# E-Learning for Agile Teams: A Qualitative Study of Business-Oriented E-Learning Platforms on Enhancing Team Efficiency in the Irish Technology Sector

**Submitted By: Hakan Tekes**

**Submitted To: National College of Ireland**

[Word count: 15301]

**Abstract**

The purpose of this qualitative study was to review the influence of business-oriented electronic learning systems on increasing team effectiveness within the local technology sector in Ireland. Ten participants from various Irish IT businesses participated in semi-structured interviews as part of a primary qualitative data-gathering method. This study which was based on thematic analysis investigated the integration of e-learning platforms, collaborative use of technology resources, and the impact on collaboration and productivity. Findings have revealed that e-learning platform integration in the company has resulted in increased team cooperation, knowledge sharing and task coordination. The assistance of Slack, Trello and Zoom as collaborative tools was significant as they facilitated the process of communication and project management. Nonetheless, obstacles including cultural resistance and scalability problems were considered which emphasise the importance of special training and support for them. Based on this analysis, a need was seen for further research on, how, the evolution of integration of e-learning, affects team dynamics and organisational performance over time. Overall, the analysis obtained from this research helped in giving a clear picture of the part played by e-learning platforms in improving productivity within the Irish technology sector.

*Keywords: E-Learning, Irish Industry, Agile Teams*

# Submission of Thesis and Dissertation

## National College of Ireland

## Research Students Declaration Form

*(Thesis/Author Declaration Form)*

**Name:** Hakan Tekes

**Student Number:** 22134395

**Degree for which thesis is submitted:** Master of Science in Entrepreneurship in Business

**Material submitted for award**

(a) I declare that the work has been composed by myself.

(b) I declare that all verbatim extracts contained in the thesis have been distinguished by quotation marks and the sources of information specifically acknowledged.

(c) My thesis will be included in electronic format in the College Institutional Repository NORMA (thesis reports and projects).

(d) ***Either*** *I declare that no material contained in the thesis has been used in any other submission for an academic award.

***Or*** *I declare that the following material contained in the thesis formed part of a submission for the award of

_____

*(State the award and the awarding body and list the material below)*

**Signature of research student:** _____

**Date:** _____

## Thesis Submission Form

All thesis submissions must be accompanied by a thesis submission form. The current guidelines for submission are available through the library at the following URL:http://libguides.ncirl.ie/thesisguide. The guidelines specific to the School of Business guidelines are listed here: https://libguides.ncirl.ie/business.

**Submission of Thesis to Norma Smurfit Library, National College of Ireland**

Student name: Hakan Tekes Student number: 22134395

School: National college of Ireland Course: Entrepreneurship in Business

Degree to be awarded: Master Degree of Science in Entrepreneurship in Business

Title of Thesis: **E-Learning for Agile Teams: A Qualitative Study of Business-Oriented E-Learning Platforms on Enhancing Team Efficiency in the Irish Technology Sector**

An electronic copy of your thesis will be lodged in the Norma Smurfit Library and will be available for consultation. This electronic copy will be accessible in NORMA norma.ncirl.ie the National College of Ireland's Institutional Repository. In accordance with normal academic library practice all theses lodged in the National College of Ireland Institutional Repository (NORMA) are made available on open access.

I agree to an electronic copy of my thesis being available for consultation within the library. I also agree to an electronic copy of my thesis being made publicly available on the National College of Ireland's Institutional Repository NORMA.

Signature of Candidate:

**For completion by the school**:

The aforementioned thesis was received by

Date:

This signed form must be appended to all copies of your thesis submitted to your school.

**Acknowledgements**

I would like to extend my heartfelt thank you to every person involved in undertaking this research. First of all, I would particularly like to thank my supervisor for all the assistance offered, including insights, support, and guidance, which made it easier for me to go through this process. Their knowledge, support, and guidance have been very helpful in guiding this study and making sure it is finished successfully. Next, I would like to highlight the importance of the people who were interviewed and whose personal stories and experiences laid a foundation for my research. They turned up and contributed with their life experiences and opinions which directly and indirectly impacted the richness and the insightfulness of the findings. In addition to this, I am also in debt to the scholars who wrote the reviewing literature since they were the ones who offered the theoretical framework and provided context for this research. Finally, my gratitude goes to my friends and family who provided me with constant support and patience during the research.

## Table of Contents

# Chapter 1: Introduction

## 1.1 **Background to the Study**

E-learning has become a popular way for modern companies, especially those in the technology sector, to help their workers improve their skills and advance their careers, which is because it allows employees to learn in a way that fits their busy schedules. According to Andreatos (2015), businesses are turning to e-learning platforms like Coursera, Udemy, and LinkedIn Learning more and more to help their employees keep learning and growing as technology is altering quickly and people need more specialised skills. In line with this trend, estimates of the market for online learning tools show that it has a lot of room to grow as the market is projected to bring in US$58.45 billion by 2024, with a growth rate of 5.26 per cent per year from 2024 to 2029. This growth pattern points to a market that is doing very well, with more and more chances for e-learning tools to meet the changing needs of both people and businesses. Statista (2023) further reported that the market for e-learning systems will grow to US$75.52 billion by 2029 as more and more businesses and areas are using them. These income estimates show how important e-learning is becoming for developing workers and businesses in a world that is becoming more and more digital. Businesses are continuing to put a lot of emphasis on training and skill development programs.

Many people in Ireland's thriving tech industry use e-learning because they believe it helps them be more innovative and flexible in how they run their businesses. E-learning tools are being used by startups, global companies, and research institutions to improve the skills of their employees and encourage a mindset of always learning and getting better. Pandey, Balusamy, and Chilamkurti (2023) stated that companies in the Irish technology sector that invest in employee development not only give their teams the skills they need to do well in today's competitive market but also protect their businesses against changing industry trends and disruptions in the future. Companies that use e-learning are making a smart investment in their employees because they know how important it is to develop talent and encourage a mindset of always learning and getting better. Collings and McMackin (2021) say that companies in the Irish technology sector are not only improving the skills and abilities of their teams by making learning easy to access and fluid, but they are also protecting their businesses against changing industry trends and challenges. E-learning lets workers keep up with the latest changes in their

field, learn specialised skills, and use fresh ideas to encourage growth and innovation (Giannakos, Mikalef, and Pappas, 2022).

### 1.2 Gaps in the Literature

Even though more and more organisations are using e-learning tools, there is still a lot of information that is not out there about how to use them with Agile teams in the Irish technology industry. A lot of research has been done on how e-learning affects both individual learning and the success of a company, however, not much research has been done on how Agile teams use e-learning tools together. Additionally, there are not many in-depth studies that show how e-learning tools affect the dynamic and fast-paced work environment of Agile teams and how they affect teamwork, efficiency, and skill development. Also, current research does not always look at the special problems and chances that come with integrating e-learning platforms in the Irish technology sector. This sector includes many different companies working in areas like AI, software development, and cybersecurity. Because technology changes so quickly and there is a growing need for skilled workers in these areas, businesses that want to stay competitive in the global market need to understand how e-learning can help their teams work better together. Additionally, while some studies have looked at how well e-learning methods help individuals learn new skills, not many have looked at how to strategically use business-oriented e-learning methods within Agile teams. These gaps in the research show that we need more real-world studies that look into the pros and cons of using e-learning platforms in Irish technology companies that use Agile methods.

### 1.3 Research Justification and Rationale

The use of e-learning systems by the Agile group within Ireland's tech market is now a topic among the experts because of its ability to affect the teams' performance and the whole organisation. This research is due to several important considerations where one of them is the continuously changing technology and organisations' inclination for Agile methods in delivering products and services faster. In this context, according to Kompalla, et al. (2016), Agile teams can benefit from these evolving learning platforms by having flexible and accessible training opportunities focused on meeting Agile teams' needs. Apart from this, the tech sector in Ireland is an excellent location for a creative ecosystem of many startups, large corporations and research institutions (McKernan and McDermott, 2024). So, the degree of difficulty and the scope associated with introducing e-learning technologies in schools requires a better understanding of the challenges and opportunities to make decisions on practices and organisational strategies. This study aims to offer crucial information that can help organisations utilise e-learning optimally to improve team effectiveness and be at the helm of

innovation in the digital era by finding out the experiences and views of the professionals in this sphere.

### 1.4 Overall Aim of the Study

As there are gaps in the current research, the goal of this study is to look into and solve the areas that have not been looked into enough when it comes to integrating business-oriented e-learning tools into the Irish technology industry. The study aims to find out how well e-learning tools improve teamwork, how Agile teams use technology together, and how e-learning platforms affect teamwork and productivity. By focusing on these areas, the study hopes to fill in the gaps in what is already known and give useful information about how to use e-learning methods that are specifically designed for Agile teams.

### 1.5 Research Questions

To address the existing research gaps highlighted in section 1.2, the subsequent questions are formulated to delve into the underexplored domains in the current literature:

- How does the integration of E-Learning platforms, including advanced software tools, seamless connectivity, and integrated systems, affect team efficiency within the Irish technological sector?
- What is the extent of collaborative utilisation of technological resources by Agile teams in e-learning settings for enhancing team efficiency within the Irish technological sector?
- How do e-learning platforms influence collaboration and productivity among Agile teams, and what are the main challenges faced by these teams in utilising such platforms?
- What strategies can be recommended for incorporating business-oriented e-learning methods to improve team efficiency within Agile teams?

### 1.6 Research Methods

A qualitative research method was used to get more detailed information about how business-focused e-learning tools are being used in the Irish technology industry. Purposive sampling was used to choose ten people from different tech companies to make sure that they represented a range of jobs within Agile teams. Ten participants were asked to fill out semi-structured questions about their experiences, thoughts, and problems with adopting e-learning to get rich and specific data. The conversations were recorded on tape and then typed up word-for-word so that they could be analysed in detail. Then, thematic analysis was used to find themes, patterns, and trends that kept coming up in the data. The research involved the qualitative

methodology examining the affective issues arising from the use of e-learning, interacting as a group using the technology tools, and their impact on the performance of teams in an Agile environment.

## 1.7 Overview and Structure of the Research

***Chapter 1 – Introduction***

The introductory chapter is aimed to illustrate the whole field for the research that has not been enough studied on how e-learning tool is used by innovative companies and how they affect Agile team's efficiency. It explained the main goal of the study and gave a quick outline of how the research would be set up.

***Chapter 2 – Literature Review***

This chapter will take a close look at relevant academic and business literature on the research topic. It will focus on how e-learning platforms, collaborative use of technology resources, and their effect on team efficiency in Agile settings in the Irish technology sector are integrated. To give the study a theoretical context, relevant ideas and observational works will be looked at.

***Chapter 3 – Methodology***

This chapter will explain the study goals and the qualitative method that was chosen for gathering data. It will talk about why certain participants were chosen, how the data was collected, and how it was analysed so that the study questions could be answered successfully.

***Chapter 4 – Findings***

The results from semi-structured talks with ten people working in the Irish technology field will be shown in this chapter. Thematic analysis will be used to find the most important themes and trends in the data, which will help us understand how e-learning systems affect teamwork.

***Chapter 5 – Discussion***

This chapter will take the results from both primary and secondary sources and critically discuss them. It will then combine them to get a full picture of how e-learning platforms and shared use of technology tools work in Agile teams.

***Chapter 6 – Conclusion and Recommendations***

In this last chapter, the author will think about the study's results and rate how well the research priorities were met. There will be tips for how to improve team performance by using business-focused e-learning methods, as well as ideas for where future study should go in this area.

# Chapter 2: Literature Review

## 2.0 Introduction

The fast growth of technology over the past few years has caused a major shift in how teams work in the business world. Teams must possess advanced knowledge and be quick enough to respond to the changing technology sector. As a result, e-learning systems have become very useful for helping teams to keep learning and growing. As companies try to make teams work better together, AI-based tools have become more popular recently. Platforms like Coursera for business, Udacity, and LinkedIn Learning have become very important for making learning more available and personalised (Drăgușin and Welsh, 2015). Tools like Degreed and Pluralsight also have skill tests and libraries of carefully chosen material, which helps teams make sure that their learning goals are in line with their business goals. This chapter aims to critically analyse the current research on E-learning for Agile Teams, with a focus on AI-based tools in the Irish tech sector. The following sections will be based on the integration of E-learning platforms, collaborative utilisation of technological resources, and the influence of E-learning on collaboration and productivity, supported by a theoretical framework. Furthermore, the research aims to address gaps in understanding E-learning's role in agile teamwork.

## 2.1 Integration of E-Learning Platforms for Team Efficiency

### *2.1.1 Advanced Software Tools in E-Learning Platforms*

Integrating artificial intelligence (AI) and machine learning (ML) into systems like Coursera, Udacity, and LinkedIn Learning has changed the way people learn for both individuals and groups. Experts say that these technological tools are very important for customising the learning process because they look at user data and make material suggestions that are more relevant to each person. George (2023) indicates that machines powered by AI can figure out what an individual likes, which lets them make a personalised plan that fits the needs of each team member. Additionally, both constructivism which Piaget talked about in 1977, and connectivism which Siemens pushed in 2004, are in line with the idea of personalised learning. Connectivism stresses how useful networked learning is in this digital age, while constructivism stresses the importance of active involvement and real-world events in learning. As the need for individual flexible learning and ability testing grows, developers will be better able to meet it with the help of cultured software tools for custom creation.

Meanwhile, Gligorea et al. (2023) showed that AI technologies integrated with e-learning platforms can continuously assess team members' skills and alter course content as needed. This is in line with Vygotsky's concept of the Zone of Proximal Development, underscoring the importance of giving learners tasks just a little bit harder than they can handle (Silalahi,

2019). The flexible design of these tools makes sure that teams are always being pushed, which helps them feel like they have accomplished their goals and improves their skills. The literature also stresses the importance of using data from AI tools to figure out how well E-learning programs are working. Some authors, like Rosen et al. (2018) claim that these tools' data help businesses see the impact of learning strategies on team performance. This claim aligns with the four parts of Kirkpatrick's model of training evaluation which includes response, learning, behaviour, and results, where at each step, advanced software tools' analytics give useful information (Reio et al., 2017).

### *2.1.2 Impact of Integration on Team Efficiency in the Irish Tech Sector*

The integration of E-learning platforms, especially the smooth connection within integrated systems, has an immense effect on how well teams work in the Irish technological sector. Scholarly work by Allen (2016) and Garrison (2016) demonstrates that this integration significantly impacts team collaboration. By facilitating the instantaneous exchange of information, interconnected technologies, in Allen's view, promote cooperation. This idea is also supported by research that Garrison did in which it is shown that the team could react and change to new technologies more quickly when they are linked through E-learning tools. Some ideas, like Tuckman's stages of group development, might also help people understand how integration affects team success (Natvig and Stark, 2016). It might help to use E-learning tools early in the team-building process so that people can get to know each other and work faster. Startup software development teams in Dublin, for example, use tools that show how E-learning encourages teamwork from the start, which helps them get through the planning and norming steps faster (Pakrashi et al., 2018). Theories of social learning, such as the social cognitive theory put forward by Albert Bandura, might be useful in investigating the impact of integration on team performance.

