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BRIDGING THE NEEDS GAP: ALIGNING EMPLOYERS' NEEDS WITH EMPLOYEES' COMPETENCIES OF THE FUTURE IN THE IRISH LABOUR MARKET

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Phd Candidate Declaration:

I, Aleksandra Julia Marcinkowska, declare that this PhD thesies titled "Bridging the needs gap: aligning employers' needs with employees' competencies of the future in the Irish labour market" is my original work and has not been presented to any institution. The research project was conducted under the supervision of professor Salvatore Fava. Any sources used in this project have been appropriately cited and referenced using the Harvard referencing style.

Name of the Phd Candidate: Mrs ALEKSANDRA JULIA MARCINKOWSKA

Date: ..... Signature: ……A.J.M.……

Supervisor Declaration:

I, professor Salvatore Fava, declare that I have supervised the research project titled "Bridging the needs gap: aligning employers' needs with employees' competencies of the future in the Irish labour market" conducted by Mrs. Aleksandra Julia Marcinkowska. This project has been submitted for examination having been approved by me. I confirm that the work has been done and presented by Mrs. Aleksandra Julia Marcinkowska under my supervision. I have read the project and confirm that the sources used in the project have been appropriately cited and referenced using the Harvard referencing style.

Name of the Supervisor: SALVATORE FAVA

Date: ..... Signature: ……

DEDICATION

I dedicate this thesis to my beloved family, without whom this journey would not have been possible. To my husband, Kris, thank you for your unwavering support, love, and encouragement that kept me motivated during the long nights and challenging days. To my daughters, Dominika and Julia for your input, detailed discussions and challanging questions – you have been my greatest inspiration, reminding me of the importance of perseverance and passion.

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I would like to extend my heartfelt thanks to Professor Salvatore Fava. Your tremendous support, clear communication, and flexibility have played a crucial role in shaping this thesis. Your insightful guidance helped refine my ideas and bring clarity to my research. The title of my thesis, "Bridging the needs gap: aligning employers' needs with employees' competencies of the future in the Irish labour market," reflects my passion for addressing the critical challenges within our workforce.

This dedication is a testament to the love, support, and encouragement I have received from all of you, and I am forever grateful. Thank you for being my steadfast pillars throughout this journey.

ABSTRACT

Abstract

The Irish labour market is undergoing significant transformation due to technological advancements, globalization, and demographic changes. This PhD research aims to explore the growing misalignment between the competencies required by employers and those possessed by employees, and to propose practical, evidence-based solutions that include enhancing Vocational Education and Training (VET) programs as part of an ongoing lifelong learning process. In an era marked by rapid technological innovation and shifting workforce dynamics, aligning educational outcomes with labour market needs is critical for ensuring economic stability and competitiveness.

The research will analyze current and future competencies that are essential for workforce readiness and employability, examining how these competencies align with the outputs of VET and broader educational systems. It will evaluate the effectiveness of current VET programs and other educational initiatives in preparing individuals for the changing labour landscape, identifying areas of strength as well as gaps that need addressing. The focus will be placed on key sectors in Ireland, including the administrative, educational, and commercial sectors, which play significant roles in the country's economy.

To achieve a comprehensive understanding, this study will use a mixed-methods approach that includes Computer-Assisted Web Interviewing (CAWI) surveys targeting employers, desk research on the competencies and skill development needs of employees, and focus groups involving both employers and employees. This methodological approach will allow for the collection of both quantitative and qualitative data to gain a nuanced perspective on the skills gap and how best to address it.

The findings from this research will inform a set of tailored recommendations for stakeholders, including policymakers, educators, and employers. The recommendations will focus on strategies for curriculum development, policy enhancement, and fostering stronger partnerships between employers and educational institutions to align training programs with real-world job requirements. Additionally, this thesis will propose a pilot program designed to test strategies for bridging the skills gap and to develop sector-specific solutions within Ireland's administrative, educational, and commercial sectors.

This PhD thesis is expected to contribute valuable insights to inform policies and practices that promote a future-ready and resilient workforce in Ireland. By aligning education

and training with the demands of the labour market, this research will also provide a broader contribution to the European Union's understanding of future competencies and help shape strategic responses to the challenges posed by the Fourth Industrial Revolution (Industry 4.0). Ultimately, the work aims to support policymakers, educators, and industry leaders in fostering an ecosystem where the workforce is well-equipped to adapt to changing economic conditions and drive sustainable growth.

Keywords: Irish labour market, employers, employees, Vocational Education and Training (VET), lifelong learning, competencies of the future 4.0., skills gap, workforce readiness

CHAPTER 1: INTRODUCTION AND AIM OF STUDY

1.1.Background of the Study

The Irish labour market has been experiencing considerable transformations in recent years, driven by factors such as rapid technological advancements, evolving global economic conditions, and significant demographic changes. These shifts present unique challenges and opportunities for both employers and employees, demanding an adaptive and forward-thinking approach to workforce development.Technological innovation, particularly in sectors such as information and communication technology (ICT), finance and administration, has reshaped the skills required for many roles. The increasing reliance on digital technologies has created a surge in demand for employees proficient in data analysis, coding, artificial intelligence, and cybersecurity, among other specialized skills. Yet, the rapid pace of technological change often outstrips the ability of education and training systems to provide the necessary expertise. This misalignment results in skill shortages, contributing to job vacancies that remain unfilled and hindering economic growth. The global economic landscape further complicates the situation, with fluctuations due to geopolitical tensions, trade policies, and economic crises impacting demand for specific industries and skill sets. Additionally, the economic implications of the COVID-19 pandemic underscored the importance of workforce resilience and adaptability, highlighting gaps in both hard and soft skills. The result is a labour market that is not only impacted by the need for technological proficiency but also requires critical thinking, adaptability, and collaborative skills that can transcend industry boundaries. Demographic changes, including an ageing population and shifting workforce demographics, are adding to the complexity of workforce planning in Ireland. An ageing population poses challenges related to workforce participation rates, knowledge retention, and the ability to fill roles that rely heavily on experienced professionals. This demographic trend, combined with an influx of younger generations entering the workforce, creates a need for educational and training systems that can bridge generational divides and align the competencies of new graduates with the expectations of modern employers.

A key player in addressing these challenges is the vocational education and training (VET) sector, which has the potential to play a crucial role in aligning educational outcomes with the needs of the labour market. VET programs, through targeted training and

apprenticeship models, have historically provided pathways that equip individuals with the practical skills needed in various sectors. However, the alignment between VET curricula and the evolving needs of employers remains a point of contention. The current mismatch has led to calls for a more integrated approach that can respond dynamically to the changing economic landscape and technological environment.

Employers report facing difficulties in finding candidates who meet the technical and interpersonal requirements of modern jobs. This skills gap has significant implications for businesses, potentially impacting productivity, innovation, and competitiveness. In response, policy discussions and research efforts have been directed towards better integration of VET education and the broader educational framework to address these issues. Strategies to improve alignment between VET education and labour market needs have become essential for developing a workforce capable of meeting future demands. Given this context, this study seeks to explore the current challenges and gaps between employers' needs and employees' competencies in the Irish labour market. The research will focus on how the VET sector can be more effectively aligned with labour market demands and will propose recommendations and solutions aimed at enhancing this alignment. By identifying best practices, evaluating existing VET initiatives, and exploring successful international models, this study aims to contribute valuable insights and practical strategies that can inform policy, educational practices, and workforce development in Ireland. The outcomes of this study are anticipated to support stakeholders in creating policies and programs that bridge the skills gap, fostering an adaptable, skilled, and future-ready workforce that meets the evolving needs of the Irish economy.

1.2.Statement of the Problem

The Irish labour market is facing a significant and persistent challenge: the gap between the competencies that employers seek and the skills that employees possess. This misalignment has wide-ranging consequences, stifling economic growth, reducing productivity, and hindering innovation. Employers frequently report difficulties in finding candidates who meet the technical, professional, and interpersonal requirements necessary for modern job roles. At the same time, employees, particularly those entering the workforce or transitioning between sectors, often find themselves inadequately prepared for the specific demands of available positions. This skills gap is particularly pronounced in sectors driven by technological

advancements and evolving industry standards, where the rapid pace of change outstrips the capacity of traditional education and training systems to keep up. Vocational education and training (VET) programs, while designed to bridge this divide by providing practical, job-specific skills, have not always been successfully aligned with the evolving needs of employers. Consequently, this misalignment has led to increased unemployment, job vacancies that remain unfilled for long periods, and a workforce that lacks the adaptability needed to thrive in an ever-changing economic landscape. Moreover, the problem is compounded by demographic changes in the Irish workforce, such as an ageing population and an influx of younger generations with differing educational and career expectations. This demographic shift presents further challenges to ensuring that employees possess the relevant skills to fill the roles that businesses need to remain competitive. Addressing this gap requires coordinated action from multiple stakeholders, including policymakers, educators, and employers, to create and implement strategies that bridge the divide between workforce competencies and employer expectations. Without a comprehensive approach to realign VET education and other educational frameworks with labour market demands, Ireland risks stalling its economic potential and falling behind in an increasingly competitive global economy. This study seeks to identify and analyze the nature and extent of the competencies gap in the Irish labour market, evaluate current VET strategies and their effectiveness, and propose solutions that can enhance the alignment between educational outcomes and employer needs. The objective is to provide actionable recommendations for creating a more responsive, skilled, and adaptable workforce that fosters economic growth and innovation.

1.3.Main Research Question and subquestions

How can the alignment between employers' needs and employees' competencies in Ireland be improved to bridge the skills gap and enhance workforce readiness, particularly in the administrative, educational, and commercial sectors?

Sub-Research Questions

1. What are the key competencies and skills that are currently in demand by employers in Ireland's administrative, educational, and commercial sectors? This question seeks to identify the specific skills and competencies that employers prioritize in these key sectors to meet current operational and strategic needs.

2. What competencies are expected to be crucial for future workforce readiness in these sectors? This question aims to forecast the skills that will be critical for future employment and the potential changes in industry requirements driven by technological, economic, and demographic shifts.

3. What are the expectations of employers regarding the skill sets and competencies of employees in the administrative, educational, and commercial sectors in Ireland? This question explores the specific expectations and standards employers hold for their workforce, including both technical and soft skills, and how these expectations align with the actual competencies employees possess.

4. What are the strengths and limitations of existing initiatives and policies aimed at addressing the skills gap in Ireland? This question evaluates current VET programs, educational curricula, and government policies to assess their effectiveness and identify areas that require improvement.

5. What strategies and recommendations can be implemented to enhance workforce readiness through improved policies, curriculum development, and collaboration among stakeholders? This question seeks to propose practical strategies for aligning educational outcomes with employer needs, involving key stakeholders such as policymakers, educators, industry leaders, and training providers. The focus is on policy reform, curriculum enhancements, and fostering collaboration to bridge the skills gap effectively.

1.4. Aims of the PhD Research:

2. To identify and analyze the current and future competencies and skills that are most in demand by employers in Ireland's administrative, educational, and commercial sectors.
3. To assess how well Vocational Education and Training (VET) programs and the broader educational system align with the competencies required by employers, and to determine the gaps that exist.
4. To explore and understand the expectations of employers regarding the competencies and skill sets of employees in the identified sectors.

5. To evaluate the strengths and weaknesses of existing policies, programs, and initiatives in addressing the skills gap and preparing the workforce for future demands.
6. To propose practical and evidence-based recommendations that can guide policymakers, educators, and employers in developing strategies to enhance workforce readiness.
7. To design a pilot program that tests strategies for bridging the skills gap, including curriculum reform, training programs, and stakeholder collaboration, specifically targeting the administrative, educational, and commercial sectors in Ireland.

1.5.Contribution of the Research

This research aims are to make significant contributions to both academic literature and practical strategies concerning workforce development in Ireland and any other EU country. By investigating the misalignment between employers' expectations and employees' competencies, this research will fill a crucial gap in the understanding of skills shortages and workforce readiness. The findings of this study will offer valuable insights into the competencies that are essential for meeting the current and future demands of the Irish labour market, with a particular focus on the administrative, educational, and commercial sectors.

My research will also contribute to the existing body of knowledge by examining how competencies in different sectors can be better aligned with market needs. It will integrate current theories with real-world data, bridging gaps in the literature related to workforce skills and vocational education.

An essential part of this research is a literature review – a chronological review of definitions outlined by type of competencies. This analysis will help differentiate between technical, soft, and transferable skills, offering clarity on how these competencies interact and contribute to overall workforce readiness. By defining and categorizing competencies effectively, my research will provide a foundation for future research in education and labour market alignment. Recommendations derived from the study including training programs will focus on adjusting vocational and educational strategies to improve skills development and better prepare the workforce for current and future economic challenges. Educators will benefit from an understanding of which competencies are most needed by employers, allowing them

to adjust curricula and training programs to better equip students and trainees with relevant skills.

The study will identify best practices and strategies for incorporating emerging and in-demand skills and competencies of the future into educational programs. Employers will gain insight into the educational and training gaps that may contribute to workforce shortages. My research will help them collaborate more effectively with educational institutions to provide input on training needs and consider internship, apprenticeship, or on-the-job training programs that align with desired competencies to encourage partnerships between educational institutions, VET providers, and industry stakeholders, promoting programs and initiatives that foster better preparation of the workforce. In summary, my study's comprehensive examination of the competencies required by employers, their expectations, and the current capabilities of employees will provide a framework for effective alignment. By recommending strategies for policy, curriculum development, and stakeholder collaboration, the research aims to enhance workforce readiness and close the skills gap in Ireland's labour market. This will ultimately contribute to the development of a more adaptable, skilled, and competitive workforce, supporting sustainable economic growth and innovation.

1.6.Research Methodology

This research adopts a **mixed-methods approach**, integrating both qualitative and quantitative research methods to ensure a comprehensive exploration of the research questions. The mixed-methods design is particularly suited to this research because it allows for a nuanced understanding of the skills gap by combining statistical data with in-depth qualitative insights from key stakeholders. This approach enhances the validity and depth of the findings and ensures that the complexities of the issue are fully addressed.

Methods:

1. Surveys (CAWI – Computer-Assisted Web Interviews)
2. Focus Groups
3. Desk Research

Target Population: Employers, employees, and other stakeholders (e.g., educators and policymakers) in Ireland's administrative, educational, and commercial sectors.

Purpose: To collect large-scale quantitative and quantitatvie data on the competencies employers seek, the skills employees possess, and the perceived gaps between them. Surveys will also examine future skill demands and the effectiveness of existing educational and training programs.

Sample Size and Selection: A stratified random sampling technique will ensure representation from different sectors, company sizes, and geographical regions across Ireland.

Mixed-Methods Integration

The mixed-methods approach ensures that quantitative and qualitative findings complement each other. For instance:

Triangulation: Quantitative survey data will be validated and enriched by qualitative findings from focus groups and desk research.

Complementary Insights: Quantitative data will identify broad trends and patterns, while qualitative data will provide context, explanations, and detailed understanding of these patterns.

Sequential Analysis: Preliminary desk research will inform the design of surveys and focus group discussion guides. Likewise, survey results will guide specific lines of inquiry in the focus groups.

1.7.Ethical Considerations

Ethical considerations are a fundamental component of this research, ensuring that the study is conducted responsibly and respects the rights, privacy, and dignity of all participants. Adherence to ethical standards not only builds trust with participants but also strengthens the validity and credibility of the research findings. Key ethical principles that will guide this study include informed consent, confidentiality, data protection, transparency, neutrality, and inclusivity.

Informed Consent

Voluntary Participation: All participants were informed that their involvement in the research is entirely voluntary. They had the right to decline participation or withdraw at any stage of the study without penalty or explanation.

Comprehensive Information: Participants were provided with a detailed information sheet outlining the purpose of the study, the methods of data collection, and how the data will be used. They will also be informed about the potential risks and benefits of participating.

Consent Documentation: Consent was formally obtained before participation, either in written form or electronically, depending on the mode of engagement (e.g., surveys, focus groups). Special measures were taken to ensure that consent is informed, such as offering opportunities for participants to ask questions before providing consent.

Data Anonymization: To protect participants' identities, all collected data were anonymized. Any identifying information (e.g., names, company affiliations) were removed or replaced with codes to prevent attribution to specific individuals or organizations.

Secure Data Storage: Data was stored securely on encrypted devices or password-protected databases, accessible only to the research team. Physical documents were be stored in locked cabinets.

Reporting Practices: When presenting findings, results were aggregated to ensure individual responses cannot be traced back to specific participants. Quotes or specific insights used in the research had also been anonymized.

Participants were fully informed about the research objectives, processes, and the intended use of the findings. A plain-language summary of the study's purpose and methodology had been provided to all participants at the outset. Participants had access to updates on the research process ensuring they feel informed and respected throughout the study.

Results Sharing: A summary of the research findings had been made available to participants upon completion, further enhancing transparency and accountability.

Expected Outcomes

This mixed-methods approach will generate a well-rounded and evidence-based understanding of the skills gap in Ireland's labour market. It will provide actionable insights for

developing effective policies, educational strategies, and collaborative approaches to workforce development. By combining quantitative data on trends with qualitative perspectives on stakeholder experiences, this methodology ensures a balanced and robust foundation for the study's conclusions and recommendations.

Sampling and Population

This research focuses on understanding and addressing the skills gap in the Irish labour market by examining the alignment between employers' needs and employees' competencies. The target population includes both employers and employees in the administrative, educational, and commercial sectors. The sampling strategy will ensure representation across a diverse range of industries, job roles, and demographic groups, allowing for comprehensive insights into the research questions. Participants will be stratified based on their sector (administrative, educational, or commercial) to ensure balanced representation across these fields. Separate strata for employers and employees will enable distinct analyses of their perspectives, facilitating a comparison of skill demands and competencies. The sample will include participants from organizations of various sizes (e.g., SMEs, large corporations) and geographic regions across Ireland to capture the broadest range of experiences and challenges.

Participants were recruited through industry sssociations and networks: collaboration with industry bodies and professional networks to identify and recruit employer participants, job boards and social media: outreach to employees through online platforms where job seekers and professionals actively engage, educational and training institutions: partnering with VET providers and educational institutions to identify employees or recent graduates who have undergone skills training. This comprehensive sampling approach ensures, that the research captures a diverse range of perspectives, enabling the identification of actionable strategies to bridge the skills gap in Ireland's labour market.

1.8.Limitation of the Scope of Study

While this research provides valuable insights into the alignment between employers' needs and employees' competencies in the Irish labour market, it is subject to certain limitations regarding its scope. The research is specifically focused on Ireland, examining the unique challenges and opportunities within its labour market, particularly in the administrative, educational, and commercial sectors. Ireland's economic landscape, labour policies, and

vocational education and training (VET) systems are distinct, influenced by its unique socio-economic conditions, government strategies, and industry structure. The findings and recommendations derived from this research may not be fully applicable to other European Union (EU) countries.

Differences in economic conditions, educational systems, cultural factors, and labour market dynamics across the EU mean that the challenges and solutions identified in this research may require adaptation for relevance in other contexts. The research focuses on three key sectors—administrative, educational, and commercial—which are critical to Ireland's economy. While these sectors provide valuable insights into the broader skills gap, they do not encompass the entire spectrum of industries in Ireland. Industries such as technology, healthcare, and manufacturing, which may face distinct challenges in workforce readiness, are outside the scope of this research. The research reflects the labour market conditions at the time of the study. Labour market needs are subject to rapid changes due to factors such as technological advancements, economic shifts, and global trends. The relevance of findings may diminish as these conditions evolve. The research uses a mixed-methods approach, including surveys, focus groups, and desk research, to explore the skills gap. While the combination of qualitative and quantitative methods ensures a comprehensive analysis, the findings are based on data collected from a specific sample.

Sampling constraints, such as the willingness of participants to engage or representativeness of the sample, may influence the generalizability of the results. This research provides in-depth insights into skills alignment in Ireland's labour market, but its applicability beyond the Irish context is limited due to geographic, sectoral, and temporal constraints. By focusing on specific sectors and leveraging a mixed-methods approach, the research offers actionable recommendations tailored to Ireland. However, adaptations will be necessary to apply its findings to other EU countries or industries outside the scope of this research.

