilling those in employment and creating a vigorous talent base enhances productivity and innovation at enterprise level.

Section 2

The Irish Innovation Policy Context

THE IRISH INNOVATION POLICY CONTEXT

Vision

Ireland - A global innovation leader driving a strong sustainable economy and a better society underpinned by:

- Excellent research in strategically important areas that has relevance and impact for the economy and society.
- A strong innovative and internationally competitive enterprise base, growing employment, sales and exports.
- A renowned pool of talent both in Ireland's public research system and in industry that maximises exchange of talents and knowledge.
- A coherent joined-up innovation ecosystem, responsive to emerging opportunities, delivering enhanced impact through the creation and application of knowledge.
- An internationally competitive research system that acts as a magnet and catalyst for talent and industry.

Innovation 2020 (Interdepartmental Committee on Science, Technology and Innovation, 2015, p.8)

Irish Government policy recognises that innovation and the ability to innovate are key to the longer-term success of Ireland – financially, economically and socially. Unless Ireland increases the capacity of its people and organisations to innovate effectively, it risks falling behind international comparator countries and losing the highly competitive battle for foreign direct investment from leading global companies.

Innovation 2020 – Ireland's key innovation policy – has a clear focus on the role of enhanced education and skills as a basis for innovation:

> **One of Ireland's greatest strengths is its people. Future growth depends on innovation and future innovation depends on people. Ireland's high proportion of young people, relative to other EU countries, presents us with a unique opportunity. In order to take advantage of this opportunity, the full continuum of talent development must be supported.**
>
> **(Interdepartmental Committee on Science, Technology and Innovation, 2015, p.10)**

This theme of talent development beyond just the STEM fields is continued in *Innovation 2020* and highlights the broader importance of innovation training:

> The development of talent relevant to research and innovation is not limited to STEM knowledge: it requires focus on *complementary skills, such as critical thinking, creativity and entrepreneurship, and these will be essential to Ireland's continued success.*
> (Interdepartmental Committee on Science, Technology and Innovation, 2015, p.35)

Launched in 2018 by the Irish Government, *Project 2040* aims "to provide a comprehensive social, economic and cultural infrastructure" for Ireland. (Government of Ireland, 2018, p.2)

Core amongst the priorities outlined in *Project 2040 is A Strong Economy, supported by Enterprise, Innovation and Skills.* As *Project 2040* makes clear:

> Delivering this outcome will require the coordination of growth and place making with investment in world class infrastructure, including digital connectivity, and in *skills and talent to support economic competitiveness and enterprise growth.*[1]

This is to be realised through: "a significant uplift in the performance of enterprises in terms of innovation, export potential and productivity" (DPER, N.D., p.58).

The focus on the need to support greater innovation skills permeates a wide range of Irish Government policy documents, most particularly those related to skills and employment.

The *National Skills Strategy 2025*, for example, is clear that:

> Given the changing demand for skills, increasing people's lifelong learning activity, especially those in the workforce, is a vital element of Ireland's future skills development and can have a positive impact on productivity and innovation at firm level and nationally.
> (Department of Education and Skills, 2016, p.38)

A link in this regard is made both to Ireland's broader economic performance and the country's attractiveness to foreign firms:

> Having a workforce with high-quality relevant skills is key to productivity and innovation and well-skilled people are accordingly central to the success of the economy. They are one of the primary attractions for foreign-owned firms considering investing here and for driving indigenous enterprise development.
> (Department of Education and Skills, 2016, p.69)

1 Source: https://www.gov.ie/en/policy/project-ireland-2040-policy/#a-strong-economy-supported-by-enterprise-innovation-and-skills

The *National Skills Strategy 2025* is also clear that the focus on innovation goes beyond the larger organisations and highlights that "Improving management practices in SMEs will improve productivity, innovation and use of skills in the economy."
(Department of Education and Skills, 2016, p.83)

In more practical terms the role of innovation skills in supporting economic competitive advantage is outlined in greater detail in the *Action Plan for Jobs 2018:*

> The promotion of innovation and its diffusion are at the heart of Ireland's enterprise strategy. Over the last number of years, investment by the Government in research and innovation has been crucial in fostering and embedding a world class innovation system, underpinning enterprise development and growth, and building national competitive advantage across our economy.
> (Department of Business, Enterprise and Innovation, 2018, p.64)

This theme is further developed in the *Skillnet Statement of Strategy 2016-2019:*

> Upskilling those in employment and creating a vigorous talent base enhances productivity and innovation at enterprise level. It also underpins national competitiveness and strategies that build on our successful track record in attracting foreign direct investment.
> (Skillnet Ireland, 2018, p.5)

In terms of how this is to be done, *Enterprise 2025* is quite revealing, asserting a clear ambition to:

> Build the innovation, design and problem-solving capabilities of our enterprises so that innovativeness is embedded in 'how we do things'.
> (Department of Business, Enterprise and Innovation, 2015, p.42)

As this brief overview of the Irish policy context demonstrates, innovation is a key priority for government and is regarded as being of critical importance for the longer-term success of the country.

"Innovation training can be considered a mix of both creativity and implementation skills."
(Birdi, 2016)

Section 3

Theoretical Background

THEORETICAL BACKGROUND

In order to fully understand the context of innovation training in Ireland it is important to have a clear understanding of both innovation and the related concept of creativity. This is critical as not only are both concepts related but they are also widely confused in an organisational context, most especially in terms of training. The definitions outlined here underpin the approach and perspectives taken during this research project.

Creativity vs innovation

A standard definition holds that creativity is:

> *the generation of novel and useful products within a specific context.*
> (Bristol et al., 2013, p. xii)

Inherent in this definition is a focus on the generation of something (here termed a product though it might equally refer to a service, process or concept), but not actual implementation or action. As Amabile et al. (1999) assert, this is a key distinction between creativity and innovation:

> Creativity is the crucial "front-end" of the innovation process; before innovation can happen, the creative ideas must be generated by individuals and teams so that they can be successfully implemented.
> (Amabile, Burnside and Gryskiewicz, 1999, cited in Puccio and Cabra, 2010, p.147)

While many definitions of innovation exist, the most straight-forward and relevant for a general discussion is that proposed by Ekvall (1997). Ekvall proposed that innovation is:

> A creative idea that has been brought to application.
> (Ekvall, 1997, p 195)

Unlike many other definitions of innovation, such as those proposed in the Oslo Manual 2018 (OECD, 2018), Ekvall's definition is sufficiently broad to encompass a full range of organisations, contexts, requirements and approaches. As Knell (2018) points out, innovation in this sense:

> might relate to a product, service or perhaps even process or social movement, and can apply at all levels and within all potential domains within a society or organisation. Equally, it might relate to a new field of endeavour or perhaps even to adaptations to products, services etc within an existing field. (Knell, 2018, p.23)

Creativity training vs innovation training

As highlighted by these definitions, creativity and innovation are closely related concepts though with the clear distinction that innovation requires implementation and action. These distinctions flow through into understandings and definitions of creativity training and innovation training.

Birdi defines *creativity training* as follows:

> *Creativity training can be defined as instruction to develop an individual's capability to generate novel and potentially useful solutions to (often complex and ill-defined) problems ...* The instruction can come in various forms, but the underlying aim of all creativity training is to help participants generate more original ideas to deal with challenges they are facing.
> (Birdi, 2016, p.298)

With a clear and direct link to the definition of innovation given above, Birdi defines *innovation training* as follows:

> While definitions of creativity focus on the generation of new and useful ideas, innovation also includes the subsequent implementation of those ideas. Hence, *innovation training can be considered a mix of both creativity and implementation skills.*
> (Birdi, 2016, p.298)

Fischer and Afifi (2013) further justify and explain this distinction as follows:

> Innovation is defined as implemented ideas. Training for innovation is therefore the combination of two general skills. First, creativity is necessary to generate ideas. Second implementation skills are required to turn the ideas into innovations. Implementation skills are quite different from creativity skills. In many ways, the skills required for creating ideas are diametrically opposed to the skills skills needed for implementation. Implementation skills are generally considered under the area of knowledge covered by project management. Creativity skills are more of an art, in contrast to the science of project management. Project management involves traditional management skills but it also includes the arts of change management and leadership.
> (Fischer and Afifi, 2013, p.170)

Consequently, while there will inevitably be overlap in the training provision for either creativity or innovation, they are conceptually distinct and involve slightly different approaches.

The importance of innovation training

A 2012 study by European Centre for the Development of Vocational Training (CEDEFOP) found that:

> learning-intensive forms of work organisation and workplace learning – in addition to other, more formal modes of learning – correlate with the innovation performance of countries, based on the innovation performance of companies within these countries. (CEDEFOP, 2012, p.88)

Similar findings have been put forward from research at a firm or organisational level. Based on a study of 1345 SMEs, Freel (2005) concluded that "simply put, the most innovative firms train more staff" (2005, p.132). Freel further cites Warner (1996, p. 348) who makes the case that, "innovation and (training [sic] in modern economies are inextricably linked". This position is supported by Dakhli and De Clercq (2004) who demonstrated a clear theoretical and practical link between human capital and innovation (see also Naranjo-Valencia et al., 2018, p.2).

In a detailed review of empirical studies from various countries, Jones and Grimshaw (2012) found that:

- Innovative or innovating firms engage in more training than non-innovating firms.
- The skill composition of a firm's workforce is an important contributing factor but the type of skill-mix best suited to innovation performance is contingent.
- Innovative or innovating firms spend more on training (both acquisition and development of skill).
  (Jones and Grimshaw, 2012, pp.12-13)

Forms of innovation training

A key challenge when discussing both innovation and innovation training is that each comes in very different forms, often dependent on and adapted to meet the relevant organisational context. As Jones and Grimshaw assert:

> training and patterns of learning occur in multiple forms. Formal and informal mechanisms of interaction and learning within firms enable employees to share information, challenge existing routines and practices, and experiment and collaborate to improve products and processes. The form of training provision and the wider skill formation system provide a set of limits and opportunities for guiding innovation performance at all levels of the economy. Training is thus defined by conditions internal and external to the firm – including on the one hand the organisation-specific design of jobs and informal/formal training provision, as well as the human resource policies of recruitment, pay and careers that nurture a particular skill-set among the workforce, and, on the other hand, the external institutional forms of schooling, higher education and the roles of government, employers and unions in delivering vocational training.
> (Jones and Grimshaw, 2012, p.7)

Noting the "widespread application of creativity training, coupled with the marked variability observed in content and delivery methods", Scott et al. (2004) highlight that:

> creativity training comes in many forms. Smith (1998), in a review of training program content, identified 172 techniques, or instructional methods, they have, at one time or another, been used to develop divergent thinking skills. Bull, Montgomery, and Baloche (1995), in a more focused review of college level creativity courses, identified some 70 techniques that were viewed as important components of instruction. Not only do these courses differ with respect to content, they also display some marked differences with respect to method of delivery. For example, Warren and Davis's (1969) program stresses guided practice whereas Fontenot's (1993) program places a greater emphasis on lecture and discussion. Clapham (1997) described a training program that is less than 1 hr long. Reese, Parnes, Treffinger, and Kaltsounis (1976) described a training program that extended over multiple semesters.
> (Scott, et al., p.362)

In a review of creativity and innovation training, Fischer and Afifi (2013) similarly identified a wide range of perspectives and approaches. Based on Fischer and Afifi's analysis, the 13 main types of innovation training commonly used in organisations:

- On the job training
- Classroom training
- Mentoring/coaching
- Case studies
- Team building
- Brainstorming
- Job rotation
- Project management
- Performance reviews
- Time management
- Training on risk taking
- Online training
- Organisation specific training

What makes innovation training effective?