Schunk and DiBenedetto (2020) say that the way E-learning tools are linked may make it easier for team members to see and copy each other's best practices. One prime illustration of this is the widespread usage of integrated systems by Cork's IT firms. Gil (2015) concluded that shared resources and the cooperative environment of training give developers new windows into coding practice, reducing their learning curves by a significant amount, and rising in the company. When E-learning platforms get integrated into the IT workflow, task efficiency is profoundly influenced by such means. This kind of seamless integration makes it easy for employees to get used to new technological developments and enables greater collaboration and knowledge exchange among them. According to Costello and McNaughton (2018), the whole process of incorporating e-learning reduces the time that workers initially have to spend

scrutinising new skills. It also helps to facilitate efficient problem-solving and faster self-motivated learning. Early adoption of E-learning tools makes team-building more effective and speeds up planning and norming. For software development firms in Galway, however, such as those producing patterned tiles for architects' CAD software, Morrissey (2019) claims that online project management tools bring everything together in one place and allow electronic access to people running offsite buildings demanding entirely different advertisement methods from others under construction on-site.

## 2.2 Collaborative Utilisation of Technological Resources in Agile Teams

### *2.2.1 Agile Team Collaboration in E-Learning Settings*

In the field of E-learning, flexible teams built on technology integration are well-suited to innovation because of their capacity to leverage innovative resources, and quickly adopt new technologies. Agile cooperation in E-learning settings can benefit users in many ways. Ismael (2022) argues that cross-functional teams working together perform better in online learning environments. The Manifesto for Agile Software Development is demanded in a world of dynamic information exchanges and collective problem-solving among participants, stressing the fact that, without teamwork, no amount of technology or training will provide a single individual to assist those (Rolland et al., 2016). Agile teamwork is useful in online learning settings, as shown by Irish IT companies such as Sojern has started using virtual communication tools. In their study, Annosi, Appio, and Martini (2024) emphasise how these technologies may enhance team communication, making it easier for members to share ideas and work together to overcome obstacles. Better communication like these fits with the agile mission because it encourages adaptability and responsiveness, which are important for working as a team in changing environments.

Vygotsky came up with the idea of social constructivism in 1978 which says that people learn by interacting with others. This theory fits perfectly with how quickly people work together in online learning settings. Agile teams encourage sharing of information and working together to solve problems, which makes learning more pleasurable. Startup teams based in Limerick have made a lot of progress very quickly, which supports this idea. Sadique et al. (2021) show that these teams use shared E-learning platforms as virtual meeting rooms that encourage ongoing contact, sharing of best practices, and working together to solve problems. Also, the idea of working together is strengthened by the way rapid methods, like Scrum, work well with online learning. Adnan and Ritzhaupt (2018) indicate that Scrum works well with E-learning tools because it motivates teams to communicate regularly, get feedback all the time, and

organise themselves. When tech teams in Ireland started using Scrum for their online training, they became able to work together better and change more easily to new learning needs.

### *2.2.2 Efficiency Impact of Collaborative Technology Use*

The use of technology in agile teams is profoundly influenced by the effectiveness of existing learning environments. Joint technologies, like shared online offices and real-time communication tools, have made it easier to share information, which has helped teams in different places stay in touch. To make things even better, they are the best at working together to solve problems and use what they have learned. According to a study by Giannakos, Mikalef, and Pappas (2021), Irish tech teams that use E-learning together see big changes in how quickly they finish tasks, how well they share knowledge, and how well the projects turn out overall. Jackson, van der Hoek, and Prikladnicki (2022) say that a famous Dublin-based tech company called Sojern has made it easier for team members to work together from anywhere by using collaborative tools like Asana, ideas for project management, and virtual whiteboards like Miro for brainstorming. This effort had incredible results, like reducing project timelines and making things run more smoothly overall.

In the same way, a startup in Galway was motivated to use joint E-learning tools after seeing how successful big tech companies like Toast had been. Wendt et al. (2021) found that by using communication tools like Slack and virtual meetings like Zoom, the company not only made it easier for team members who were in different places to work together in real but also reduced the time it took to train new team members. The ideas behind using technology to work together are similar to ideas about how organisations should act to be more efficient. Hackman's Input-Process-Output model utters that shared technology makes it easier for people to share knowledge, work together to solve problems, and get results quickly. All of these things help the team do its job better (Auh et al., 2022). This has a significant impact on agile teams, which are based on the idea that learning and adjusting requires quick rounds of teamwork.

## 2.3 Influence of E-Learning Platforms on Collaboration and Productivity

### *2.3.1 Enhancing Collaboration through E-Learning Platforms*

E-learning tools and working together as a team are two important things that make modern workplaces more productive. It is important for E-learning tools to help people learn together, as Ngai et al. (2019) say that team members can work together to make material and answer problems at these events. In his book Facilitation of Learning (1978), Vygotsky introduced the social constructivist view which shows how important it is to study with other people. For example, Discord, Slack, and Hopin were added as shared E-learning tools by Datadog which

helped its development and management teams work better with people from other areas (Kratzke, 2022). It was helpful for the Dublin teams from Datadog to use online tools for shared learning paths and group projects as part of their work together. This method made it easier for people to share knowledge and work together to solve problems.

Slattery and Cleary (2016) not only looked at how Irish IT teams might benefit from E-learning platforms in terms of enhanced cooperation, but E-learning platforms have also made synchronous learning better by enabling team members to tackle problems together, disclose what they know about them, and communicate in real-time. It is a good fit with the agile methods which emphasise people and relationships more than tools and processes. This promotes learning as a team, which is also consistent with an open attitude. Al-Abri et al. (2017) have observed asynchronous learning options on E-learning platforms make it possible for people with differing schedules and time zones to work together, even when they are not talking at the same time. Take Sojern as an example, which is a tech company with worldwide offices where Coursera and other asynchronous collaboration platforms are used, so that team members from all over the world can share ideas at different times, using common learning resources whenever makes the most sense to them (Ostashewski, Cleveland-Innes, 2022)

### *2.3.2 Challenges Faced by Agile Teams in E-Learning Adoption*

In the findings of Costello and McNaughton (2018), it was found that incorporating E-learning into agile teams might be difficult. They expressed how difficult it is to get people to work together, especially in such places where autonomous and open work practices are popularised. These are things agile groups alter quickly, making it impossible to just quickly add memorable E-learning methods. At times, finding the proper mix between ideas for rapid development and learning objectives may be difficult. In line with the corporate learning theory, this shows that it can be hard to find a balance between order and freedom in busy workplaces. These problems are especially clear in Ireland's tech industry, with Zoom Video Communications' problems standing out. For example, the company Zoom Video Communications is a well-known producer of virtual contact tools but at first, they ran into some obstacles in employing E-learning into their agile practices related to scalability and user engagement.

Furthermore, Naidoo and Verma (2021) discuss the potential cultural issues that agile teams may have while using E-learning. Cultural pushback, which comes from long-standing beliefs and customs, can make it hard for E-learning platforms to work together smoothly. In Ireland, this problem was shown by a Galway-based company that ran into trouble at first because its team members were used to standard ways of learning (Houlihan and Morris, 2022).

Additionally, Gary et al. (2020) looks into the problems that come up when agile teams try to use E-learning where they say that dealing with and expanding as teams become larger, therefore E-learning initiatives get more challenging. ServiceNow, a global tech company with a big footprint in Dublin, changed its E-learning programmes to include flexible and role-specific learning tracks when it realised the effects of growth problems (Faruq, 2020). This change in strategy was made to meet the different learning needs of an agile team which shows how companies deal with growth issues when they adopt E-learning.

### 2.4 Strategies for Incorporating Business-Oriented E-Learning Methods

Actively incorporating business-oriented E-learning methods into an agile team is an absolute necessity for it to be fully effective. Kumar et al. (2021) supports the concept of "blended learning," where face-to-face classes are combined with online attendance. They say that a new way to learn could be created by combining Amazon's smart, self-contained web-based lessons with Zoom's virtual meetings. This point of view is similar to educational ideas like constructivism, which stresses how important it is to have a variety of learning environments to meet the needs of different groups. Based on how well Udemy and Datadog have done in the Irish IT field, this method looks like it could work. Two things that have helped Udemy succeed are live classes with educators and on-demand lessons that can be taken whenever a learner wants. These classes are made to accommodate different ways of learning and encourage quick communication for flexible groups. Datadog also does a good job of combining synchronous virtual communication tools with asynchronous project-based learning to make an online lab that works for all students, even those who are busy.

Dolasinski and Reynolds (2020) likewise incorporate the possibility of microlearning, which is the best procedure for educating since it is iterative and empowers little gatherings to get material in effectively reasonable parts. Microlearning, or short, engaged classes, are being utilised by organisations like Toast in Ireland in their lean groups to close the abilities hole. The procedure does not just further develop memory, it is additionally viable in the agile workspace, adjusting continually to new conditions. Also, personalised learning is heavily emphasised by Tsai, Perrotta and Gašević (2020). AI algorithms are now being used to modify educational materials based on individual preferences and skill levels. This is in line with Piaget's constructivist ideas, which stress the importance of creating appropriate learning environments for the cognitive processes of every person (Pardjono, 2016). In some ways, Zoom Video Communications' E-learning packages can provide personalised learning that considers a person's cognitive ability. This organisation creates customised training packages by using AI algorithms to identify the patterns of behaviour shown by learners.

## 2.5 Theoretical Framework

### *2.5.1 Social Learning Theory*

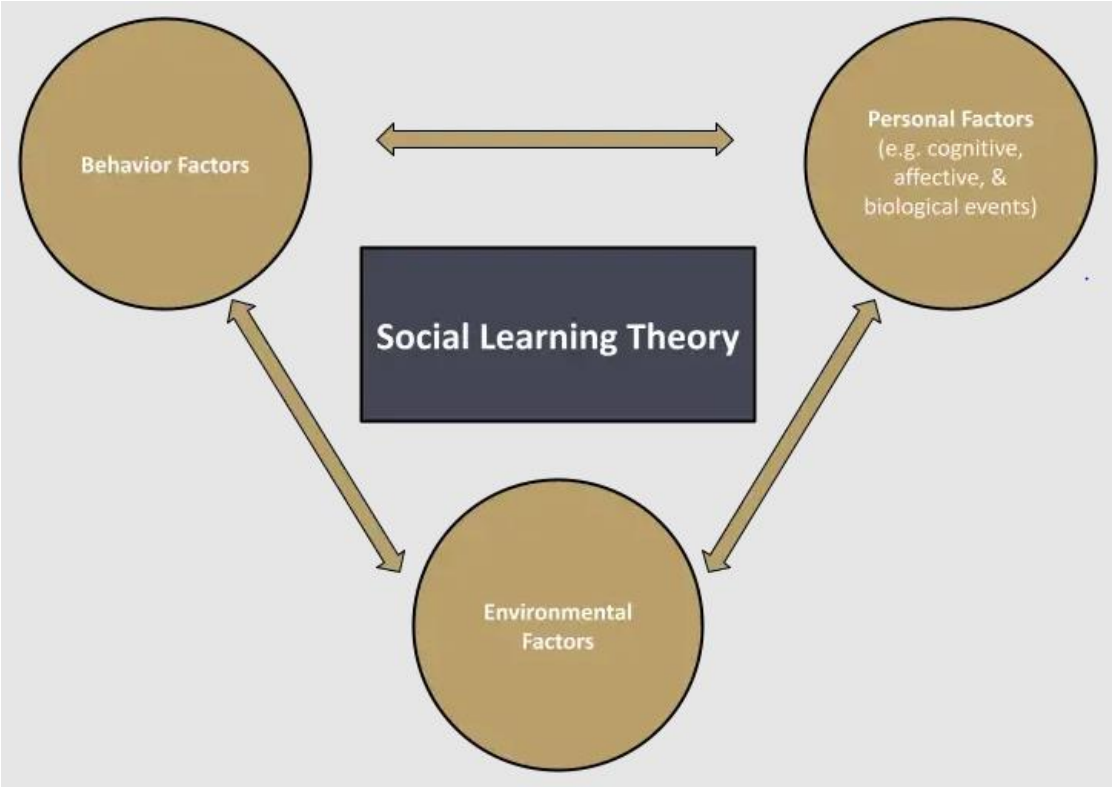


*Figure 1: Source: Positive Psychology (2023)*

Social Learning Theory was created by Albert Bandura in the 1960s, and he said that people learn from observation, that is, by watching and modelling others. According to Akers (2015), the most important thing in this theory is the influence of modelling, meaning feedback, as well as mental processes. Bandura wrote that people learn in a group and that they get new information and skills by watching others and learning from their mistakes. Social Learning Theory is important because it helps understand how people learn ways to behave, think, and feel in a group. It is possible to apply this theory to examine business-targeted E-learning tools and how agile teams use them. Social Learning Theory says that shared knowledge and mutual learning environments facilitate teams' joint work. Success depends on how observational learning occurs and how the social environment itself affects this type of learning. The idea of Social Learning Theory is to create effective E-learning methods which make use of agility for knowledge sharing and cooperation between teams in solving problems together.

### *2.5.2 Diffusion of Innovation Theory*

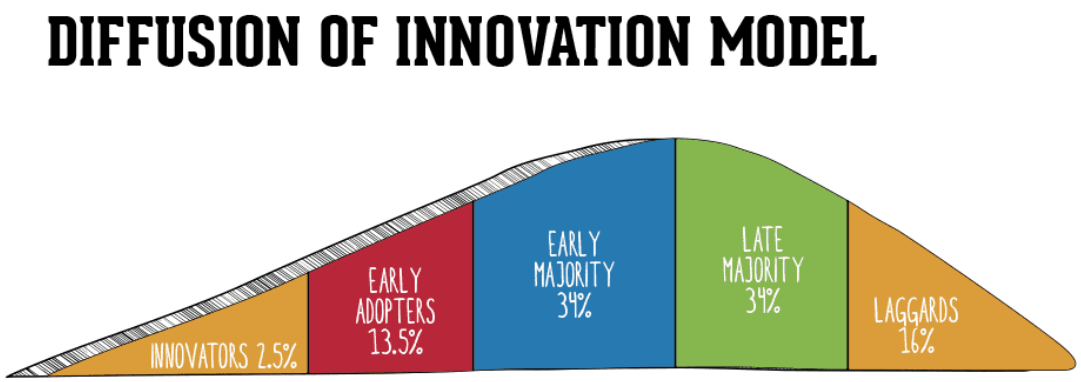


*Figure 2: Source: Smart Insights (2019)*

In 1962, Everett Rogers proposed the theory of knowledge diffusion. This theory showed how new technologies or theoretical approaches to problems are introduced, accepted and spread by social systems over time (Emmanuel, Orieko and Gichuru, 2022). Some people think that the process of accepting a new idea could have been portrayed as a bell-shaped curve. These individuals might be considered the pioneers and innovative individuals who are the first to adopt the novel concept. Then the early majority and late majority both go more slowly in accepting the new idea. Finally, the laggards are the last ones to adopt the idea. This idea points out that forms of communication and social structure, as well as individuals, are important in determining how innovation is accepted and adopted. A knowledge diffusion theory can explain why some team members might embrace E-learning methods in different ways in a study about E-learning techniques to be used in agile teams intended for business (Mesfin et al., 2018). The different stages at which agile teams adopt new ideas may be key to the successful use of E-learning tools. If it is known what kinds of people are inclined to embrace new technologies quickly and resolve whatever problems arise effectively, it will probably be easier to spread E-learning projects among agile teams increasing their usefulness overall.