1.9. Structure of the PhD thesis

The phd thesis is divided into 7 chapters that cover the background with an introduction, literature review, research design, recommendations, and a proposed pilot program closing with conclusion. Chapter 1 Introduction and aim of study focuses on background of the study, **m**ain research question and subquestions**,** aims of the PhD research, contribution of the research, research methodology, ethical considerations, limitation of the scope of study, structure of the

PhD thesis. Chapter 2 focuses on the competencies of the future in the European Union: administrative, educational, and commercial sectors establishes the foundational context for understanding competencies of the future within the European Union. It highlights the importance of aligning national policies with EU frameworks, the strategic drivers influencing workforce needs, and the theoretical underpinnings that shape the discourse on skills development. By examining Ireland's integration into the EU competencies framework and comparing it with other member states, this chapter sets the stage for a deeper exploration of how employers' needs and employees' competencies can be better aligned in subsequent chapters. Chapter 3 Competencies of the future in Ireland: administrative, educational, and commercial sectors – literature review provides a thorough review of the literature on competencies of the future in Ireland. By exploring definitions, policy frameworks, sectoral trends, and the roles of education and stakeholders, this chapter establishes a strong foundation for understanding how Ireland can address the skills gap and align with both national and EU priorities. The insights gained from this review inform the research's subsequent analysis and recommendations for bridging the needs gap in Ireland's labour market This chapter provides a comprehensive review of existing literature on competencies of the future within the Irish context, focusing on the administrative, educational, and commercial sectors. Chapter 4 Research design and summary of the research – data and methodology provides a detailed overview of the research design and methodology, demonstrating how a mixed-methods approach was tailored to address the complexities of the research problem. By combining CAWI surveys, desk research, and focus group discussions, the research captures a comprehensive and multidimensional view of the skills gap in Ireland. The methods outlined in this chapter ensure that the findings are both robust and actionable, setting the stage for subsequent analysis and recommendations. Chapter 5 Contents and results of the research presents the findings of the research and provides an in-depth analysis of the results in relation to the research objectives and questions. It begins with an introduction outlining the purpose of the chapter and the approach taken to organize and present the data. The context of the research is briefly revisited, providing essential information about the methodology and any relevant limitations that may affect the interpretation of the findings. Chapter 6: Discussion – a detailed discussion of theoretical frameworks supporting competencies of the future in the EU - practical contributions and recommendations, addressing future challenges and emerging trends, hallenges and opportunities in the development of future competencies in Ireland.

recommendations and further research direction. It is to address skill gaps in the Irish labour market, specifically within the administrative, educational, and commercial sectors. This chapter critically examines objectives, implementation strategies, and practical contributions, offering evidence-based recommendations to inform future initiatives including Polish migrants as the largest group of immigrants working in Ireland. Chapter 7: Conclusion reflects on the broader implications of the research for policymakers, educators, and employers. It concludes by reiterating the value of a cohesive approach to competency development, one that bridges the gap between education and industry while preparing learners to meet the challenges of the future labour market. This chapter serves as the culmination of the thesis, offering actionable insights and a solid foundation for further research and initiatives aimed at strengthening the Irish labour market, including cloding the gap between employers' needs and employees' skills, evolving dynamics of the labor market with a critical role of Vocational Education and Training (VET).

CHAPTER 2: COMPETENCIES OF THE FUTURE IN THE EUROPEAN UNION: ADMINISTRATIVE, EDUCATIONAL, AND COMMERCIAL SECTOR

2.1.Introduction to competencies of the future 4.0. in the EU

The term competence derives from the Latin word *competentia*. It is most commonly understood as the ability to perform an activity effectively, or a specific range of knowledge needed to perform a job, i.e., professional skills. The global economy is undergoing significant transformations driven by rapid technological advancements, globalization and evolving social dynamics. These changes demand a workforce equipped with new and advanced competencies to meet the challenges of the future. In the context of the European Union (EU), the focus on developing competencies of the future has become a cornerstone of policy and strategic frameworks aimed at maintaining global competitiveness, fostering innovation, and ensuring social cohesion. This chapter explores the concept of competencies of the future, their relevance within the EU policy context, and their implications for key sectors such as administrative, educational, and commercial domains. It provides a comprehensive overview of how these competencies are being integrated into EU strategies, with a particular focus on Ireland's alignment with the broader European framework.

Competencies of the future, often referred to as "Competencies 4.0," are those skills, knowledge, and abilities required to thrive in a rapidly changing, technology-driven environment. These competencies go beyond traditional technical skills to include critical thinking, problem-solving, adaptability, creativity, and digital literacy. The EU recognizes the importance of these competencies in addressing the challenges posed by Industry 4.0, characterized by automation, artificial intelligence, and interconnected systems. This section introduces the foundational concepts of Competencies 4.0 and positions them within the broader European policy framework.

The European Union has established a robust policy framework to support the development of competencies of the future. Initiatives such as the European Skills Agenda, the Digital Education Action Plan, and the New Industrial Strategy for Europe highlight the EU's commitment to equipping its workforce with the skills required for a digital and sustainable economy. These policies emphasize lifelong learning, digital transformation, and the inclusion of marginalized groups to ensure that all citizens benefit from emerging opportunities. This chapter delves into how these policies shape the discourse on future competencies and

influence the administrative, educational, and commercial sectors across member states. Developing competencies of the future requires an understanding of the trends and drivers shaping the global and European landscapes.

Key trends include the increasing role of artificial intelligence, the transition to a green economy, demographic shifts, and the growing emphasis on social and emotional skills. The EU's strategic frameworks, such as the European Green Deal and the Pact for Skills, provide a roadmap for addressing these trends and ensuring that competencies development aligns with broader societal and economic goals. This section explores the interplay between these trends and the strategic priorities of the EU, offering insights into the evolving nature of workforce needs in the administrative, educational, and commercial sectors.

As a EU member state, Ireland has actively aligned its policies and initiatives with the EU's competencies framework. Ireland's integration into this framework reflects its commitment to fostering innovation, enhancing digital and green skills, and addressing sector-specific challenges. The administrative sector in Ireland has embraced digital transformation, while the educational sector focuses on modernizing curricula to meet future demands.

The commercial sector, driven by small and medium-sized enterprises (SMEs) and multinational corporations, plays a critical role in implementing EU policies on skills development. This section examines Ireland's approach to aligning with EU priorities and highlights the successes and challenges in integrating competencies of the future into its national strategies. Understanding competencies of the future requires a strong theoretical foundation. This section reviews key theories and models that inform the development of future skills in the EU context.

These frameworks include human capital theory, which emphasizes the economic value of skills; socio-constructivist theories, which highlight the importance of collaborative learning and adaptability; and systems theory, which underscores the interconnected nature of education, policy, and industry. By grounding the discussion in these theoretical perspectives, this section provides a comprehensive understanding of how competencies of the future are conceptualized and operationalized within the EU.

The EU's diverse member states adopt varying approaches to developing competencies of the future, influenced by their unique economic conditions, educational systems, and cultural contexts. This section provides a comparative analysis of these approaches, identifying best practices and areas for improvement. It examines how countries such as Germany, known for

its vocational education and training system, and Finland, recognized for its innovative educational practices, address the challenges of future competencies. By comparing these approaches, this section offers valuable insights into how Ireland and other countries can refine their strategies to better align with EU priorities.

The transformative impact of Industry 4.0 is reshaping workforce requirements across the European Union, demanding a comprehensive shift in the competencies needed across sectors. This shift emphasizes the importance of hybrid competencies that combine technical skills—such as IT knowledge, data analysis, and software development—with essential soft skills, including communication, teamwork, adaptability, and critical thinking (Lenarčič, 2019; Jurburg & Cabrera, 2019; Beke et al., 2020). Despite the growing emphasis on these skills, the mismatch between higher education outputs and labor market demands continues to widen, compelling new strategies to equip workers with the skills needed for Industry 4.0 (Walaszczyk, 2022; Alhloul & Kiss, 2022).

One such strategy is the creation of "learning factories," which integrate practical training into educational programs, fostering collaboration between industry, governments, and universities (Kipper et al., 2021). The concept of Competencies 4.0 has emerged from these developments, positioning itself as a cornerstone in the academic discourse on workforce readiness for the fourth industrial revolution (Poszytek, 2021). Research highlights the gradual shift in the ICT sector, where strictly technical skills are increasingly complemented by interdisciplinary knowledge and socio-emotional competencies due to the growing integration of ICT with other socio-economic sectors (Rawboon et al., 2021). This shift is particularly pronounced in the EU's efforts to address future labor market demands. In the agro-industry, for instance, workers need a combination of IT literacy, adaptability, and analytical reasoning, as well as the ability to interact with advanced interfaces (Lenarčič, 2019). These requirements underscore the necessity for educational reforms that align curricula with emerging industry needs. Similarly, the ICT sector—a driving force of Industry 4.0—demonstrates a clear trend toward hybrid competencies, reflecting the increasing reliance on both technological expertise and creative problem-solving (Gudanowska, 2017; Kipper et al., 2021).

Paweł Poszytek (2021) highlights the historical and scientific significance of the Competencies 4.0 framework, which originated from Germany's high-tech Industry 4.0 strategy launched in 2011. Since then, this framework has gained prominence across disciplines such as education, human resources, management, and psychology, offering a roadmap for

addressing current and future socio-economic challenges. The concept not only identifies critical competencies but also provides practical insights for policymakers, educators, and businesses to align workforce development with the demands of the fourth industrial revolution. Emerging as a pivotal area of research, Competencies 4.0 reflects a dynamic and interdisciplinary approach to understanding and preparing for the workforce needs of the future.

2.2.Competencies of the future 4.0. and European Union Policy Context

The European Union (EU) has recognized the transformative impact of Industry 4.0 on workforce competencies and has implemented various policies and initiatives to address the emerging skills gap. The shift towards digitalization, automation, and interconnectivity requires a new blend of technical, digital, and social-emotional competencies to prepare the workforce for future challenges. The EU has integrated Industry 4.0 objectives into its industrial and competition policies to support innovation and enhance workforce skills. These efforts focus on promoting research and development (R&D) in digital technologies, particularly for small and medium enterprises (SMEs), which are vital to the European economy (Tvaronavičienė, 2020). The European Commission emphasizes the need for lifelong learning and digital upskilling through programs such as the Digital Europe Programme and the European Skills Agenda, which aim to foster digital competencies among workers.

The implementation of Industry 4.0 technology and meeting the expectations of employers, the labour market, and, in fact, sustainable development are new challenges for industry employees, especially for their knowledge and skills. The changes introduced during industrial revolutions have always affected the job market and employees' required competencies. The same can be said for the latest industrial revolution, Industry 4.0, in which the human factor plays an important role, mainly because new challenges are posed by human beings' role in digitised reality. Currently, the world is undergoing many technological, economic, and social changes. The fourth industrial revolution has initiated many changes in production companies concerning the technologies or solutions that directly affect an organisation, including the workforce. The increasingly widespread use of technologies such as the Internet of Things cyber-physical systems causes not only technological development but also social and personal changes. In connection with the development of Industry 4.0, there is

also a growing demand for unprecedented employee competencies, which are becoming necessary in the efficient management of companies.

According to Fareri et al. technical competencies will still be necessary. However, horizontal competencies (e.g., methodological, personal, social) will be the essential competencies in Industry 4.0. It is also emphasised that the combination of work organization and new digital technology will have a determining role in further competence and skills development. The rapid development of the idea of the fourth industrial revolution creates both new opportunities and challenges for organisations and universities in the context of the human factor, especially in terms of employees' competencies. These challenges relate to leadership in organisations, markets, business ecosystems and value creation. For investors, attractiveness is perceived by the creation of a favourable feedback loop between the development of competence and the inflow of capital.

The market value of a company is the primary determinant of its position in the market. It consists of both basic and intellectual capital. Human resources and competencies are the most valuable capital in a company and sources of created value and permanent competitive advantage in dynamically changing environments. These additional benefits for the company are generated by intellectual property, which, as a new type of asset, fits into the concept of Industry 4.0. In recent years, a trend referred to as the competence revolution has developed. It is characterised by the appreciation of the role of competencies. As a key element of resources, the characteristic and distinguishing feature of competencies is their unique and difficult-to-replace character.

Despite the growing interest in the human factor and employees' competencies, in the context of Industry 4.0, the literature shows directions of research covering the external environment, e.g., production audits or warehouse systems but not the internal work environment and the employees themselves. The research on the content of the available literature on Industry 4.0 presented in showed that the issues related to the human factor discussed in the relevant publications relate to purely technical aspects. However, the literature on the subject also includes research and considerations of human beings' role in Industry 4.0.

Universities play a crucial role in aligning educational programs with the demands of Industry 4.0. Initiatives like “learning factories” provide practical, hands-on experiences that integrate technical and interdisciplinary skills (Kipper et al., 2021). By redesigning curricula to include competencies such as data analysis, problem-solving, and teamwork, higher education

institutions are helping bridge the gap between academic training and labor market requirements (Tabunshchyk et al., 2021). These efforts align with the EU's focus on fostering innovation and employability through education. Industry 4.0 underscores the importance of hybrid competencies, which combine technical expertise with soft skills such as adaptability, creativity, and collaboration (Jurburg & Cabrera, 2019). The European ICT sector, for instance, requires workers who can integrate technological capabilities with cross-domain problem-solving and communication skills. The EU's Digital Skills and Jobs Coalition highlights the need for these hybrid skills as key to competitiveness in a globalized economy.

SMEs, which constitute the backbone of the EU's economy, face unique challenges in adapting to Industry 4.0. The EU provides financial and technical support to these businesses to facilitate the adoption of new technologies and workforce upskilling. For example, programs like Horizon Europe encourage innovation and collaboration between academia, industry, and government to create training solutions tailored to specific sectors (Walaszczyk, 2022).

In addition to economic competitiveness, the EU emphasizes the importance of sustainability in Industry 4.0. Workforce training programs are increasingly incorporating green skills to align with the EU's Green Deal objectives. This integration ensures that the development of future competencies supports both technological advancements and environmental sustainability (Poszytek, 2021). The EU's response to the competencies required for Industry 4.0 reflects a comprehensive strategy that integrates policy, education, and industry collaboration. By addressing the skills gap through initiatives that promote hybrid competencies, practical training, and sustainability, the EU is laying the foundation for a workforce capable of thriving in the digital era. These efforts not only enhance individual employability but also strengthen the EU's global competitiveness in the face of rapid technological change.

2.3. Competencies of the future and strategic frameworks with trends and drivers

The development of frameworks for 21st-century competencies reflects a growing recognition of the need to equip individuals with skills that meet the demands of rapidly changing global workplaces (Salas-Pilco, 2013). These frameworks emphasize a blend of technical, cognitive, and social-emotional competencies that are crucial for navigating complex

and interconnected environments. Central to these frameworks are strategic foresight, change management, and proactive decision-making, which enable individuals and organizations to anticipate challenges, adapt to shifts, and seize emerging opportunities (Gudanowska et al., 2020).

Future leadership in this evolving context requires not only the ability to manage technological changes but also to maintain geopolitical awareness and articulate strategic visions that align with long-term organizational goals (Horey et al., 2004). Effective leaders must be equipped with competencies to address dynamic stakeholder expectations, balancing innovation with organizational stability. Universities play a critical role in fostering these competencies by integrating agile leadership development into their curricula, ensuring graduates can respond to evolving industry and societal needs (Mahlangu & Moloto, 2022).

The shift towards management by competencies has emerged as a strategic approach to achieve sustainable competitive advantage. By aligning organizational objectives with employee capabilities, this model emphasizes the importance of leveraging individual strengths to drive collective success. This competency-based management strategy is gaining traction as businesses seek to remain competitive in a rapidly evolving global marketplace (Rosso & García-Salirrosas, 2023).

Active learning methodologies are integral to developing these competencies, particularly in enhancing digital literacy and ICT skills. These methods, which prioritize hands-on, experiential learning, are instrumental in equipping the workforce with the technological and analytical skills required for the future (Canavesi & Ravarini, 2024). Moreover, the integration of ICT competencies within educational frameworks has become a cornerstone for preparing individuals to thrive in digitalized workplaces. ICT literacy is not only essential for technical proficiency but also for fostering innovative thinking and collaborative problem-solving (Salas-Pilco, 2013). To ensure relevance and applicability, competency models must undergo continuous refinement. Emerging trends, such as the rise of artificial intelligence, shifts in global labor markets, and increased emphasis on sustainability, require organizations to reassess and adapt their competency frameworks regularly. This ongoing process is vital for aligning skills development with evolving organizational and societal demands (Horey et al., 2004).

The evolution of 21st-century competency frameworks underscores the importance of a multidisciplinary and future-oriented approach to skills development. These frameworks are built on the understanding that traditional models of education and training are no longer

sufficient to address the demands of a rapidly changing global landscape. By integrating strategic foresight, individuals are equipped to anticipate trends, identify opportunities, and navigate challenges proactively. Digital literacy is equally vital, as technological advancements continuously reshape industries, requiring leaders and teams to adapt quickly and leverage emerging tools effectively.

Agile leadership forms another cornerstone of these frameworks, emphasizing flexibility, collaboration, and innovation in decision-making processes. In a world characterized by volatility, uncertainty, complexity, and ambiguity (VUCA), leaders must inspire trust, foster resilience, and build adaptive cultures within their organizations. Furthermore, 21st-century competency frameworks recognize the interplay between technical expertise and human-centric skills such as emotional intelligence, creativity, and cultural competence, ensuring that leaders can connect with diverse stakeholders and foster inclusive, high-performing environments. By embedding these competencies into education systems and workforce development initiatives, individuals and organizations are better prepared to thrive. They gain the ability to respond dynamically to disruptions, seize new opportunities, and contribute meaningfully to society in a complex and uncertain future. This holistic approach to skills development not only enhances personal and organizational effectiveness but also ensures sustainable growth in a rapidly evolving global economy.

2.4. Ireland’s Integration into the EU Competencies Framework

Ireland's integration into the European Union (EU) competencies framework marks a significant milestone in the country's development, as it navigates the complex and evolving landscape of global economics, governance, and education. Over the past few decades, Ireland has worked to align its education and workforce strategies with EU-wide frameworks, ensuring that its policies are consistent with the Union’s goals of fostering economic growth, social cohesion, and sustainability. This chapter examines Ireland’s journey of integration into the EU competencies framework, focusing on its alignment with EU education, skills development, and leadership initiatives.

Ireland's membership in the European Union, which began in 1973, has played a crucial role in shaping its policies and competencies framework. Initially, the country sought to modernize its economy through integration into the EU's common market, taking advantage of trade opportunities, subsidies, and access to EU policies and programs. Over time, this

membership catalyzed significant changes in Ireland's educational system and workforce, with a growing emphasis on meeting EU standards for skills development and competencies. The early years of membership saw Ireland focusing primarily on economic integration, but as the EU expanded its competencies to include social policy, education, and employment, Ireland began adapting its frameworks to meet the emerging EU goals of skills alignment and economic resilience. This evolution reflected the EU's broader vision for a knowledge-based economy and the increasing need for member states to harmonize their educational systems and workforce capabilities to meet the demands of the globalized world. Ireland's efforts to align its policies with EU competencies frameworks have been rooted in the recognition that skills development and education are central to the Union's overarching goals of economic growth, innovation, and social inclusion. The EU's competencies framework, which outlines the key areas of knowledge, skills, and attitudes required for the 21st century, has been a critical reference for Ireland as it developed its national education and workforce policies.

The European Qualifications Framework (EQF), introduced in 2008, has been pivotal in Ireland's efforts to integrate into the EU competencies framework. The EQF aims to improve the transparency, comparability, and recognition of qualifications across Europe, allowing for easier mobility of learners and workers. Ireland adopted the EQF as part of its national qualifications system, ensuring that the country's qualifications align with EU standards. This move has helped enhance Ireland's education system, making it more flexible and responsive to the demands of both local and international labor markets. In addition to the EQF, Ireland has also engaged with the European Skills Agenda, which provides a framework for addressing skills shortages and mismatches across the EU. The Skills Agenda promotes the development of key competencies, such as digital literacy, foreign language proficiency, and entrepreneurial skills, which are essential for Ireland's continued integration into the knowledge economy. Ireland has implemented numerous initiatives to promote these competencies, ensuring that both the current and future workforce are equipped to meet the challenges of a rapidly evolving global environment.

One of the most significant areas of alignment between Ireland's education and workforce frameworks and the EU competencies framework has been the emphasis on digital literacy and lifelong learning. With the rapid advancement of technology, the EU has identified digital literacy as a cornerstone of its competitiveness and innovation strategies. Ireland has responded by prioritizing the development of digital skills across all levels of education, from primary

school to higher education and vocational training. Ireland's integration into the European Union (EU) has been a significant and evolving process, shaping the country's political, economic, and social landscape over several decades. This literature review examines key aspects of Ireland's integration, focusing on its institutional adaptations, the country's approach to immigration, and the broader EU competencies framework. Ireland's integration into the EU competencies framework has involved substantial adaptation in the country's executive structures, especially in managing EU affairs. Following its entry into the European Economic Community (EEC) in 1973, Ireland undertook various institutional reforms to manage its relationship with the EU. Laffan (2017) highlights how the Ministry of Foreign Affairs has played a central role in coordinating Ireland's EU policies and representing the country in EU institutions. This adaptation process was not immediate but rather gradual, with each new phase of European integration necessitating changes in governance structures and policymaking. The trajectory of Ireland's EU integration can be described as "path-dependent," where past decisions and historical context significantly influenced future developments (Laffan & O'Mahony, 2007).

The formalization of Ireland's integration processes became particularly noticeable after the rejection of the Nice Treaty in 2001. The subsequent reforms, including the strengthening of EU-related structures within the Irish government, reflect the growing complexity of Ireland's relationship with the EU. Ireland's approach contrasts with that of the UK, which, despite being a member of the EU for several decades, exhibited a more ambivalent and often contentious relationship with the Union. Post-Brexit, Ireland has had to reevaluate its position within the EU, as it now shares a border with a non-EU country. Búrca (2023) suggests that Ireland's integration has remained distinct in its support for deeper EU involvement, positioning the country as a steadfast EU member in contrast to the UK's withdrawal. Integration of Immigrants and EU Ireland's integration policies have also been shaped by its membership in the EU, particularly in terms of immigration and citizenship.

EU integration has led to the formulation of various immigration policies, designed to facilitate the integration of migrants within the country. As Carrera (2006) notes, the EU has increasingly promoted mandatory participation in integration programmes for immigrants, which Ireland has incorporated into its own national strategies. These integration programmes aim to foster social inclusion and ensure equal opportunities for migrants, aligning Ireland's policies with broader EU goals.