Having established what innovation training is and the forms of delivery it entails, it is critical that efficacy and outcomes are also considered.

Valgeirsdottir and Onarheim (2017) conclude that while much creativity training is effective, there are significant challenges to understanding why this is the case. This, they argue, is due to difficulties in establishing sufficient commonalities between studies in order to support broader benchmarking. Considered from a more mundane perspective, the challenge of defining clear associations between skills and innovation outcomes is also problematic. As Jones and Grimshaw (2012, p.7) point out, "although the articulation of linkages between skills and innovation can be identified in principle, the mechanisms through which they interact in the real-world economy remain somewhat opaque."

Valgeirsdottir and Onarheim (2017) nonetheless emphasise the importance of this establishing the effectiveness of creativity and innovation training:

> Which elements make one creativity training program more effective than another? This is a question of equal relevance to academia and industry, as creativity training is a tool that can contribute to enhancement of organizational creativity and subsequently innovation.
> (Valgeirsdottir and Onarheim, 2017, p.430)

In seeking to develop some clarity on this question Scott et al (2004) outline four key criteria which they believe underpin effective creativity training:

> First, training should be based on a sound, valid, conception of the cognitive activities underlying creative efforts. Second, this training should be lengthy and relatively challenging with various discrete cognitive skills, and associated heuristics, being described, in turn, with respect to their effects on creative efforts. Third, articulation of these principles should be followed by illustrations of their application using material based on "real-world" case or other contextual approaches (e.g., cooperative learning). Fourth, and finally, presentation of this material should be followed by a series of exercises, exercises appropriate to the domain at hand, intended to provide people with practice in applying relevant strategies and heuristics in a more complex, and more realistic context.
> (Scott et al, 2004, p.383)

Linked to this perspective, Onarheim and Friis-Olivarius (2013) stress the importance of theory and theoretical engagement as part of creativity programmes, positing that "a tangible understanding of the neurological underpinnings of creative thought improves the divergent thinking aspect of creativity" (2013, p.7). Their research would seem to suggest that individual outcomes of creativity training programmes are enhanced by the development of programmes which involve elements of both theory and practice.

Scott et al. (2004) assert further that "creativity training should not be viewed as simply a particular program or the result of applying a fixed set of techniques" (Scott et al, 2004, p.383). This position is implicitly supported by Bourgeois-Bougrine et al., who argue for a personalised and individualised approach to innovation training which should "assess individual differences such as the need for structure and closure and adjust the creative task accordingly." (2017, p.115)

Just as important as an emphasis on individual tailoring, however, is the need for any training intervention to be scaffolded by a supportive organisational context. As Birdi explains, creativity and innovation training programmes:

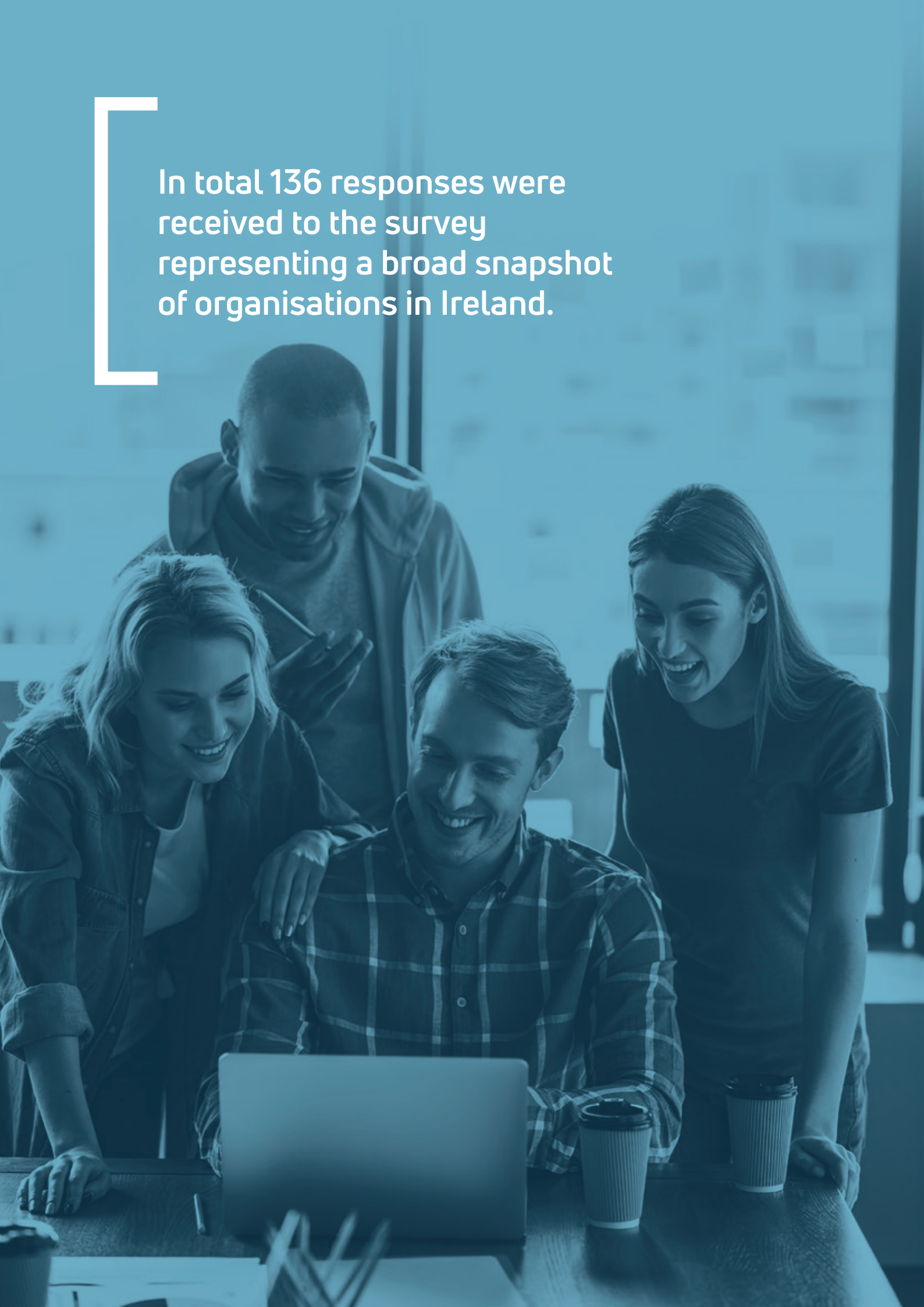
> will have a restricted long-term impact if participants return to an environment that is not receptive to new ideas or willing to try them out. A synergistic mixture of cultural, structural, as well as training, interventions will be required if the organization wants a sustained and successful stream of innovation from its employees. To put it another way, returning creativity trainees to a working environment that is averse to change would be like taking a carefully cultivated palm tree and planting it in the middle of the Arctic.
> (Birdi, 2005, pp.109-110)

In summary, the elements of effective innovation training can be outlined as followed:

- Training should be based on underlying cognitive processes.
- Training should meet individual needs and not be generic.
- Training should be lengthy and challenging.
- Real world examples and approaches such as cooperative learning should be used.
- Training should be based on practical exercises relevant for the context in which the learning will be applied.
- Training should involve both theory as well as practice.
- Organisational context and culture should be supportive of creativity and innovation and facilitate growth and development.
- Training should include a clear focus on implementation rather than just idea generation.

(Based on Birdi, 2005; Birdi, 2016; Bourgeois-Bougrine et al, 2017; Onarheim and Friis-Olivarius, 2013; Scott et al., 2004)

In total 136 responses were received to the survey representing a broad snapshot of organisations in Ireland.



Section 4

Methodology

METHODOLOGY

Data for this study was gathered through two key approaches:

- An online survey.
- One-to-one interviews.

Each aspect of the research is discussed in greater detail below.

Online survey

Data was gathered through an online survey distributed to member organisations of the Irish Institute of Training & Development and Trainers' Learning Skillnet. The survey was additionally distributed to Skillnet managers around Ireland and online via social media to the general public. The survey was open to both indigenous Irish organisations (including businesses, government, semi-state bodies etc) and non-Irish organisations with operations in Ireland (including multinationals etc).

The survey was structured to include three key elements:

- Demographic data on the respondent and their organisation.
- General questions on the approach taken by the respondent's organisation to innovation more broadly.
- Specific questions about innovation training.

Prior to distribution, the survey approach was tested with a number of academics and industry stakeholders to ensure suitability and validity.

In total **136 responses** were received to the survey representing a broad snapshot of organisations in Ireland. Of the 136 respondents who began the survey, only 62 respondents completed the survey in full.

Interviews

Following the completion of the survey interviews were held with a wide range of respondents as well as general industry stakeholders. These interviews sought both to validate and expand upon the data and feedback received from the survey and were purposely semi-structured to allow specific areas of relevance to the interviewee to emerge.

Key questions explored during the interviews were as follows:

- What kind of innovation training/capability development do you offer/provide?
  - If you do not, why is this?
- If you do:
  - What do you believe is effective?
  - What do you believe is not effective?
  - How do you evaluate impact?
  - Looking more broadly what variations in the types of innovation training offered are you aware of?
  - Any other thoughts?

Interviews were ultimately held with **43 individuals**, with each interview lasting for **30-90 minutes** depending on interviewee availability.

Respondent profile

The following provides a brief snapshot of the 136 organisations who responded to the online survey.

Headquarters

- 78% of respondents indicated that their head office is located in Ireland, compared to 22% who indicated that it is not located in Ireland. This included countries such as the US, Canada, UK, Germany, Japan, Switzerland and Bahrain.

Organisation size

- The majority of respondents (42%) were from organisations of over 1000 employees, though importantly a significant number (36%) of responses were from organisations of 49 or fewer people.

Type of organisation

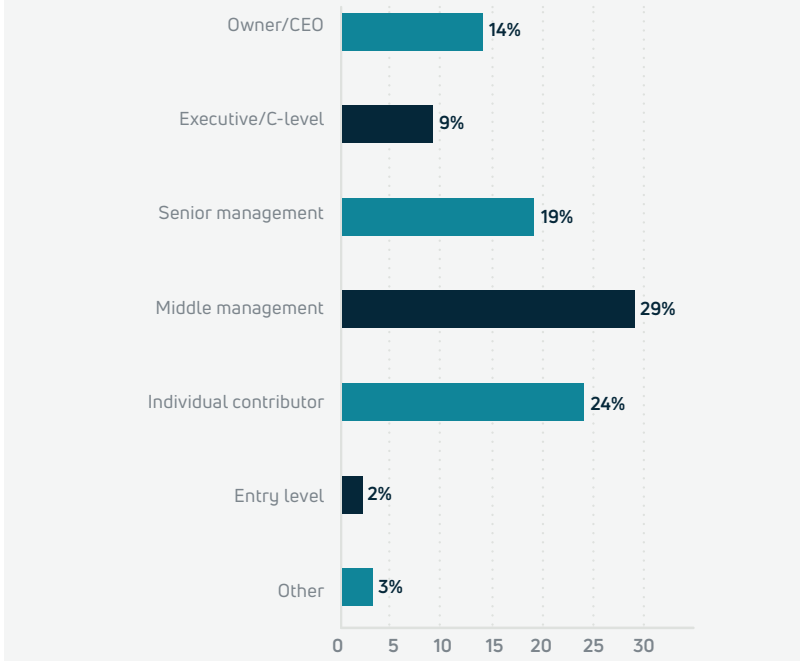
- The majority of respondents indicated that their organisation was a private or public company (57%), with an additional 15% being from multinationals. 11% of respondents were from Government departments or state/semi-state agencies, and just under 9% of respondents were from educational bodies.