### *2.5.3 IPO Model*

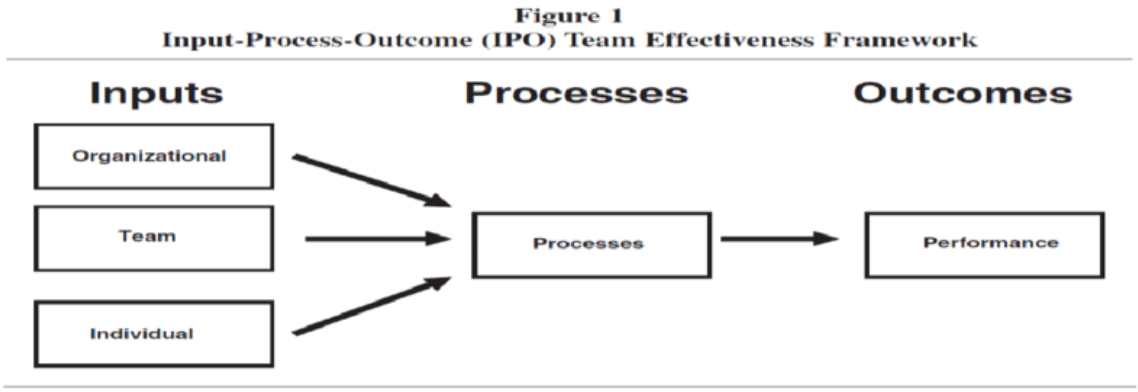


*Figure 3: Source: Ishak, Khairuddin, and Aziz (2019)*

Input-Process-Output (IPO) model describes how information systematically passes through systems. Originally, the IPO Model changed the world because Alan Davis thought of this in 1980 (Mathieu et al., 2017). According to this model, input, process, and output are all part of an information system. "Input" is the data or information that enters the system. At this time, people will get the raw data on which to base their data processing. Various process methods are employed to turn the input data into information that can be used to make decisions. It is this very innermost part of the system where the calculations, studies, and changes occur. The "output" has to finish the cycle, this is the stage where processed information is shown to end users or other systems. This study is constructing a model by aligning the business-focused E-learning tools with agile teams and leaning on the IPO Model to do so. To understand information flows in e-learning integration better, this model is a good starting point (Alam, 2021).

The information given here is synthesised from many sources including learning materials, teamwork links, and individual progress. Next, the data is processed by E-learning systems' interactive and adaptive elements, which accords with the agile principles. Such processed material becomes the output to enhance the comprehension and efficiency of the agile team. The IPO Model is very suitable for understanding the connections among the input, process, and output side of E-learning environments. Studies on other learning models have focused primarily on the skill levels of individual learners when asked to evaluate E-learning. The output is whether the inputs have been combined with the process to yield a result. Applying the IPO Model to study E-learning in agile teams reveals the need to consider the entire information flow cycle. To fully leverage the strengths of e-learning technology, it is necessary to have a clear understanding of these various aspects. The outcome of applying the IPO Model to E-learning in agile teams is more collaborative work and a greater common body of

knowledge—the more efficient the ability to assign E-learning technology, the greater the impact on team member dynamics.

### 2.6 Literature Gap

Despite the abundance of literature on E-learning across many contexts, there remains a significant deficit in study in this field. While many studies have investigated how well E-learning systems perform in practice and their impact on organisational learning, few of them discuss how these platforms can be used, especially in the high-speed, shared setting of agile teams. Lots of E-learning literature deals mainly with the technology aspects such as the functional features of platforms, how useful they are, and how they can stimulate student interest. However, very little research has been done into how E-learning is related to the spirit of agile methods, which are known for their iterative processes, flexibility and working together to solve problems. For E-learning to be at its best and for learning programs to align with the quickly moving, group problem-solving nature of the Irish tech sector, it is important to know how to easily integrate it into the work processes of agile teams.

As well as those, some studies talk about the general benefits of learning together and sharing information in businesses, but the impact of E-learning technologies on the performance of Irish-based teams has received little attention. The Irish technology sector is renowned for being innovative and with a very fast pace of work. As a result, it has its challenges and opportunities. This research seeks to carefully look at how E-learning tools can be used to improve teamwork, problem-solving and total project efficiency. Moreover, much of the research into E-learning does not go into enough detail about how agile teams work within the tech sector in Ireland. The growth and acceptance of E-learning programs are mainly affected by cultural factors. To get the plans to fit the wishes and tastes of Irish staff, the importance of examining how cultural factors influence the acceptance and use of E-learning tools in agile teams can be seen. Thus, what is needed is a more detailed examination of the practical ways that business-oriented E-learning can be used in agile teams in the Irish tech sector. Studies that close this gap must move beyond not only the technical aspects of E-learning integration, but also into the culture, joint, and adaptable aspects of it. Taking these things into account, this research will not only help academics learn more about E-learning in flexible settings, but it will also give organisations that want to improve their learning methods in the Irish tech field useful information that they can use right away.

## 2.7 Influence of Literature on the Methodology

With the qualitative research method of interviews, this research intends to give detailed and in-depth knowledge about the experiences and opinions of the participants working in agile teams. The IPO model serves as a helpful framework to structure interview questions to explore how E-learning tools facilitate collaboration among students and their effects on teamwork performance and productivity. In addition, the Diffusion of Innovation Theory guides the choice of interview participants based on their position in terms of adopting E-learning techniques used within agile teams, to identify the factors that foster or hinder embracing these methods. Alongside the Social Learning Theory, this approach to qualitative interviews is also informed by the importance of collaborative activities which encourage the exploration of how people in agile teams learn and operate with each other through the use of e-learning platforms. Overall, these theories provided a framework for the design of research which allows a fully-fledged investigation and comprehension of how the use of e-learning affects teamwork and productivity in the Irish technology sector as reported by the interviews. Now, the methodology will be discussed, and the details of the operation will be expounded in the following section where the collection and analysis of qualitative data through interviews will be outlined.

## 2.8 Conclusion

This in-depth study of the literature throws light on how business-focused E-learning methods and agile teams work together in the Irish tech industry. To understand how E-learning integration works, it is useful to get some background knowledge about some of the theories related to this, such as the IPO Model, the Diffusion of Innovation Theory, and the Social Learning Theory. It seems that these approaches do work in reality, improving collaboration and making learning simpler; which is supported by the success of Irish digital businesses such as Sojern, Udemy, Datadog, and Toast. However, there is still a huge gap in research about cultural factors, shared tools and the repetitive structure of agile processes interact with each other. The present study aims to fill this gap, which will not only enhance learning but also provide enterprises operating in the rapidly developing Irish technology sector with vital information that they can use to enhance their E-learning practice

# Chapter 3: Research Methodology

## 1. Introduction

Research methodology is a set of techniques, approaches, and concepts that are structured in such a way that the researcher may use various methods and tools to gather and analyse data. Therefore, it plays a role as a justification of the study plan and also improves the level of truth and credibility of conclusions. Adkins, Chauvin, and Johnson (2020) stated that a set of methods makes it easy for researchers to describe their questions and goals. This chapter aims to provide a discussion of specific procedures or techniques used to identify, select, process, and analyse information about the topic. Through a detailed plan, this chapter provided the required details for improving the effectiveness of teams in agile environments.

## 2. Research Aims and Objectives

This research aims to reveal in every detail, how the use of business-oriented E-Learning platforms might boost the effectiveness of the Irish technology sector in teamwork. The objectives include:

- To investigate the integration of E-Learning platforms (encompassing advanced software tools, seamless connectivity, and integrated systems) on team efficiency within the Irish technological sector.
- To examine the collaborative utilisation of technological resources by Agile teams in e-learning settings for team efficiency within the Irish technological sector.
- To assess the influence of e-learning platforms on collaboration and productivity among Agile teams with the discussion of challenges faced by Agile teams.
- To recommend strategies for incorporating business-oriented e-learning methods for improving team efficiency within an agile team.

## 3. Proposed Research Methodology

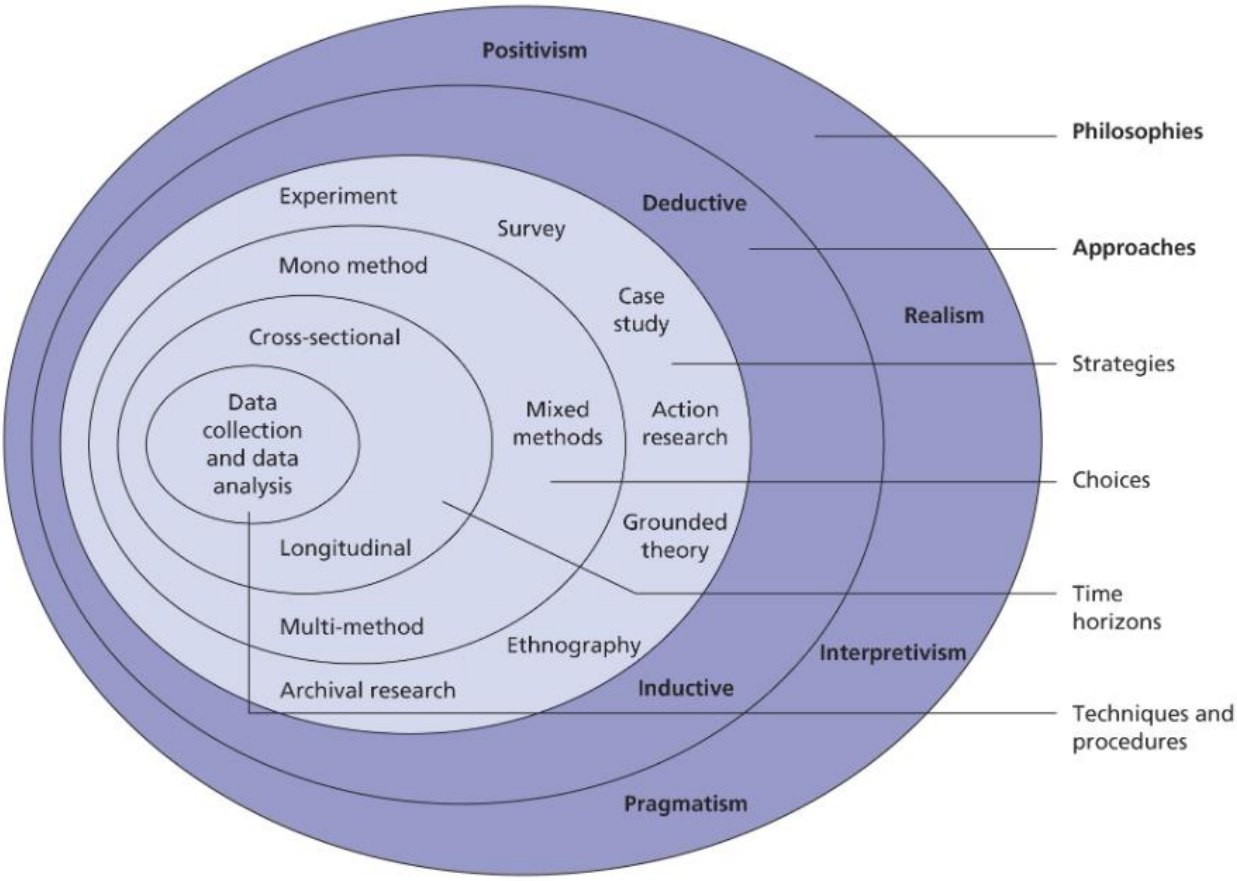


*Figure 4: Source: Research Onion (2023)*

The proposed research methodology of this study was structured around the research onion framework, which was formulated by Saunders, Kitzinger and Kitzinger (2015). The research onion model offers a structured solution to conducting the research, which comprises different layers of methodological issues and challenges. The starting layer, research philosophy, underlines the basic assumptions at the foundation of the research which are mostly ontological and epistemological, and are based on philosophies such as positivism, interpretivism, and pragmatism. The subsequent layers include the research approach, delineating between inductive and deductive reasoning, and research strategy, detailing methodologies such as experimental, action, case study, grounded theory, ethnography, and archival research. Subsequently, the choice of data type (qualitative, quantitative, or mixed), the period (cross-sectional or longitudinal), as well as specific techniques and methods precisely unveil the methodology (Cohen et al., 2017). These choices are intertwined, thereby deliberating the connections between research proposals, aims, objectives, and philosophical-socio issues (Yanow and Schwartz-Shea, 2015). While the research onion framework offers a problem-solving and flexible approach to methodology selection, it is not without criticism such as Humphrey and Economou (2015) stated that the framework oversimplifies the issues of

methodology selection due to which the methodological choices are not fully explored. Similarly, the framework may not be fully suitable for discovering such concepts or methodologies which do not conceptually include or embrace interdisciplinarity, which may ultimately impede its applicability. Even though there are diverse opinions in this particular instance, the onion framework still has a high value for researchers while they make a systemic decision and keep the research honest.

## 4. Research Philosophy

This study's research philosophy is in the first layer of the onion structure where interpretivism was chosen as the main philosophical base for this study. As mentioned by Pervin and Mokhtar (2022), subjective cognitions of individuals which are reflected in their culture, socio-behaviours, and social standing is the main orientation of interpretivism. This research is based on the interpretivist philosophy because its compatibility with the research objectives specifics and the context of the research. Interpretivism aims at comprehending views and interpretations of people concerning feelings, meanings, and thoughts in cultural and social context. Thus, due to the purpose of the study being to explore the effect of e-learning systems on team action in the Irish IT industry, the interpretivism was related to the problem as a result of it including a broad spectrum in individual views, organisational culture, and circumstances while examining the usage of e-learning systems. Besides, interpretivism also offers a way of engaging the interactive approach through incorporating cultural elements and technology development hence, a holistic intended conclusion of that. This strategy, in turn, made it possible to track the teamwork individualities, the organisational culture, as well as the specific influencing factors regarding the efficient usage of e-learning platforms by teams for better performance (Elbardan et al., 2017).

The article written by Tracy (2019) indicated that all these methods like interviews, observations, and textual analysis may help qualitative researchers know why employees like working for e-learning employers, what attitudes of employees towards e-learning technologies and social factors affect e-learning adoption. Even though interpretivism is the main philosophical basis of the present study, the pragmatic and positivistic philosophies were also taken into consideration and they were ultimately overlooked due to their incompatibility with the research objectives and context. Positivism, one of the philosophies concentrating on empirical measurement and objectivity, was found unsuitable (Hasan, 2016). Such as regarding the impact of e-learning platforms on team efficiency, positivism's focus on measurable outcomes and objective observations may neglect the subjective experiences and contextual factors existing in organisational relations. Similarly, the pragmatism emphasising the

implementation of research procedures in actual situations, which has been described by Kaushik and Walsh (2019), has not been chosen as the framework for this study. Therefore, after taking into account the research purpose, which is to discover the hidden depths of qualitative data, it was determined that interpretivism is the most suitable philosophical approach for this study.