Despite the advances in integration policies, challenges remain. Gilmartin & Migge (2015) identify that while EU migrants benefit from certain rights under EU law, they still face integration challenges in Ireland. These challenges often mirror those faced by non-EU migrants, including issues of social exclusion, discrimination, and economic marginalization. The complex process of migration and settlement, especially for low-skilled workers, has raised concerns about the effectiveness of Ireland's integration measures. Thus, while Ireland has made strides in aligning with EU policies on migration and integration, gaps persist, particularly in addressing the needs of marginalized immigrant communities. The economic transformation of Ireland since its entry into the EU has been largely driven by industrial policy, European integration, and social partnership. O'Donnell (1999) emphasizes that Ireland's economic success story can be attributed to its strategic alignment with EU policies, including structural funds, regional development, and trade liberalization. These policies have helped modernize Ireland's economy, turning it from one of Europe's poorest nations into one of its fastest-growing economies in the late 20th and early 21st centuries. The process has also been marked by a strong social partnership, wherein the Irish government, employers, and trade unions have worked together to foster economic growth and social cohesion.

However, while Ireland's integration into the EU has facilitated remarkable economic growth, it has also highlighted challenges related to social inequality and the uneven distribution of benefits. Economic growth driven by EU policies has not always translated into universal social benefits, and issues such as regional disparities and income inequality persist. These challenges underscore the complexity of Ireland's integration into the EU competencies framework, where economic integration is not always accompanied by social integration. As Ireland continues to align itself with EU policies, balancing economic growth with social inclusivity remains a key challenge for the future.

The EU competencies framework has continuously evolved, influencing Ireland's political system and its interaction with other member states. According to Benz & Zimmer (2008), the EU's competencies have grown significantly since Ireland's accession, shifting the Union from a primarily economic project to a broader political entity. This expansion has led to the development of a multilevel political system, where decision-making power is shared between national governments, regional authorities, and EU institutions. For Ireland, this shift has required ongoing adjustments in its governance structures to ensure effective participation in EU decision-making processes. Ireland's commitment to the EU's multilevel governance

system has been a key factor in its successful integration. By participating actively in EU institutions, Ireland has shaped its own policies while also aligning with broader EU objectives. However, the complexity of multilevel governance also poses challenges, as the EU's competencies in areas such as social policy, environmental protection, and trade governance continue to evolve. Ireland must navigate these changes to maintain its influence within the EU and ensure that its national interests are adequately represented.

Ireland's integration into the EU competencies framework has been a dynamic process, characterized by both progress and challenges. Over the years, Ireland has adapted its institutional structures, economic policies, and social strategies to align with EU goals. While significant achievements have been made, such as the successful integration of EU migrants and the modernization of Ireland's economy, issues related to social inclusion and immigrant integration remain important concerns. Moreover, as the EU competencies continue to evolve, Ireland must remain flexible and responsive to new challenges, ensuring that it continues to benefit from EU membership while addressing the complexities of a multilevel political system.

The Irish government has invested heavily in digital infrastructure in schools and universities, creating environments where students and professionals alike can develop the necessary skills to thrive in the digital economy. Ireland's National Digital Strategy, launched in 2013, has been instrumental in promoting digital skills and ensuring that Ireland's workforce is digitally literate and equipped for the challenges of the Fourth Industrial Revolution. Lifelong learning, another key component of the EU competencies framework, has also gained increasing attention in Ireland. The country's journey reflects broader trends within the EU, including the shift towards social inclusion, the growing importance of multilevel governance, and the continuous adaptation of policies to meet the demands of an increasingly interconnected and complex world. Ireland's future within the EU will depend on its ability to maintain this adaptability and ensure that its policies continue to align with the evolving EU competencies framework.

As part of its commitment to the EU's vision of inclusive education and employment, Ireland has introduced policies aimed at fostering a culture of continuous learning. These include adult education programs, upskilling initiatives, and vocational training opportunities designed to help individuals at all stages of their careers adapt to changing job markets and technological advancements. Through initiatives such as the National Skills Strategy and the

Action Plan for Education, Ireland has sought to ensure that the Irish workforce remains adaptable, resilient, and competitive on the global stage.

Aligned with the EU's emphasis on innovation and entrepreneurship, Ireland has made significant strides in fostering a culture of entrepreneurship, both within its educational system and across its business landscape. The EU's innovation agenda, which focuses on strengthening Europe's global position in science and technology, has been mirrored by Ireland's own national strategies to support research and development (R&D) and foster entrepreneurial thinking among students and workers. Ireland's commitment to entrepreneurship is evident in its support for initiatives such as the Innovation 2020 Strategy, which aims to position Ireland as a global leader in R&D, innovation, and entrepreneurship. This strategy supports the development of a highly skilled workforce, capable of engaging in creative problem-solving and innovation, both in traditional industries and in emerging sectors such as technology, green energy, and life sciences. The integration of entrepreneurship education into Irish schools and universities has also been a key component of Ireland's alignment with EU competencies frameworks, ensuring that future leaders possess the skills needed to create and sustain innovative enterprises.

While Ireland has made considerable progress in integrating into the EU competencies framework, several challenges remain. One of the primary obstacles is the need to address skills mismatches within the labor market, as the demand for high-level digital, technical, and soft skills outpaces the supply of qualified workers. Despite the significant investments in education and training, there is still a gap between the skills required by employers and the qualifications of the available workforce. Furthermore, the rapid pace of technological change presents both opportunities and challenges for Ireland's workforce. While Ireland has positioned itself as a hub for innovation, particularly in the technology and pharmaceutical sectors, it must continue to invest in developing its workforce's capacity to adapt to new technologies and trends. This requires a concerted effort to enhance digital literacy, foster a culture of lifelong learning, and provide ongoing support for workers who need to reskill or upskill. However, these challenges also present significant opportunities. By continuing to align its education system with the EU competencies framework and investing in digital skills, lifelong learning, and innovation, Ireland can strengthen its position as a global leader in the knowledge economy. Furthermore, the country's commitment to inclusivity and diversity in education and employment presents an opportunity to build a more resilient and adaptable workforce, capable of thriving in an increasingly complex and uncertain global environment.

Ireland's integration into the EU competencies framework has been a pivotal development in the country's evolution as a modern, knowledge-based economy. Through its alignment with EU initiatives such as the European Qualifications Framework, the Skills Agenda, and the focus on digital literacy and lifelong learning, Ireland has made significant strides in equipping its workforce with the skills necessary to succeed in the 21st century. The country's ongoing commitment to innovation, entrepreneurship, and inclusive education positions it well for future success, even in the face of the challenges posed by rapid technological change and global competition. As Ireland continues to adapt and evolve its education and workforce strategies in response to EU competencies frameworks, it will play a critical role in shaping the future of Europe's knowledge economy, ensuring that its citizens and businesses remain competitive, innovative, and resilient in the face of global uncertainty.

CHAPTER 3: COMPETENCIES OF THE FUTURE IN IRELAND: ADMINISTRATIVE, EDUCATIONAL, AND COMMERCIAL SECTOR – LITERATURE REVIEW

3.1. Literature review on future competencies in Ireland

This literature review chapter explores how future competencies are conceptualized, defined, and integrated into national policies, with a particular focus on the specific skills demanded across various sectors in Ireland. By examining the challenges and opportunities in developing future competencies, this chapter underscores the importance of education, training, and stakeholder collaboration in bridging the skills gap in Ireland. As the global economy evolves rapidly, the need for Ireland to develop future competencies to remain competitive is critical. Scholars and policy reports emphasize the key roles of digitalization, automation, and sustainability in reshaping the skills landscape. This chapter synthesizes findings from academic research, government publications, and industry reports to offer insights into Ireland's preparedness to meet emerging workforce demands.

Competencies in Ireland's context are understood as a combination of knowledge, skills, and attitudes that enable individuals to perform effectively in their roles. The chapter distinguishes between general competencies, such as adaptability and problem-solving, and sector-specific competencies, such as digital literacy, sustainability expertise, and technical skills. Chapter 3 provides a critical analysis of various definitions and conceptual frameworks of competencies, assessing their relevance to Ireland's labor market and how they align with broader EU priorities. The chapter offers a foundation for analyzing the application of these competencies across key sectors, including administration, education, and commerce.

Ireland's national policy landscape reflects a strong commitment to addressing the evolving skill needs of its workforce. Policies such as the National Skills Strategy 2025, the Action Plan for Education, and the Future Jobs Ireland framework focus on fostering innovation, digital skills, and lifelong learning. Chapter 3 reviews academic research, definitions, and their alignment with EU priorities, emphasizing their role in shaping the development of competencies for the future. It also examines initiatives undertaken by state agencies such as Skillnet Ireland and the Higher Education Authority, which aim to implement these policies and enhance workforce readiness.

The administrative, educational, and commercial sectors in Ireland are undergoing significant transformations, each driven by unique trends and challenges. In the administrative sector, digital transformation and process automation are generating demand for skills related to data management, digital tools, and project coordination. In the educational sector, the emphasis is on integrating digital pedagogies, fostering critical thinking, and addressing the needs of a diverse student population. Meanwhile, the commercial sector, particularly small and medium-sized enterprises (SMEs), faces the dual challenges of digitalization and sustainability, requiring employees to possess a combination of technical and interpersonal skills. A detailed analysis of these emerging competencies, drawing on sector-specific reports and case studies, is provided in this chapter.

Despite considerable progress, Ireland still faces challenges in developing the competencies needed for its future workforce. Skills shortages in critical areas, gaps in vocational education and training (VET), and regional disparities in access to educational resources continue to hinder workforce development. However, these challenges also present opportunities for innovation and collaboration. Ireland's robust educational system, growing tech industry, and active participation in EU initiatives provide a strong foundation for addressing these challenges. Chapter 3 explores these issues in depth, offering a balanced view of the obstacles and opportunities Ireland faces in its pursuit of workforce readiness.

Education and training are at the core of developing future competencies, and their success depends on effective collaboration among multiple stakeholders. In Ireland, higher education institutions, VET providers, industry partners, and government agencies play crucial roles in equipping individuals with the necessary skills. This chapter examines the contributions of these stakeholders, focusing on initiatives such as apprenticeships, reskilling programs, and industry-academia partnerships. It also emphasizes the importance of fostering a culture of lifelong learning and inclusivity to ensure that individuals, regardless of their background or location, can access opportunities for skills development. Through these collaborative efforts, Ireland aims to build a resilient, adaptable workforce capable of meeting the demands of a rapidly evolving global economy.

By critically reviewing the relevant literature, Chapter 3 highlights the complex interplay of policies, initiatives, and sectoral challenges shaping Ireland's efforts to develop future competencies. It provides an in-depth overview of the strategies currently being

implemented and suggests areas for further development, emphasizing the need for ongoing adaptation to emerging global trends.

Theoretical frameworks supporting the competencies of the future in the EU are vast and multifaceted, encompassing everything from digital literacy and entrepreneurial spirit to sustainability and public health leadership. These frameworks are designed to equip individuals with the competencies necessary for success in a rapidly changing world. Ireland's integration into these frameworks highlights its commitment to adapting its education and workforce training systems to the needs of the future.

3.2.Definitions and conceptual framework of competencies in the Irish context

By aligning national policies and practices with EU-wide competency frameworks, Ireland has ensured that its workforce is prepared to meet the demands of the future, while also contributing to the broader goals of economic, social, and environmental sustainability. The continuing evolution of these frameworks will play a crucial role in shaping the competencies required for the future workforce in Ireland and the EU.

Seikkula-Leino et al. (2021) discuss the EntreComp framework, which is designed to promote entrepreneurial competencies essential for fostering economic sustainability in the EU. The EntreComp framework highlights the importance of innovation, risk-taking, and problem-solving, which are critical to fostering entrepreneurial spirit and leadership within the workforce. According to Seikkula-Leino et al. (2021), entrepreneurship is not only about starting new businesses but also about promoting an entrepreneurial mindset that encourages creative thinking, adaptability, and proactive engagement with challenges.

As the EU continues to prioritize green and sustainable development, there has been a growing recognition of the importance of green competencies. Bianchi et al. (2022) present GreenComp, a framework that outlines the essential competencies needed to support sustainability goals. These competencies include the ability to understand and contribute to environmental responsibility, climate change mitigation, and resource efficiency. Ireland has increasingly integrated sustainability into its educational policies, aligning with EU directives to equip future generations with the skills needed to address global environmental challenges. GreenComp promotes environmental literacy and sustainability-focused problem-solving, which are crucial for preparing the workforce to support the transition to a low-carbon economy.

By embedding these competencies within educational frameworks, Ireland and other EU member states aim to create a workforce that is capable of supporting the EU's ambitious climate goals. Czabanowska et al. (2014) develop a public health leadership competency framework that aims to guide professional development in Europe. This framework focuses on leadership competencies within the public health sector, emphasizing the importance of decision-making, collaboration, and ethical responsibility. The public health leadership competencies are designed to address the growing demand for leaders who can manage health systems and initiatives in an increasingly complex and interconnected world. Ireland's public health leaders have been involved in shaping public health policy across the EU, particularly during the COVID-19 pandemic. The competencies highlighted by Czabanowska et al. (2014) were crucial in ensuring that Ireland's response to the crisis was effective, inclusive, and aligned with EU public health standards. The development of leadership competencies in public health continues to be a priority in Ireland, with educational institutions offering specialized programs to develop the necessary skills among future leaders.

Ireland has been particularly active in fostering entrepreneurial competencies through its educational institutions and startup ecosystem. Programs aimed at enhancing entrepreneurship have been integrated into both higher education and vocational training, with the goal of promoting economic resilience and sustainability. The Entrepreneurial Universities initiative, for example, encourages universities to create an environment where students can develop entrepreneurial skills while also engaging with local and regional business networks.

Table 1: Key theoretical frameworks inform executive leadership competencies in the EU

Author	Theory	Definition	Integration of Ireland with the EU competencies
Bass, 1985	Transformational Leadership Theory	This theory stresses the importance of leaders who can inspire and motivate followers by focusing on shared goals, intellectual stimulation, and individual development. In the context of Ireland, transformational leadership competencies are crucial for managing the challenges that arise from EU integration, such as policy harmonization, economic crises, and the evolving demands of the labor market.	Yes

Goleman, 1995	Emotional Intelligence	Emotional intelligence (EQ) is an essential leadership competency in the EU's competency framework. Goleman's theory highlights that leaders must possess a high degree of self-awareness, self-regulation, social skills, empathy, and motivation to navigate organizational complexities. Ireland's executive leaders have increasingly adopted EQ principles to foster cooperation, drive innovation, and ensure effective communication, especially in multicultural and multi-stakeholder environments.	Yes
Benz & Zimmer, 2008	Multilevel Governance	In the context of EU integration, Ireland's executive leadership also involves navigating multilevel governance structures. Multilevel governance refers to the complex interrelationships between various layers of government, such as local, national, and EU institutions. Effective executive leadership in Ireland requires the ability to balance national interests with EU policy frameworks, while also managing relationships with regional and local stakeholders.	Yes
Attar, 2020	Agile Leadership	As the world becomes more dynamic, agile leadership has emerged as a crucial competency for effective executive leadership in both Ireland and the EU at large. Agile leadership focuses on the capacity of leaders to adapt quickly to changes, manage uncertainty, and foster a culture of continuous improvement and innovation. This competency framework has become particularly relevant for Ireland's leaders in the face of global challenges, including Brexit, the COVID-19 pandemic, and rapid technological advances. Agile leadership is crucial for developing organizational agility in the face of a complex and volatile business environment.	Yes
Aggestman, 2017	The leadership paradox	Leadership in EU foreign policy should be understood as a social role shaped through the interaction between leaders and followers - There are role conflicts over the formal leadership functions in EU foreign policy, and new informal leadership practices are emerging among EU member states - There is a "leadership paradox" in EU foreign policy, where the demand for effective European leadership is in tension with leadership being embedded in state practices	Yes
Pavchenko, 2023	Strategic Foresight	In a rapidly changing world, executive leaders must anticipate future trends and develop long-term strategies. Strategic foresight involves understanding emerging issues, risks, and opportunities, enabling leaders to make informed decisions about the future. Strategic foresight is characterized as an opportunity to explore the potential consequences of trends and their impact on economic security. - The European	Yes

		Commission focuses its strategic foresight activities on socio-economic, geopolitical, green, and digital dimensions of sustainable development..	

Source: original work

In a rapidly changing world, Irish executive leaders must anticipate future trends and develop long-term strategies. Strategic foresight involves understanding emerging issues, risks, and opportunities, enabling leaders to make informed decisions about the future. This competency is essential for Ireland as it continues to integrate into the EU's broader geopolitical, economic, and technological frameworks.

In the contemporary landscape of executive leadership, several theoretical frameworks offer valuable insights into the competencies needed for navigating complex and rapidly changing environments, especially within the context of the European Union (EU). These frameworks are particularly relevant for Ireland, which has faced significant challenges and opportunities due to its integration into the EU, including policy harmonization, economic crises, and shifting labor market demands. The evolving nature of leadership within the EU requires the integration of various competencies that align with global trends, such as digitalization, sustainability, and agility, while also responding to national-specific needs.

One prominent theory, Bass's Transformational Leadership Theory (1985), underscores the importance of leaders who can inspire and motivate their followers by focusing on shared goals, intellectual stimulation, and personal development. This theory is particularly significant in the context of Ireland's relationship with the EU, where leaders are required to guide the country through complex policy landscapes while maintaining alignment with broader EU objectives. Transformational leadership competencies enable Irish leaders to manage and adapt to the challenges posed by EU integration, particularly during periods of economic instability or policy shifts. By fostering a vision of progress and innovation, transformational leadership is key to Ireland's continued success within the EU framework.

Another critical competency is Emotional Intelligence (Goleman, 1995), which has become an essential aspect of executive leadership in the EU. Emotional intelligence encompasses self-awareness, self-regulation, empathy, and strong social skills—all crucial qualities for leaders operating within multicultural and multi-stakeholder environments. For Ireland, where relationships with diverse EU member states and institutions are key to effective

collaboration, emotional intelligence fosters positive interactions, smooth communication, and effective conflict resolution. As EU policies and decision-making processes become increasingly intricate, the role of emotional intelligence in leadership becomes even more important to ensure cooperation and alignment.

The theory of Multilevel Governance (Benz & Zimmer, 2008) also plays a central role in shaping executive leadership competencies within the EU. Ireland's leadership must navigate the multi-layered governance structures that exist between local, national, and EU institutions. Effective leadership in this context requires balancing national priorities with broader EU mandates, while also managing relationships with regional and local stakeholders. Ireland's executive leaders are tasked with negotiating complex political and institutional landscapes, necessitating competencies in both governance and diplomacy. Multilevel governance theory highlights the need for leaders to possess the ability to coordinate across different levels of authority, ensuring that national policies are in sync with EU objectives.

As the world continues to experience rapid and unpredictable changes, Agile Leadership (Attar, 2020) has emerged as a crucial competency. This framework emphasizes the need for leaders to be adaptable, resilient, and proactive in the face of uncertainty. Ireland's executive leadership must be equipped to respond to dynamic challenges such as Brexit, global economic shifts, and technological advances. Agile leadership encourages the continuous reassessment of strategies and processes, allowing organizations to quickly adapt to changes in the business and policy environment. In the context of the EU, where decision-making is often influenced by a variety of external and internal factors, agile leadership enables Irish leaders to foster innovation, manage change, and maintain long-term competitiveness.

The Leadership Paradox (Aggestman, 2017) theory introduces an important perspective on leadership within the EU, especially in relation to foreign policy. It suggests that EU leadership is shaped through the interactions between formal leadership roles and informal practices, creating a tension between the demand for effective leadership and the way leadership is actually enacted within the state-centered practices of EU member countries. For Ireland, this paradox requires leaders to navigate between formal EU directives and informal negotiations with member states, managing both the expected roles within the EU and the informal alliances that often shape policy outcomes.

Lastly, Strategic Foresight (Pavchenko, 2023) provides a forward-looking framework for leadership, emphasizing the importance of anticipating future trends and preparing for

potential challenges. For Irish executive leadership, strategic foresight allows for long-term planning in the face of global economic shifts, technological disruption, and environmental concerns. The EU's focus on sustainable development, digitalization, and geopolitical changes makes strategic foresight essential for Irish leaders who must make informed, proactive decisions that shape the country's role within the EU for years to come.

Collectively, these theoretical frameworks highlight the multifaceted competencies required for effective executive leadership in Ireland, particularly in its interactions with the EU. By integrating principles of transformational leadership, emotional intelligence, multilevel governance, agility, strategic foresight, and addressing leadership paradoxes, Ireland's leaders can better navigate the complexities of the EU and shape the future direction of the country within the European context. These competencies are critical not only for managing current challenges but also for ensuring Ireland's sustained competitiveness and influence within the EU's ever-evolving political and economic framework. These theoretical frameworks collectively shape the competencies required for effective executive leadership in Ireland, particularly in the context of its evolving role within the EU. They provide a comprehensive approach to leadership that integrates adaptability, emotional intelligence, governance complexity, and future-oriented thinking, all of which are essential for addressing the challenges and opportunities in the modern EU landscape.

3.3.National policy landscape for future competencies

The National Skills Strategy 2025 and the Action Plan for Education are two key documents that guide Ireland's education and training policies. These strategies emphasize the development of competencies such as digital literacy, critical thinking, problem-solving, and communication skills. In line with EU frameworks, these strategies have been designed to provide individuals with the competencies necessary for a rapidly evolving labor market, while also addressing the specific needs of Ireland's economy and workforce. One key element of Ireland's response to future competencies is the emphasis on lifelong learning. Ireland has invested heavily in initiatives designed to upskill its workforce and ensure that individuals, regardless of age or career stage, have access to the training needed to remain competitive within the EU. As a result, Ireland has developed a culture of continuous learning, which is central to its leadership development programs. Ireland has also prioritized the development of

leadership skills in both public and private sectors. Executive leadership training programs, such as those offered by the Institute of Public Administration (IPA) and Enterprise Ireland, provide tailored programs aimed at developing the strategic, interpersonal, and technical competencies needed by Ireland's future leaders. These programs align with the EU's broad competency frameworks, equipping leaders with the necessary tools to manage change, foster innovation, and collaborate effectively across various levels of governance.