Respondent profile

- Just under 42% of respondents were from senior management or executive roles in organisations, while an additional 29% have roles in middle management.
- 24% of respondents indicated that in their roles they are individual contributors.
- Given the nature of the survey audience, it is perhaps not surprising that a combined 63% of responses were from individuals working in HR or L&D roles, while only 7% of respondents identified as working in innovation or R&D.

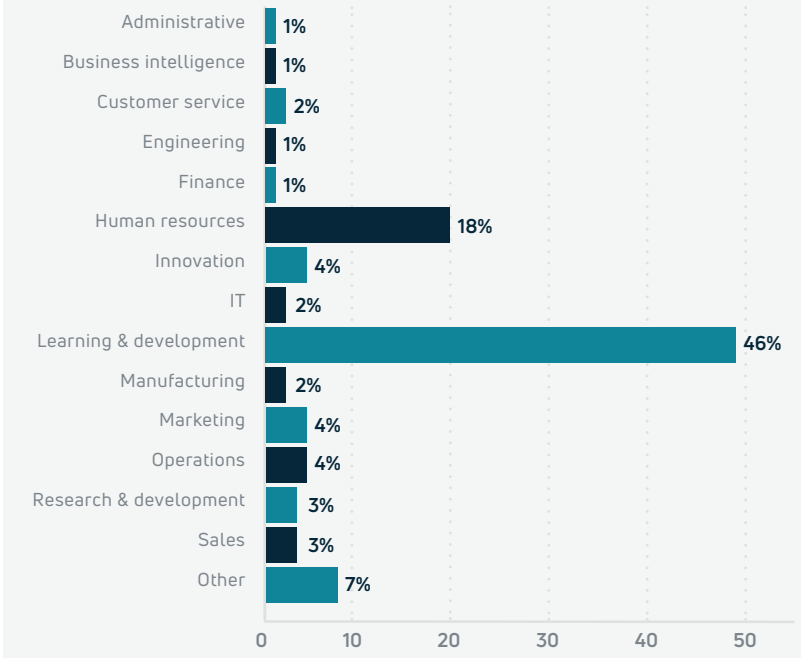
Summary details are included on the next page.

Job level



Sector	%
Agribusiness	1%
Communications	4%
Construction	3%
Education	16%
Energy	1%
Financial services	11%
Food	3%
Government/Semi-state	7%
Health	1%
Manufacturing	4%
Media and marketing	1%
Not-for-profit	4%
Pharma	7%
Professional services	16%
Retail	4%
Technology	7%
Other (Incl. utilities, outsourcing, gambling, research, child protection/welfare)	7%

Job role



Type of organisation	%
Government department	4%
State agency	6%
Semi-state agency	1%
Private company	47%
Public company	10%
Multinational	15%
Charity/Not-for-profit	8%
Educational institution	9%

Head office location	%
Ireland	78%
Bahrain	1%
Canada	2%
France	1%
Germany	1%
Japan	1%
Switzerland	1%
UK	6%
USA	7%
Not specified	2%

No of employees	%
< 10	23%
10 – 49	13%
50 – 249	8%
250 – 999	14%
1000 – 9999	22%
10,000 +	20%

Innovation and innovation training, irrespective of organisation type should be encouraged, rewarded, measured and embedded in how the public sector delivers its service.

Section 5

Online Survey Results

ONLINE SURVEY RESULTS

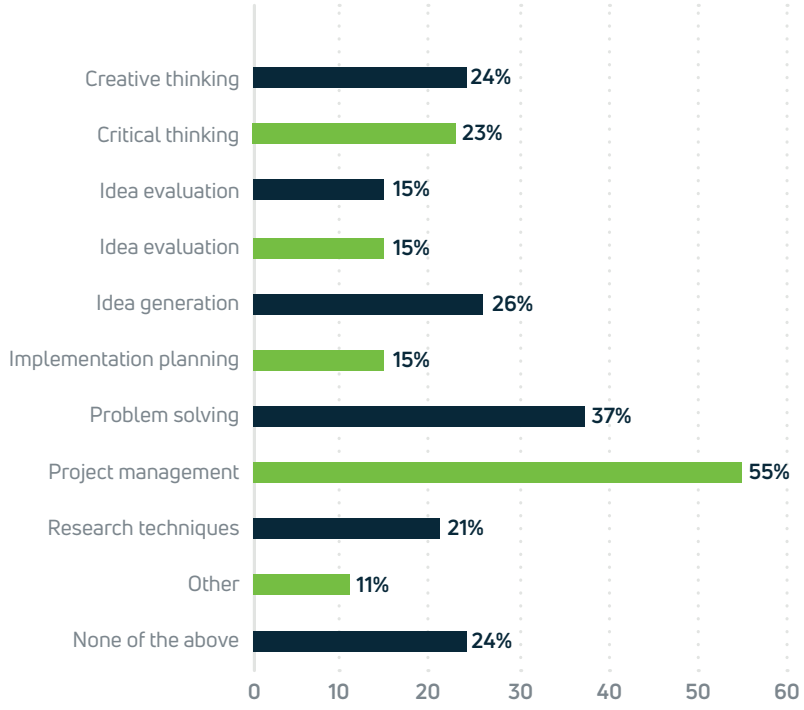
The following section outlines the key results from the online survey.

Is innovation training provided?

The majority of respondents (69%) indicated that their organisation does not provide specific innovation training, with a significant additional number of respondents (8%) indicating that they *did not know.*

Curiously, when more specific questions were asked regarding types of training provided – *Which of the following types of training does your organisation provide?* – a significant number of respondents indicated that their organisation provided training which could broadly be regarded as supporting enhanced innovation capability:

Which of the following types of training does your organisation provide? (n=62)



Other training provided included:

- Lean Six Sigma.
- Aspects of all of the above as components to customised solutions.
- Technical training.
- Competency based technical.
- EI training assessment and follow up.
- Standardised training courses some of which have opportunities for idea generation and problem solving.
- Design thinking.

Considered in light of the definition of innovation training outlined above – specifically that innovation training entails a combination of both creativity and implementation skills – the wide range of approaches utilised is understandable. What is surprising, however, is the strong focus on project management skills (55% of respondents) though this can perhaps be understood in terms of the broader focus within organisations on enhancing the *project management skills* of their teams and would as such not relate only to innovation. When the data is examined in greater detail, it is evident that 70% of those respondents whose organisations utilise project management techniques also apply other creativity techniques.

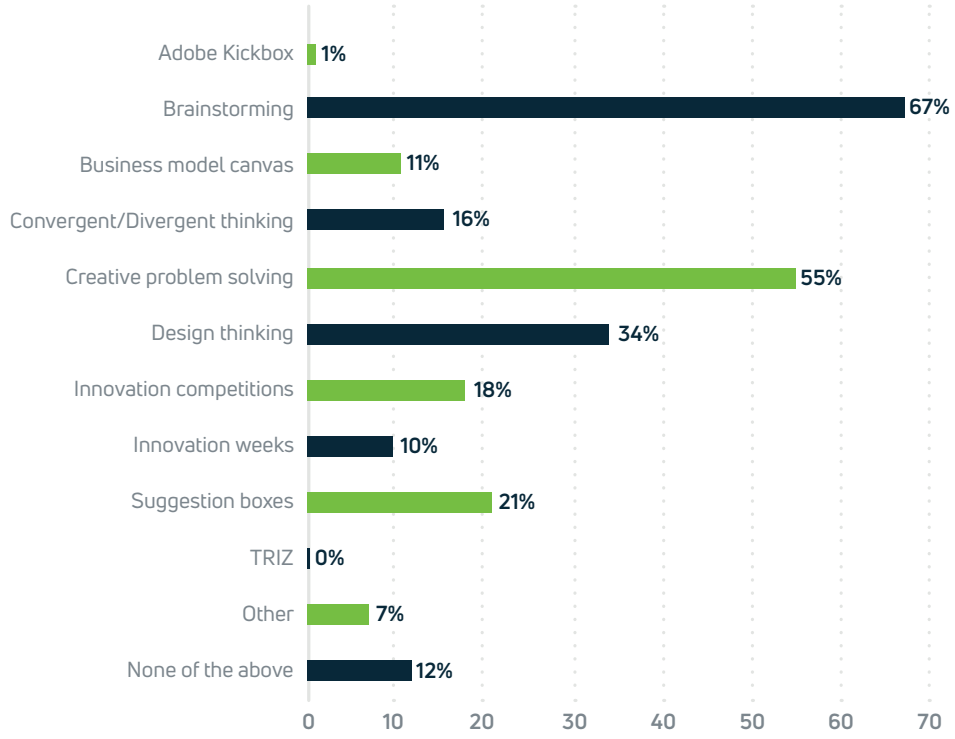
In terms of types of innovation training provided it is notable that 24% of respondents answered *none of the above,* indicating that the respondents' organisations did not provide training in any of the techniques/approaches listed. This would appear to be confirmed by the fact that these same respondents did did not select the *other* option to provide additional input.

Innovation techniques and approaches utilised

Respondents were asked to comment on which innovation techniques or approaches are actually used in practice by their organisation.

As the data indicates, the top three approaches used are *brainstorming* (67% of respondents), *creative problem solving* (55%) and *design thinking* (34%).

Which innovation techniques or approaches does your organisation utilise? (n=73)



Comments in response to *other* techniques utilised included:

- Think tank sessions, peer led themes every six weeks. Explore, engage free thinking and see what emerges.
- Very little really - left to one person.
- On an individual level, some employees engage in creative problem solving but this is not expected and is not usual. I have made a number of attempts to name and introduce new evidence-based approaches within my department but these have not been taken on board.

Unfortunately, no indication was given as to what the "new, evidence-based approaches" referred to by the respondent are in practice.

Given that they have both been utilised extensively since at least the 1950s, it is not necessarily a surprise that *brainstorming and creative problem solving* were the two most common approaches to innovation utilised. That said, however, it is less clear from the survey how effectively these techniques are applied and whether the terms are simply used as general "catch-all" phrases rather than as a reference to specific, defined techniques. While *design thinking* is a much newer technique, its popularity is to an extent unsurprising given the very high profile it has gained in recent years.