**5. Research Approach**

Regarding the second layer of the research onion, the research approach is described and gives a complete coverage of the orientation of the study. In this scenario, the research methodology encompasses two fundamental approaches: deduction and induction. Kennedy and Thornberg (2018) pointed out that inductive reasoning encompasses the general layout that is considered when collecting data and examining empirical observations further. On the opposite side, inductive reasoning uses generalisations from observations or cases, thus, the outcome is a reliable conclusion only through the empirical approach. Through inductive reasoning, in this research, the researchers can obtain unbiased data that sets the right platform to assess different potential perspectives or explanations (Sibeoni et al., 2020). The choice of this research approach enabled the researchers to undertake a detailed analysis of the time efficiency when e-learning platforms are used in the sector of Irish technology. This technique contributed to the overall versatility and profound comprehension that would probably have been missed through the inductive approach. Subsequently, this paved the way for further hypothesis development or theories based on empirical data, hence facilitating the connection between e-learning initiatives and teamwork.

The discovery of such new ways of thinking yielded significant outcomes that not only strengthened theory but also helped companies devise functionally suitable strategies and interventions aimed at boosting team efficiency with the aid of e-learning programs. On the other hand, Thompson Burdine, Thorne and Sandhu (2021) revealed that inductive reason permits the study to construct its aim and methodology iteratively besides, ensuring that emerging contextual nuances are thoroughly investigated. Therefore, the inductive reasoning technique was applied to this study which provided a complete depiction of the role of e-learning platforms within the context of the factors that directly affect their impact on group performance. However, compared to deductive reasoning, the usefulness of which lies in the hypothesis testing and the theory confirmation, this kind of reasoning may not be suitable for this research. Deductive approaches usually start with a hypothetical framework or theory which often restricts the dimensions involving different viewpoints and emerging themes (Azungah, 2018). On the other hand, hypothetical deductive reasoning can disregard some

details as well as contextual factors that are essential for understanding the intricacies involved in the digital learning adoption process within the technology teams.

## 6. Research Strategy

The research carried out was about an e-learning platform used for business purposes and its impact on team efficiency in the technology sector in Ireland, and the primary data collection method used was an in-depth interview. The use of this kind of approach creates a highly valuable ground for the generation of qualitative input and lets the researcher dive deep into the complex world of attitudes towards online learning through the detailed and personalised account of a subject's experience and perception. Fritz and Vandermause (2018) pinpointed that in terms of gaining insights into a widest range of topics, depth interviews are the best method, due to relaxed setting and open-ended questions. The kind of research method selected for this qualitative study is face-to-face interviews due to the character of this study which is subjective to examine personal experiences and perceptions regarding e-learning platforms. According to Osborne and Grant Smith's (2021) qualitative research methods, in-depth interviews have been considered as one of the most effective method since they provide precise description about the participant's thoughts and their living experiences. The type of research methodology selected was the mono method, which used in-depth interviews as the primary data collection tool. This choice was based on the qualitative sense of the study because it is aimed at making a detailed analysis of the subjective perceptions and experiences about e-learning platforms in the Irish technology sector. Through the method of in-depth interviews, the enquiry was able to achieve a thorough investigation into the range of views held, which allowed for integrated findings and the possibility of bringing into focus the realities hidden from other methods.

The nature of the in-depth interviews, which is iterative, also greatly resembled the iterative research process where exploration and constant refinement of themes and concepts are crucial elements for obtaining a deeper and more comprehensive understanding of the issue. As per Tanner (2019) through the process of communication with the participants, the researchers can team up and fabricate understanding and interpretations of the data which should be built on the lived experiences and viewpoints of the research subjects as they are directly or indirectly linked to the phenomenon of the study. Embracing this participatory methodology added to the authenticity and precision of the research results considering the inputs of the crucial actors in the Irish technology market. On the other hand, the chosen strategy also allows delving into deep or rugged themes through a secure and confidential setting (Dempsey et al, 2016). In the same manner, agile teams opened up and shared their opinions more openly in an interview setting. Consequently, the interview setting allowed insightful research on e-learning adoption

and team dynamics. This, in turn, endowed the researcher with the capability of discovering so subtle insights that other methods of data collection, for example, surveys, or the archival study, would have overlooked. Consequently, the research incorporated the data from qualitative in-depth interviews to establish a holistic comprehension of the effect of business-oriented e-learning platforms on the efficiency of the work teams of the Irish technology industry and gave useable outcomes to both theory and practice in this sphere.

**7. Qualitative Data Primary Collection**

Interviews were believed to be an integral part of the data collection method as they explored participants' views and experiences of e-learning in the IT industry of Ireland. Throughout the investigation, the respondents were asked open-ended questions which are to help them assess their own experiences and examples about online learning tools or their thoughts about online learning tools. The questions comprised information like finding out advantages and disadvantages, explaining the types of stereotypes related to teamwork, analysing how all these affect productivities, and proposing ways to overcome the obstacles. The interview proceedings had the role of the interviewer to ask more probing questions to the participants to delve deeper into the areas where the participants mentioned to already note has occurred. The researchers stated that this strategy, the scientifically-based method of open discussions employed by Nyhan et al. (2017), is different because it shows the motives, personal convictions, and disbelief of respondents, which can be uncovered only during open and frank discussions. In-depth interviews offered the scope for open-ended questioning which allowed participants to talk openly about their personal feelings and experiences regarding e-learning platforms in the Irish technology sector. This way, they were allowed to tell the stories contributing to their experience that can rarely be obtained through structured approaches such as surveys. On the other hand, this technique enables the researchers to be adaptive and flexible in the interviewing process and adjust the questions as per the response of a participant (Ruslin et al., 2022. The flexibility presented researchers with the opportunity to investigate directions they had not originally planned for and, in so doing, contributed to the discovery of other insights. Additionally, participants felt more at ease and could express their views more freely which was facilitated by the personal engagement that established trust and rapport.

**8. Population**

Considering this qualitative research directed to Agile teams of the Irish technology sectors, the population sample was selected consisting of people who were actively working as members of technology teams. Generally, the research focused on Agile teams because they are currently the most commonly used teams and highly rely on collaboration through effective

techniques and methods which have made them a great group to study the effect of e-learning platforms on the efficiency of teams (Rigby et al., 2018). Leaders, managers, developers, and IT specialists were the interview targets as they have different roles in the organisation across the hierarchy. In this case, each group consists of one of the important stakeholders in the software development process which starts from conceptualising to implementation and maintenance. The data was collected through a sample size of 10 participants due to practical constraints such as time, resources, and feasibility as conducting research with a larger sample size can be more time-consuming and costly. The relevance of interviewing members of an Agile team is brought about by the fact that they are the ones who always use e-learning systems and know the core elements of the Agile methodology in the utmost detail. These people were able to offer valuable insights about the effect of e-learning initiatives on the Agile team performance and the concerns and interests they had. Through working with such participants, the research attempted to acquire a conception with all the details of e-learning platforms integration into Agile methodologies and their impact on the Irish technology sector workers' productivity.

**9. Analysing Qualitative Data**

In undertaking the qualitative analysis of this research, a thorough interview style was adopted to make sure that the intention of the study has been explored comprehensively through captured participant experiences and opinions. The data was recorded through an online interview and a transcript was prepared to ensure the participation of all concerned parties and a convenient way of collection (Archibald et al. 2019). Next, it was thematic analysis that took the leading role in the process of analysing data, borrowing its efficacy in terms of pattern recognition, reasoning out of tacit information, and in-depth understanding of what the participants experience and feel about the situation at hand (Nowell et al., 2017). With method, the researchers contributed a systematic and purpose manner of the analysis by the looking for the frequently appeared patterns, themes and trends through the whole data and they contributed. The process of thematic analysis had some main steps where in the first step, the transcripts were rigorously revised and thoroughly familiarised with to understand the data. Subsequently, data was systematically coded, with similar ideas or concepts arranged together using colour-coding methods. Such analysis provided input that allowed for creating first draft themes that interconnected the concepts underlying the data.. Ultimately, themes were labelled and consistent with the recommendations of these findings to create meaning for the data gathered. During the whole time, care was taken to ensure that the findings of the analysis maintained their credibility and reliability.

## 10. Ethical Issues

This interview-based qualitative research involved many ethical considerations that the researcher had to be careful to follow throughout the procedure. First and foremost, all participants were informed about the content of the online interview and provided their consent before taking part in the study. This was done throughout the process of pre-recruitment, by issuing a consent form which talked about the study aim, voluntary participation and the rights of subjects. Furthermore, the participants were assured of their anonymity confidentiality throughout their involvement in the research exercise as the information specific to the self was not collected during the interviews and the pseudonyms were used to describe the research subjects to ensure data accuracy. This all data were done to strengthen the privacy of the participants by a password-protected computer that was used to store the data, all of which could only be accessed by authentication personnel. Moreover, this information together with other spammed breaches have been disappeared from the social network after the 6th and 7th month because ethical codes indicate that such data has to be moved from the network by these dates. The importance of ethics cannot be overstressed as it is the only basis of building trust, which is essential in data analysis and a reliable search for results (Pietilä et al., 2020). Therefore, this study's purpose is to make sure that the highest levels of honesty, thoughtfulness, and respect for human subjects are maintained throughout the research process by applying the research's ethical rules of conduct and ethical principles.

## 11. Limitations to Research

Although a seemingly comprehensive methodology design and employment approach were utilised, the research, however, experienced several limitations that may influence the study's valuation and applicability. Related to this is the issue with the sample size and variation such as though efforts were made to ensure the diverseness among the participants, the small size of 10 persons may have influenced the breadth of perspectives involved. Moreover, it was conducted only among employees in the Irish technology field, implying that the generalisability of the findings to other organisations or regions could be limited. Also, because the research was purely qualitative and utilised in-depth interviews as a means of collecting data, there is likely a restriction or limitation in quantifying and statistically analysing the data, making it a challenge to derive more tangible insights from the study. Beyond that, time constraints of the research process could lead to restrictions in data collection as well as in the analysis. Such as, due to the complexity of qualitative research that involves the collection of descriptive data and thorough analysis, difficulties of time constraints may have forced some compromises in these essential areas. A limited time frame could have reduced the number of

interviews performed or the length of the interview sessions which could eventually lead to the decreased depth of information exported from participants. It is necessary to note these limitations properly as they allow an understanding of such constraints and boundaries that the research has. Even though efforts were made to overcome such constraints by careful planning and execution, the limitation still exposes the opportunities for future studies as well as consideration. Through recognising and addressing associated limitations, researchers can improve the robustness and validity of their findings which can help in advancing the knowledge in the discipline.

# Chapter 4: Findings

## 4.1 Introduction

This chapter aims to present findings from 10 in-depth interviews conducted, as shown in the Appendix. Following the methodology outlined in Chapter 3, data analysis revealed various themes relevant to the research objectives, as illustrated in Table 4.2. The chapter will include references to relevant quotes from each interview participant, providing insights into the participants' perspectives and experiences within the Irish technological sector.

## 4.2 Themes Emerging Based on Research Objectives

| **Objectives** | **Major Themes** | **Minor Themes** |
|---|---|---|
| Objective 1: To investigate the integration of E-Learning platforms (encompassing advanced software tools, seamless connectivity, and integrated systems) on team efficiency within the Irish technological sector. | Integration of E-Learning Platforms | - Jenkins: Streamlined development and deployment processes.<br>- Jira: Revolutionised workflow and collaboration.<br>- GitLab: Fostered seamless communication and knowledge sharing. |
| Objective 2: To examine the collaborative utilisation of technological resources by Agile teams in e-learning settings for team efficiency within the Irish technological sector. | Collaborative Utilisation of Technological Resources | - Zoom: Virtual meetings and video conferencing<br>- Slack: Real-time communication and collaboration |
| Objective 3: To assess the influence of e-learning platforms on collaboration and productivity among Agile teams with the discussion of challenges faced by Agile teams. | Challenges Faced by Agile Teams in E-Learning Platform Utilisation | - Technical Glitches<br>- Information Overload |

| | | |
|---|---|---|
| Objective 4: To recommend strategies for incorporating business-oriented e-learning methods for improving team efficiency within Agile teams. | Strategies for Business-Oriented E-Learning | - Alignment of Training with Project Goals<br>- Access to Subject Matter Experts |

*Table 1: Theme Table*

### 4.3 Thematic Graph

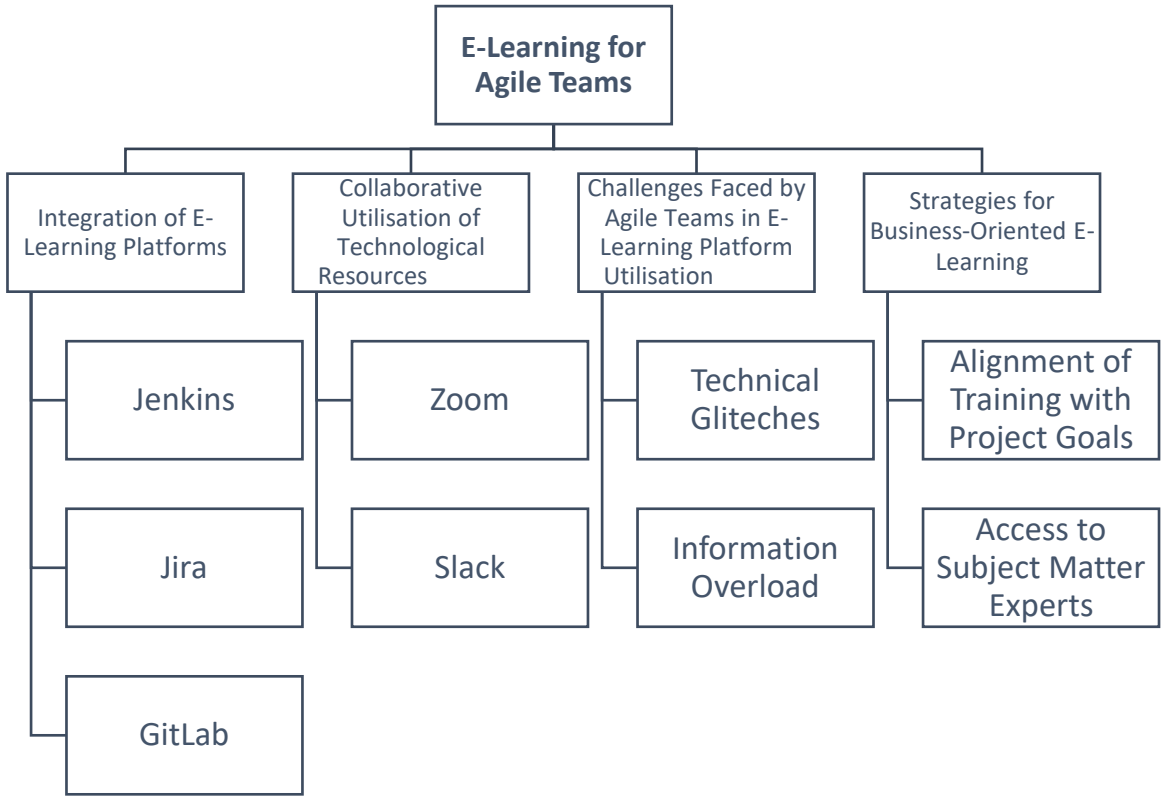


*Figure 5: Thematic Graph*

### 4.4 Research Objective 1:

*To investigate the integration of E-Learning platforms (encompassing advanced software tools, seamless connectivity, and integrated systems) on team efficiency within the Irish technological sector.*

### *4.4.1 Jenkins*

The increasing interfacing of e-learning systems, which utilises high-end software tools, effortless connectivity and integrated systems, serves as an important element in boosting team effectiveness in the case of the technology sector in Ireland. E-learning platforms can be used as dynamic libraries of knowledge by storing plenty of up-to-date training materials and resources which can be accessed at any time, thus creating a culture where employees prefer to constantly learn and develop. In response to the question about an example of an advanced software tool or an integrated system that has substantially improved the team efficiency in their practice, Jenkins came out as a favourite technology trend. For example, Participant 1 made the following explanation:

"*Of course! One interesting example is the implementation of automated deployment tools like Jenkins, which has significantly streamlined our development and deployment processes.*" (Interview 1, female)

This acknowledgement pointed out that Jenkins has become a core player in the improvement of workflow efficiency and cutting down project completion time in Agile teams. Likewise, the depth of change that Participant 5 experienced in her relationship with Jenkins was illustrated by the following quote, saying:

"*Tools like Jenkins have turbocharged our testing and deployment processes, boosting productivity and reliability.*" (Interview 5, female)

This emphasises Jenkins' central role in encouraging operations, yielding increased productivity and better reliability within the technological operations of their organisation. Accordingly, Jenkins' multifaceted and adaptable nature is evident in its commentary from the participants. Its automated characteristics can replace repetitive work, which in turn allows team members to commit their time to more complex and strategic functions. Furthermore, Jenkins' ability to integrate with other tools and systems enables the team to seamlessly collaborate and coordinate across different departments and teams, which eventually, further enhances team efficiency.