The role of executive leadership in shaping Ireland's response to future competencies is critical in ensuring that the country remains competitive and adaptive to EU policies. Ireland's executive leaders must be capable of managing the balance between national priorities and EU goals, while also fostering innovation, inclusion, and resilience. The increasing emphasis on sustainability, digital transformation, and social inclusion within EU competency frameworks reflects the growing importance of responsible leadership in addressing contemporary challenges. Irish leaders, in both public and private sectors, must not only focus on economic growth but also on social and environmental sustainability, ensuring that Ireland's long-term development aligns with EU-wide objectives.

Furthermore, the leadership competencies of Irish executives will play a pivotal role in managing the country's ongoing transformation as part of the EU's broader economic and political integration. The successful development and implementation of Ireland's policies on immigration, economic recovery, and social cohesion will rely heavily on the ability of Irish leaders to manage complex cross-border relationships and align national strategies with EU-wide frameworks.

Ireland's national policy landscape for future competencies is characterized by a comprehensive, multi-dimensional approach that seeks to address a range of emerging challenges and priorities. This landscape reflects the nation's responsiveness to the evolving global context, its commitment to aligning with EU frameworks, and its drive to innovate and strengthen key sectors such as healthcare, integration, education, and environmental sustainability. This chapter examines key policy areas in Ireland related to future competencies, reflecting on their scope, challenges, and strategic priorities.

The healthcare sector in Ireland has undergone significant reforms and policy development aimed at meeting future workforce needs. One of the landmark policy frameworks is the Sláintecare report, which outlines a 10-year strategy to deliver universal healthcare in Ireland. The report emphasizes the importance of strengthening primary care and community-based

services, which aligns with broader EU goals of improving health outcomes through prevention and integrated care (Burke et al., 2018). The development of workforce competencies is central to achieving these aims, particularly in addressing the evolving needs of an aging population and rising demand for healthcare services.

Ireland faces substantial challenges related to doctor emigration and retention, with many medical professionals seeking opportunities abroad due to better career prospects or working conditions (Humphries et al., 2021). Addressing these issues is critical to reducing reliance on internationally trained doctors and ensuring the sustainability of the healthcare workforce. A range of policies are being introduced to tackle retention, such as initiatives to improve the work environment and career progression for medical professionals. The implementation of initiatives such as expanding the role of healthcare professionals, including paramedics, in primary care is another response to workforce shortages and increasing demands (Barry et al., 2022).

These healthcare policies demonstrate Ireland's commitment to addressing the competency gaps in a critical sector. However, the challenge lies in ensuring that workforce planning and development align with future trends, such as the shift toward digital health technologies and the increasing reliance on multidisciplinary teams. To remain competitive within the EU context, Ireland must continue adapting to changing healthcare delivery models and focus on improving the recruitment, training, and retention of healthcare professionals.

Ireland’s immigration and integration policies have been evolving to ensure that migrant populations are fully integrated into Irish society. The White Paper on Ending Direct Provision (Coakley, 2021) represents a significant shift in the country’s approach to asylum seekers, seeking to replace the controversial direct provision system with a more humane and inclusive model. This new system focuses on providing asylum seekers with better access to rights, including housing, education, and healthcare, and emphasizes social inclusion.

Ireland’s National Strategy for Migrant Integration outlines broader objectives of facilitating the participation of migrants in social, economic, and political life (McGinnitty et al., 2018). These efforts are not only about ensuring access to basic services but also about empowering migrants to become active participants in Irish society, thus contributing to the country’s economic and cultural dynamism. Furthermore, policies are being developed to ensure that migrant populations have access to fundamental human rights, such as housing, education, healthcare, and employment, ensuring that they can achieve economic self-

sufficiency and social inclusion (Murphy et al., 2019). Ireland's approach to integration and inclusion aligns with broader EU principles of social cohesion, yet challenges remain, particularly in ensuring that policy implementation keeps pace with the evolving demographic makeup of the country. Moreover, there is a need for more targeted support for different migrant groups, such as refugees and low-skilled migrants, who face greater barriers to integration. Ireland must also continue to refine its integration policies to address issues such as housing shortages and cultural integration, which are critical for long-term social cohesion.

As Ireland continues to position itself as a global leader in knowledge-based industries, education and skills development are central to its national policy priorities. Policies have been introduced to ensure that Ireland's education system is agile enough to meet the needs of future competencies, with a particular focus on aligning education with labor market demands. Ireland is leveraging tools like the International Education Index to assess its education system and inform policy decisions (Clark et al., 2022). This approach ensures that Ireland's educational offerings remain aligned with global standards and European Union frameworks, while also addressing the specific needs of its workforce.

A significant focus of Ireland's education policy is the development of competencies that can support a diverse range of learners, including asylum seekers and other migrant populations. The country's educational policies aim to facilitate their integration into the workforce by providing relevant skills training and qualifications, thus fostering inclusion and equal opportunities for all (O'Callaghan et al., 2021). As part of this strategy, Ireland has committed to improving its vocational education and training (VET) systems, ensuring that both general and sector-specific competencies are developed to meet the demands of future industries.

Ireland's educational policies demonstrate a strong commitment to developing competencies that will be essential for future success in a globalized world. However, there is a growing need to address skills mismatches and ensure that the education system can provide the necessary technical skills for emerging sectors, particularly in digital technologies and green industries. Ensuring access to quality education for all groups, including marginalized populations, will be key to building a resilient and competitive workforce. Ireland's policy landscape also reflects the evolving relationship between economic development and environmental sustainability, particularly in light of its commitments under the EU Green Deal and the Paris Agreement on climate change. The intersection of economic and environmental policy in Ireland has become increasingly important as the country seeks to balance economic

growth with environmental responsibility. Policies in this area emphasize green skills and the transition to a low-carbon economy, with a focus on innovation, technology, and sustainability (Murphy & O'Brennan, 2019).

The Irish government has committed to developing competencies related to sustainable development, acknowledging that the economic future of the country will depend on its ability to adapt to global sustainability trends. This includes fostering competencies in areas such as renewable energy, sustainable agriculture, and eco-innovation, which are critical to supporting both national and EU-wide environmental goals. Economic policies also highlight the need to align Ireland's workforce skills with green growth opportunities, which will be central to meeting future EU targets. The integration of green competencies into Ireland's national policies is commendable, as it aligns with the EU's broader sustainability goals. However, the challenge lies in ensuring that the workforce is adequately prepared for the transition to a green economy.

Ireland must not only develop the necessary skills but also ensure that these skills are widely accessible, particularly in sectors most at risk of job displacement due to automation or environmental regulations. Ireland's national policy landscape for future competencies reflects a nuanced, multi-faceted approach aimed at addressing both current challenges and future opportunities. Through its healthcare, integration, education, and environmental policies, Ireland is actively working to ensure that its workforce is equipped to meet emerging demands in a rapidly changing global context.

These policies are aligned with broader EU frameworks, yet they also take into account Ireland's unique demographic, economic, and social characteristics. While significant progress has been made, ongoing challenges, particularly around workforce shortages, skills mismatches, and the integration of migrant populations, require continuous policy innovation and stakeholder collaboration. The evolving policy landscape indicates that Ireland is prepared to meet future competency needs, but this preparation will require sustained commitment, particularly in fostering inclusive and forward-looking competencies across all sectors.

As we move further into the 21st century, the competencies required for future leadership, workforce participation, and overall societal advancement have undergone significant transformation. This chapter will focus specifically on the competencies 4.0 that Ireland must develop and prioritize to remain competitive in a rapidly evolving global economy, particularly in the context of Industry 4.0, digitalization, automation, and sustainability. These

competencies reflect the shifting demands of the labor market, technological advancements, and the broader challenges posed by climate change, demographic shifts, and social integration.

The four key competencies that are crucial for Ireland's future success in the evolving landscape are digital literacy, agile leadership, green competencies, and entrepreneurial thinking. These competencies have been chosen because they directly address the systemic changes happening at the global and European levels and align with Ireland's strategic goals in adapting to the future economy. The importance of these competencies is supported by a broad range of academic literature and EU policy frameworks that highlight the necessity of these skills for both personal and organizational development.

Digital literacy has emerged as one of the most critical competencies in the context of Industry 4.0 and digital transformation. In Ireland, the integration of digital technologies into everyday life, business operations, and government services requires a workforce proficient in digital tools, data analysis, cybersecurity, and software development. The EU's Digital Education Action Plan underscores the importance of digital skills in shaping the future workforce (European Commission, 2020). As the digital landscape evolves, Ireland must prioritize digital literacy across all sectors to ensure that its workforce is prepared for the challenges and opportunities that come with the growing reliance on technology.

Digital literacy is vital because it enables individuals to not only use digital tools but also understand and engage with the complex technologies that are becoming integral to all industries. Ireland's national strategies, such as the National Skills Strategy 2025, emphasize the need for digital skills training to boost competitiveness and prepare workers for future roles in technology-driven industries (Department of Education and Skills, 2020). In a world where technology increasingly influences nearly every facet of life—from education to business to healthcare—digital literacy is foundational for enhancing productivity and fostering innovation.

In a rapidly changing global environment, agile leadership is increasingly recognized as an essential competency. Agile leadership focuses on a leader's ability to adapt quickly to change, manage uncertainty, and create an environment conducive to continuous learning and innovation (Attar, 2020). This competency has become critical as Ireland faces the dynamic challenges of globalization, digital transformation, and geopolitical uncertainties such as Brexit. Leaders in both the public and private sectors must demonstrate the flexibility and

foresight to navigate these changes, ensuring organizational resilience and fostering innovation in times of crisis.

Agile leadership is necessary because it equips leaders with the skills to lead effectively in volatile, uncertain, complex, and ambiguous (VUCA) environments. As Ireland's economy increasingly relies on global trade, technological innovation, and EU integration, leadership must be adaptable and forward-thinking. Agile leadership is not just about managing change but also about creating a culture that embraces it. In Ireland, where innovation-driven industries such as tech and pharmaceuticals are key, agile leadership ensures that businesses can pivot quickly to new trends, seize emerging opportunities, and remain competitive in an ever-changing market.

Green competencies are essential as Ireland transitions toward a more sustainable, low-carbon economy in alignment with the EU's green goals. These competencies encompass skills and knowledge related to environmental sustainability, renewable energy, eco-innovation, and circular economy practices (Bianchi et al., 2022). Ireland, like other EU countries, is tasked with reducing carbon emissions and promoting green growth. The integration of green competencies into Ireland's workforce is not only critical for meeting EU sustainability targets but also for ensuring that Ireland can capitalize on green growth opportunities, especially in sectors like renewable energy, agriculture, and sustainable manufacturing. Green competencies are crucial because they enable workers to contribute to sustainable development, one of the most pressing issues facing Europe today. Ireland has already committed to significant reductions in its carbon footprint and the creation of a green economy. By developing green skills, Ireland can position itself as a leader in the green transition, attract investment in eco-friendly industries, and enhance the overall sustainability of its economic model. These competencies also prepare Ireland's workforce for the evolving demands of green technology and the circular economy, which will require new types of skills across various sectors, from energy to transport to agriculture. Entrepreneurial thinking is a critical competency for fostering innovation and economic resilience in Ireland. The EntreComp framework

(Seikkula-Leino et al., 2021) highlights that entrepreneurial competencies go beyond starting new businesses and include skills such as opportunity recognition, problem-solving, risk management, and creativity. As Ireland seeks to diversify its economy and encourage innovation in both established and emerging sectors, fostering entrepreneurial thinking within

its workforce is essential. This competency supports the development of a culture that is proactive, solutions-oriented, and able to navigate uncertainty, which is crucial in a time of rapid technological advancement and economic disruption.

Entrepreneurial thinking is necessary to adapt to the future economy because it drives innovation and the ability to turn new ideas into practical solutions. As Ireland continues to prioritize knowledge-based industries and technology, fostering an entrepreneurial mindset within the workforce will be essential for addressing emerging challenges, including those posed by digital transformation and sustainability. Moreover, entrepreneurial thinking encourages individuals to take ownership of their professional development and contribute to Ireland's competitiveness by identifying new opportunities and transforming them into viable business models.

The selection of digital literacy, agile leadership, green competencies, and entrepreneurial thinking as the core future competencies in Ireland is driven by their direct relevance to the evolving demands of Ireland's economy and society. These competencies reflect the key challenges posed by digital transformation, sustainability goals, and economic globalization. The development of these competencies is central to Ireland's ability to maintain its competitive edge, create new opportunities, and respond effectively to the changing global landscape. Policymakers, educational institutions, and industry stakeholders must continue to collaborate in fostering these competencies across all sectors to ensure that Ireland's workforce is prepared for the future challenges and opportunities of the 4.0 era.

Table 2: Future Competencies in the European Union

Author	Definition	Future Competencies
Halász and Michel, 2011	Engaging in analytical thinking to identify challenges and develop innovative solutions.	Critical Thinking and Problem Solving
Maniscalco, 2012	Understanding social dynamics and civic responsibilities for active societal participation.	Social and Civic Competences
Athanasiou & Anagnostopoulou, 2013	Proficiency in using digital tools and technology to enhance learning and professional skills.	Digital Competence
Panitsides & Anastasiadou, 2015	The capacity to think innovatively, take initiative, and manage projects effectively.	Entrepreneurial Skills
Greer et al., 2016	Understanding ethical considerations in decision-making, especially in technology and health-related fields.	Ethical Competence

Cleynenbreugel, 2016	Understanding of regulatory frameworks at EU and national levels for compliance and governance.	Regulatory Competence
Bašková & Struková, 2017	Ability to adapt to rapidly changing circumstances and environments in the global landscape.	Adaptability
Bašková & Struková, 2017	Competence in planning, executing, and managing projects to meet organizational goals.	Project Management Competence
Bašková & Struková, 2017	Creativity and problem-solving abilities to develop innovative solutions that drive progress and competitiveness.	Innovation Competence
Bašková & Struková, 2017	Skills related to innovation, risk-taking, and business management to drive economic growth and job creation.	Entrepreneurial Competence
Şumuer, 2018; Zahorodnia et al., 2021	Strong interpersonal skills, including negotiation, persuasion, and effective communication.	Interpersonal Skills
Şumuer, 2018; Zahorodnia et al., 2021	Ability to collaborate with diverse groups, with skills in communication, empathy, and conflict resolution.	Social Competence
Ravenscroft et al., 2018	Skills related to self-awareness, empathy, and interpersonal relationships for personal success.	Emotional Intelligence
Şumuer, 2018	Engaging in continuous education and self-directed learning to adapt to rapid changes in the job market.	Lifelong Learning Competence
Tuncel, 2019	Appreciation for cultural diversity and the ability to express oneself in various cultural contexts.	Cultural Awareness and Expression
Capello & Perucca, 2019	Active participation in democratic processes and understanding of EU governance structures.	Civic Competence
Aykaç et al., 2020, Çilek et al., 2023	The ability to manage one's own learning processes, including goal setting and strategy adjustment.	Self-Regulation and Adaptability
Tuparevska et al., 2020	The ability to communicate effectively, including proficiency in foreign languages.	Communication Skills
Aykaç et al., 2020	The promotion of environments that encourage continuous learning and professional development.	Lifelong Learning Culture
Gontariuk et al., 2021; Greer et al., 2016	Ability to conduct research, analyze data, and make evidence-based conclusions for policy-making and business.	Research and Analytical Competence
Zahorodnia et al., 2021; Capello & Perucca, 2019	Understanding and appreciating cultural diversity to foster social cohesion and mutual respect in the EU.	Cultural Competence

Guy, 2020	Skills in teamwork, collaboration, and problem-solving to address complex challenges.	Collaborative Competence
NASIOS, 2021 Saraceno et al., 2020	Knowledge of financial principles and managing finances for personal and organizational economic stability.	Financial Literacy
NASIOS, 2021 Saraceno et al., 2020	Understanding economic policies and their impact on employment, social welfare, and adaptation to economic changes.	Economic Competence
Gontariuk et al., 2021 Alemanno, 2020	Skills related to managing public health crises and health policy formulation, especially in emergencies like pandemics.	Health Competence
Su et al., 2022	The ability to use digital technologies effectively, including AI, machine learning, and blockchain.	Digital Competence
Su et al., 2022	Knowledge of green technologies and practices that contribute to sustainability and environmental stewardship.	Green Competence
Aykaç et al., 2020, Çilek et al., 2023	The ability to manage one's own learning processes, including goal setting and strategy adjustment.	Self-Regulation and Adaptability
Nacaroğlu & Mutlu, 2023	The capacity to search for, access, and critically evaluate information in various formats.	Information Literacy

Source: orginal work

The exploration of future competencies in Ireland across the administrative, educational, and commercial sectors reveals a complex interplay of skills and demands shaped by economic, social, and technological changes. This literature review synthesizes key findings from various studies to highlight the competencies that will be essential for navigating the evolving landscape of work in Ireland. In the administrative sector, the ability to adapt to economic fluctuations is paramount. Pater et al. discuss the counter-cyclical nature of competencies required by employers, suggesting that during economic downturns, the mismatch between available skills and job requirements can exacerbate unemployment issues, leading to slower job creation despite an increase in the unemployed pool (Pater et al., 2019). Egeraat further emphasizes the

importance of regional economic resilience, noting that administrative regions must develop competencies that allow them to withstand future economic shocks, particularly in the context of Ireland's post-2011 recovery (Egeraat, 2023). This indicates a need for administrative professionals to possess not only technical skills but also strategic foresight and adaptability to changing economic conditions.

In the educational sector, the focus is increasingly on developing competencies that align with the demands of the modern workforce. Grebe highlights the significance of intercultural competencies, collaboration, and critical thinking as essential skills for students entering a globalized job market (Grebe, 2023). The need for curriculum adaptations that integrate these competencies is echoed in the literature, with calls for closer cooperation between educational institutions and industry to ensure that graduates are equipped with the necessary skills to enhance their employability (Grebe, 2023).

Furthermore, the shift towards competency-based curricula, as discussed by Ruth, underscores the importance of aligning educational outcomes with labor market demands, particularly in fostering skills that promote job readiness among graduates (Ruth, 2020). In the commercial sector, the demand for specific competencies is shaped by technological advancements and changing market dynamics. Ahsan et al. identify communication, cost management, and technical skills as critical across various industries, highlighting the need for project managers to possess a diverse skill set that includes both hard and soft skills (Ahsan et al., 2013).

The rise of automation and artificial intelligence further necessitates the development of behavioral competencies that can complement technical skills, as noted by Bonesso et al., who argue that organizations must focus on nurturing these competencies to remain competitive (Bonesso et al., 2022). This trend is particularly relevant in the context of Ireland's growing tech sector, where the ability to adapt to rapid changes is crucial for success. Moreover, the healthcare sector in Ireland is facing unique challenges that require specific competencies among practitioners. The increasing demand for general practice services due to an aging population necessitates a workforce equipped with advanced skills, as highlighted by the projected need for more general practice nurses ("Current and projected demand for nurses working in general practice in Ireland", 2024). Casey et al. suggest that expanding the roles of practice nurses to include advanced competencies could alleviate some of the pressures on

general practitioners, thereby enhancing the overall efficiency of the healthcare system (Casey et al., 2022).

The competencies of the future in Ireland are characterized by a blend of adaptability, technical proficiency, and interpersonal skills across various sectors. The literature indicates a pressing need for educational reforms that prioritize competency development, alongside a recognition of the evolving demands within the administrative and commercial landscapes. As Ireland continues to navigate economic and social changes, fostering these competencies will be crucial for ensuring a resilient and capable workforce.

3.4.Sectoral analysis of emerging skills in Ireland

The competencies of the future in the European Union (EU) encompass a wide range of skills and abilities that are increasingly necessary for individuals and institutions to navigate the evolving socio-economic landscape. These competencies are shaped by various factors, including technological advancements, globalization, and the need for sustainable development. As Ireland continues to adapt to the rapidly evolving demands of a global economy, the country has been focusing on building the Future Competencies 4.0 necessary to thrive in an increasingly digital, interconnected, and sustainable world. These competencies are essential to address the challenges of technological advancement, shifting labor markets, and the need for social and environmental responsibility. In this chapter, we provide an in-depth exploration of the key competencies required for the future workforce in Ireland. This includes critical thinking, digital competence, entrepreneurial skills, emotional intelligence, and a culture of lifelong learning, among others. Critical thinking and problem-solving are foundational to Ireland's development of a skilled and adaptable workforce. These competencies enable individuals to assess situations, analyze data, identify patterns, and develop innovative solutions. In the context of a rapidly changing world, the ability to think critically and solve problems is essential across sectors such as healthcare, education, and business. Ireland's education system and training programs have increasingly emphasized the importance of fostering critical thinking among students and professionals alike.

Educational reforms, such as those outlined in the Action Plan for Education 2016-2019, emphasize problem-based learning and inquiry-based approaches to prepare students for the complexities of the labor market. The integration of critical thinking into curricula ensures that

individuals can approach challenges with analytical precision and creativity, enabling them to contribute effectively in the workplace. Social and civic competencies are essential for fostering an engaged, responsible, and active citizenry. These competencies include understanding and participating in democratic processes, respecting diversity, and contributing to community well-being.