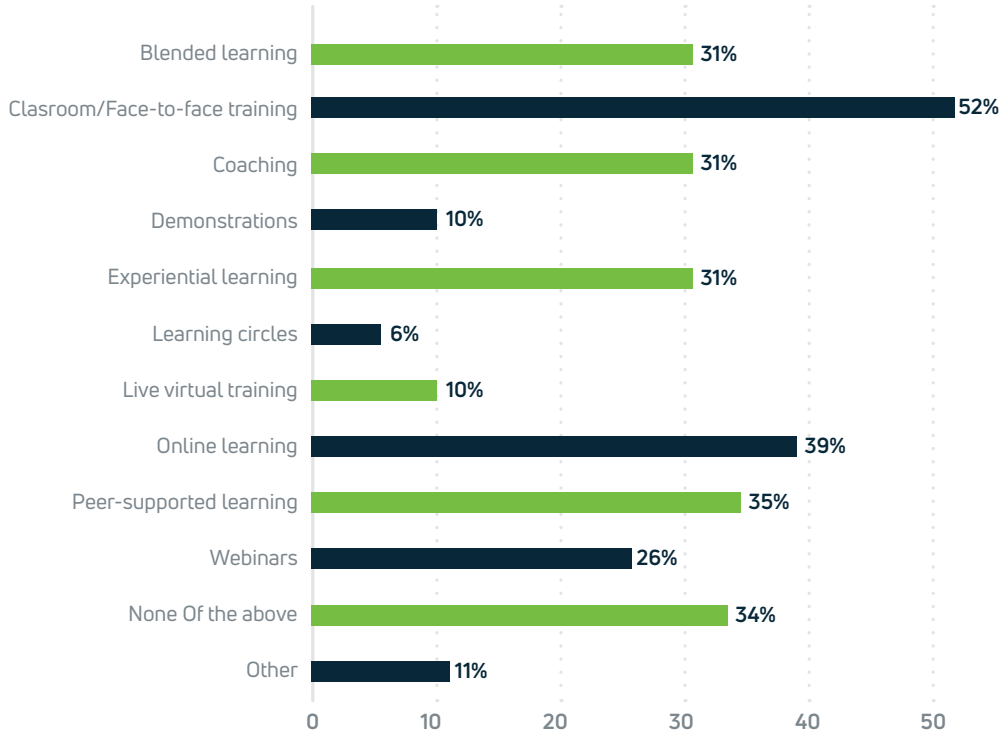
Interestingly, a relatively low number of respondents indicated that their organisation utilises *innovation competitions, innovations weeks* or the *business model canvas* as ways of driving innovation. Equally, almost no respondents indicated that they utilise other end-to-end techniques creativity and innovation techniques such as *Adobe Kickbox or TRIZ.*

While approaches such as *brainstorming* are well-enough known to be applied without particular training, techniques such as *design thinking, Adobe Kickbox* and, to an extent, classical creative problem solving would typically require specific training in their application, yet it is notable that respondents have not separately highlighted the implementation of training in these techniques.

How is innovation training delivered?

To gain a clearer picture of the methods of training delivery used to support innovation, respondents were asked to comment on how they deliver innovation training in their organisation.

Which of the following methods are used to deliver innovation training in your organisation? (n=62)



Other approaches to the delivery of innovation training include:

- Dedicated YouTube channel with content specific to our organisation.
- Team meetings time allocated. Open to individuals to seek online training.
- Occasional innovation boot camps but very limited places for staff or management.
- The peer supported learning is specific to some courses and promoted by individuals rather than the department. Webinars have been available from external providers but are not frequent. We currently have minimal online learning and do not have the technical expertise across the department. The workforce have difficulty being released from their tasks to attend classroom training and yet this is still the primary approach to learning and development. There is currently one person trained in digital approaches to learning for a workforce of almost 4,000.

The most common form of delivery for innovation training is by traditional means of *Classroom/face-to-face* training (52% of respondents). Of these respondents, 95% also indicated they utilise other methods of delivery beyond the classroom.

Respondents indicated that a relatively high level of innovation training is delivered fully or partly via digital means. Specifically:

- 39% of respondents utilise *online learning.*
- 31% of respondents utilise *blended learning.*
- 26% of respondents utilise *webinars.*
- 10% of respondents utilise *live virtual training.*

Given the rise and increased utilisation in recent years of technology-enhanced learning methods this should not be surprising.

A comparatively high number of respondents (31%) confirmed that they utilise experiential learning approaches to innovation training. Experiential forms of innovation training typically include approaches such as immersions, bootcamps, hacks, sprints etc as well as hands-on programmes using approaches such as creative problem solving and design thinking. Common to each of these initiatives is a focus on participants engaging with innovation tools and methods in order to develop solutions to real-world challenges, rather than simply learning theoretical approaches.

Respondents also indicated that coaching (31%) and peer-supported learning (36%) are commonly utilised to support innovation capability development.

Interestingly, almost 34% of respondents indicated that they did not utilise any of the approaches listed, and most did not suggest other methods utilised. One respondent commented that: *We do not provide innovation training but would commit to it if there was a course available.*

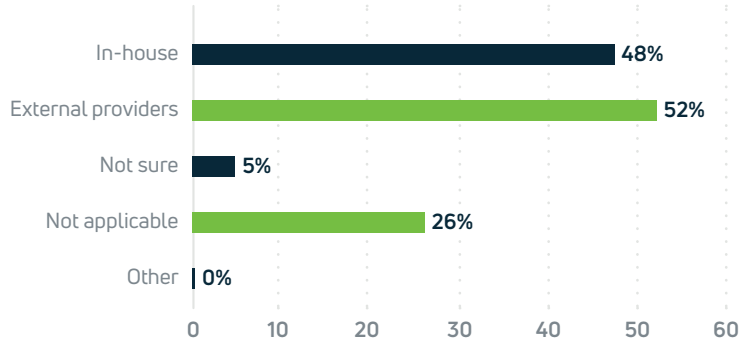
The comment itself and the fact that the (anonymous) individual responded to the survey would indicate a degree of interest in the topic and field. At the same time, however, it would also seem to demonstrate a lack of knowledge of the innovation training options that are available.

Who delivers innovation training?

While the actual delivery of innovation training is important, so too is an understanding of who delivers it.

In total 52% of respondents indicated that they utilise external innovation training providers to deliver innovation training, while 48% indicated they use internal trainers.

Is this training provided in-house or by external providers? (n=62)



When these figures are broken down further it is apparent that:

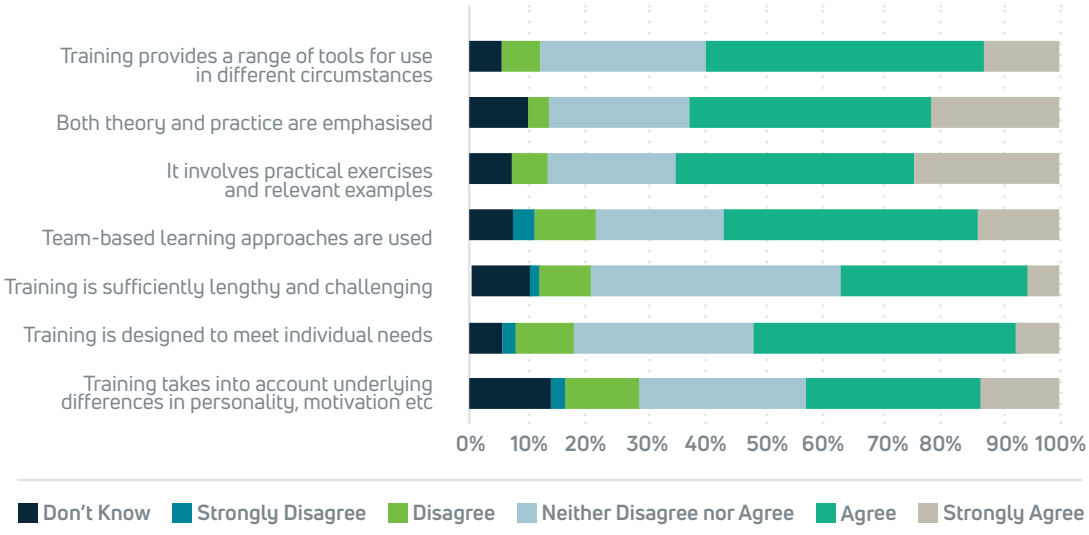
- 23% of respondents use in-house trainers only.
- 26% of respondents use external providers only.
- 26% of respondents use both in-house and external providers.

In each of the cases where the respondent indicated that this was not applicable or that they were not sure, they also indicated that their organisation either did not provide innovation training or that they did not know if it did.

Training design

A number of specific questions were posed in order to evaluate the extent to which the training delivered meets the criteria outlined by scholars for effective creativity and innovation training.

Training design and approaches (n=62)



	Don't know	Strongly disagree	Disagree	Neither disagree nor agree	Agree	Strongly agree
Training takes into account underlying differences in personality, motivation etc.	13%	3%	13%	27%	31%	13%
Training is designed to meet individual needs	6%	2%	15%	26%	44%	8%
Training is sufficiently lengthy and challenging	10%	2%	10%	43%	31%	5%
Team-based learning approaches are used	8%	3%	11%	21%	42%	15%
It involves practical exercises and relevant examples	8%	0%	5%	21%	44%	23%
Both theory and practice are emphasised	10%	0%	3%	24%	42%	21%
Training provides a range of tools for use in different circumstances	6%	0%	5%	29%	47%	13%

While the responses to each of the criteria were largely positive the lowest responses were for the following criteria:

- *Training takes into account underlying differences in personality, motivation* etc – 44% agree or strongly agree compared to 29% don't know, strongly disagree or disagree.
- *Training is sufficiently lengthy and challenging* – 36% agree or strongly agree compared to 22% don't know, strongly disagree or disagree.

On the other hand, the strongest responses were for the following criteria:

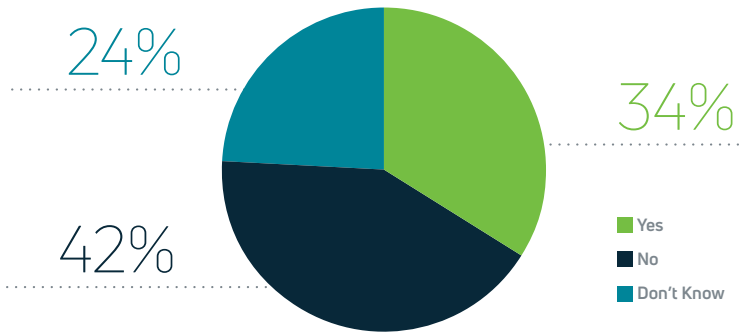
- It *involves* practical exercises and relevant examples – 67% agree or strongly agree compared to 13% don't know, strongly disagree or disagree.
- *Both theory and practice are emphasised* – 63% agree or strongly agree compared to 13% don't know, strongly disagree or disagree.
- *Training provides a range of tools for use in different circumstances* – 60% agree or strongly agree compared to 11% don't know, strongly disagree or disagree.

Evaluation of innovation training

Only 34% of respondents confirmed that their organisation evaluates the effectiveness of innovation training.

By contrast, almost 42% of respondents indicated that their organisation did not evaluate innovation training, and an additional 24% indicated that they do not know if such evaluation takes place.

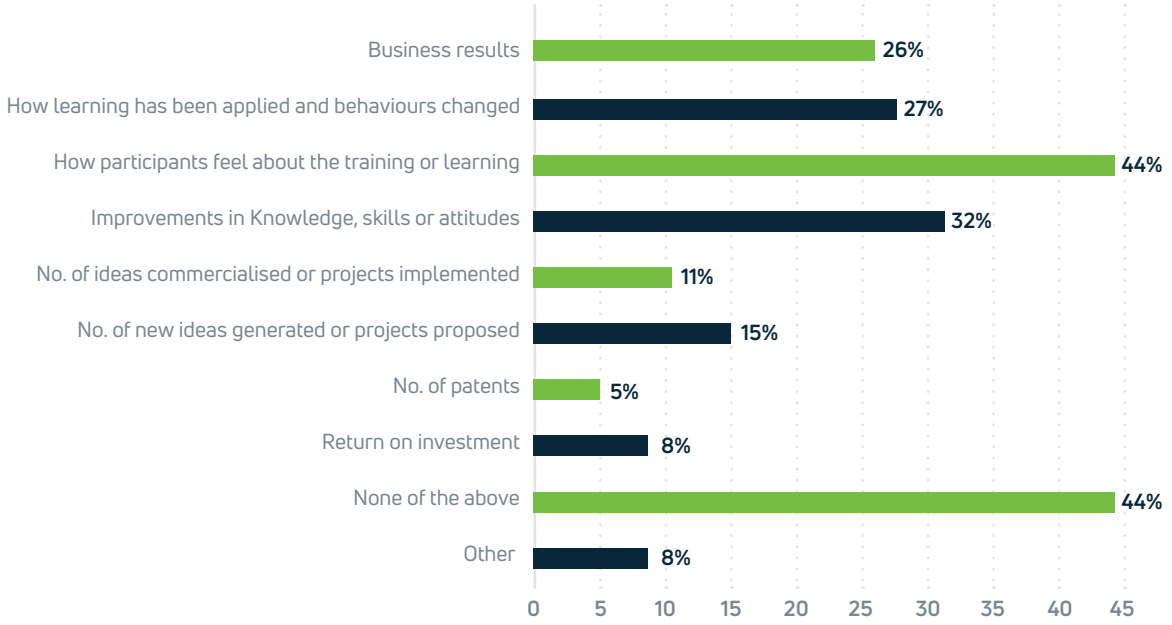
Does your organisation evaluate the effectiveness of innovation training? (n=62)



Which aspects of innovation training are evaluated?