### *4.4.2 Jira*

Jira, a very flexible project management system, has become an irreplaceable element of the toolset of software teams around the world. Several participants highlighted that Jira is a real-time helper that helps them tremendously to increase their team efficiency in the enterprise. Citing Jira as a revolutionary tool that has redefined infrastructure management within their organisation, Participant 4 said.

"*Pioneering tools like Jira have revolutionised our infrastructure management, enhancing scalability and reliability.*" (Interview 4, male)

This points to Jira's features as the provision for scalability and reliability of infrastructure systems which contribute greatly towards operational efficiency in a technological environment. Participant 2 in the same vein declared that this tool had brought about major changes to the way processes within the company are managed and said;

"*Advanced software tools like Jira and Confluence have revolutionised our workflow, streamlined collaboration and boosted productivity.*" (Interview 2, female)

With this recognition, Jira is shown to be useful in sharpening the collaboration and effectiveness of a company, and its underlying strengths in improving different organisational processes. The positive effects of Jira captured here show its wide applicability and obviate the past deficiencies of managers and workers regarding effectiveness within the technological sector in Ireland. This fact speaks of its undeniable relevance as one of the top tools for synchronising Agile team operations, collaboration, and infrastructure management. It is a dominant factor in the creation of administrative output and innovation.

### *4.4.3 GitLab*

GitLab, which is a complete DevOps solution, presents a set of tools for all the processes of the software life cycle. Along with capabilities of version control, issue tracking, continuous integration, and deployment automation, GitLab reduces the complexity of collaboration and facilitates the routine workflow of the development process. It is popular among teams because of its interface which is intuitive and its integrations extensive that boost efficiency and productivity. Participant 3 expressed the importance of GitLab by saying,

"*Tools like GitLab have significantly streamlined our development processes, enabling rapid iteration and deployment.*" (Interview 3, male)

The experience shared here demonstrates the work of GitLab in accelerating life cycles for software development thereby improving the iterations and the deployment of software products. Similarly, Participant 7 echoed this sentiment, stressing GitLab's ability to enhance development processes by stating,

"*Advanced tools like GitLab have supercharged our development process, leading to faster delivery and higher-quality products.*" (Interview 7, female)

Such endorsement reinforces GitLab’s ability to shorten development cycles and to induce better product quality, further suggesting the importance of the product as a tool for technology

sector diversity and competitiveness. Generally, these responses demonstrate how GitLab greatly facilitates development processes, aiding fast iteration and deployment and, subsequently, allowing for fast deliveries with higher quality products within Agile teams in the Irish IT segment. The participants reinforce how GitLab is a powerful tool for the elimination of inefficiencies, improving productivity, and innovation among companies which strive for excellence in a highly competitive business environment.

### 4.5 Research Objective 2:

*To examine the collaborative utilisation of technological resources by Agile teams in e-learning settings for team efficiency within the Irish technological sector.*

#### *4.5.1 Zoom*

Sharing of technological resources in teams in a way of adaptable operation is vital for improving team performance within the Irish Technological sector. Such resources which are built to enhance communication, collaboration, and knowledge sharing among the workforce comprise different tools and platforms that are on demand. The combined use of these means provides Agile teams with an opportunity to simplify processes, improve interaction and finally, reach more success. When participants were questioned on whether or not technologies were used in teams when learning online and collaboratively, Zoom was a recurrently mentioned tool. For example, Participant 3 highlighted that Zoom was necessary, as she said,

"*Agile teams leverage collaborative tools like Zoom and Slack, fostering real-time communication and seamless knowledge sharing.*" (Interview 3, male)

This commendation adds weight to the claim that Zoom helps maintain actual real-time conversations and flows of knowledge, which are vital constituents in Agile team collaborations. Similarly, Participant 7 stressed that Zoom served mainly for effective communication and arrangement of the task saying:

"*Agile teams rely on collaboration tools like Zoom to keep communication flowing and tasks prearranged, ensuring smooth sailing.*" (Interview 7, female)

This confirmation shows the value which Zoom brings to the teams in that It provides them with a simple way through which they can communicate and do the necessary task management which ultimately leads to an increase in productivity. In particular, these results underline the fundamental position of Zoom and similar teleconferencing tools as a means to stimulate communication, coordinating work and knowledge sharing among Agile teams which are provided with e-learning solutions in the Irish technological industry. Utilising these tools to

the best of their ability can overcome the difficulty of being geographically apart, and facilitate real-time collaboration from widely spread teams. Also, there is no doubt that a properly implemented online platform will result in efficiency and productivity.

### *4.5.2 Slack*

Along with other Agile team tools in the Irish technological landscape, Slack forms the most powerful tool which enables communication, coordination and project management in particular. Participant 1 for instance, gave priority to Slack saying,

"*Agile teams in our organisation utilise collaborative tools such as Slack within e-learning platforms to share knowledge and coordinate tasks effectively.*" (Interview 1, female)

This presented Slack's capability in the area of facilitating knowledge sharing and task coordination, which are two of the most important issues for the team to deal with constantly. Similar to the previous point, Participant 8 also gave expression about Slack being the main instrument for communication and project management, stating,

"*Agile teams leverage collaboration tools like Slack to foster seamless communication and efficient project management.*" (Interview 8, female)

It proves that Slack is the much-needed element to develop smoothness in communication and project management which are imperative to run the agile team with efficiency and that too in such a way that the goal is achieved. These responses as a whole show the instrumental nature of Slack as a tool towards collaborating within agile teams envisaged to be online and within the Irish digital sector. Through their centralised communication system which encompasses sharing information about tasks and coordination, both Zoom and Slack enable teams to resolve communication hurdles, orchestrate workflows and enhance their productivity faster. They, owing to their intuitive interfaces and a huge degree of integration, are the best tools for teams that aim to implement collaborative processes and achieve their objectives.

## 4.6 Research Objective 3:

*To assess the influence of e-learning platforms on collaboration and productivity among Agile teams with the discussion of challenges faced by Agile teams.*

### *4.6.1 Technical Glitches*

E-learning platforms do help reshape the Agile team's collaboration and productivity in a way but they alongside come along with some challenges. These platforms, in turn, act as priceless platforms where remote teams can come together as a learning group; and this group can in turn share knowledge and boost productivity. Nonetheless, the candidates depicted the usual

Agile teamwork problems that hinder the use of electronic learning platforms for collaboration. The technical glitches became a topic of discussion when clients were asked about these challenges. Hence, Participant 1 pointed out that the frequent issues mentioned by stating,

"*Well, from what I've detected, common challenges include maintaining engagement levels and addressing technical issues promptly. It's not always easy to keep everyone fully engaged, especially in virtual environments where distractions abound. To tackle these, we offer diverse learning content and provide robust technical support resources.*" (Interview 1, female)

Participant 3 echoed this sentiment, mentioning,

"*You know, dealing with challenges like information overload and pesky technical glitches is all part of the game. But we've got strategies in place to tackle them head-on. We offer targeted training to manage information overload and have dedicated support channels to swiftly handle any technical hiccups that come our way.*" (Interview 3, male)

The reactions seen here point out the issue of technical issues as a major problem that is faced by Agile teams when they carry out e-learning platform collaboration. The strategies as shared by participants reveal the proactive initiatives organisations are adopting to eradicate these difficulties and harness the use of e-learning platforms optimally. It is crucial to note that the results show that e-learning platforms are very integral in promoting collaboration and productivity among Agile teams given the intricacy that is involved. Thus, adequate mechanisms need to be put in place to address the technical challenges and support the learning process among the team members.

### *4.6.2 Information Overload*

In the realm of e-learning platforms utilised by Agile teams, information overload emerges as a notable challenge. Participant 9 shed light on this issue, stating,

"*You know, dealing with challenges like information overload and pesky technical glitches is all part of the game. But we've got strategies in place to tackle them head-on. We offer targeted training to manage information overload and have dedicated support channels to swiftly handle any technical hiccups that come our way.*" (Interview 9, male)

Such an acknowledgement indicates that there is an extremely strong flow of information that the Agile team faces while using these media for collaboration and learning. For this, Participant 9 pointed to his business as an example of strategies he implemented like targeted training and dedicated support channels. These preventive measures are devised to prepare

team members for informed handling of the information overload and navigating through the infinite domain of knowledge that e-learning website is known for. Companies can allow Agile teams to stay on track through the incorporation of such techniques. Besides, teams will be in a better position to separate what is relevant from what is not, and as such, they will be more effective in learning and collaborating within the technology field.

### 4.7 Research Objective 4:

*To recommend strategies for incorporating business-oriented e-learning methods for improving team efficiency within Agile teams*

#### *4.7.1 Alignment of Training with Project Goals*

When participants were asked to provide suggestions based on their experience for incorporating business-oriented e-learning methods to improve team efficiency within Agile teams, several highlighted the importance of aligning training with project goals. Participant 1 recommended,

"*To incorporate business-oriented e-learning methods effectively, I recommend aligning training materials with specific project goals and offering certifications relevant to our industry standards.*" (Interview 1, female)

Moreover, Participants 4 and 5 advocated for connecting e-learning practices with business objectives, stating,

"*I am going to advocate that we connect the practices of e-learning we are using to our business objectives. It is of prime importance that the training program that we take into account has a great connection to our organisational goals*." (Interview 4, male)

"*To boost team efficiency, I suggest tailoring e-learning content to address specific skill gaps and aligning it with our organisational goals.*" (Interview 5, female)

The above recommendations outline the necessity of strategic alignment as the most efficient way to enhance the success of any eLearning projects in the Agile teams. It can thus be achieved by the provision of training programs and content that are directly correlated with the organisation's objectives which is a good approach to alignment of the team's efforts to develop skills and knowledge that advance business targets. The better harmony makes the e-learning materials exactly what the team members need, which will lead to more engagement and motivation among team members. Eventually, organisational strategies will have effective e-learning which the Agile teams can use in enhancing team power and therefore, project success will be achieved easily.

### *4.7.2 Access to Subject Matter Experts*

Certain members of the team pointed out the importance of facilitating availability to subject-matter experts as a fundamental asset to enhancing team efficiency in an Agile team. Participant 6 demonstrated that many homeless individuals feel a lack of human connection which is a major reason for their situation, stating,

> "*So, for better team efficiency, I will propose to give access to industry experts by using webinars or reading with experts in the industry to enrich the experience and knowledge required for success.*" (Interview 6, male)

This proposal underlines the need to deploy special competencies in the industry to achieve professional development of the team members through learning and knowledge building. Agile teams can utilise various online channels, like webinars, reading materials, and many others, to get in touch with specialised experts and learn new things or get informed about the latest industry trends that will be useful for their projects. Access to subject matter experts not only enriches the learning experience but also helps team members to make informed decisions and take the lead to increase innovation within their teams. Overall, it becomes the key to success for better teamwork and improved project outcomes.

## 4.8 Summary of Key Findings

The integration of e-learning platforms now seems to be one of the key players in the process of increasing team effectiveness in the Irish technological sphere. Unlike the others, Jenkins has made itself known with its push step towards effective and smooth workflow development and deployment processes. The competence of the software application in automating the tasks received highly acclaimed feedback from the users as it also ensured efficient workflow and timely completion of projects. In the same way, Jira and GitLab got an appraisal for their groundbreaking workflow management tool and team cooperation feature respectively. Such is the case of agile teams that can enjoy the powerful tools of such platforms that alleviate communication barriers, enhance collaboration and also improve their infrastructure through which they can produce efficiently and innovatively. Working in collaboration with technology became an indispensable asset for the successful implementation of e-learning in such a way that it enabled efficient teamwork. Zoom connects people in real time via audio/video conferencing, and knowledge-sharing is done through it. Also, Slack provides the perfect platform for smooth collaboration and project management. Apart from that, given that they provide centralised portals for communication, information sharing, and task assignment, they

can help teams to successfully surmount communication obstacles and improve working using various processes.

On the other hand, the obstacles of e-learning platforms are strongly associated with the collaborative and productive teams of the Agile. Technical problems and the phenomenon of information saturation became the major difficulties of the campaign. Participants gave a clear understanding that while these challenges can be dealt with effectively through auto-response programs and the establishment of dedicated support channels, it is the robust technical support resources and adopting strategies to battle information overload which can result in better performance. Carrying out project-focused e-learning methods requires the full commitment and support of the business teams and the availability of the required subject matter experts. Subjects insist that training be adjusted to different targets and be in compliance with industry and project standards for more effectiveness. Also, giving access to subject area experts through webinars and industry readings adds more meat to knowledge and enhances the learning experience. This, in turn, allows team members to make very informed decisions that will push the organisation forward in the global market. Overall, the findings draw attention to the fact that the e-learning platforms are breakthroughs in terms of the matter of the teamwork, productivity, and creativity of the Agile teams that work in the Irish technological sphere. Despite existing constraints, strategic alignment of e-learning initiatives with business goals as well as proactive measures would help overcome the obstacles and guarantee the effectiveness of the initiatives.

# Chapter 5: Discussion

## 5.1 Introduction

This chapter aims to compare and contrast the results from Chapter 4's interviews with those from Chapter 2's journal papers, which are secondary data. The discussion will be about how to use e-learning tools together and how that affects teamwork in the Irish tech industry. This chapter will compare and contrast ideas from qualitative interviews with actual data from academic books to give a full depiction of the pros, cons, and tactics of using e-learning in Agile teams. Through this comparison, organisations that want to improve team efficiency through e-learning projects will be able to get useful suggestions.