In Ireland, these competencies are crucial in the context of EU integration, immigration, and the country's evolving social fabric. Ireland's National Strategy for Migrant Integration (2017) highlights the importance of civic engagement , ensuring that both native and migrant populations are equipped to actively contribute to Irish society. Programs aimed at promoting social cohesion and civic responsibility are key to ensuring that Ireland remains an inclusive, dynamic, and resilient society in the face of demographic shifts. In a digital-first world, digital competence is a vital skill for the workforce of the future. Ireland's economy has been significantly shaped by its technological sector, with the country being a hub for multinational tech companies. As such, ensuring that individuals possess the necessary digital skills is paramount.

The National Digital Strategy emphasizes the need for widespread digital literacy, covering competencies in basic IT skills, data management, coding, and the ethical use of technology. Digital competence encompasses the ability to navigate digital tools, critically evaluate online content, and use technology to improve efficiency and creativity in various professional domains. Moreover, digital competence is not limited to technical abilities but also includes understanding cybersecurity, data privacy, and the potential implications of emerging technologies such as artificial intelligence (AI), blockchain, and machine learning. By fostering a digitally literate workforce, Ireland can better position itself to take advantage of the digital economy. The ability to think entrepreneurially is critical in Ireland's push to enhance economic growth and employment. Entrepreneurial skills encompass creativity, risk-taking, adaptability, and the capacity to innovate. With Future Jobs Ireland emphasizing the need for a dynamic, knowledge-driven economy, cultivating entrepreneurial thinking is central to Ireland's future success. Entrepreneurial competence goes beyond starting businesses; it also involves adopting an entrepreneurial mindset within existing organizations. This includes innovation competence, problem-solving, and the ability to spot opportunities in the marketplace.

Programs and initiatives, such as Enterprise Ireland's New Frontiers Program, focus on fostering entrepreneurial skills, ensuring that future leaders can drive innovation and tackle

societal challenges. As Ireland continues to integrate into global networks and face the implications of digital transformation, ethical competence is becoming increasingly important. This competence is concerned with making decisions that align with societal values, environmental sustainability, and fairness. Ethical competence helps individuals and organizations navigate complex moral dilemmas and is essential in sectors like healthcare, business, and public governance. Ireland has embraced ethical frameworks within its National Ethics Committee, which addresses issues such as digital rights, privacy, and environmental ethics. Ethical decision-making processes will be crucial as new technologies continue to challenge traditional models of governance and business.

Regulatory competence involves understanding and navigating the legal frameworks, policies, and regulations that govern various industries. With Ireland's role in the EU, individuals must be equipped to operate within the complex regulatory environment of the European Union, particularly with regard to GDPR, environmental laws, and trade agreements. As Ireland continues to prioritize innovation and sustainability, it is essential for individuals in administrative and legal roles to understand evolving regulations and ensure compliance. This competence also extends to managing risk and maintaining legal integrity within digital and global supply chains. Adaptability is a critical skill in an era marked by rapid technological advancements, economic fluctuations, and environmental challenges. Self-regulation and adaptability are closely linked to resilience, the capacity to adjust to new situations, and the willingness to embrace change. In Ireland, the evolving labor market demands that individuals develop a mindset of continuous adaptation. Programs that encourage reskilling and upskilling are central to Ireland's approach to ensuring that workers can transition between roles and industries, thus maintaining economic stability. Project management competence involves planning, executing, and overseeing projects to achieve specific goals within a defined timeline and budget. As businesses and public organizations strive to implement large-scale digital and sustainability projects, project management skills become essential to ensure successful outcomes. Ireland's emphasis on Agile project management reflects the need for leaders and employees to be flexible, collaborative, and responsive to changing project dynamics. Strong project management competencies are particularly important in sectors like construction, technology, and government administration. Innovation competence includes the ability to think creatively, experiment with new ideas, and apply novel solutions to complex problems.

With Ireland being a leader in tech and research-driven sectors, fostering innovation competence is crucial for economic growth and global competitiveness. Ireland's investment in R&D and innovation clusters, particularly in tech hubs such as Dublin, is key to supporting this competency. Through partnerships between industry and academia, innovation is being embedded within Irish industries, fostering a culture of creativity and problem-solving across sectors. Emotional intelligence (EQ) is essential in today's workplace, particularly in leadership and team collaboration. EQ encompasses self-awareness, empathy, self-regulation, and social skills, which are critical in navigating the complexities of multicultural teams, client relationships, and workplace dynamics. Ireland's approach to leadership development increasingly incorporates EQ principles, reflecting a growing recognition of the importance of emotional and interpersonal skills in ensuring effective communication, collaboration, and conflict resolution. Lifelong learning is at the core of Ireland's vision for a future-ready workforce.

The rapidly changing nature of the labor market means that individuals must continuously update their skills and knowledge. Ireland's strong commitment to lifelong learning is reflected in policies such as the National Skills Strategy 2025 and various Adult Learning Programmes that encourage ongoing professional development. Promoting a culture of lifelong learning ensures that Irish workers are well-equipped to handle emerging technologies, shifts in global economic conditions, and evolving consumer demands. Cultural competence is the ability to understand, communicate with, and effectively interact with people across cultures. Ireland's increasing demographic diversity, along with its prominent role within the EU, underscores the need for cultural competence in all sectors, particularly in public services, healthcare, education, and business.

As globalization continues to integrate diverse workforces, cultural competence ensures that individuals are prepared to work in a multicultural environment, fostering inclusion, respect, and collaboration. The competencies of the future (4.0) outlined in this chapter are pivotal to Ireland's success in a rapidly evolving global context. From critical thinking and entrepreneurial skills to digital competence and emotional intelligence, these competencies are critical to shaping a future-ready workforce. Ireland's national policies, such as the National Skills Strategy 2025 and Future Jobs Ireland, underscore the importance of these competencies in driving economic growth, social cohesion, and sustainability. By embedding these competencies across sectors—administrative, educational, and commercial—Ireland is

positioning itself to remain competitive in a digitalized, interconnected world. Promoting a culture of lifelong learning, encouraging innovative thinking, and developing emotional intelligence are key to ensuring that Ireland's workforce remains agile, adaptable, and prepared for the challenges and opportunities of the future.

In summary, the competencies of the future in Ireland reflect a comprehensive framework of the EU, that integrates digital skills, sustainability, health awareness, and social engagement. These competencies are essential for individuals and institutions to thrive in an increasingly interconnected and complex world.

CHAPTER 4: RESEARCH DESIGN AND SUMMARY OF THE RESEARCH – DATA AND METHODOLOGY

4.1. Rationale for the research approach - administrative, educational, and commercial sector in Ireland

This chapter outlines the research design and methodology used to explore the alignment between employers' needs and employees' competencies in the Irish labour market. It details the rationale for the chosen research approach, emphasizing the significance of focusing on the administrative, educational, and commercial sectors in Ireland. The chapter also describes the methods used to collect and analyze data, including surveys, desk research, and focus groups with both employers and employees. This mixed-methods approach ensures a comprehensive understanding of the skills gap and informs actionable recommendations.

The rationale for the chosen research approach stems from the need to understand the dynamic and complex relationship between the competencies demanded by employers and those possessed by employees in Ireland. A mixed-methods approach was deemed most appropriate, combining qualitative and quantitative methods to capture both broad trends and in-depth insights. Focusing on the administrative, educational, and commercial sectors allows the research to address key areas of Ireland's economy where workforce readiness is critical. These sectors represent a diverse range of skills requirements, from digital and managerial competencies in the administrative sector to innovative teaching strategies in education and customer-centric skills in the commercial domain. By targeting these sectors, the research captures a holistic view of the challenges and opportunities in bridging the skills gap.

The Computer-Assisted Web Interviewing (CAWI) method was employed to gather data from employers across the administrative, educational, and commercial sectors. This approach allowed for the efficient collection of quantitative data on employers' perceptions of current and future skills requirements. The survey was designed to capture a range of information, including: key competencies in demand, expectations for future workforce readiness, challenges faced in recruiting skilled employees. Employers from various regions and organizational sizes were included to ensure representativeness.

The use of CAWI facilitated large-scale participation, enhancing the robustness and reliability of the findings. Desk research was conducted to examine existing data on employees'

skills, educational backgrounds, and professional experiences. This method involved analyzing secondary data sources, including government reports, industry publications, and academic studies. The desk research provided a foundational understanding of the competencies employees currently possess and identified gaps relative to employers' expectations.

This approach allowed for an exploration of trends in workforce development, including the impact of education and training programs on employees' readiness for the future labour market. It also highlighted disparities in skills acquisition across different demographic and regional groups in Ireland. Qualitative data was collected through focus group discussions with employers from the administrative, educational, and commercial sectors.

These discussions provided deeper insights into employers' perspectives on skills alignment and workforce challenges. Key themes explored included sector-specific skills gaps, effectiveness of existing policies and training initiatives, recommendations for improving collaboration with educational institutions. Focus groups enabled employers to share detailed, context-specific experiences and offered a nuanced understanding of their needs and expectations.

This qualitative dimension complemented the quantitative findings from the CAWI surveys. Similar focus group discussions were held with employees from the targeted sectors. These sessions aimed to capture employees' perspectives on their skills, professional development opportunities, and challenges in meeting employers' expectations. Participants included individuals at different career stages, from recent graduates to experienced professionals, ensuring a diverse range of viewpoints. The discussions explored employees' experiences with vocational education and training (VET), perceptions of their own competencies, and suggestions for improving alignment with labour market demands. These insights added depth to the desk research findings and highlighted areas where targeted interventions could enhance workforce readiness.

This chapter provides an overview of the research conducted between January 1, 2024, and November 30, 2024, in Ireland, focusing on the perspectives of both employers and employees in the administrative, educational, and economic sectors. The research aimed to explore the skills and competencies necessary for individuals, particularly those with limited professional experience, to adapt and thrive in the evolving economic landscape. By investigating industry requirements and employee capabilities, this study seeks to identify

existing gaps and inform the development of targeted Vocational Education and Training (VET) programs to bridge these disparities.

The methodology employed a multi-faceted approach:

1. Computer-Assisted Web Interviewing (CAWI) with Employers
2. Focus Groups with Employers

Three focus groups, each consisting of ten participants from the target sectors, offered qualitative insights into employer needs. This approach illuminated the specific requirements and expectations of employers, particularly concerning skill gaps and their implications for the labor market. The discussions served as a cornerstone for developing VET programs aimed at equipping employees with the necessary skills and competencies.

3. Desk Research on Employees

Employee-focused desk research included an analysis of responses to a structured forty-question survey. This study aimed to uncover employees' current skill levels, educational backgrounds, and professional experiences within the sectors of interest.

The findings from this research will be presented separately in the following sections. Chapter 4 will integrate these results, summarizing the disparities between employer expectations and employee competencies, and providing actionable recommendations to address these gaps. Through this analysis, the research aspires to create a practical framework for fostering a more adaptable, skilled workforce aligned with the demands of Competencies 4.0.

4.2.CAWI employers research

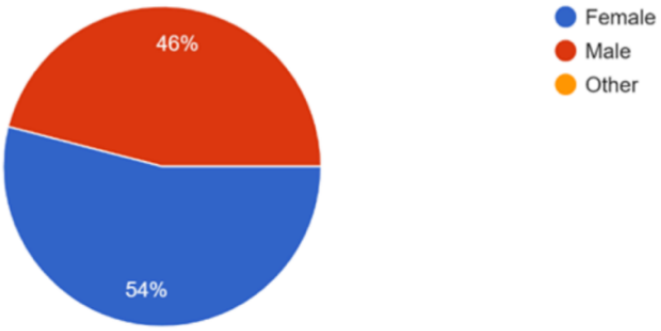
The research analysis aims to explore the competencies necessary for individuals, particularly those with limited professional experience, to adapt and thrive in the economic landscape. The demographic data of the participants provides a backdrop for the study, revealing a diverse group with varied educational and professional backgrounds.

CAWI employers research

Thirty-question surveys were designed to measure the perceived importance of various competencies on a five-point scale ranging from "Not Necessary" to "Crucial." This

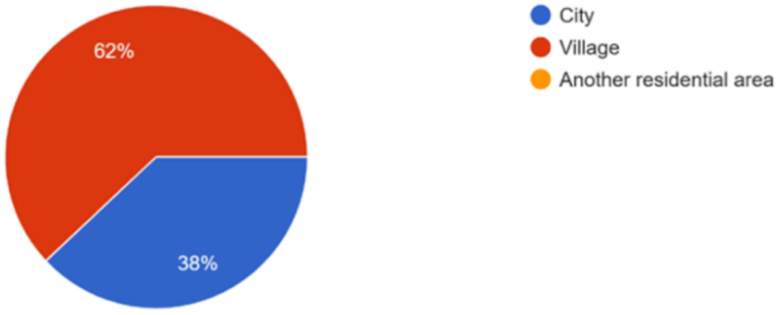
quantitative analysis provided a broad understanding of the competencies employers value in new employees within the administrative, educational, and economic sectors. This survey also contains four metric questions.

1. What is your gender?



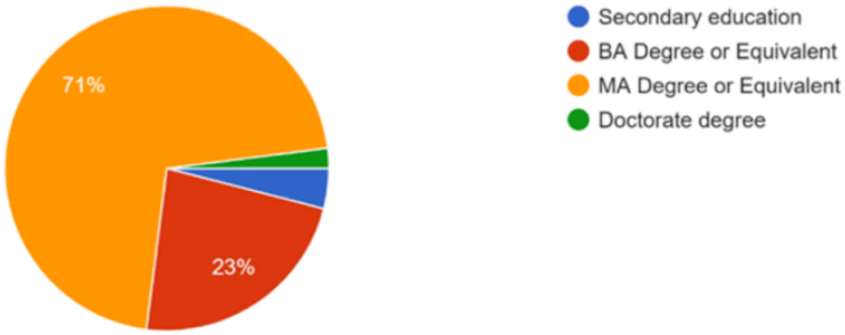
Female - 54
Male - 46
Other – 0

2. Where do you currently live?



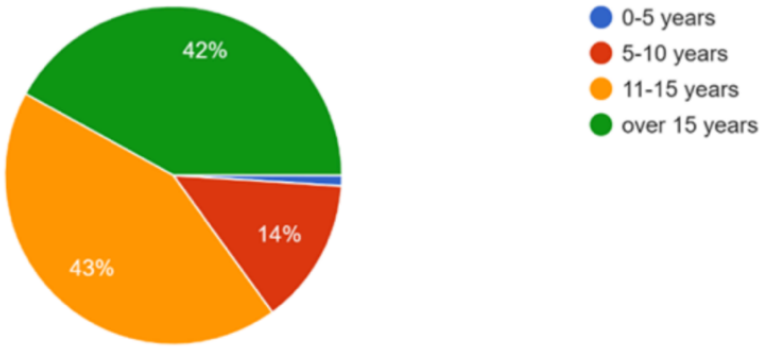
City – 38
Village – 62
Another residential area – 0

3. What is your highest completed education?



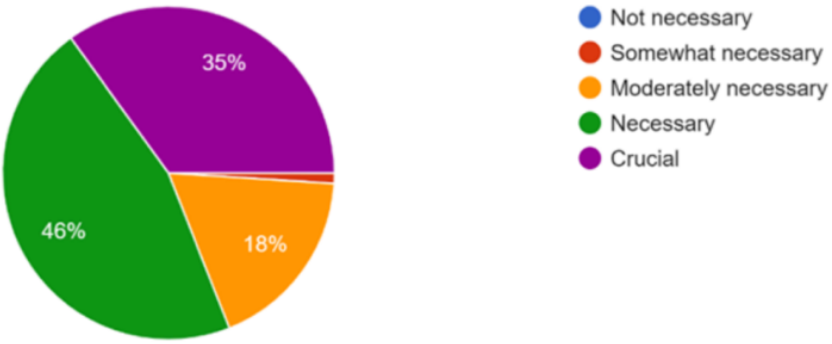
Secondary education - 4
BA Degree or Equivalent - 23
MA Degree or Equivalent – 71
Doctorate degree – 2

4. Professional experience in years



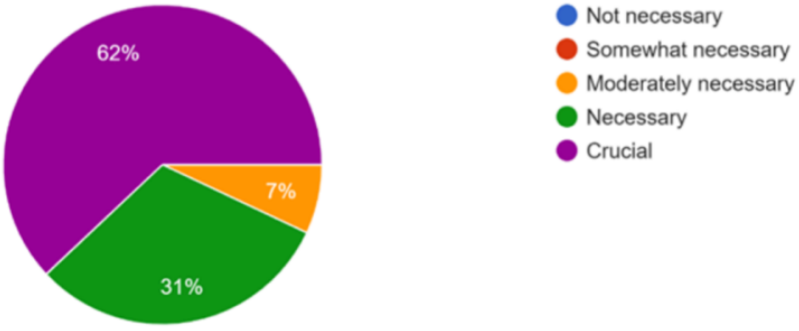
0-5 years - 1
5-10 years - 14
11-15 years - 43
over 15 years – 42

5. In your opinion, are technical skills of employees important in the work performed at your workplace?



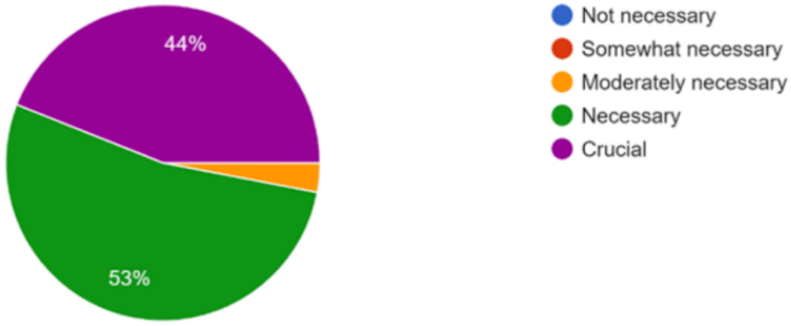
Not necessary - 0
Somewhat necessary - 1
Moderately necessary - 18
Necessary - 46
Crucial – 35

6. In your opinion, are time and task management skills important in terms of employee competence at your workplace?



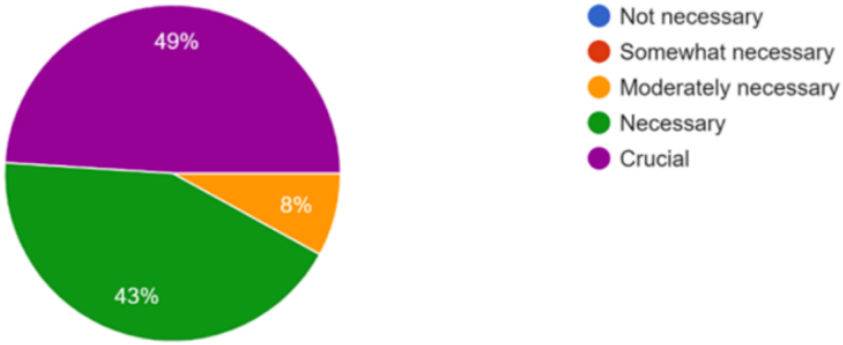
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 7
Necessary - 31
Crucial – 62

7. In your opinion, are communication skills, including non-violent and transformative communication, important from the point of view of the competences of employees at your workplace?



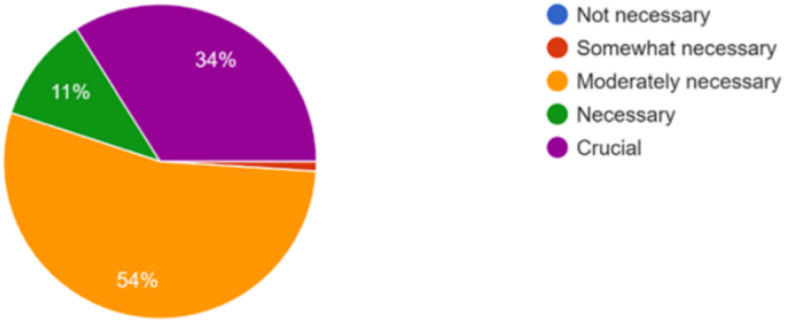
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 3
Necessary - 53
Crucial – 44

8. In your opinion, are the skills of working as part of a team are important from the point of view of employee competences?