Given the specific nature of innovation training, and the potential outputs that might result, respondents were asked to comment on which aspects of innovation training were evaluated.

Which aspects of innovation training effectiveness does your organisation evaluate? (n=62)



The majority of respondents indicated that evaluation focused on how participants feel about the innovation training undertaken with incrementally fewer indicating that their organisation evaluated *improvements in knowledge, skills or attitudes, application of learning and behaviours changed, or business results.* In practical terms this would indicate that evaluation remains focused very much on Level 1 of the Kirkpatrick scale and gradually decreases as the evaluation process progresses through to Kirkpatrick's Level 4.

The following key points are of particular note:

- 15% of companies measure the *number of new ideas generated or projects proposed.*
- 11% measure *the number of ideas commercialised or projects implemented.*
- 8% measure *ROI.*
- 5% measure the *number of patents generated.*

While it is positive that these aspects of innovation training are evaluated they are clearly also reflective of a longer-term engagement with innovation training, most particularly when the timelines for patent approval or idea/concept commercialisation are considered. Nonetheless, it is a concern that 44% of respondents indicated *none of the above* without indicating that they engage in other forms of evaluation.

Organisational processes for innovation

Respondents were asked to respond to a number of specific questions related to organisational context and processes. These questions were based in part on a modified version of Tidd and Bessant's Innovation Audit (2013) and focused on organisational approaches to:

- Innovation
- Collaboration
- Processes and projects
- Learning in the context of innovation
- Innovation strategy
- Management support for innovation
- General organisational support processes for innovation

Responses to these questions were considered important in order to gain insight into the broader organisational culture and climate for innovation within an organisation.

Organisational approaches to innovation

The existence of coherent organisational approaches is key for the longer-term of success of innovation.

On the positive side:

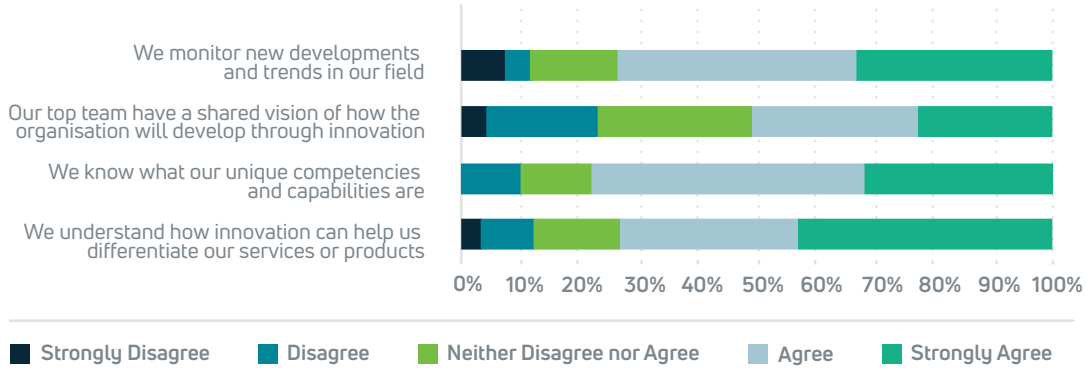
- 74% of respondents either agreed or strongly agreed that the role of innovation in supporting the differentiation of products or services was understood in their organisation.
- 79% of respondents either agreed or strongly agreed that their organisation knows what their unique competencies and capabilities are.

Less positively:

- Only 51% of respondents felt that their top team has a shared vision of the organisation will develop through innovation. There are potentially significant implications here for how the organisation approaches innovation and innovation training more generally.

Approaches to innovation? (n=73)

To what extent would you agree or disagree with the following statements regarding how your organisation approaches innovation?



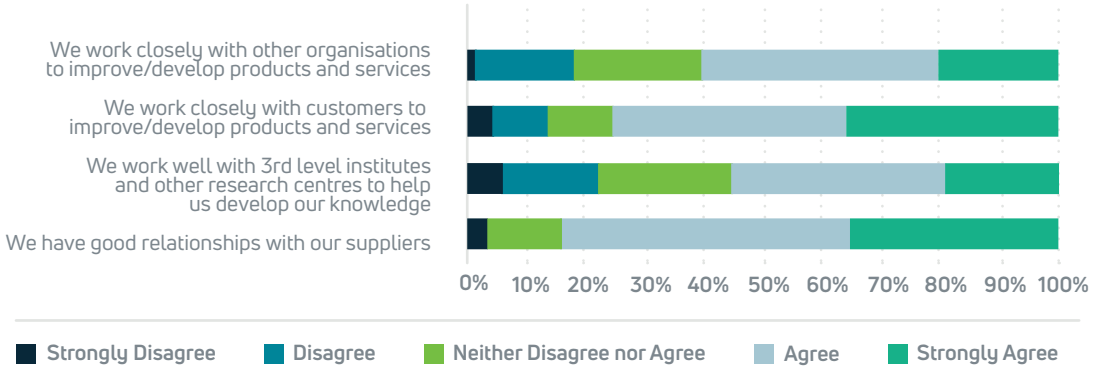
Collaboration

Collaboration with external stakeholders is a critical way of learning and gaining insight into new possibilities, opportunities and developments in their field.

In general respondents rate their organisations relatively highly in terms of collaboration. While 86% agreed or strongly agreed they have good relationships with suppliers, only 53% felt that they work well with 3rd level institutes and other research bodies in order to help develop knowledge.

Approaches to collaboration (n=73)

To what extent would you agree or disagree with the following statements regarding your organisation's approach to collaboration?



Processes

Innovation requires clear and effective processes at every stage. This includes not just new product development, R&D etc. but also innovation training.

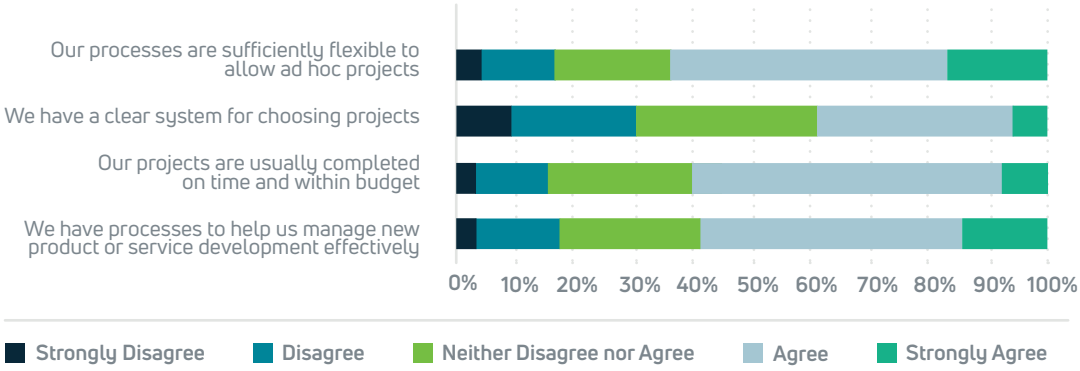
Overall, the positive responses in relation to processes were slightly lower than the other four categories assessed.

59% of respondents felt that their organisation has processes in place to help manage new product or service development.

While 67% of respondents felt that their organisational processes are sufficiently flexible to allow for ad hoc projects, this is offset by the relatively low number of respondents – 38% - who felt that their organisation has clear systems for choosing projects.

Processes for innovation (n=73)

To what extent would you agree or disagree with the following statements regarding your organisation's processes?



Learning in the context of innovation

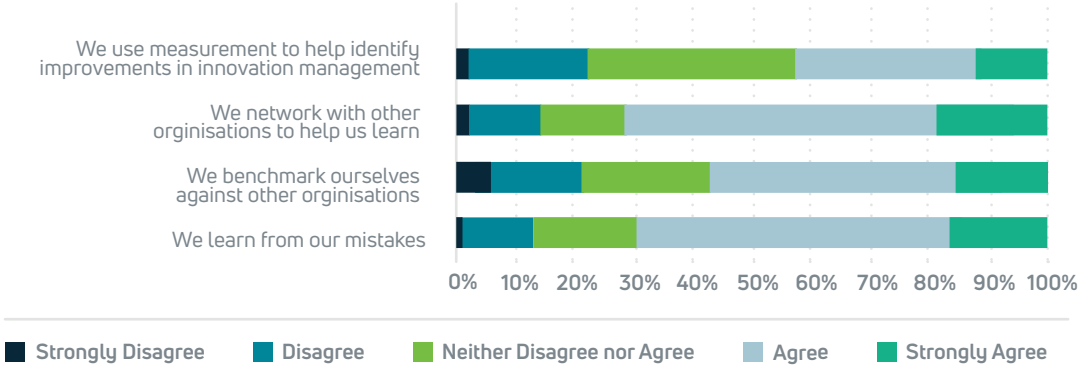
Organisational learning is a critical aspect of innovation, both in terms of generating and capturing knowledge and learning from experimentation and mistakes.

- 69% of respondents indicated that their organisation learns from mistakes.
- 59% of respondents indicated that their organisation benchmarks itself against others.
- 71% of respondents indicate they network with others to support learning.

Critically, however, only 42% of respondents felt that their organisation uses measurement to help identify improvements in innovation management.

Learning for innovation (n=63)

How does your organisation approach learning in the context of innovation?



Innovation strategy (n=63)

- 44% of respondents indicated that their organisation has a specific innovation strategy, while 38% of respondents indicated that their organisation did not have a specific innovation strategy.
- Interestingly, 18% of respondents indicated that they did not know whether their organisation had an innovation strategy.
- When the data is examined, respondents from larger organisations were more likely to indicate that their organisation has an innovation strategy than those from smaller companies. In general a higher number of respondents from organisations of under ten people indicated that their organisation had an innovation strategy than those of between 10-49 people or 50-249 people. Given the relatively small sample size this finding requires further investigation.

Responsibility for innovation (n=73)

- While 40% of respondents indicated that *senior management* is responsible for innovation within their organisation, only 22% indicated that everyone is responsible.
- 16% of respondents indicated that *nobody* has specific responsibility for innovation in their organisation.

Support for innovation training (n=62)

- 42% of respondents indicated that they agree or strongly agree with the statement that *there is sufficient management support for innovation training.*
- 26% of respondents of respondents indicated that they disagree or strongly disagree with the statement.

Activities to support innovation (n=62)

- The most common activities to support innovation included the formation of cross-functional teams (52% very frequently or always) and networking and *collaboration with other organisations* (49% very frequently or always).
- The least common activities to support innovation included induction programmes that emphasise innovation (23%), innovation and creativity labs (21%), reward programmes that encourage innovation (20%) and recruitment/selection criteria that emphasise innovation (16%).
- 51% of respondents indicated their organisation never or very rarely allows designated work time for innovation.