## 5.2 Integration of E-Learning Platforms for Team Efficiency

Combining e-learning platforms to make teams more productive is a multistep process that requires using high-tech software tools and merged systems. E-learning platforms have transformed how teams work together, how productive they are, and how skills are developed in the Irish technology industry. This can be seen in both first-hand interview data and secondary research results such as scholars like George (2023) communicating about how important AI and ML are in platforms like Coursera and Udacity that practice user data to find learning experiences that fit with constructivist and connectives' theories. In the same way, Gligorea et al. (2023) highlighted how AI can be used to constantly test learners' skills and transform the lessons, which is similar to Vygotsky's Zone of Proximal Development idea. These ideas are similar to what participants responded to in the interviews, where they stressed how important e-learning tools are forgiving people instant access to the latest training materials and resources (Participant 1). Adding e-learning tools also has a big effect on how well teams work together and how well they do in the Irish tech sector. Allen (2016) and Garrison (2016) stated that technologies that are linked make it possible to share information instantly, which makes teamwork easier.

Participants who were interviewed backed this idea by saying that combining platforms like Jira and GitLab had a huge impact on how organisations managed their processes and how easily their infrastructure could grow (Participants 4 and 7). Tuckman's stages of group development and other theories also underlined that using e-learning tools early on can help teams work together and grow faster, which was seen in startup software development teams in Dublin (Pakrashi et al., 2018). Likewise, Schunk and DiBenedetto (2020) revealed that linked e-learning tools make it easier for team members to copy best practices, which leads to better skill development and more efficient task completion, which is also shown by the fact that Cork's IT companies have started using integrated systems (Gil, 2015). Overall,

organisations can gain a competitive edge in the digital age by using advanced software tools and unified systems to encourage a mindset of always learning and working together. To get the most out of e-learning integration and make sure Agile teams succeed in a world where technology is always altering, organisations need to take proactive steps and make sure their strategic goals are in line with those of their employees.

### 5.3 Collaborative Utilisation of Technological Resources in Agile Teams

Teamwork tools like Slack, Trello, Zoom, and Microsoft Teams make it easier for people to talk to each other, share information, and work on chores together, which is shown by both the literature and the interviews. In online learning settings, researchers like Ismael (2022) and Annosi, Appio, and Martini (2024) revealed how important it is to work together in cross-functional teams and in a fluid way, which fits with what the respondents that were interviewed regarding the use of teamwork apps like Slack and Trello to share information and plan their work (Participant 1). Agile software development is based on the Manifesto for Agile Software Development written by Rolland et al. (2016), which highlights the importance of individual capabilities for enhancing shared understanding and solving problems. Research also showed that using shared tools in Agile teams makes it much faster to finish tasks, easier for people to share what they know, and better for the project as a whole. Such as the studies by Giannakos, Mikalef, and Pappas (2021) and Jackson, van der Hoek, and Prikladnicki (2022) highlighted how virtual whiteboards, video chat tools, and project management platforms can change how teams work together and how quickly projects get done.

These thoughts are like what participants responded to in the interviews, for example, Participant 5 stated that shared tools like Asana and Google Workspace make it easy to handle projects and keep teams on track. Likewise, Wendt et al. (2021) also showed that message apps like Slack and Zoom make it easier for teams in different places to work together in real-time and cut down on the time needed to train new team members. Meanwhile, those we interviewed also gave similar views regarding the need to propagate open dialogue and knowledge exchange (Participant 9). According to the participants, learning technology with Agile teams during e-learning sessions as a joint activity is one of the main methods that contribute to greater productivity of the teams, better communication and project success. Employing shared tools and allowing for open discussion and new ideas are both key things to consider for companies, to respond to technology issues and get the most out of Agile methods in the digital age. Overall, to achieve the best results through remote learning and shared access, people need to act by having regular training, creating clear lines of communication, and encouraging participation incentives.

### 5.4 Influence of E-Learning Platforms on Collaboration and Productivity

Modification of activities by Agile teams through e-learning platforms requires attention to many sophisticated aspects related to team collaboration and productivity within the current work environment. Literature underscored the value of learning tools in supporting teamwork and effectiveness through collaborative learning experiences. For example, Ngai et al. (2019) stated that it is important for people on a team to work together to make things better and figure out issues at an early stage. This fits with Vygotsky's social constructivist view, which also declares that it is important to learn with other people (Slattery and Cleary, 2016). Scientists like Ostashewski and Cleveland-Innes (2022) and Kratzke (2022) talked about how businesses use e-learning tools like Discord, Slack, and Coursera to help employees work together on projects and share their learning paths, thus, teams can share what they know and work together to answer problems better. When people choose asynchronous learning on an e-learning platform, team members with different schedules and time zones can still work well together, even though they are far away (Al-Abri et al., 2017). People who were interviewed agreed with these points of view as Participant 2 said it was important to make training fit the needs of the project, give focused training to help people deal with too much information, and set up support lines to fix any tech problems fast. In response, Participant 4 declared that some important ways to deal with issues like people not wanting to change and not having enough technology are making sure there are clear lines of communication and making sure each student has a personalised learning path.

However, it is hard for Agile teams to use e-learning tools well because of things like culture pushback and issues with growing. Costello and McNaughton (2018) revealed how hard it is to add e-learning to agile teams, especially in places where people normally work alone. In interviews, people also talked about how to deal with issues like having too much information, having trouble with technology, and not having enough time. One respondent suggested using focused training, help courses, and individual support systems to do this, as well as one of the best ways to get through hard times is to get direct help, train yourself one-on-one, and come up with your solutions (Participant 7). In e-learning settings, Agile teams also have to deal with communication issues and make sure that everyone's goals are met. Participant 10 also stressed how important it is to set clear lines of communication and help team members set goals so that these issues don't happen. Participants also declared that supporting each other and having focused training sessions mixed with mutual support are good ways to deal with problems and keep working (Participant 9). It depends on a lot of things how e-learning platforms affect Agile teams' work and output, for example, how flexible the training material is, how well the support

systems work, and how well the team members can solve problems. Hence, to get the most out of them, companies should get people to work together, give them specific training, and solve problems before they happen.

### 5.5 Strategies for Incorporating Business-Oriented E-Learning Methods

Agile teams should find a proper way of merging company-oriented e-learning methods into their list of duties and objectives effectively. As highlighted by the authors Dolasinski and Reynolds (2020), micro-learning stands out as an appropriate method because of its iterative character and its compatibility in providing content in bits and pieces. They insist that microlearning is no less well suited to a typical dynamic workspace than constantly adapting (or changing) to the evolving conditions. This conviction is in accord with Participant 2's view on individual learning paths justifiable based on respective team members' specific requirements. This input shows that the learner is conscious of the requirement to have an agile learning environment which is also kind of a magic wand of microlearning. Applying synchronicity of e-learning tools as an individual measure to each team member, they may arrive at the endpoint of what was mentioned by Doulasinski and Reynolds' research as the robustness of microlearning in the effectiveness of learning. Additionally, AI's role to customise learning resources, which is mentioned by Tsai, Perrotta, and Gašević (2020), is of vital importance as these algorithms are implemented to address the needs and abilities of each user. They claim that, like the constructivist approach of Piaget, the strategy aims at creating a suitable atmosphere for cognitive processes. Besides, this method of thinking is aligned with what Participant 5 said regarding the necessity of choosing training according to the objectives of the organisation, matching training with the skill gap, and making training narrow as far as it is possible.

The suggested approach built upon the provision that the said process of personalised learning experiences is indeed the essential concern represents the opinion of Tsai et al. that only employing tailor-made methods contributes to the personalisation of the sector. By aligning e-learning content with individual skill development needs and organisational objectives, organisations can raise the level of team efficiency and present the conditions for growth, understanding that Tsai et al. emphasised the importance of personalised learning in creating beneficial learning environments. Other than this, blended learning is recommended by Kumar et al. (2021) as a strategic and efficient approach that involves both face-to-face classes and online classes to create an integrated learning process for the sector. There is also an emphasis on the fact that combining various learning spaces helps in addressing the preference for different learning styles and leads towards stronger engagement. This is consistent with

Participant 1's advice to collaborate and that training materials should align with the most appropriate project goals. The suggestion of Participant 1 indicates the recognition of the significance of strategy-making between learning activities and organisational targets, by the suggestion of Kumar et al., which promotes blended learning. Organisations aligning the training materials to the project goals will be able to ensure that e-learning methods meet the aims of the projects, and the teachers will be able to use strategic learning approaches to achieve the desired outcomes. Consequently, the conjunction of literature and interviews results in the conclusion that enabling a business-oriented e-learning approach requires adapting in a multidimensional way. Strategies like blended learning, microlearning, and individualised learning paths are the possible solutions for team efficiency, best learning and continuous learning.

### 5.6 Chapter Summary

This chapter discussed how e-learning tools are being used in Agile teams in the Irish tech industry by using both first-hand interview data and research from other sources. The discussion focused on how e-learning platforms have completely altered how teams work together, get things done, and improve their skills, using research data and interviewees' personal experiences as examples. Some of the main topics that were talked about were how to use technology tools together, how to use business-oriented e-learning methods and the problems that come up when people try to use e-learning. Generally, the chapter emphasised the need of e-learning programs to enhance team productivity, promote teamwork and facilitate learning in an ongoing fashion in an Agile environment.

# Chapter 6: Conclusion and Recommendations

## 6.1 Conclusion to the Study

Regarding the results, going on with E-Learning tools in addition to the Irish tech industry has a heavy implication for how the team collaborates. Advanced software tools, good networks and interaction among members make the process easy to complete group work, develop teamwork, and teach team members new skills. According to the current research, platforms that are powered by AI, like Coursera and Udacity, are very important for making sure that learning experiences are tailored to each user's tastes and skill level, which makes training programs more effective. Also, shared tools like Slack and Zoom make it easy for Agile teams to talk to each other and share information, which makes tasks go more quickly and projects get finished better. However, problems like cultural reluctance as well as worries about scale make it hard to integrate e-learning effectively, and thus, to get around these problems, positive steps must be taken where group goals must be strategically aligned (Khan, Ahmed, and Khan, 2022).

The study also looked at how Agile teams use technology together in e-learning settings and found that using shared tools like Asana, Trello, and Microsoft Teams helps teams work together, share information, and coordinate tasks. Meanwhile, virtual whiteboards, videoconferencing tools, and project management platforms make it easier for people to work together and solve problems in real-time, which greatly speeds up the finishing of tasks and improves the overall project results. Likewise, Batra, Xia, and Zhang (2017) stated that the Manifesto for Agile Software Development stresses how important it is to work together and share information in real-time, which is proof of how useful it is for Agile teams to have technology that they can use together. Managing communication issues and balancing different goals, on the other hand, turn into big issues that need to be fixed by making sure everyone can talk to each other and work together.

Moreover, the impact of e-learning platforms on effective collaboration and productivity among Agile teams is multi-faceted; e-learning platforms with asynchronous learning options are one of the widely used tools to improve the effectiveness of collaboration among team members with conflicting work schedules and locations. The introduction of these platforms such as Discord, Slack and Coursera comes with the relief of promoting collaborative learning among teams of learners through shared learning paths and group projects, granting pupils opportunities for knowledge and problems-sharing that cannot be achieved through traditional learning methods. Yet, the Agile team members face some of the issues related to cultural resistance and scalability, including the successful setting up of e-learning platforms, whilst

attempting to follow an Agile methodology. It is critical to approach these obstacles in the context of e-learning by using methods such as concentration training, mentoring programs and individualised support systems to overcome and sustain efficiency in the process of learning from electronic sources.

Lastly, suggestions for using business-oriented e-learning techniques put much emphasis on how essential a good plan is and that the methods implemented should be in line with the organisation's goals. Microlearning and personalised training and development paths have a team's communication inside and they are also for the team's growth, which is logical since the agile setting is a dynamic one. Mixed-mode approach to learning, which constituted in-person and online classes also provides various options for learning and emphasises teamwork (Serrano et al., 2019). For firms, it is crucial that their e-learning activities in getting the most of available resources should be guided by the main objectives of the organisation and that any cases or issues be handled through proper training and other supported channels.

### 6.2 Practical Implications

According to the results, there are several real effects on companies in the Irish tech landscape, where first and foremost, having E-Learning tools can make teams much more effective by making tasks easier, allowing people to work together, and helping everyone get better at what they do. Modern software and uniform systems can help people meet and get the most up-to-date training tools for their jobs, which can help projects get done faster and better (Osuszek, Stanek, and Twardowski, 2016). Also, Agile teams that use technology together in e-learning can talk to each other, share information, and plan their work better by sharing tools like Asana, Trello, and Microsoft Teams, which ultimately makes the project run more smoothly and gets more work done faster. Moreover, the fact that e-learning tools can alter how teams work together and what they produce shows how important it is to be able to learn whenever you want and on shared learning tracks. Tools like Coursera, Discord, and Slack can help teams share information and work together to solve problems, even if they are in different places or don't have the same time. Hence, to get the most out of their e-learning efforts, companies need to plan strategically, take bold steps, and keep learning all the time, as shown by the actual results.

### 6.3 Recommendations for Future Research

For future research, it is suggested that the long-term effects of e-learning integration on team productivity within the Irish technological sector should be explored. Longitudinal studies assist in providing observations of the sustainability of improvements such as the productivity

level of the members, collaboration, and the ability of members to learn new knowledge periodically. Also, an in-depth analysis of the drivers of the collaborative tools acceptance and well-being in Agile teams calls for consideration. Studies that look into the role of organisational culture in leading to team dynamics, and leadership styles can in consequence provide clear guidance on developing a suitable cultural environment for enhancing e-learning initiatives. Moreover, the strategies for including business-centred e-learning in Agile teams that make it effective must also be evaluated. It is also essential to conduct comparative studies into the impact of blended learning, micro-learning, and personalised learning approaches on team efficiency and the development of skills. Such an evaluation can point to the most effective methods of enhancing team performance. Besides, covering the difficulties and chances that can be found with VR (virtual reality) and AR (augmented reality) systems in e-learning platforms can provide one with a deep insight into how these emerging technologies can affect collaboration, productivity and learning results in Agile teams.

## References


Adnan, N.H. and Ritzhaupt, A.D. (2018) ‘Software engineering design principles applied to instructional design: What can we learn from our sister discipline?’ *TechTrends, 62*, pp.77-94.

Akers, R.L. (2015) ‘Social Learning Theory: A Social Learning Perspective on Deviant Behavior’, In *Criminology Theory* (pp. 83-112), Routledge.

Al-Abri, A. et al. (2017) ‘Comprehensive classification of collaboration approaches in E-learning’, *Telematics and Informatics, 34*(6), pp.878-893.

Alam, A. (2021), December ‘Cloud-based e-learning: development of a conceptual model for adaptive e-learning ecosystem based on cloud computing infrastructure’, In *International Conference on Artificial Intelligence and Data Science* (pp. 377-391), Cham: Springer Nature Switzerland.

Allen, M.W. (2016) ‘*Michael Allen's guide to e-learning: Building interactive, fun, and effective learning programs for any company*’, John Wiley & Sons.

Anders, A. (2016) ‘Team communication platforms and emergent social collaboration practices’, *International Journal of Business Communication, 53*(2), pp.224-261.