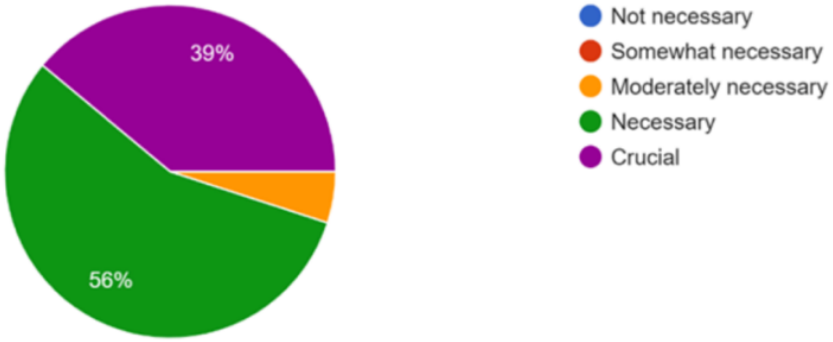
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 8
Necessary - 43
Crucial – 49

9. As an employer, do you think programming skills of employees are important for your company?



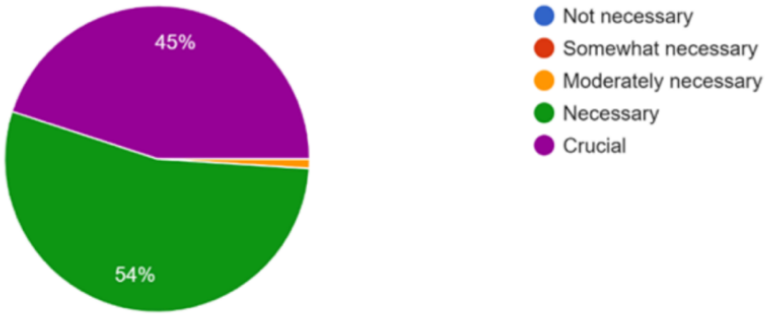
Not necessary - 0
Somewhat necessary - 1
Moderately necessary - 54
Necessary - 11
Crucial – 34

10. As an employer, do you think conflict solving skills of employees are important at your company?



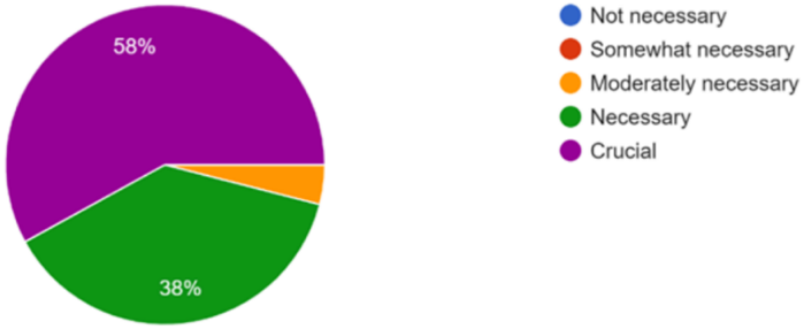
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 5
Necessary - 56
Crucial – 39

11. As an employer, do you think self-presentation skills of employees are important at your company?



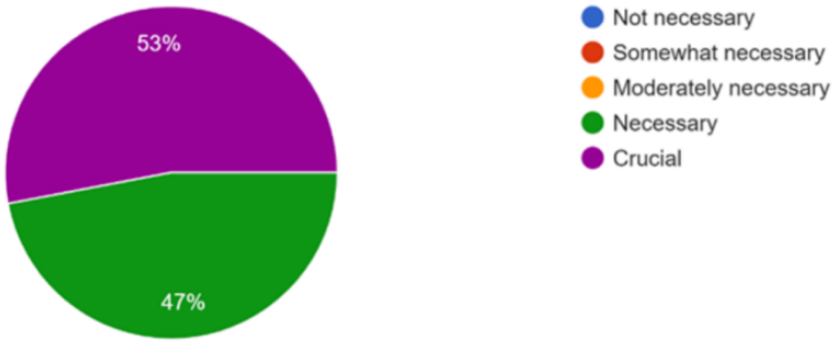
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 1
Necessary - 54
Crucial – 45

12. As a employer, do you think working under pressure are important skills of employees at your company?



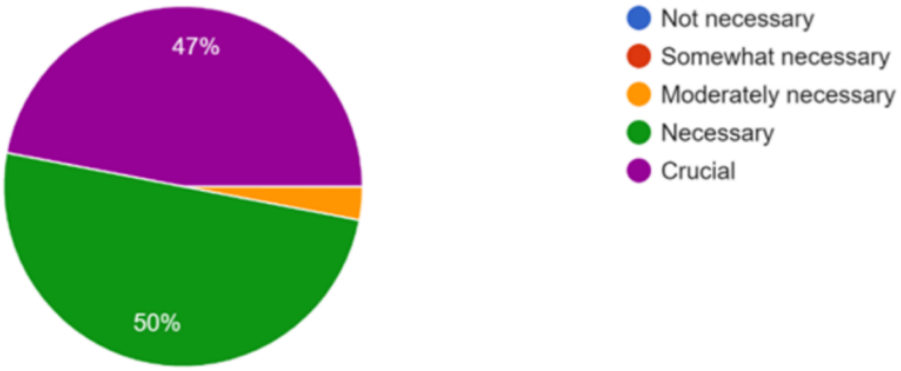
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 4
Necessary - 38
Crucial – 58

13. Do you think that the ability to work with the MS OFFICE is an important skill of employees?



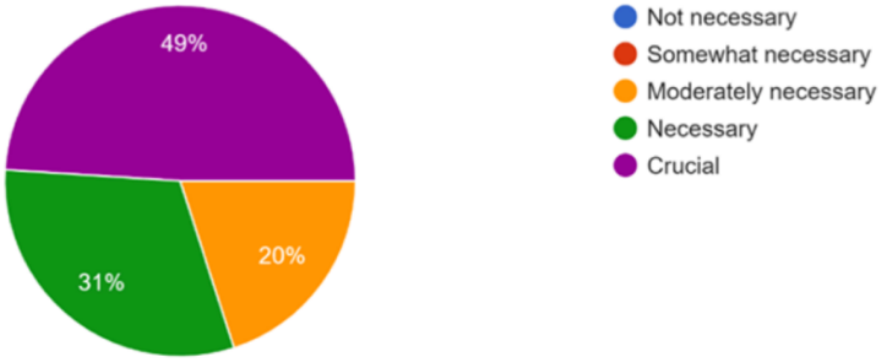
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 0
Necessary – 47
Crucial – 53

14. Do you think that the ability to use online meeting programs such as Zoom, Click Meeting, Teams, Google Meet, Skype is an important skill of employees you want to hire?



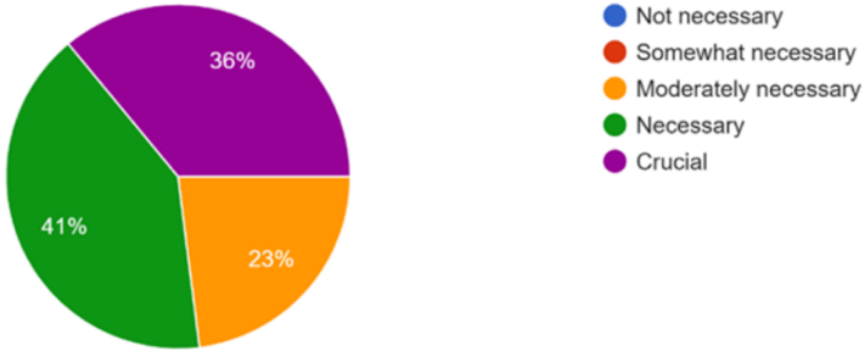
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 3
Necessary – 50
Crucial – 47

15. Do you think delegating tasks is an important skill of employees you want to hire?



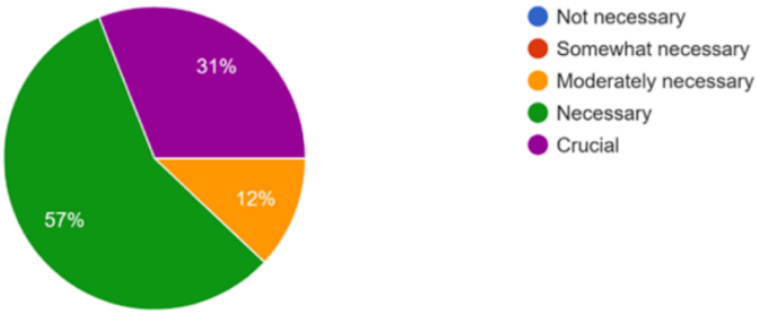
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 20
Necessary – 31
Crucial – 49

16. Do you think analytical skills are an important as a set of skills of employees you want to hire?



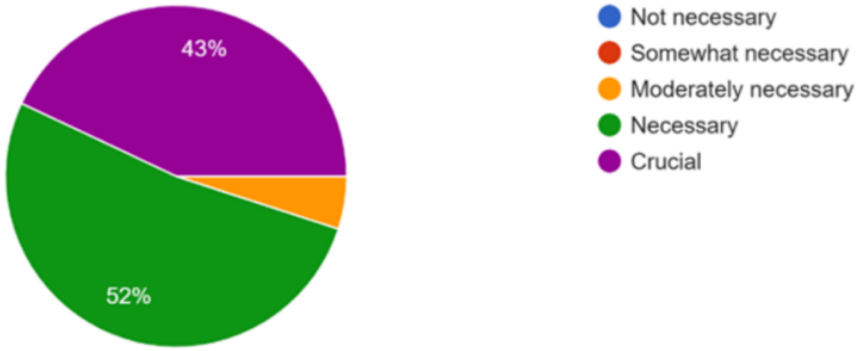
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 23
Necessary – 41
Crucial – 36

17. Do you think that the ability to motivate others is important skill of employees in your company?



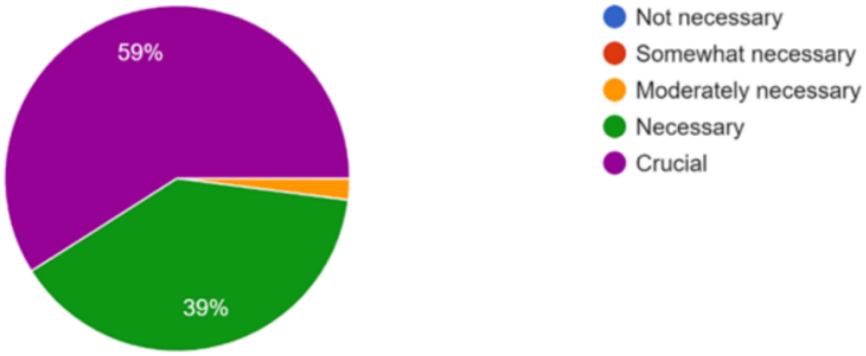
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 12
Necessary – 57
Crucial – 31

18. In your opinion, are the skills of organizing and motivating others are important skills of employees in your company?



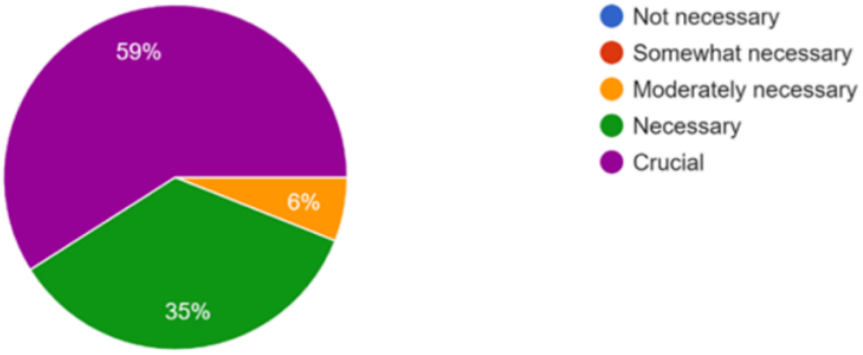
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 5
Necessary – 52
Crucial – 43

19 In your opinion, is the ability to work under pressure important from the point of view of the competences of the employees you want to hire?



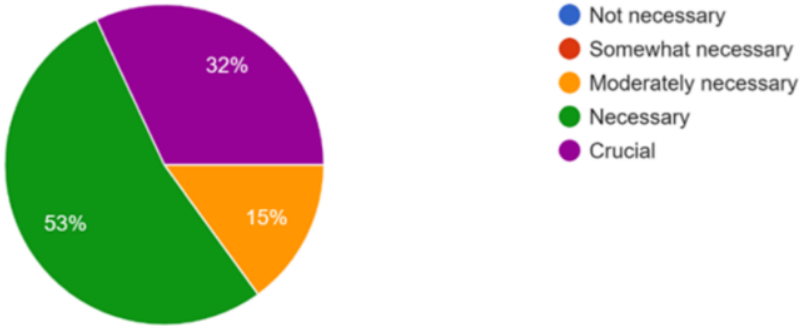
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 2
Necessary – 39
Crucial – 59

20. In your opinion, are negotiation skills important from the point of view of the competences of employees you want to employ?



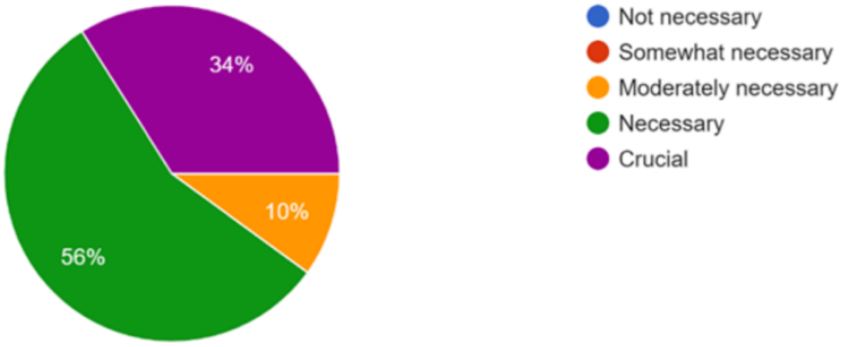
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 6
Necessary – 35
Crucial – 59

21. In your opinion, are creative thinking skills important from the point of view of the competences of employees you want to hire?



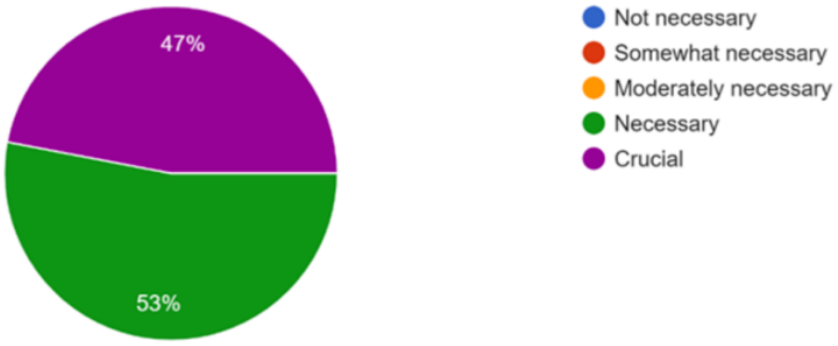
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 15
Necessary – 53
Crucial – 32

22. In your opinion, are the skills of working in a virtual team important from the point of view of the competences of the employees you want to hire?



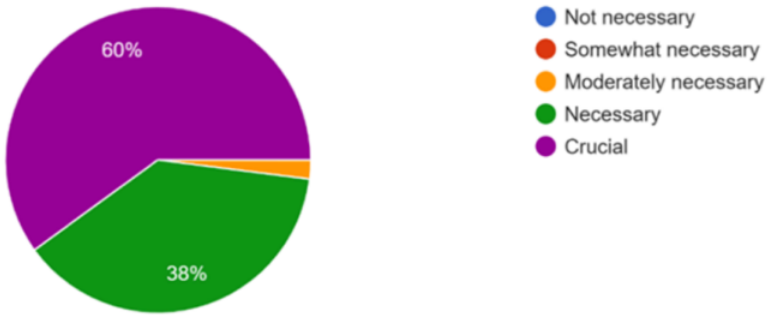
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 10
Necessary – 56
Crucial – 34

23. Do you think that stress coping skills are important from the point of view of the competences of employees you want to hire?



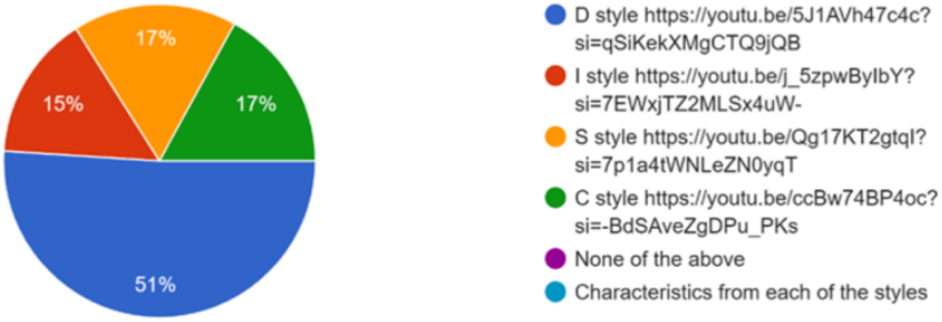
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 0
Necessary – 53
Crucial – 47

24. Do you think that skills of dealing with difficult customers are important from the point of view of the competences of employees you want to hire?



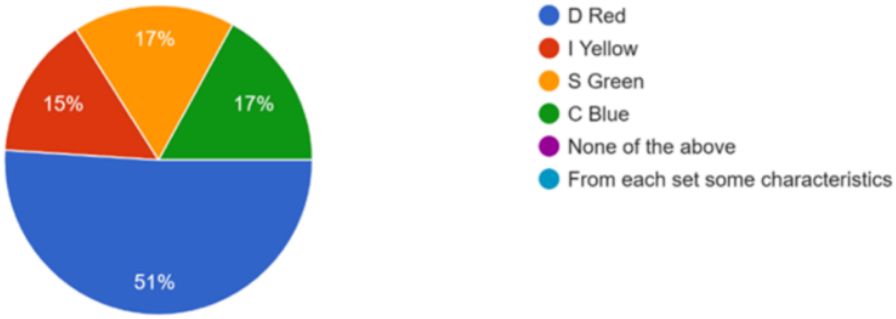
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 2
Necessary – 38
Crucial – 60

25. Watch the videos and choose the employee with the most preferable style.



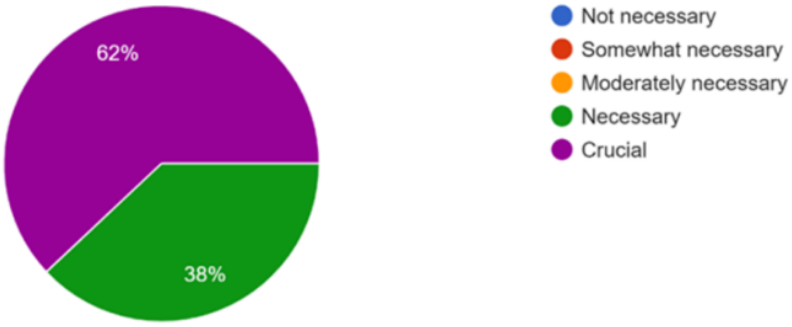
D style https://youtu.be/5J1AVh47c4c?si=qSiKekXMgCTQ9jQB - 51
I style https://youtu.be/j_5zpwBylbY?si=7EWxjTZ2MLSx4uW- - 15
S style https://youtu.be/Qg17KT2gtqI?si=7p1a4tWNLeZN0yqT - 17
C style https://youtu.be/ccBw74BP4oc?si=-BdSAveZgDPu_PKs - 17
None of the above - 0
Characteristics from each of the styles – 0

26. From the image below choose the most desirable set of characteristics of your future employee



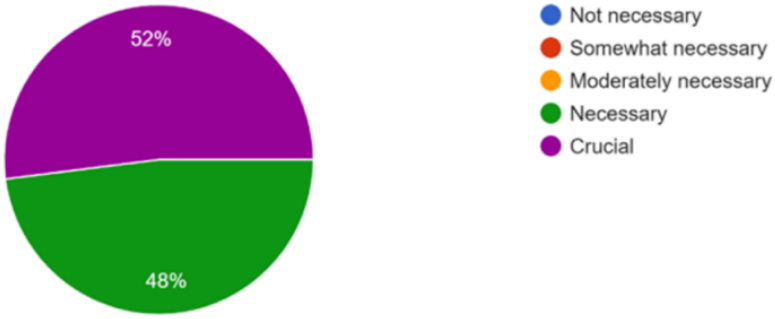
D Red - 51
I Yellow - 15
S Green - 17
C Blue - 17
None of the above - 0
From each set some characteristics – 0

27. Do you think multitasking is important as a skill of employees in your company?



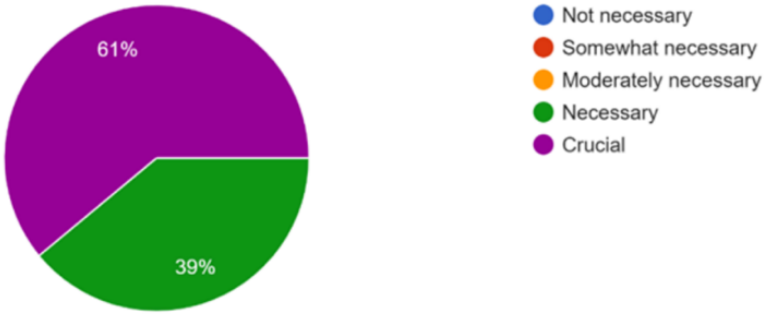
Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 0
Necessary – 38
Crucial – 62

28.Is the ability to work in a global multicultural environment important from the point of view of the competences of employees in your company?



Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 0
Necessary – 48
Crucial – 52

29. In your opinion the ability to write e-mails, prepare memos and write projects are important from the point of view of the competences of employees in your company?



Not necessary - 0
Somewhat necessary - 0
Moderately necessary - 0
Necessary – 39
Crucial – 61

30. From your point of view, which employee competencies are more importantat in your company?

Hard Skills - technical and those that include specialist knowledge, knowledge of foreign languages, ability to operate computer programs or a cash register. Hard skills are those easy to define. You have them or do not have them. There… - 24

Soft Skills - these are psychosocial skills, e.g. communication skills, creativity, dynamism of action, or flexibility - 22

50/50 – 54

4.3. Focus Groups employers research

Focus groups are an essential tool in shaping educational and training programs, offering in-depth insights directly from stakeholders. This approach has proven especially valuable in developing targeted Vocational Education and Training (VET) programs. The comprehensive findings from recent focus groups will play a crucial role in designing a VET program which will focus on boosting skills and competencies in the administrative, educational, and economic sectors.

The focus group reserch identifies industry requirements, skills, competencies and what employers are looking for, when selecting new employees to work in the administrative, educational, and economic sectors. This objective has been achieved by conducting 3 focus groups with 10 participants each who are employers within the above-mentioned sectors. The summary of the reserch will showcase the results and specific needs of employers identified by them through participating in focus groups.