Summary data as follows:

Activities to support innovation (n=73)

	Never	Very rarely	Occasionally	Very frequently	Always
Networking and collaboration with other organisations	1%	14%	36%	38%	11%
Cross-functional teams	4%	14%	30%	38%	14%
Reward programmes that encourage innovation	25%	24%	32%	13%	7%
Induction programmes that emphasise innovation	30%	23%	23%	15%	8%
Job rotations	23%	25%	25%	27%	0%
Innovation and creativity labs	38%	19%	22%	18%	3%
Recruitment/selection criteria that emphasise innovation	32%	27%	25%	11%	5%
Designated work time for innovation	32%	19%	24%	21%	4%

Other comments

Respondents were given the opportunity to provide other comments at the conclusion of the survey. Comments received included the following:

- "Really feel this [innovation training] is lacking in the non-profit, state and volunteer sector and essential for continued development of organisations, staff and services provided."
- "Some people are just naturally innovative."
- "[Innovation training is] Not prioritised or valued, too 'busy' for this – mad."
- "There is none specifically - but there are pockets of innovation."
- "We are a fast-paced high energy company that operates within a closed market with little or no competition. We innovate to grow and become more efficient but innovation is not called out as a specific area of expertise with a dedicated owner."
- "As this is a developing industrial country, innovative training is very much in its infancy. At this stage the focus is on developing a culture of work commitment and industrial practices."
- "I proceeded privately with innovation training to develop skills. SMEs would find it difficult to plan and execute such training, but it is really needed."
- "Innovation and innovation training irrespective of organisation type should be encouraged, rewarded, measured and embedded in how the public sector delivers its service."
- "We do not conduct innovation training."
- "Needs to be more in the culture and part of the day job and weekly agenda item."
- "Training has not developed in line with advances in the field. There is an over reliance on classroom training which is not always accessible or relevant to participants' roles. The content is often basic or dated. The culture in the workplace means that few people formally complain. Personally, I have invited participants to be honest in completing their 'Happy Sheets' and some have responded to this. However, this is not usual and the evidence in writing does not match the anecdotal verbal comments which is often negative."

Alternative views

To gain greater insights, survey data was further analysed along a number of key parameters including organisational size, industry, role/level of respondent etc. Of these, two key parameters yielded noteworthy differences:

- Organisations with or without an identifiable innovation strategy.
- Organisations with headquarters in Ireland or elsewhere.

These perspectives are discussed further below.

Innovation strategy

When the data were split between respondents who indicated that their organisation had an innovation strategy and those who did not, a number of clear differences emerged. Importantly, the research did not seek to evaluate or categorise any form of innovation strategy, rather to establish its existence.

On virtually every measure, respondents who indicated that their organisation had an innovation strategy in place more strongly engaged with both innovation and innovation training. While the data does not allow us to comment on causation, there would nonetheless appear to be an association between the existence of an organisational strategy for innovation and simple engagement with innovation training.

Equally, on virtually every measure there would appear to be an association between the existence of an innovation strategy and the perceived effectiveness of that training.

A number of key examples are outlined below.

- Respondents who indicated that their organisation has an innovation strategy were also more likely to indicate that their organisation provides specific innovation training.

Does your organisation provide innovation specific training? (n=73)

	Has an innovation strategy	Does not have an innovation strategy
Yes	42%	3%
No	35%	94%
Don't know	19%	0%
Other	4%	3%

- Respondents who indicated that their organisation has an innovation strategy were more likely to indicate not only that their organisation specifically evaluates innovation training but also that the training is evaluated on a much broader basis than those organisations who do not have an innovation strategy.

Does your organisation evaluate the effectiveness of innovation training? (n=62)

	Has an innovation strategy	Does not have an innovation strategy
Yes	54%	19%
No	16%	61%
Don't know	31%	19%

Which aspects of innovation training effectiveness does your organisation evaluate? (n=62)

	Has an innovation strategy	Does not have an innovation strategy
How participants feel about the training or learning	62%	31%
Improvements in knowledge, skills or attitudes	50%	19%
How learning has been applied and behaviours changed	39%	19%
Business results	35%	19%
No. of new ideas generated or projects proposed	35%	0%
No. of ideas commercialised or projects implemented	23%	3%
No. of patents	12%	0%
Return on investment	19%	0%
Other	12%	6%
None of the above	19%	61%

- Responses appear to indicate that organisations without an innovation strategy were, in relative terms, more likely to utilise classroom-based training than other options such as online or blended learning. Conversely, respondents indicated that alternative forms of face-to-face interventions such as coaching and peer-supported learning are more commonly found in organisations which have an innovation strategy.

Which of the following methods are used to deliver innovation training in your organisation? (n=62)

	Has an innovation strategy	Does not have an innovation strategy
Classroom/Face-to-face training	69%	39%
Blended learning	54%	14%
Coaching	58%	11%
Demonstrations	19%	3%
Experiential learning	46%	19%
Learning circles	8%	6%
Live virtual training	19%	3%
Online learning	65%	19%
Peer-supported learning	58%	19%
Webinars	46%	11%
None of the above	12%	50%
Other	8%	14%

- Based on responses received organisations with an innovation strategy scored much higher against each of the key elements of effective innovation training outlined in Section 3. This should indicate that the effectiveness of the innovation training is higher, though naturally this does not take into account other factors such as the quality of the content.

Overall approach to innovation training - % agree or strongly agree with each statement (n=62)

	Has an innovation strategy	Does not have an innovation strategy
Training takes into account underlying differences in personality, motivation etc.	54%	36%
Training is designed to meet individual needs	65%	42%
Training is sufficiently is lengthy and challenging	48%	28%
Team-based learning approaches are used	81%	39%
It involves practical exercises and relevant examples	85%	53%
Both theory and practice are emphasised	77%	53%
Training provides a range of tools for use in different circumstances	69%	53%
There is sufficient management support for innovation training	62%	28%

Headquarter location

In an attempt to understand the impact of company nationality, data was split based on HQ location – Ireland or non-Ireland. While there were some differences between the two groups, this was not as distinct as for those organisations with or without an innovation strategy. A key challenge here is the size of cohort and more detailed study would be needed to fully support these findings. Key areas are highlighted below.

- While organisations with a non-Irish headquarters were only slightly more likely to offer specific innovation training, they were more likely to have an innovation strategy in place.

Does your organisation provide innovation specific training? (n=62)

	HQ – Non-Ireland	HQ - Ireland
Yes	29%	17%
No	50%	75%
Don't know	21%	4%
Other	0%	4%

Does your organisation have an innovation strategy? (n=73)

	HQ – Non-Ireland	HQ - Ireland
Yes	72%	35%
No	17%	45%
Don't know	11%	20%

- Based on responses received, Irish and non-Irish headquartered organisations demonstrated relatively little difference in the degree to which they evaluate innovation training, though respondents from non-Irish organisations were more likely to indicate that they do not know whether innovation training is evaluated.

Does your organisation evaluate the effectiveness of innovation training? (n=62)

	HQ – Non-Ireland	HQ - Ireland
Yes	29%	35%
No	29%	46%
Don't know	43%	19%

Which aspects of innovation training effectiveness does your organisation evaluate? (n=62)

	HQ – Non-Ireland	HQ - Ireland
How participants feel about the training or learning	43%	44%
Improvements in knowledge, skills or attitudes	29%	33%
How learning has been applied and behaviours changed	29%	27%
Business results	29%	25%
No. of new ideas generated or projects proposed	36%	46%
No. of ideas commercialised or projects implemented	14%	15%
No. of patents	21%	8%
Return on Investment	7%	4%
Other	7%	8%
None of the above	14%	6%

- Respondents indicated that non-Irish organisations are more likely to utilise various forms of online and virtual learning, including webinars, live virtual training, online training and blended learning. Curiously, respondents also indicated non-Irish organisations are more likely to use coaching and experiential learning approaches to innovation training than Irish organisations.

Which of the following methods are used to deliver innovation training in your organisation? (n=62)

	HQ – Non-Ireland	HQ - Ireland
Classroom/Face-to-face training	57%	50%
Blended learning	43%	27%
Coaching	50%	25%
Demonstrations	21%	6%
Experiential learning	43%	27%
Learning circles	0%	8%
Live virtual training	21%	6%
Online learning	57%	33%
Peer-supported learning	29%	38%
Webinars	50%	19%
None of the above	29%	35%
Other	7%	13%

- When the overall approach to innovation training was considered, no clear patterns emerged. Respondents indicated that Irish organisations performed more strongly in some areas such as the degree to which they felt training was designed to meet individual needs or takes into account underlying personal differences. On the other hand, respondents indicated that non-Irish organisations were more likely to use team-based approaches and incorporate practical exercises. Management support across both categories was perceived to be roughly even.

Overall approach to innovation training - % agree or strongly agree with each statement (n=62)

	HQ – Non-Ireland	HQ - Ireland
Training takes into account underlying differences in personality, motivation etc	28%	48%
Training is designed to meet individual needs	36%	56%
Training is sufficiently is lengthy and challenging	46%	33%
Team-based learning approaches are used	71%	53%
It involves practical exercises and relevant examples	79%	63%
Both theory and practice are emphasised	64%	59%
Training provides a range of tools for use in different circumstances	64%	59%
There is sufficient management support for innovation training	43%	42%

Innovation is still assumed by many to be a technical capability for engineers and tech people rather than a general skill, as well as an aspect of project management.

Section 6

Interview Outcomes

INTERVIEW OUTCOMES

To further explore themes related to innovation training and innovation capability development, 43 interviews were held.

Interview participants represented the following sectors:

- Agribusiness
- Telecommunication
- Education
- Energy
- Financial services
- Fintech
- Food
- Government/Semi-state
- Health
- Manufacturing
- Media and marketing
- Not-for-profit
- Pharma
- Professional services
- Retail
- Technology

Interviews were confidential and comments have been anonymised. Key themes emerging from the interviews are outlined below.

Innovation is seen as important, but many organisations are not sure what it is.

> "The very survival of a firm rests on its ability to innovate."
> (Innovation Researcher)

While many if not most organisations see innovation as important, interviewees indicated that there is minimal understanding of what innovation is in practice. Innovation is still assumed by many to be a technical capability for engineers and tech people rather than a general skill, as well as an aspect of project management. One interviewee was keen to stress that despite common perception "innovation not always about technology – it is often behavioural" (L&D Manager, Professional Services)

A further challenge for organisations can be confusing the concept of innovation with other organisational approaches. There can "a blurring between change and innovation" (L&D Manager, Financial Services), as well as between innovation and entrepreneurship and innovation and simple differentiation: "[You] need to make sure it is a real innovation, more companies just go for differentiation"
(Director, Food Industry)

Consequently, many organisations can engage in what one interviewee termed:
"*Innovation theatre* – looks good, but going nowhere" (MD, Fintech).

Innovation training is a poorly understood concept

Interviewees indicated that many organisations are unsure what innovation training is and how to approach it. This is in part due to confusion about the nature of innovation as well as a due to a lack of specialist knowledge in organisations relating to innovation training.

Consequently:

- "A lot of stuff is called innovation training, but many people don't understand it." (Innovation Consultant)
- "[Innovation training] means many different things to different people." (L&D Manager, Professional Services)

Equally, there is a lack of understanding of how innovation training should be delivered and how it might be effective (or not):

- "If anybody says they have the perfect innovation training model, they are wrong." (Innovation Advisor)
- "There is no blueprint for innovation, therefore all training addresses specific elements only." (Lecturer, Innovation)
- "The effectiveness of most innovation training is questionable." (MD, Fintech)

In many organisations, however, the challenge is less about skills and more about culture and mindset:

- "[It is] not a skills issue, but a mindset issue and one of culture and risk taking." (Director of Innovation, Fintech)
- "The best way to manage risk is to take risk." (Director of Innovation, Fintech)

Given this, the question of why companies engage with innovation training is particularly relevant.