Andreatos, A.S. (2015) ‘The use of MOOCs in the continuing education of individuals and organisations’, In *Furthering Higher Education Possibilities through Massive Open Online Courses* (pp. 49-79). IGI Global.

Annosi, M.C., Appio, F.P. and Martini, A. (2024) ‘Institutional context and agile team innovation: A sensemaking approach to collective knowledge creation’, *Technovation, 129*, p.102894.

Archibald, M.M. et al. (2019) 'Using Zoom videoconferencing for qualitative data collection: perceptions and experiences of researchers and participants', International Journal of qualitative methods, 18, p.1609406919874596.

Auh, S. et al. (2022) ‘The missing link between analytics readiness and service firm performance’, *The Service Industries Journal, 42*(3-4), pp.148-177.

Azungah, T. (2018) ‘Qualitative research: deductive and inductive approaches to data analysis’, *Qualitative research journal, 18*(4), pp.383-400.

Batra, D., Xia, W. and Zhang, M. (2017) 'Collaboration in agile software development: Concept and dimensions', Communications of the Association for Information Systems, 41(1), p.20.

Clark, R.C. and Mayer, R.E. (2023) '*E-learning and the science of instruction: Proven guidelines for consumers and designers of multimedia learning*', John Wiley & sons.

Cohen, L., Manion, L. and Morrison, K. (2017) 'Surveys, longitudinal, cross-sectional and trend studies', In *Research methods in education* (pp. 334-360), Routledge.

Collings, D.G. and McMackin, J. (2021) 'The practices that set learning organisations apart', *MIT Sloan Management Review*, *62*(4).

Costello, J.T. and McNaughton, R.B. (2018) 'Integrating a dynamic capabilities framework into workplace e-learning process evaluations', *Knowledge and Process Management*, *25*(2), pp.108-125.

Dempsey, L. et al. (2016) 'Sensitive interviewing in qualitative research', *Research in nursing & health*, *39*(6), pp.480-490.

Dolasinski, M.J. and Reynolds, J. (2020) 'Microlearning: a new learning model', *Journal of Hospitality & Tourism Research*, *44*(3), pp.551-561.

Drăgușin, M. and Welsh, D.H (2015) 'Innovative and sustainable business models in digital higher education: A comparative analysis of global reach MOOCs platforms', *New Trends in Sustainable Business and Consumption*, pp.75-83.

Elbardan, H. et al. (2017) 'An interpretive approach for data collection and analysis', *Enterprise Resource Planning, Corporate Governance and Internal Auditing: An Institutional Perspective*, pp.111-165.

Emmanuel, M., Orieko, C.P. and Gichuru, K.J. (2022) 'Adoption-Diffusion Model of Farm Innovations: Its Applicability to Radical Terraces Project in Rwanda', *Turkish Journal of Agriculture-Food Science and Technology*, *10*(4), pp.579-586.

Faruq, Q.O. (2020) 'Positive Integration of ICT to Reshape the Learning Process in Large Corporates', *Encyclopedia of Education and Information Technologies*, pp.1279-1286.

Flynn, D.J., Nyhan, B. and Reifler, J. (2017) 'The nature and origins of misperceptions: Understanding false and unsupported beliefs about politics', *Political Psychology*, *38*, pp.127-150.

Fritz, R.L. and Vandermause, R. (2018) 'Data collection via in-depth email interviewing: Lessons from the field', *Qualitative health research, 28*(10), pp.1640-1649.

Garrison, D.R. (2016) '*E-learning in the 21st century: A community of inquiry framework for research and practice*', Taylor & Francis.

Gary, K.A. et al. (2020) 'Scaling to meet the online demand in software engineering', *International Journal on Innovations in Online Education, 4*(1).

George, A.S. (2023) 'Preparing Students for an AI-Driven World: Rethinking Curriculum and Pedagogy in the Age of Artificial Intelligence', *Partners Universal Innovative Research Publication, 1*(2), pp.112-136.

Giannakos, M.N., Mikalef, P. and Pappas, I.O. (2021) 'Systematic literature review of e-learning capabilities to enhance organisational learning', *Information Systems Frontiers,* pp.1-17.

Gil, L. (2015) 'New cork-based materials and applications', *Materials, 8*(2), pp.625-637.

Gligorea, I. et al. (2023) 'Adaptive Learning Using Artificial Intelligence in e-Learning: A Literature Review', *Education Sciences, 13*(12), p.1216.

Hasan, M.N. (2016) 'Positivism: to what extent does it aid our understanding of the contemporary social world?' *Quality & Quantity, 50*(1), pp.317-325.

Houlihan, B. and Morris, C. (2022) 'Introduction–performing in digital in the COVID-19 era', *Research in Drama Education: The Journal of Applied Theatre and Performance, 27*(2), pp.157-167.

Humphrey, S.L. and Economou, D. (2015) 'Peeling the onion–A textual model of critical analysis', *Journal of English for Academic Purposes, 17,* pp.37-50.

Ishak, N., Khairuddin, F.N. and Aziz, N.S. (2019) 'Level of team effectiveness among MARA employees', *Jurnal Intelek, 14*(2), pp.103-116.

Ismael, Z.N. (2022) 'Project team management: the significance of various leadership approaches in work environments when managing ICT project teams', *International Journal of Advanced Engineering, Management and Science, 8,* p.11.

Jackson, V., van der Hoek, A. and Prikladnicki, R. (2022), May 'Collaboration tool choices and use in remote software teams: emerging results from an ongoing study',

In *Proceedings of the 15th International Conference on Cooperative and Human Aspects of Software Engineering* (pp. 76-80).

Jagosh, J. et al. (2015) ‘A realist evaluation of community-based participatory research: partnership synergy, trust building and related ripple effects’, BMC Public Health, 15(1), pp.1-11.

Johnson, J.L., Adkins, D. and Chauvin, S. (2020) 'A review of the quality indicators of rigour in qualitative research', *American Journal of Pharmaceutical Education*, *84*(1), p.7120.

Kalamas Hedden, M. et al. (2017) ‘Teaching sustainability using an active learning constructivist approach: Discipline-specific case studies in higher education.’

Kaushik, V. and Walsh, C.A. (2019) ‘Pragmatism as a research paradigm and its implications for social work research’, *Social sciences*, *8*(9), p.255.

Kennedy, B.L. and Thornberg, R. (2018) ‘Deduction, induction, and abduction’, *The SAGE handbook of qualitative data collection*, pp.49-64.

Kennedy, E. and Laurillard, D. (2023) ‘*Online Learning Futures: An Evidence-Based Vision for Global Professional Collaboration on Sustainability*’, Bloomsbury Publishing.

Khan, M.A., Ahmed, S.K. and Khan, A.Z. (2022) ‘Issues and Challenges Faced by Higher Education Institutions in the E-Learning Modes: A Systematic Literature Review’, Bahria Journal of Professional Psychology, 21(1), pp.16-27.

Kompalla, A. et al. (2016), September ‘Agile Business Strategies: How to Adjust to Rapidly Changing Environments’, In *Proceedings of the 11th European Conference on Innovation and Entrepreneurship. Acad Conferences Ltd, Nr Reading* (pp. 414-424).

Kratzke, N. (2022) ‘Cloud-native Observability: The Many-faceted Benefits of Structured and Unified Logging-A Case Study.’

Kumar, A. et al. (2021) ‘Blended learning tools and practices: A comprehensive analysis’, *Ieee Access*, *9*, pp.85151-85197.

Mathieu, J.E. et al. (2017) ‘A Century of Work Teams in the Journal of Applied Psychology’, *Journal of Applied Psychology*, *102*(3), p.452.

McKernan, D. and McDermott, O. (2024) ‘Industrial clusters, creating a strategy for continued success’, *Heliyon*.

Mesfin, G. et al. (2018) ‘Enhanced agility of e-learning adoption in high schools’, *Journal of Educational Technology & Society*, *21*(4), pp.157-170.

More, S.J. et al. (2022) ‘Understanding the dog population in the Republic of Ireland: insight from existing data sources?’ *Irish Veterinary Journal*, *75*(1), p.16.

Morrissey, J. (2019) ‘Regimes of performance: Practices of the normalised self in the neoliberal university’, In *Foucault and Education* (pp. 82-102). Routledge.

Naidoo, V. and Verma, R. eds. (2021) ‘*Contemporary Challenges for Agile Project Management*’, IGI Global.

Natvig, D. and Stark, N.L. (2016) ‘A project team analysis using Tuckman's model of small-group development’, *Journal of Nursing Education*, *55*(12), pp.675-681.

Ngai, C.S.B. et al. (2019) ‘Innovating an integrated approach to collaborative eLearning practices in higher education: The case study of a corporate communication e-platform’, *Studies in Higher Education*, *44*(11), pp.1990-2010.

Nowell, L.S. et al. (2017) ‘Thematic analysis: Striving to meet the trustworthiness criteria’, *International Journal of Qualitative Methods*, *16*(1), p.1609406917733847.

Osborne, N. and Grant-Smith, D. (2021) ‘In-depth interviewing. In *Methods in Urban Analysis* (pp. 105-125)’, Singapore: Springer Singapore.

Ostashewski, N. and Cleveland-Innes, M. (2022) ‘Participant Experience in an Inquiry-Based Massive Open Online Course.’

Osuszek, L., Stanek, S. and Twardowski, Z. (2016) ‘Leverage big data analytics for dynamic informed decisions with advanced case management’, Journal of Decision Systems, 25(sup1), pp.436-449.

Pakrashi, A. et al. (2018) ‘MeetupNet Dublin: Discovering Communities in Dublin's Meetup Network’, *arXiv preprint arXiv:1810.03046*.

Pandey, A., Balusamy, B. and Chilamkurti, N. eds. (2023) ‘*Disruptive artificial intelligence and sustainable human resource management: Impacts and innovations-The future of HR*’, CRC Press.

Pardjono, P. (2016) ‘Active learning: The Dewey, Piaget, Vygotsky, and constructivist theory perspectives’, *Jurnal Ilmu Pendidikan Universitas Negeri Malang*, *9*(3), p.105376.

Pervin, N. and Mokhtar, M. (2022) 'The interpretive research paradigm: A subjective notion of a social context', *International Journal of Academic Research in Progressive Education and Development, 11*(2), pp.419-428.

Pietilä, A.M. et al. (202) 'Qualitative research: Ethical considerations', *The application of content analysis in nursing science research,* pp.49-69.

Pokrovskaia, N.N. et al. (2021) 'Digital communication tools and knowledge creation processes for the enriched intellectual outcome—the experience of short-term E-learning courses during a pandemic', *Future Internet, 13*(2), p.43.

Positive Psychology (2023) '*What Is Bandura's Social Learning Theory? 3 Examples, PositivePsychology.com*', Available at: https://positivepsychology.com/social-learning-theory-bandura/ (Accessed: 23 January 2024).

Reio Jr, T.G. et al. (2017) 'A critique of Kirkpatrick's evaluation model', *New Horizons in Adult Education and Human Resource Development*, *29*(2), pp.35-53.

Research Onion (2023) *'Guide to Understanding the Research Onion*', Available at: https://15writers.com/research-onion/ (Accessed: 5 April 2024).

Rigby, D.K., Sutherland, J. and Noble, A. (2018) 'Agile at scale', *Harvard Business Review, 96*(3), pp.88-96.

Rolland, K. et al. (2016) 'Problematising agile in the large: alternative assumptions for large-scale agile development', In *39th international conference on information systems* (pp. 1-21), Association for Information Systems (AIS).

Rosen, M.A. et al. (2018) 'Teamwork in healthcare: Key discoveries enabling safer, high-quality care', *American Psychologist, 73*(4), p.433.

Ruslin, R. et al. (2022) 'Semi-structured Interview: A methodological reflection on the development of a qualitative research instrument in educational studies', IOSR Journal of Research & Method in Education (IOSR-JRME), 12(1), pp.22-29.

Sadique, M.A. et al. (2021) 'High-performance antiviral nano-systems as a shield to inhibit viral infections: SARS-CoV-2 as a model case study', *Journal of Materials Chemistry B*, *9*(23), pp.4620-4642.

Saunders, B., Kitzinger, J. and Kitzinger, C. (2015) 'Anonymising interview data: Challenges and compromise in practice', *Qualitative Research, 15*(5), pp.616-632.

Schunk, D.H. and DiBenedetto, M.K. (2020) 'Motivation and social cognitive theory', *Contemporary educational psychology, 60*, p.101832.

Serrano, D.R. et al. (2019) 'Technology-enhanced learning in higher education: How to enhance student engagement through blended learning', European Journal of Education, 54(2), pp.273-286.

Sibeoni, J. et al. (2020) 'A specific method for qualitative medical research: the IPSE (Inductive Process to analyse the Structure of lived Experience) approach', *BMC Medical Research Methodology, 20*, pp.1-21.

Silalahi, R.M. (2019) 'Understanding Vygotsky's zone of proximal development for learning', *Polyglot: Jurnal Ilmiah, 15*(2), pp.169-186.

Slattery, D.M. and Cleary, Y. (2016) 'E-Learning and Technical Communication for International Audiences', *Teaching and training for global engineering: Perspectives on culture and professional communication practices*, pp.149-172.

Smart Insights (2019) '*What is the Diffusion of Innovation model? Smart Insights*', Available at: https://www.smartinsights.com/marketing-planning/marketing-models/diffusion-innovation-model/ (Accessed: 23 January 2024).

Soss, J. (2015) 'Talking our way to meaningful explanations: A practice-centered view of interviewing for interpretive research', In *Interpretation and method* (pp. 161-182), Routledge.

Statista (2023) *'Online Learning Platforms - Global: Market Forecast*', Available at: https://www.statista.com/outlook/emo/online-education/online-learning-platforms/worldwide (Accessed: 1 May 2024).

Tanner, D. (2019) 'Opening communicative space: what do co-researchers contribute?' *Qualitative Research, 19*(3), pp.292-310.

Thompson Burdine, J., Thorne, S. and Sandhu, G. (2021) 'Interpretive description: A flexible qualitative methodology for medical education research', *Medical Education, 55*(3), pp.336-343.

Tracy, S.J. (2019) '*Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*', John Wiley & Sons.

Tsai, Y.S., Perrotta, C. and Gašević, D. (2020) 'Empowering learners with personalised learning approaches? Agency, equity and transparency in the context of learning analytics', *Assessment & Evaluation in Higher Education*, *45*(4), pp.554-567.

Umar, M. and Ko, I. (2022) 'E-learning: Direct effect of student learning effectiveness and engagement through project-based learning, team cohesion, and flipped learning during the COVID-19 pandemic', *Sustainability*, *14*(3), p.1724.

Wendt, C. et al. (2021) 'Let's connect to keep the distance: How SMEs leverage information and communication technologies to address the COVID-19 crisis', *Information Systems Frontiers*, pp.1-19.

Yanow, D. and Schwartz-Shea, P. (2015) 'Interpretation and method: Empirical research methods and the interpretive turn', Routledge.

# APPENDIX

## Appendix 1 – Informed Consent Sheet

I hereby agree to give my consent for my responses to interview questions to be used and quoted anonymously in this student project at the National College of Ireland.