4.4.Methodology and data analysis

The data derived from these focus groups addresses real-world challenges and opportunities, ultimately fostering a more skilled and adaptable workforce. A focus group is a qualitative research method used to gather in-depth insights and opinions from a diverse group of participants about a specific topic or issue. Typically consisting of 6 to 12 participants, focus groups are moderated by a facilitator who guides the discussion according to a set of questions. This research method was selected to stimulate creative thinking and brainstorming. Participants often build on each other's ideas, which can lead to the generation of new concepts or solutions that might not emerge from individual interviews or surveys. By bringing together a group of participants with similar characteristics or experiences, focus groups can help identify trends, patterns, and common themes that might be missed in more quantitative research methods. As part of the research, we have selected employers across Ireland and recruited 30 participants in total who are employers within administrative, educational, and economic sectors. This allowed to create 3 focus groups containing 10 participants each with each focus group lasting 4 hours in total. Each participant was given an invite and a set of questions.

Each focus group contained 10 following questions:

1. What technical skills do you believe are most sought after in these industries?
2. In your opinion, are there any specific soft skills that are key to the success of employees in these sectors? If so, what are they?
3. What professional or educational experience is preferred when hiring for these industries?
4. Are there any new trends or technologies that are influencing the required competencies in these sectors? If so, what are they?
5. What interpersonal skills are particularly important in these industries?
6. Are there any specific certifications or courses that are highly regarded in these sectors? If so, what are they?
7. What time management and organisational skills are important for employees in these industries?
8. What analytical and problem-solving skills are important in these sectors?
9. Focus Group QuestionAre there any communication skills that are key for employees in these industries? If so, what are they?
10. Are there any specific requirements regarding knowledge of computer programs or technological tools in these industries? If so, what are they?

An experienced facilitator was appointed for each session who can effectively guided the discussion, kept participants engaged, and managed group dynamics. Each 4-hour session started with a brief introduction outlining the purpose, objectives, and format of the discussion and the facilitator took notes from the focus groups which were in turn used to produce the key findings in this report.

Data analysis

After conducting the focus groups with employers in the administrative, educational, and economic sectors, we have identified 10 key findings which offer valuable insights regarding the necessary skills and qualifications for effective work in these industries. The most sought-after technical skills in these industries include proficiency in software applications, data analysis, project management, digital marketing, and financial modelling. Employers

emphasised the importance of specific soft skills such as communication, teamwork, adaptability, problem-solving, critical thinking, and leadership abilities. These skills contribute to the overall success of employees in these sectors. When hiring for these industries, employers preferred candidates with relevant professional experience and educational qualifications, such as degrees or certifications in business administration, education, economics, or related fields. New trends and technologies that are influencing the required competencies in these sectors include artificial intelligence, data analytics, cloud computing, virtual collaboration tools, and online learning platforms. Employers highlighted the significance of strong interpersonal skills, including effective communication, relationship-building, empathy, and conflict resolution abilities. These skills are crucial for collaborating with colleagues, clients, and stakeholders. Certain certifications and courses highly regarded in these sectors include project management certifications (e.g., PMP), teaching certifications (e.g., TESOL), financial analysis courses (e.g., CFA), and digital marketing certifications (e.g., Google Ads). Employers emphasised the importance of employees having good time management and organisational skills, including prioritisation, multitasking, meeting deadlines, and maintaining attention to detail. Employers value analytical and problem-solving skills in these sectors, including the ability to analyse data, think critically, make informed decisions, and propose innovative solutions to challenges. Effective communication skills, both written and verbal, were identified as essential for employees in these industries. This includes active listening, clear and concise writing, presentation skills, and the ability to convey complex information to different audiences. Knowledge of computer programs and technological tools is necessary in these industries. Proficiency in Microsoft Office Suite, project management software, data visualisation tools, CRM systems, and industry- specific software was highlighted as important. These findings will inform the development of a VET (Vocational Education and Training) program designed to enhance the skills and competencies of employees in the administrative, educational, and economic sectors. Thank you to all the employers who participated in the focus groups and contributed to this valuable research.

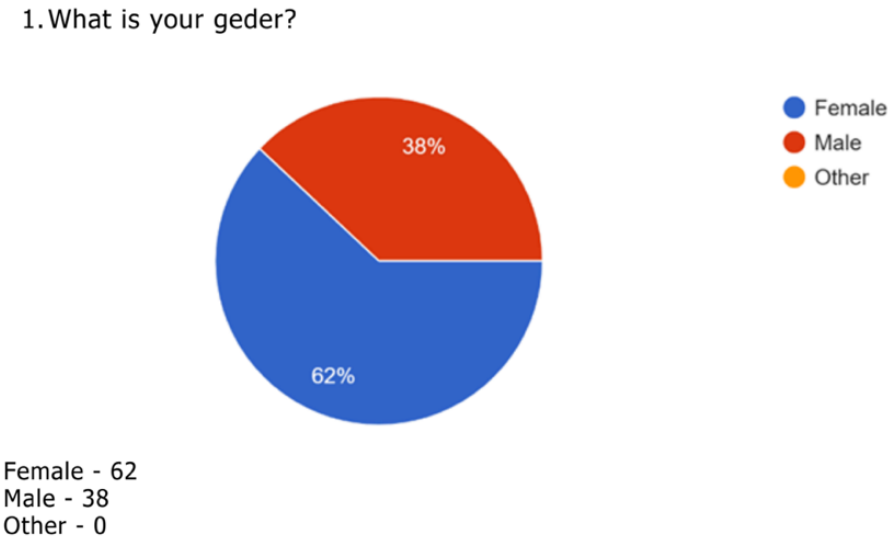
The focus groups conducted with employers in the administrative, educational, and economic sectors provided further insights into the necessary skills and qualifications for effective work in these industries. Technical Skills: Employers identified a range of technical skills that are highly sought after in these industries. Some specific examples include proficiency in programming languages, database management, web development, digital

marketing strategies, financial analysis tools, and data visualisation software. Employers emphasised the importance of staying updated with the latest technological advancements to remain competitive in the market.

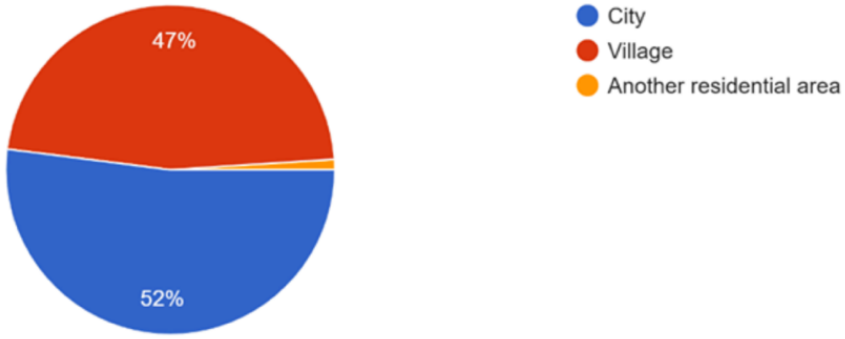
In addition to technical skills, employers recognised the significance of specific soft skills that contribute to the success of employees in these sectors. Effective communication skills, verbal and written, were identified as essential for building relationships with clients, colleagues, and stakeholders. Employers also stressed the importance of problem-solving, critical thinking, adaptability, and creativity in navigating complex challenges and driving innovation.

4.5.Desk Research employees

The Desk Research (DR) was designed with the goal of assessing the current professional competencies and identifying the developmental needs of a diverse group of individuals. By understanding the self-assessed skill levels across various domains such as technical abilities, communication, and problem-solving, the study aims to inform the creation of a targeted training program. This program will be tailored to address the specific gaps and enhance the skills necessary for professional growth and adaptability in the evolving job market. The ultimate objective is to empower participants with the tools and knowledge required to succeed in their current roles and future career endeavors.

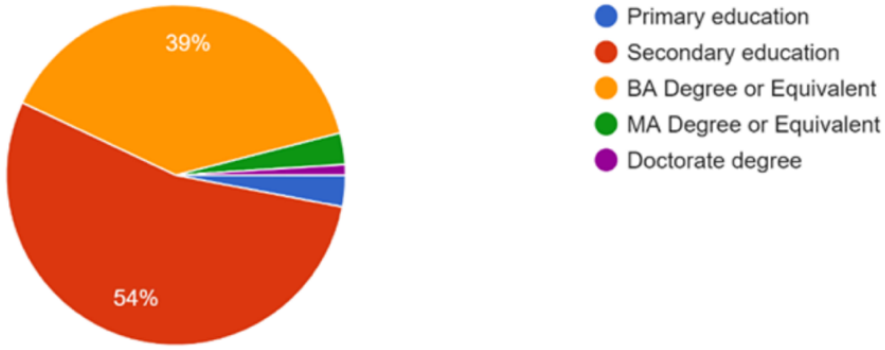


2. Where do you currently live?



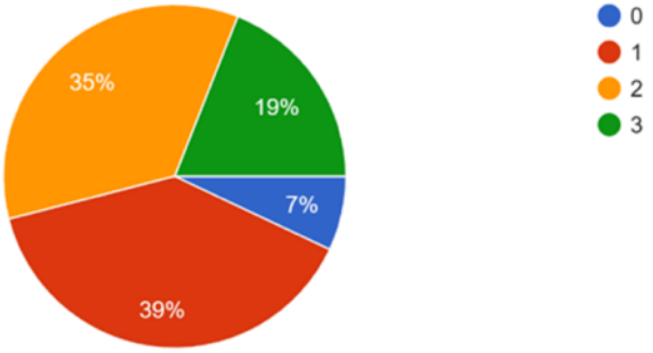
City - 52
Village – 47
Another residential area – 1

3. What is your highest completed education?



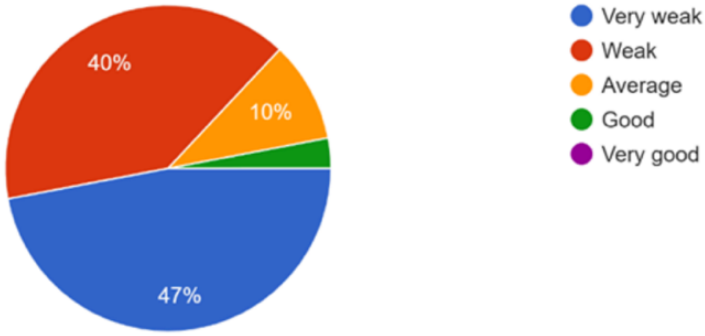
Primary education - 3
Secondary education - 54
BA Degree or Equivalent - 39
MA Degree or Equivalent - 3
Doctorate degree - 1

4. Professional experience in years



0 - 7
1 - 39
2 - 35
3 – 19

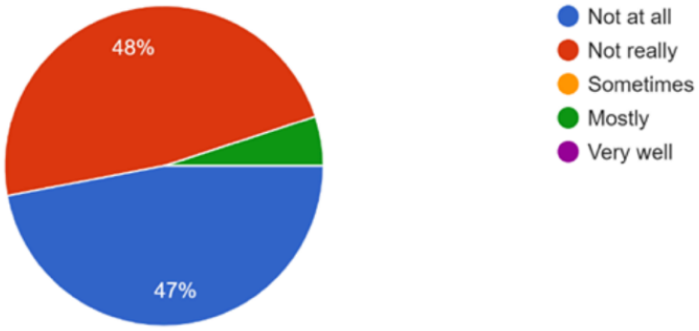
5. How would you rate your technical skills? Select only one answer.



Very weak - 47
Weak - 40
Average - 10
Good - 3
Very good - 0

6. Are you able to manage tasks effectively and yourself within a time limit?

Please select only one answer.



Not at all - 47

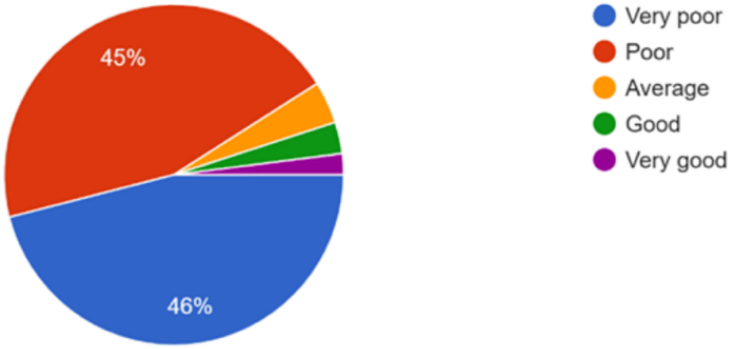
Not really - 48

Sometimes - 0

Mostly - 5

Very well – 0

7. How would you rate your communication skills? Please select only one answer.



Very poor - 46

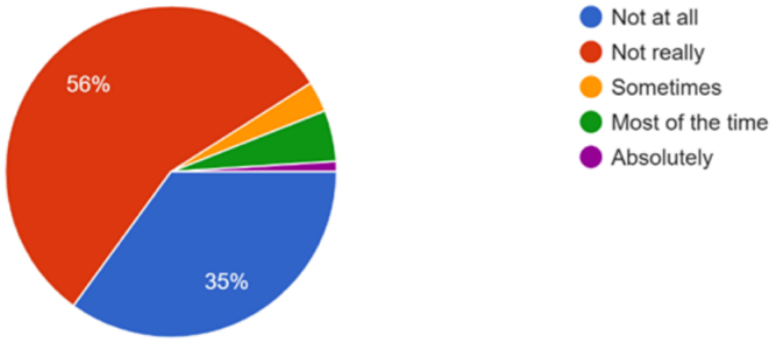
Poor - 45

Average - 4

Good - 3

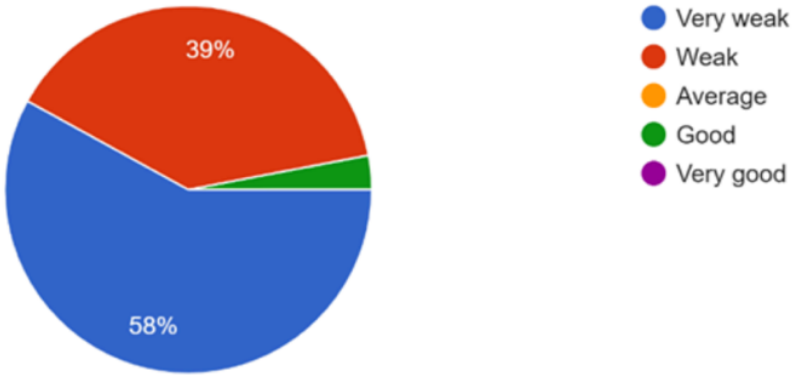
Very good - 2

8. Are you able to work effectively in a team? Please select only one answer



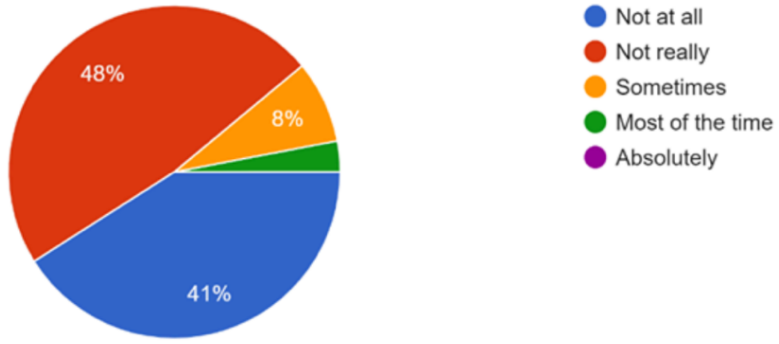
Not at all - 35
Not really - 56
Sometimes - 3
Most of the time - 5
Absolutely - 1

9. How would you rate your technical skills in programming? Please select only one answer.



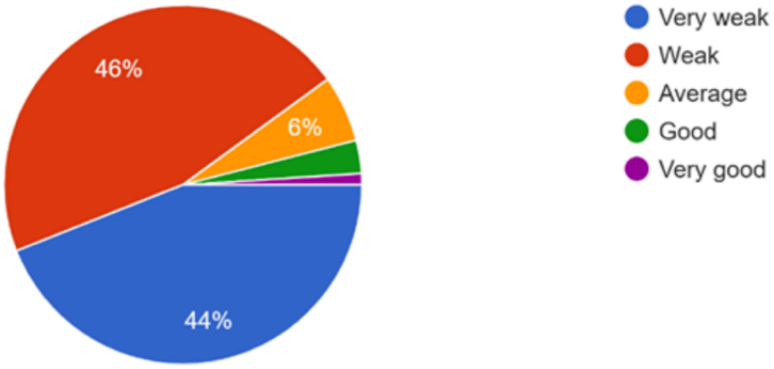
Very weak - 58
Weak - 39
Average - 0
Good - 3
Very good - 0

10. Are you able you effectively solve problems? Please select only one answer.



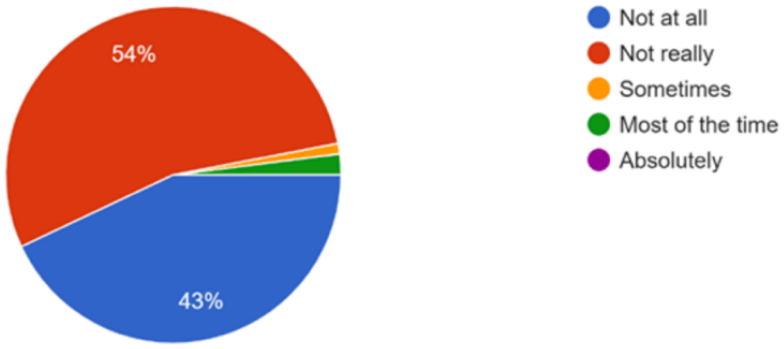
Not at all - 41
Not really - 48
Sometimes - 8
Most of the time - 3
Absolutely - 0

11. How would you rate your interpersonal skills? Please select only one answer.



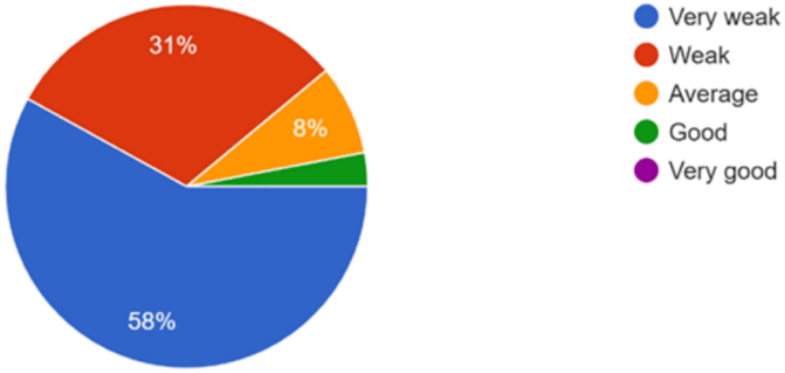
Very weak - 44
Weak - 46
Average - 6
Good - 3
Very good - 1

12. Are you able to delegate tasks effectively? Please select only one answer.



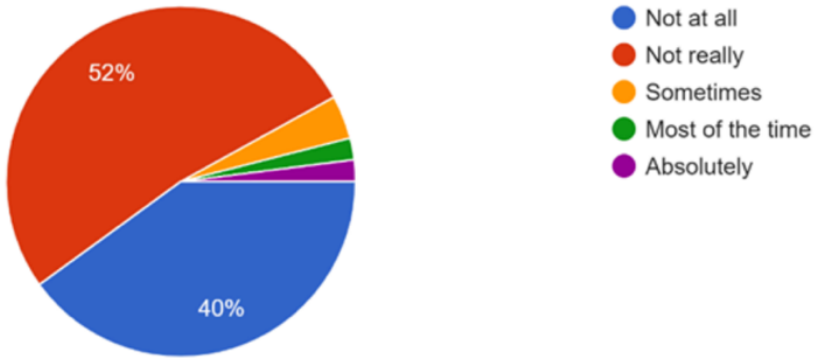
Not at all - 43
Not really - 54
Sometimes - 1
Most of the time - 2
Absolutely - 0

13. How would you rate your analytical skills? Please select only one answer.



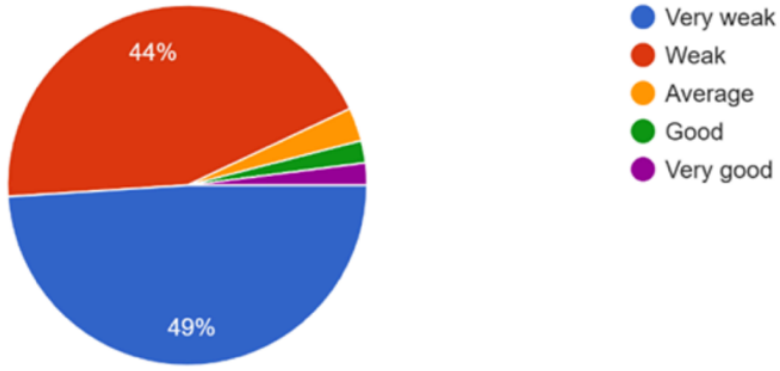
Very weak - 56
Weak - 31
Average - 8
Good - 3
Very good - 0

14. Are you able to resolve conflicts effectively? Please select only one answer.



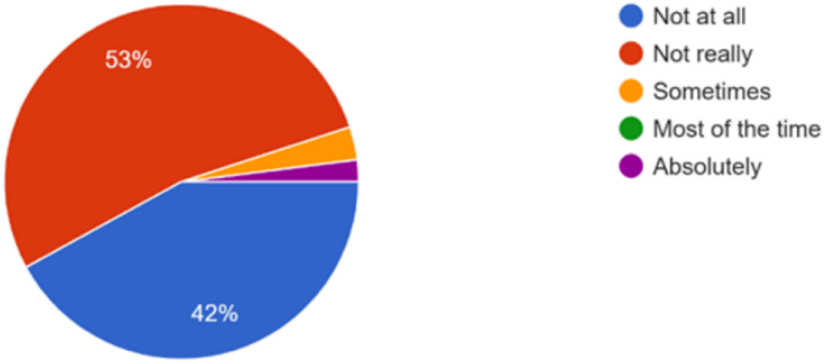
Not at all - 40
Not really - 52
Sometimes - 4
Most of the time - 2
Absolutely - 2