- "We find that clients go down this road for two broad reasons – they have very specific problems to solve or want to change the culture within their organisation, it's important up front that an organisation is clear on which path it's on. As developing the capability within

the organisation will be different depending on the path. We would tailor the programme depending on what the company wants to achieve and how it aligns with their overall strategy." (MD, Consultancy)

The low response rate is revealing

A particular point explored in a number of interviews was the relatively low response rate to the survey. When queried on this point, a sense emerged that it was due to two key factors:

- A generally poor understanding of innovation, as already noted.
- A perception that many organisations are simply not undertaking an innovation-specific training.

Further research is needed to validate these perspectives.

Approaches to innovation training

Feedback from interviews revealed that many organisations would appear to take a piece-meal approach to innovation and innovation training. This often means one-off initiatives or discrete development programmes focusing on just one aspect of innovation (e.g. ideation).

Equally, creativity techniques are often integrated into general training programmes unrelated to innovation. This is not to say that there is not value in the use of tools in this manner, but that their true value and applicability might not be understood or the benefits might not be realised.

In approaching innovation training, interviewees indicated that their organisations typically utilise a mix of soft and hard skills training. Informal development approaches including job rotation, shadowing, project assignments and 'after-action reviews' are also utilised though the application of these is specific to each organisation.

Interviewees indicated that approaches such as *lean, agile and design thinking* are increasingly common, though perceptions of their effectiveness are mixed:

- "Design thinking is great for clients to work in closed session." (Innovation Consultant)
- "Design thinking is too much for black turtlenecks; Lean startup is too stock market, too barrow boy." (Director, Innovation Centre)
- "Design thinking is like giving [people] training in metaphors and expecting them to write a novel." (Innovation Researcher)
- TRIZ is "too narrow, engineering focused." (Innovation Consultant)
- "The [Lean Six Sigma] methodology... allows people to define the problem and use the methodology to find the solution rather than starting with the answer. We find that people find solution they would not have otherwise found to solve the problems at hand." (MD, Consultancy)

Interviewees also made the point that the skills andapproaches required very much depend on the type of innovation.

- Continuous improvement requires – Lean.
- Adjacent innovation – Good project management skills and change management.
- Radical innovation – design thinking and change. (Director, Food Industry)

Another interviewee suggested that for innovation you need:

- Need good project and change management skills.
- Need good financial management.
- Business model, business case, design thinking. (Innovation Consultant)

A key point emphasised by a number of interviewees, however, is that one-off training sessions are not enough... an ongoing effort is required:

- "If you innovate a model and think you are done, then you have gone completely against the purpose and principles that drive innovation." (L&D Consultant)
- "[You do] not just educate on tools, but also mindset – [innovation is] not just something you do once in a while." (L&D Consultant)

Modes of delivering innovation training are becoming increasingly diverse

As with training generally, interviewees indicated that modes of delivery are becoming more diverse. This includes a mix of face-to-face, blended and online learning.

The majority of interviewees indicated a preference for face-to-face training, with online solutions typically being used for scale and scope of delivery and to support face-to-face interventions. This is for a number of reasons, including:

- "[The] Perception that learning must be classroom based with certificates." (L&D Manager, Professional Services)
- "Online innovation training is not quite there yet." (Strategy Consultant)
- "Online is not great for collaboration." (L&D Manager, Pharma)

Just as importantly, online learning cannot yet replace the role of the facilitator and interviewees indicated that the role of the facilitator/consultant is key in encouraging collaboration, supporting softer skills and engendering empathy.

Experiential innovation training is becoming more common, but the actual learning value is questioned

Interviewees indicated that experiential innovation training in the form of hacks, sprints, innovation challenges etc. are becoming increasingly popular. They are perceived to be particularly attractive to Gen Z and millennials, and as a way of increasing the overall profile of innovation within organisations.

- "Innovation is a competitive thing, so only the best will survive" – hacks etc. can support this approach. (Independent Strategy Consultant)
- Experiential training is a "good way to get everyone to a base level." (L&D Consultant)

Yet beyond profile raising, perceptions of the value, longer-term impact and degree of actual knowledge transfer was questioned by interviewees:

- "Hackathons are fine as a starting activity, but you are not going to get serious innovation. Good for new staff and exploring the market." (Innovation Consultant)
- "Things can die after hackathons." (Innovation researcher
- "It has to be more than just a design sprint." (Innovation Consultant)
- "Hacks are of dubious value." (L&D Manager, Financial Services)

A particular challenge highlighted by interviewees relates to difficulties in measuring the longer-term tangible impact of experiential innovation training.

End-to-end programmes are considered more effective than discrete or one-off interventions

Overall, the number of organisations offering coherent, end-to-end innovation programmes is relatively limited. This was perceived by interviewees to be a result of the expense and complexity of such programmes as well as other competing organisational requirements.

Interviewees indicated that key components of end-to-end programmes have included:

- Masterclasses focusing on mindsets and tools as lean, agile etc.
- Innovation clinics focusing on understanding customer value and requirements.
- Development of online tools to support and embed learning.
- Agile sprints/hacks.
- Collaboration with external innovation partners.

The aim of such programmes is as much about driving cultural change as it is about developing skills and tangible knowledge. Equally, large-scale innovation initiatives can be about breaking down silos within organisations and helping people network:

- "[You] need to network the points of light." (Director of Innovation, Fintech)

Where such programmes have been implemented, interviewees indicated that the organisation found significant value in the outcomes if implemented as a "end-to-end, unified process" (L&D Manager, Financial Services), though significant leadership support and cultural change were necessary for the true value to be gained.

The importance of a consciously structured approach was also noted, with one respondent indicating that: "we needed to do the classroom stuff before we could get to the experiential stuff." (L&D Manager, Financial Services)

Third-level institutions are increasingly engaging with innovation capability development

Interviewees from a range of organisations highlighted that third-level institutions are becoming increasingly engaged with innovation and innovation capability development through both internal and external programmes. These include the following:

- Innovation and entrepreneurship programmes for both undergraduate and graduate students as a way of enhancing skills and employability.
  - This includes the integration of innovation and creativity skills into existing courses as well as being offered as specific stand-alone options.
  - These programmes can be designed around employer needs and must meet the needs of a very wide range of students, from business to STEM to humanities etc, though they can also be seen as an integral element of engineering and design courses.

- The outcomes equally span a range from social innovation projects to more design-specific outcomes for products and services.
- These are mostly "*employer-led programmes*" – embedding employer input into programmes and giving employers graduates that they want." (Senior Leader, 3rd Level Institution)
- That said, they must also serve as a career differentiator and enhance student skill development. "Does it benefit a student?
- If it doesn't benefit a student, why are we doing it?" (Senior Leader, 3rd Level Institution)
- These programmes are most often action oriented, balancing theory and practice – "learning by doing" – and with a focus on both technical and behavioural skills.
- Equally, the programmes are often interdisciplinary and linked to entrepreneurship, combining a student's original skillset with exposure to a range of new capabilities.

- Public programmes such as diplomas and degrees.
  A number of institutions around the country are now offering specialist diplomas, degrees and other graduate training in innovation practices.
  These were cited by a number of interviewees as being key drivers for innovation within their organisation, with one interviewee that his organisation's shift into innovation "wouldn't have happened that way if I hadn't have done the course." (MD, L&D Consultancy)

- Executive education programmes.
  Through their Executive Education programmes many universities are now offering either innovation programmes or integrating innovation practices into their general leadership/ management programmes.
  These seek to provide leaders with "thinking from an outside in perspective" (Director, Executive Education) through exposure to a wide range of thoughts and perspectives.

Despite this increased focus, one business leader asserted that "Innovation is poorly taught at third level" (MD, Fintech), arguing that it was too technical and theoretical and did not prepare students for practical innovation.

Given the specific nature of their context, the approach to measuring innovation is quite different for third-level institutions. These metrics are hard to measure, not about innovation per se and can include evaluations of employability and graduate destinations, including involvement in start-ups etc.

External consultants and trainers tend to focus on the technical or process elements of innovation

Interview feedback from both consultants and those who have engaged consultants indicated that the majority of consultancies tend to focus on the technical or process elements of innovation than the softer aspects of leadership, culture, and team work.

Technical in this sense refers both to advisory services on processes etc as well as approaches such as design thinking, creative problem solving etc.

Where consultancies and training companies are using creativity and innovation techniques they often tend to be ad hoc approaches integrated into larger programmes without any specific reference to their origins or broader applications (examples would include programmes which include techniques such as brainstorming, reverse brainstorming, 6 thinking hats etc).

Interviewees indicated that for the most part very little is offered in terms of programmes to support innovation-related cultural change, leadership for innovation or more effective team working. Interviewee feedback appeared to indicate that due to the perceived specialised nature of consultancy and training support, "innovation" consultants are not being asked about broader organisational skills, while more traditional L&D consultants are not being asked about innovation. As one interviewee put it:

- "We are not getting specific feedback from industry about the need for innovation training... if were asked we would look for a specialist." – (MD, L&D Consultancy)

Others, however, do not feel that there is a sufficient link between innovation and the more traditional behavioural aspects of OD or L&D consulting to justify their engagement:

- "We don't offer anything to our clients in the field of innovation. The reason for this is that we are solely focused on behavioural change and we do not feel that innovation fits within this strategy. We do assist our clients with coping and responding to change and developing a change ready and resilient mindset, but we see these as subtly different to innovation training." (Head of Function, L&D Consultancy)

Innovation training tends to be designed more for larger firms

In general innovation training tends to be designed more for larger organisations rather than SMEs. As one interview participant put it, when it comes to innovation SMEs are "largely invisible." (Innovation Researcher).

Although one interviewee asserted that SMEs are – by necessity – "more innovative than they are given credit for" (Innovation researcher), another indicated that "I would see innovation training as more relevant for established companies" (MD, University Incubator).

While this perceived gap might be due to the limited resources available for SMEs to invested in learning activities, interviewees indicated that it is also a consequence of systemic issues as micro firms are not included in EU Innovation surveys and so are not considered consequential.

Leadership support is critical

Interviewees in general indicated that leadership support for innovation and innovation training is critical. It was put bluntly by one interviewee who asserted that: "If you don't have senior stakeholder support for innovation – good luck" (Innovation Advisor).

A slightly more nuanced perspective was offered by another interviewee who argued that:

- "The most important factor is Leadership engagement – if change and innovation is not seen as important to the leadership within an organisation it will not work, training does not take hold and it will drift off quickly." (MD, Consultancy)

This perspective was echoed by a number of other interviewees:

- "We rely on role-modelling and shared experience... A role model and figurehead is key." (L&D Leader, Financial Services)
- "Leaders are expected to be role models and foster innovation." (L&D Director, Telecommunications)
- "Start at the top and cascade down – change mindsets and lead in a more agile way." (L&D Manager, Financial Services)
- "Sponsorship is key." (L&D Director, Consultancy)

Beyond the need for role modelling and sponsorship, interviewees were keen to stress that "L&D cannot do it by themselves." (L&D Manager, Financial Services)

For innovation and innovation training to be successful: "Leadership must be open to change." (MD, Consultancy)

Unfortunately, as interviewees indicated, this is not always the case:

- "Innovation training would be good, but we are actively prevented. People do not want to be challenged or expect to be challenged, or have new ideas brought to them... it is very much about control – innovation, change and questions challenge that control." (L&D manager, Healthcare)
- "There is lots of discussion at the top, but there is a disconnect between the Exec and people on the ground." (Manager, Professional Services)

A key challenge consequently relates to engendering a suitable culture and strategy to support innovation:

- "There is an issue connecting strategy, leadership and people." (Innovation Consultant)
- "Most companies are very poor at process, culture and strategy." (Innovation Leader)
- "Culture, leadership and drive are problems." (MD, Fintech)

Assessment/evaluation is limited

Comments from interviewees indicated that engagement with assessment and evaluation is mixed.