**Interviewer**

Name _____ Year _____

Module _____ Programme _____

**Interviewee**

Print Name _____

Signature _____

Date _____

## Appendix B – Interview Questions

### Demographics

***Gender***

- Male
- Female
- Prefer not to say

***Age group***

- 19 years or below
- 20-30
- 30-40
- 40-50
- 50 years or above

***Education***

- Graduate
- Masters
- PhD.
- Others

**1. How many years of experience do you have in the technology sector?**

**2. What is your current role within your organisation?**

**3. How extensively does your organisation adopt Agile methodologies?**

**4. How often do you engage with e-learning platforms for professional development purposes?**

**5. How do you perceive the integration of e-learning platforms has impacted team efficiency within your organisation?**

**6. Can you provide examples of advanced software tools or integrated systems that have significantly enhanced team efficiency in your experience?**

**7. How do Agile teams in your organisation collaboratively utilise technological resources within e-learning settings to enhance team efficiency?**

**8. What are some key strategies or best practices you've observed in the collaborative utilisation of technological resources by Agile teams in e-learning environments?**

**9. What are some common challenges faced by Agile teams when utilising e-learning platforms for collaboration, and how are they typically addressed?**

**10. Based on your experience, what strategies would you recommend for incorporating business-oriented e-learning methods to improve team efficiency within Agile teams?**

**Appendix C – Transcripts**

**TRANSCRIPT 1:**

| **Questions** | **Response** |
|---|---|
| Q1 | I've been in the technology sector for about 8 years now. |
| Q2 | Currently, I hold the role of an IT Specialist/Technician, primarily responsible for network security and infrastructure maintenance. |
| Q3 | Agile methodologies are moderately adopted within our organisation, particularly in software development teams. |
| Q4 | I engage with e-learning platforms every quarter for professional development purposes, focusing on cybersecurity and cloud technologies. |
| Q5 | From my point of view, the integration of e-learning platforms has greatly enhanced team efficiency by providing on-demand access to up-to-date training materials and resources. |
| Q6 | Of course! One interesting example is the implementation of automated deployment tools like Jenkins, which has significantly streamlined our development and deployment processes. |
| Q7 | Agile teams in our organisation utilise collaborative tools such as Slack and Trello within e-learning platforms to share knowledge and coordinate tasks effectively. |
| Q8 | As I have observed, key strategies include establishing clear communication channels, encouraging knowledge sharing, and providing regular feedback on learning progress. |
| Q9 | Well, from what I've detected, common challenges include maintaining engagement levels and addressing technical issues promptly. It's not always easy to keep everyone fully engaged, especially in virtual environments where distractions abound. To tackle these, we offer diverse learning content and provide robust technical support resources. |
| Q10 | To incorporate business-oriented e-learning methods effectively, I recommend aligning training materials with specific project goals and offering certifications relevant to our industry standards. |

**TRANSCRIPT 2:**

| Questions | Response |
|---|---|
| Q1 | I've been immersed in the technology sector for nearly a decade, exploring its ever-evolving landscape. |
| Q2 | Within my organisation, I wear the hat of a Leader/Manager, steering my team through the intricate web of technology challenges. |
| Q3 | Agile methodologies are deeply ingrained in our organisational DNA, acting as the guiding light in our development activities. |
| Q4 | As a curious soul, I find myself delving into e-learning platforms quite frequently, always starving for new knowledge and insights. |
| Q5 | I perceive the integration of e-learning platforms as a game-changer, fostering a culture of continuous learning and growth within our team. |
| Q6 | Advanced software tools like Jira and Confluence have revolutionised our workflow, streamlining collaboration and boosting productivity. |
| Q7 | Agile teams in our organisation harness the power of virtual whiteboards and video conferencing tools to foster seamless collaboration. |
| Q8 | Well, Agile teams are not the exception to the rule and also come across issues like technology issues, balancing active participation, and once-in-a-blue-moon miscommunication because of differences in the class schedules. Among our objectives to resolve them, we provide complete training, encourage involvement with regular meetings, and create clear communication. |
| Q9 | Having gone through that, I can confidently state that appropriate approaches for business-oriented e-learning have to be set by adapting training content to the project goals, allowing access to subject matter experts for specific insights, and assessing the employees' understandings and expectations frequently. |
| Q10 | Based on my experience, I recommend personalised learning paths tailored to each team member's needs to maximise efficiency and growth. |

**TRANSCRIPT 3:**

| Questions | Response |
|---|---|
| Q1 | My journey in the technology sector spans over a decade, filled with countless learning opportunities and challenges. |
| Q2 | Within the organisational hierarchy, I serve as a Developer/Engineer, translating ideas into tangible technological marvels. |
| Q3 | Agile methodologies serve as the cornerstone of our operations, infusing agility and adaptability into every project we undertake. |
| Q4 | E-learning platforms are my go-to resource for professional development, offering a treasure trove of knowledge at my fingertips. |
| Q5 | The integration of e-learning platforms has catalysed our team's efficiency, empowering us with the latest skills and insights. |
| Q6 | Tools like GitLab have significantly streamlined our development processes, enabling rapid iteration and deployment. |
| Q7 | Agile teams leverage collaborative tools like Zoom and Slack, fostering real-time communication and seamless knowledge sharing. |
| Q8 | In my view, the key to e-learning adoption is setting clear goals, supporting a feedback loop, and building a culture of experimentation. It's not about the results, but it should involve direction, improvement and innovation of all that work with each other to lead us to success. |
| Q9 | You know, dealing with challenges like information overload and pesky technical glitches is all part of the game. But we've got strategies in place to tackle them head-on. We offer targeted training to manage information overload and have dedicated support channels to swiftly handle any technical hiccups that come our way. |
| Q10 | My recommendation would be to provide opportunities for peer collaboration and mentorship to enrich the learning experience and promote knowledge-sharing within the team. |

**TRANSCRIPT 4:**

| Questions | Response |
|---|---|
| Q1 | My journey in the technology realm spans over 15 years, marked by continuous learning and innovation. |
| Q2 | I currently hold the mantle of an IT Specialist/Technician, troubleshooting complex technological conundrums with finesse. |
| Q3 | Agile methodologies permeate every facet of our organisational structure, driving efficiency and collaboration to new heights. |
| Q4 | E-learning platforms are my trusted companions, aiding me in my quest for knowledge and skill enhancement regularly. |
| Q5 | The integration of e-learning platforms in the emerging digital age has brought up a new era of efficiency and provided our team with the necessary tools to thrive. |
| Q6 | Pioneering tools like Jira have revolutionised our infrastructure management, enhancing scalability and reliability. |
| Q7 | Agile teams harness the power of online collaboration tools like Microsoft Teams and Asana to foster synergy and innovation. |
| Q8 | So, for myself, primary strategies consist of the development of a culture, where there is room for trial and error, and the communication is open. All in all, such an environment should be created which provides a space where innovation is nurtured, the smartest lessons are learned from the shortcomings and everyone feels comfortable to offer their ideas. |
| Q9 | It's not easy to handle challenges such as time constraints and the huge amount of information available, but we've got plans on how to uproot our challenges. We individually develop studying tracks that suit every learner's needs and supply learners with the necessary support systems that will enable them to overcome any obstacles they face. |
| Q10 | I am going to advocate that we connect the practices of e-learning we are using to our business objectives. It is of prime importance that the training program that we take into account has a great connection to our organisational goals. |

**TRANSCRIPT 5:**

| Questions | Response |
|---|---|
| Q1 | Over the past 8 years, I've tackled a variety of challenges and celebrated many victories in the technology field. |
| Q2 | Currently, I'm a Developer/Engineer, diving into complex tech puzzles and crafting elegant solutions along the way. |
| Q3 | Agile methodologies pump life into our organisation, fostering collaboration and innovation across all teams. |
| Q4 | E-learning platforms are my go-to for continuous learning, offering a wealth of resources to sharpen my skills and stay updated. |
| Q5 | Integrating e-learning platforms has revamped our team's efficiency, equipping us with the latest industry insights and know-how. |
| Q6 | Tools like Jenkins have turbocharged our testing and deployment processes, boosting productivity and reliability. |
| Q7 | Agile teams rely on Google Workspace and Trello to seamlessly collaborate and manage projects, keeping us on track and aligned. |
| Q8 | From my point of view, key strategies involve fostering a culture of sharing knowledge, promoting collaboration across teams, and providing ongoing feedback for growth. |
| Q9 | We tackle challenges like resistance to change and tech constraints head-on through targeted training and mentorship initiatives. |
| Q10 | To boost team efficiency, I suggest tailoring e-learning content to address specific skill gaps and aligning it with our organisational goals. |

**TRANSCRIPT 6:**

| Questions | Response |
|---|---|
| Q1 | My journey in the technology sector has been a rollercoaster of experiences spanning 5 years, filled with highs and lows. |
| Q2 | Within my organisation, I'm known as the tech magician, donning the hat of a Developer/Engineer, and unravelling complex tech mysteries with finesse. |
| Q3 | Agile methodologies are the heartbeat of our organisation, infusing energy and innovation into every project we embark upon. |
| Q4 | E-learning platforms are my trusty companions on the journey of continuous growth, offering a plethora of resources to expand my skill set. |
| Q5 | Integrating e-learning platforms has revolutionised our team's approach, equipping us with cutting-edge insights to tackle any challenge. |
| Q6 | Tools like Docker and Ansible have turbocharged our development processes, leading to faster iterations and more reliable deployments. |
| Q7 | Agile teams rely on collaboration tools like Zoom to keep communication flowing and tasks organised, ensuring smooth sailing. |
| Q8 | Well, in my opinion, key strategies involve fostering a culture of experimentation, where every idea is explored, and innovation thrives. |
| Q9 | Well, yes. It is not all that easy to adapt to the new technology and title pressures. However, we have the answers as we see this through training, volunteer communication and, encouragement. Moreover, we take care of additional obstacles like the overabundance of info and the tech bugs with our expertise and resources. |
| Q10 | So, for better team efficiency, I will propose to give access to industry experts by using webinars or reading with experts in the industry to enrich the experience and knowledge required for success. |

**TRANSCRIPT 7:**

| Questions | Response |
|---|---|
| Q1 | My tech journey spans over a decade, a journey filled with learning curves and breakthroughs. |
| Q2 | Within our organisation, I'm the go-to person for tech solutions, holding the role of Developer/Engineer, and navigating through tech challenges. |
| Q3 | Agile methodologies are deeply ingrained in our organisational DNA, guiding our every move towards collaboration and innovation. |
| Q4 | E-learning platforms are my trusted companions, offering endless opportunities for skill enhancement and professional growth. |
| Q5 | The integration of e-learning platforms has ignited a spark within our team, fueling a passion for continuous learning and improvement. |
| Q6 | Advanced tools like GitLab have supercharged our development process, leading to faster delivery and higher-quality products. |
| Q7 | Agile teams leverage tools like Microsoft Teams and Asana to foster seamless collaboration and project management. |
| Q8 | From my experience, fostering a culture of innovation and collaboration is essential for driving success in e-learning environments. |
| Q9 | In the course of difficulties such as reluctance to change and technology troubles, our plan is all about dealing with personalised training and direct support provided. It is not teaching but rather discovering through the process of identifying challenges and creating customised strategies to deal with them successfully. |
| Q10 | I think it would be a good idea to look into the chance of adding VR or AR ones into our e-learning programs. These simulators and training exercises may be interactive and give the most realistic atmosphere and lessons for the learners and peers. |

**TRANSCRIPT 8:**

| Questions | Response |
|---|---|
| Q1 | I've journeyed through the tech realm for over 12 years, soaking in experiences that shaped my expertise. |
| Q2 | Within our organisation, I lead the charge as a Manager, navigating the tech landscape and guiding our team towards success. |
| Q3 | Agile methodologies are our secret sauce, driving agility and innovation across all our projects. |
| Q4 | E-learning platforms are my constant companions, offering a treasure trove of knowledge to fuel my professional growth. |
| Q5 | Integrating e-learning platforms has turbocharged our team's productivity, equipping us with the latest skills and insights. |
| Q6 | Front-line tools like Ansible have streamlined our workflows, enabling faster deployments and smoother operations. |
| Q7 | Agile teams leverage collaboration tools like Slack to foster seamless communication and efficient project management. |
| Q8 | In my view, fostering a culture of innovation and open communication is paramount for success in e-learning environments. |
| Q9 | Challenges like overcoming tech constraints and managing time pressures are met head-on through targeted training and mutual support. |
| Q10 | To maximise team efficiency, I propose tailoring e-learning content to address specific skill gaps and aligning it with our organisational goals. |

**TRANSCRIPT 9:**

| Questions | Response |
|---|---|
| Q1 | My journey in technology spans over 10 years, filled with countless learning opportunities and challenges. |
| Q2 | In my current role as an IT Specialist/Technician, I tackle network security and infrastructure maintenance with gusto. |
| Q3 | Agile methodologies are gradually making their mark in our organisation, particularly within our software development teams. |
| Q4 | E-learning platforms are my trusted companions for professional development, offering a wealth of resources to enhance my skills. |
| Q5 | Integrating e-learning platforms has boosted our team's efficiency by providing instant access to relevant training materials. |
| Q6 | Tools like Ansible and Kubernetes have revolutionised our processes, allowing for smoother operations and faster deployments. |
| Q7 | Agile teams in our organisation rely on collaboration tools like Asana to streamline communication and task management. |
| Q8 | In my observation, fostering open communication and encouraging knowledge sharing are essential for maximising e-learning effectiveness. |
| Q9 | As we had a hard time facing challenges such as technical glitches and time constraints, we had to get creative with our solutions. It was all about finding that delicate balance. So, we decided to combine targeted training sessions with peer support. |
| Q10 | My recommendation is to tailor e-learning content to address specific skill gaps and business needs, ensuring a direct impact on performance. |

**TRANSCRIPT 10:**

| Questions | Response |
|---|---|
| Q1 | My tech journey spans over a decade, filled with twists, turns, and plenty of learning experiences along the way. |
| Q2 | Within my organisation, I play the role of a Leader/Manager, guiding my team through the ever-changing tech landscape. |
| Q3 | Agile methodologies are deeply ingrained in our culture, driving collaboration and adaptability across all departments. |
| Q4 | E-learning platforms are my go-to for staying ahead in the tech game, offering a wealth of resources to broaden my skill set. |
| Q5 | Integrating e-learning platforms has revolutionised our workflow, providing timely access to up-to-date training materials. |
| Q6 | Tools like Jenkins and Docker have turbocharged our development processes, leading to quicker iterations and higher-quality outcomes. |
| Q7 | Agile teams leverage collaboration tools like Microsoft Teams and Trello to foster seamless communication and project management. |
| Q8 | From my perspective, fostering a culture of innovation and collaboration is crucial for maximising the impact of e-learning initiatives. |
| Q9 | Besides that, we've also had to navigate through challenges like communication breakdowns and balancing conflicting priorities. It's been a bit of a tightrope act, but we're managing. We've found that by fostering clear communication channels and helping team members prioritise tasks effectively, we can keep things running smoothly despite the occasional bumps in the road. |
| Q10 | I firmly believe that by encouraging open communication and creating opportunities for peer-to-peer learning, we can harness the collective expertise of our workforce and drive even greater success. |