On the one hand interviewees indicated that:

- "We don't measure." (Director, Third-level Innovation Hub)
- "We have plans to do it, but it is too early yet." (Consultant, Professional Services)
- "Government prizes science over impact." (Innovation Researcher)

On the other side, a number of interviewees indicated clear ideas about measurement and evaluation of innovation training:

- "[We have] Clear metrics for evaluation: business impacts, engagement, business case, quick wins, financials." (L&D Manager, Financial Services)
- "[Success is] measured in terms of jobs." (Client Account Manager, Semi-state)
- "[We] evaluate through tracking success." (Director, Food Industry)

- "We use metrics from Six Sigma, Agile to measure, and then discuss with each person in their PDP." (L&D Director, Telecommunications)
- "[Learners must] complete a project in which they must achieve a significant impact within their organisation we mostly measure that (but not exclusively) in monetary terms, cost savings, revenue generation etc." (MD, Management Consultancy)

A specific point was made regarding smaller organisations, specifically that they should evaluate the success of innovation training through monitoring:

- New products
- New ideas
- Collaboration (Innovation Researcher)

Industry support programmes play an important role

A number of interviewees indicated that support programmes from organisations such as Enterprise Ireland, Bord Bia, IDA, Intertrade Ireland have been critical for the development of their innovation capability.

These programmes typically extend beyond simple innovation training and it is this more holistic support which was perceived by interviewees as enabling them to accelerate their innovation programmes.

A key example cited by interview participants as having significant impact is Enterprise Ireland's Innovation 4 Growth programme.

Larger organisations are setting up innovation spaces/ labs Interviewees indicated that there is a trend in larger organisations toward establishing incubation hubs and centres. These act as a way of supporting innovation internally while also providing a forum for collaboration with start-ups and specialist companies outside the organisation. This work is often supported by consultancies, particularly the larger consulting firms.

A key driver of this approach is perception that incubation hubs allow organisations to work around existing organisational culture and constraints.

Equally, there is a recognition that "innovation must be an ongoing part of the business" (Innovation Consultant) and steps must be taken to integrate innovation into daily practice.

> "In order to innovate you have to operate outside your normal structures."
>
> **(L&D Manager, Professional Services)**

> "Innovation cannot be bound by traditional decision-making processes."
>
> **(L&D Manager, Professional Services)**

> "Innovation is not seen as a day job – it is not a formalised process in medium[-sized] companies."
>
> **(Innovation Advisor, Semi-state)**

Industry and industry-related bodies have a crucial role to play in supporting innovation capability development by providing support and training to their members and associated organisations.

Section 7

Conclusions and Recommendations

CONCLUSIONS AND RECOMMENDATIONS

> **"While Ireland has a strong entrepreneurial spirit and ability to be creative, our ability to scale depends on the process of innovation."**
>
> **(Director, Executive Education)**

The following section outlines a number of conclusions stemming from the research. In doing so, it seeks to draw together key points from all aspects of the research project and, in so doing, provide a basis for the future development of innovation capabilities in Ireland. Where relevant and appropriate, recommendations for future development are included.

- **Innovation is widely recognised as being of critical importance both to organisations and to longer-term national success**
  - A widespread recognition of the importance of innovation clearly emerged throughout the research. Whether seen in terms of policy or practical organisational requirements, organisations in Ireland typically recognise the importance of innovation for their future success.
  - Government policies must continue to prioritise innovation as a key driver of future growth, outlining both targets and deliverables, with relevant timelines for each.

- **Leadership support for innovation is necessary**
  - A consistent theme throughout the research was the importance and necessity of management and leadership support for innovation. While this intuitively makes sense, it is a critical point for organisations to recognise.
  - Within organisations, leaders must emphasise the importance of innovation as a key driver of success and processes to support this focus should be developed and implemented at an organisational level.
  - Crucially, however, this support must be both substantial and substantive in nature and must be consistent regardless of any leadership changes that might occur.
  - Leaders must role model engagement with and support for innovation practices through undertaking innovation training themselves and/or supporting those who do.

- **An innovation strategy is crucial for successful innovation in organisations**
  - A key element of leadership support for innovation is the development and implementation of a strategy for innovation.
  - Approximately 44% of respondents indicated that their organisation had a specific innovation strategy and there were significant differences across most key measures between those organisations with an innovation strategy and those without.
  - The research also demonstrated a clear link between the presence of an innovation strategy and engagement with innovation training. Further research is needed to establish why this is the case though it is proposed that the existence of an innovation may act as a key driver of executive and L&D decisions and maintain innovation on the executive agenda.

- **At a national, industry and organisational level greater focus on innovation capability development is required**
  - Long-term organisational success requires the strengthening of both the innovation capability and capacity of individuals and teams. Yet concerningly, the research found that less than 20% of organisations provide specific innovation training.
  - Greater focus on enhancing innovation capability through the implementation of effective training and other measures is required.

- **There are significant gaps in the current provision of innovation training**
  - Innovation is often seen as a technical skill or process and the softer aspects of leadership for innovation, creating a culture of innovation and supporting innovation teamwork often seem to be forgotten.
  - While innovation consultancies tend to focus on the process aspects of innovation, L&D and Organisational Development (OD) consultancies as a general rule tend not to focus on innovation-related elements of leadership, culture and teams.
  - To support genuine innovation, any related training must involve both "soft" skills linked to creativity, ideation etc and "hard" skills linked to concept development, project management and implementation. Organisations seeking to develop or implement innovation training must allow for training in both elements in order to maximise the innovation outcomes.
  - This can be done through the development of end-to-end innovation training programmes which encompass a wide range of skills, though it is recognised that this might only be possible for larger organisations with the necessary resources.
  - In this regard:
    - For innovation consultancies, there is an opportunity to diversify their offering to incorporate leadership etc. to support innovation.
    - For OD consultancies, there is an opportunity both to diversify into the more technical aspects of innovation, but also to strengthen their existing offering in terms of leadership, teams etc.
    - For internal trainers and consultants, there is an opportunity to undertake a more focused needs analysis and broaden the internal offering.

- **Organisations implementing innovation training should strive to incorporate the key elements of effective innovation training identified**
  - Innovation training should to the extent possible incorporate the key elements of effective innovation training outlined.
  - On a simple level this entails a focus on both creativity and implementation, as well as each of the following criteria:
    - Training should be based on underlying cognitive processes.
    - Training should meet individual needs and not be generic.
    - Training should be lengthy and challenging.
    - Real world examples and approaches such as cooperative learning should be used.
    - Training should be based on practical exercises relevant for the context in which the learning be applied.
    - Training should involve both theory as well as practice.
    - Organisational context and culture should be supportive of creativity and innovation and facilitate growth and development.
    - Training should include a clear focus on implementation rather than just idea generation.
  - Organisations already offering innovation training are strongly encouraged to reviewing their existing programmes to ensure maximum fit with these criteria. Where any key differences emerge, steps should be taken to address these gaps to greatest extent possible.

- **Experiential learning is important, but it is not sufficient to ensure innovation or to embed innovation practices**
  - Experiential learning in the form of bootcamps, sprints and hackathons might grab attention and highlight the importance of innovation, but the actual innovation value of these activities is not entirely clear.
  - While such approaches might well form part of a broader innovation process, organisations should not automatically assume that they will lead to innovation breakthroughs.
  - Organisations which utilise experiential learning to support innovation are strongly encouraged to closely evaluate the outcomes and value for money of these programmes with a view to also offering programmes focused on a wide range of innovation-relevant skills.

- **More coherent innovation capability development programmes are needed to support innovation in SMEs and not-for-profits**
  - There is significant scope to develop innovation training programmes to support smaller organisations.
  - These programmes should draw upon existing best practice while also being tailored to meet the needs and constraints of smaller organisations.
  - A key focus must be on challenging them to think more broadly about the innovation opportunities they can pursue and the steps they can take to achieve greater innovation.
  - There is consequently an opportunity for industry bodies, networks and clusters to provide these training programmes to support smaller organisations and those lacking sufficient resources to engage more with innovation.

- **Clear processes for the structured, specific evaluation of innovation training are required**
  - The extent and nature of evaluation of innovation training undertaken is inconsistent between organisations and industries.
  - There consequently exists a need for structured guidelines and processes specifically related to the most effective ways of evaluating innovation training. This should take into account approaches such as Kirkpatrick and Philips, while also incorporating specific measures relevant to innovation such as commercialisation, patents, etc.
  - Organisations which utilise innovation training should take steps to enhance their evaluation processes to ensure that innovation-specific measures are taken into account.

- **Skillnet Ireland and Skillnet learning networks have a crucial role in supporting enhanced innovation capabilities**
  - Skillnet Ireland together with the various industry Skillnet learning networks have a vital role to play in supporting the development of enhanced innovation capabilities and should take steps to further strengthen their role in this area.
  - By developing relevant, industry-specific programmes which meet the needs of business in Ireland, Skillnet Ireland are uniquely positioned to development and implement cost-effective, relevant and appropriate innovation training for industry. These programmes should be developed in collaboration with industry in order to meet their needs, while also supporting the integration of best-practice in the area of innovation capability development.

- **Industry bodies have an important role to play in supporting innovation training**
  - Industry and industry-related bodies have a crucial role to play in supporting innovation capability development by providing support and training to their members and associated organisations.
  - This includes bodies such as Ibec, ISME, SFA etc., as well as industry-specific clusters who are well placed to provide support for their members in terms of innovation capability development and training.
  - Industry bodies should consequently actively engage with their members and stakeholders to assess the need for more specific innovation programmes or the sharing of innovation "best practice" amongst their member organisations.
  - Any programmes growing out of this approach must include the key elements of effective innovation training separately identified in this report.

- **Government and semi-state bodies should maintain a focus on innovation and innovation capability development**
  - Organisations such as Enterprise Ireland, IDA, Bord Bia, Screen Ireland and the Local Enterprise Enterprise Offices have an important role to play in supporting innovation skills development with their client companies and industry partners.
  - This is through the widerdissemination of relevant innovation training as well as driving awareness of innovation capabilities generally.
  - Programmes such as Innovation for Growth offered by Enterprise Ireland provide a successful template, but the cost and scale of such programmes means that they are beyond the reach of many smaller organisations or organisations with limited resources.
  - Steps should be taken to further develop and implement programmes to support innovation and making these programmes as widely available and as accessible as possible.

In summary, while the importance of innovation is almost universally recognised, engagement with innovation training – and effective training – is not nearly as universal. Significant opportunity exists for organisations in Ireland to enhance their innovation capability but to do so they must take proactive steps.

This report has attempted to establish a baseline understanding of current practice while also providing perspectives on how this could be improved. While there are clear limitations to the research, it is hoped that the report will nonetheless prove useful both to practitioners and researchers in the fields of innovation, consultancy and OD, as well as those organisations that support them.

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NOTES

About Trainers' Learning Skillnet

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 ever-changing world of learning and development.

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Trainers' Learning Skillnet is co-funded by Skillnet Ireland and member companies. Skillnet Ireland is funded from the National Training Fund through the Department of Education and Skills.

An Roinn Oideachais agus Scileanna
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