15. How would you rate your presentation skills? Please select only one answer.



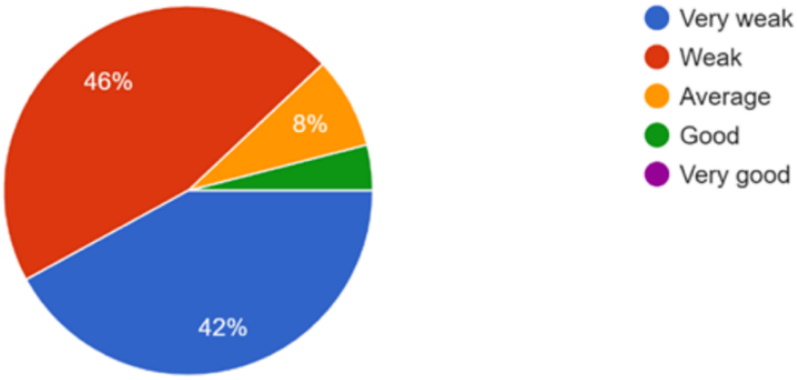
Very weak - 49
Weak - 44
Average - 3
Good - 2
Very good - 2

16. Are you able to motivate others effectively? Please select only one answer.



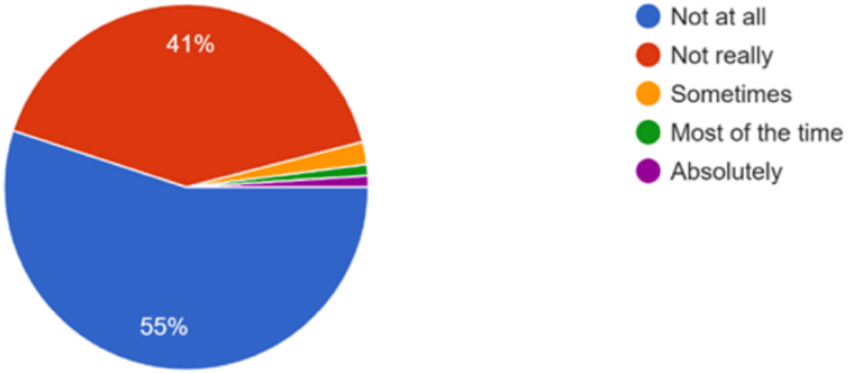
Not at all - 42
Not really - 53
Sometimes - 3
Most of the time - 0
Absolutely - 2

17. How would you rate your planning and organizational skills? Please select only one answer.



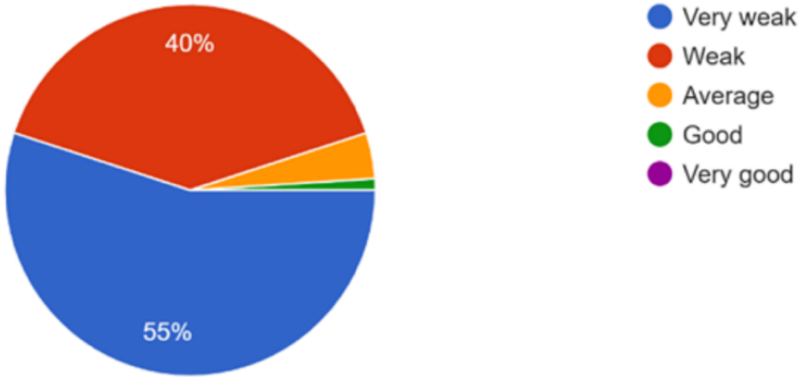
Very weak - 42
Weak - 46
Average - 8
Good - 4
Very good - 0

18. Are you able to perform effectively under pressure? Please select only one answer.



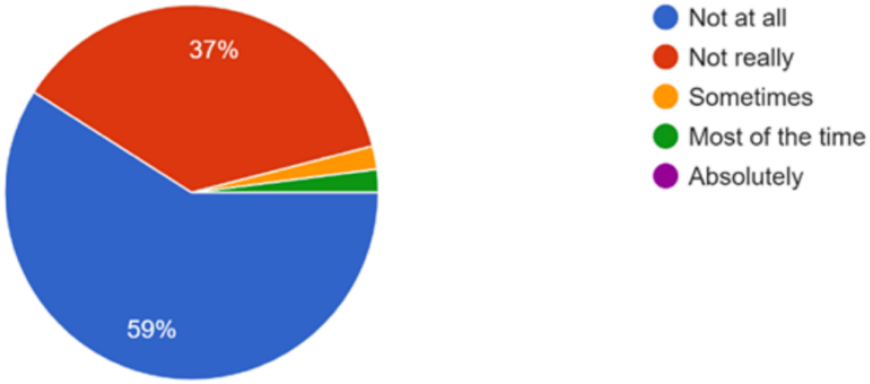
Not at all - 55
Not really - 41
Sometimes - 2
Most of the time - 1
Absolutely - 1

19. How would you rate your project management skills? Please select only one answer.



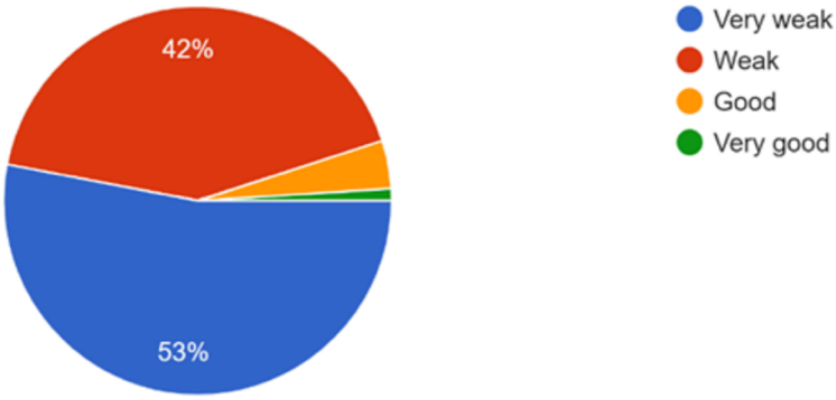
Very weak - 55
Weak - 40
Average - 4
Good - 1
Very good - 0

20. Are you able to work effectively under time pressure? Please select only one answer.



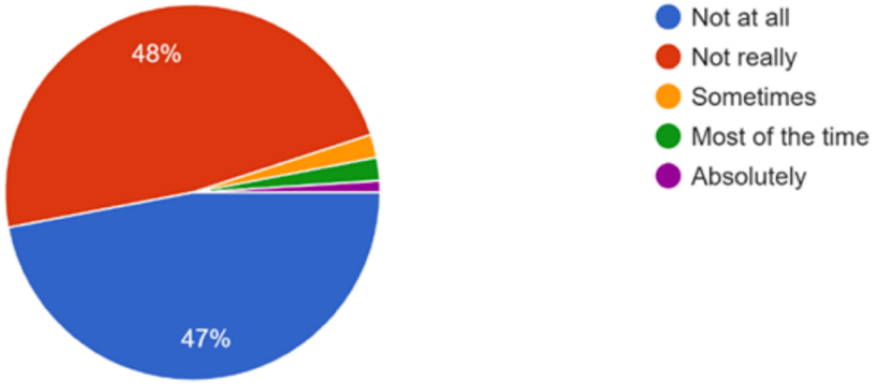
Not at all - 59
Not really - 37
Sometimes - 2
Most of the time - 2
Absolutely – 0

21. How would you rate your negotiation skills? Please select only one answer.



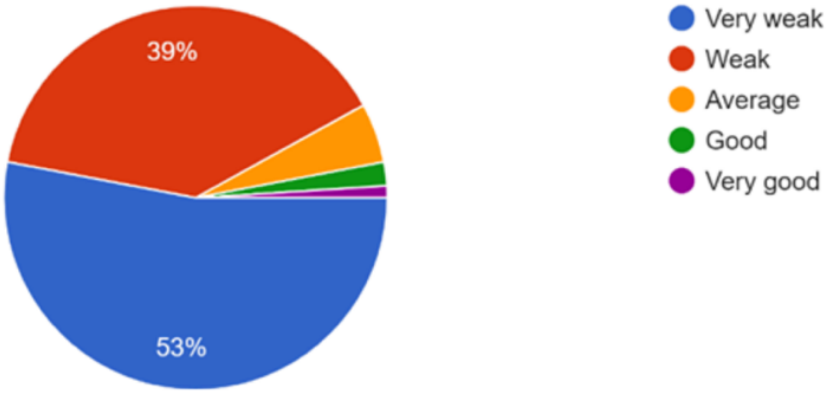
Very weak - 53
Weak - 42
Good - 4
Very good - 1

22. Are you able to solve team problems effectively? Please select only one answer.



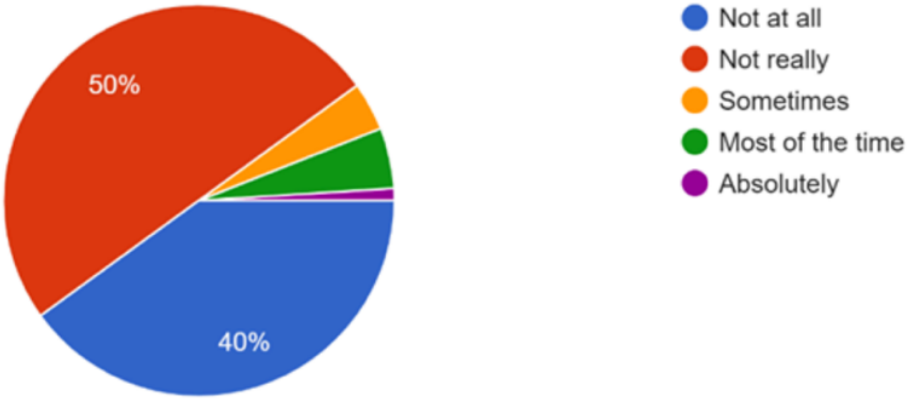
Not at all - 47
Not really - 48
Sometimes - 2
Most of the time - 2
Absolutely – 1

23. How would you rate your creative thinking skills? Please select only one answer.



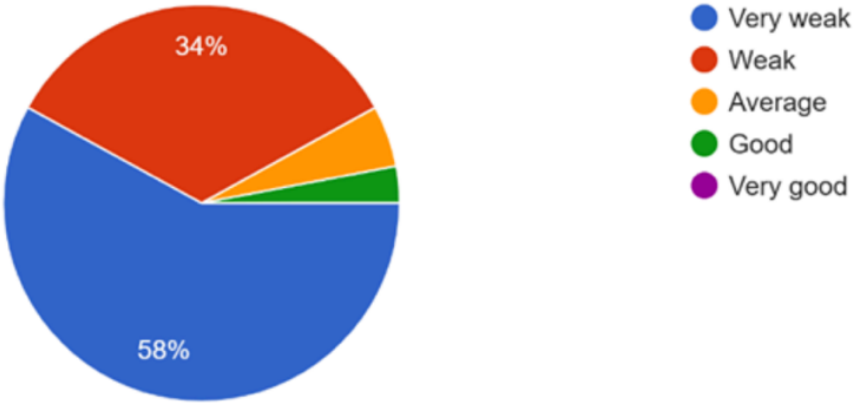
Very weak - 53
Weak - 39
Average - 5
Good - 2
Very good - 1

24. Are you able to collaborate effectively with different people? Please select only one answer.



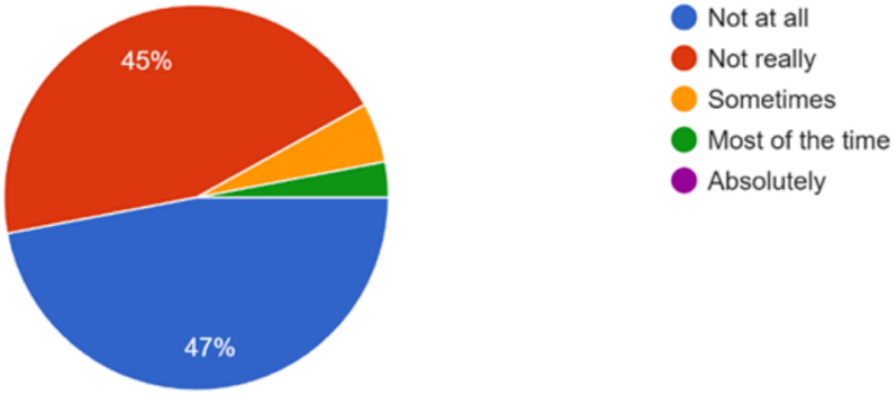
Not at all - 40
Not really - 50
Sometimes - 4
Most of the time - 5
Absolutely – 1

25. How would you rate your technical problem-solving skills? Please select only one answer.



Very weak - 58
Weak - 34
Average - 5
Good - 3
Very good - 0

26. Are you able to work effectively in a virtual team? Please select only one answer.



Not at all - 47

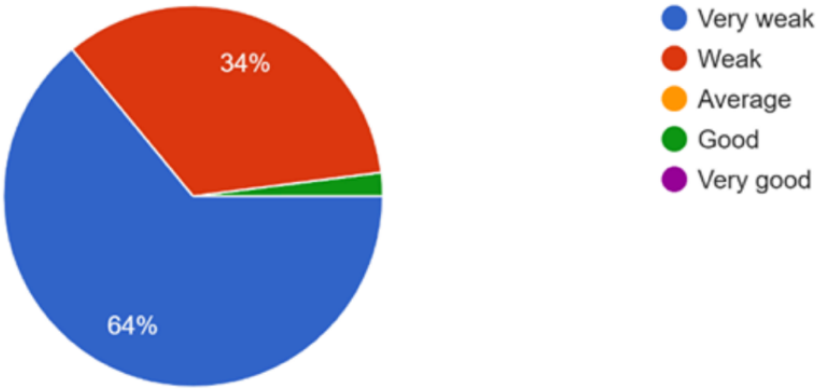
Not really - 45

Sometimes - 5

Most of the time - 3

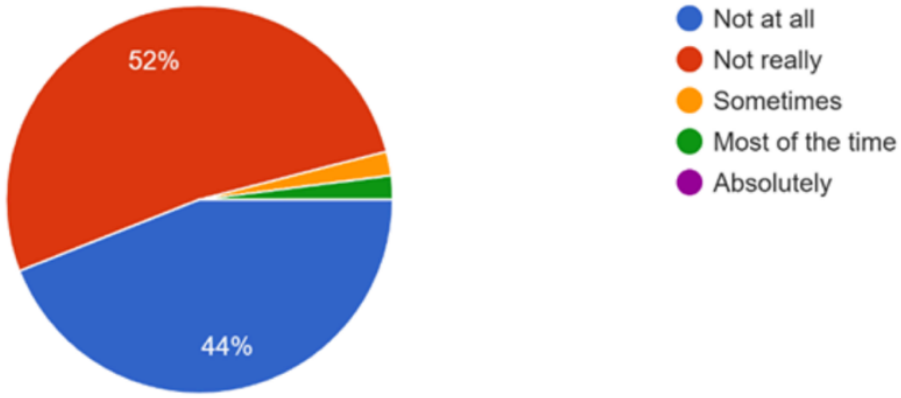
Absolutely – 0

27. How would you rate your stress management skills? Please select only one answer.



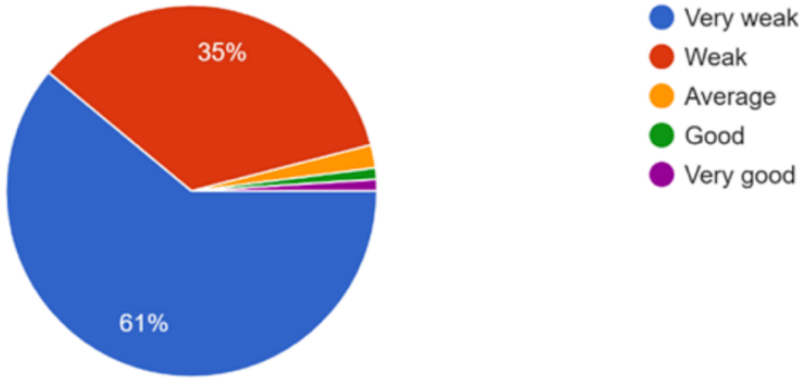
Very weak - 64
Weak - 34
Average - 0
Good - 2
Very good - 0

28. Are you able to handle difficult clients effectively? Please select only one answer.



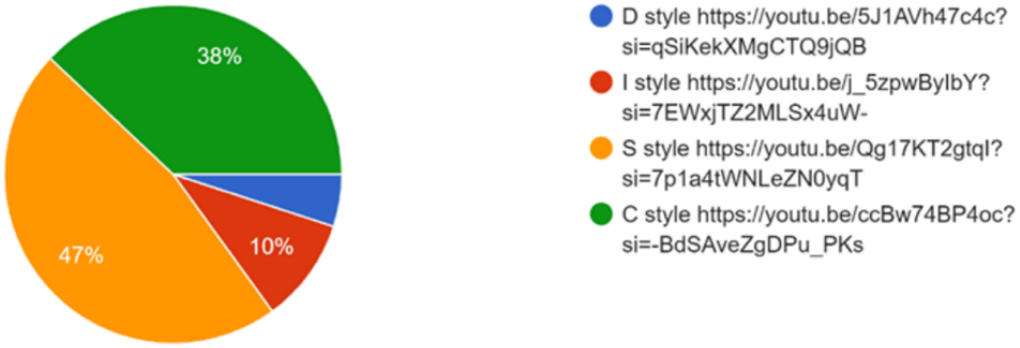
Not at all - 44
Not really - 52
Sometimes - 2
Most of the time - 2
Absolutely – 0

29. How would you rate your ability to adapt to changes? Please select only one answer.



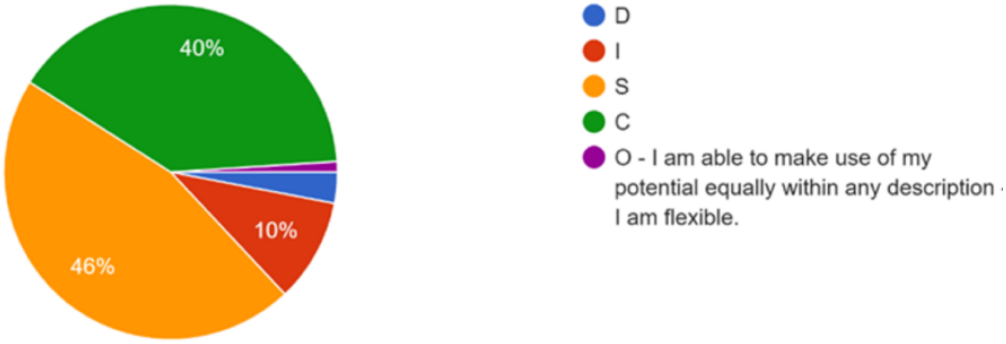
Very weak - 61
Weak - 35
Average - 2
Good - 1
Very good - 1

30. Watch each of videos and choose your preferable style:



D style https://youtu.be/5J1AVh47c4c?si=qSiKekXMgCTQ9jQB - 5
I style https://youtu.be/j_5zpwBylbY?si=7EWxjTZ2MLSx4uW- - 10
S STYLE HTTPS://YOUTU.BE/QG17KT2GTQI?SI=7P1A4TWNLEZN0YQT - 47
C STYLE HTTPS://YOUTU.BE/CCBW74BP4OC?SI=-BDSAVEZGDPU_PKS - 38

31. Choose one set of characteristics that describes you the most:



D - 3

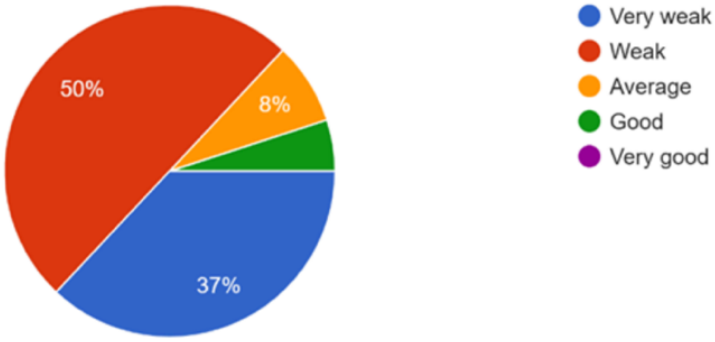
I - 10

S - 46

C - 40

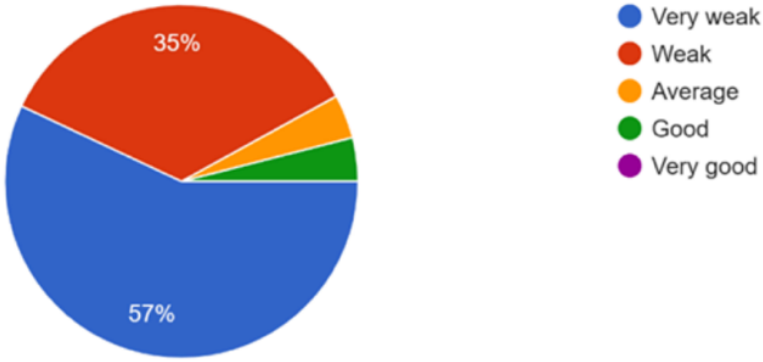
O - I am able to make use of my potential equally within any description -I am flexible – 1

32. How would you rate your professionals skills in writing your resume?



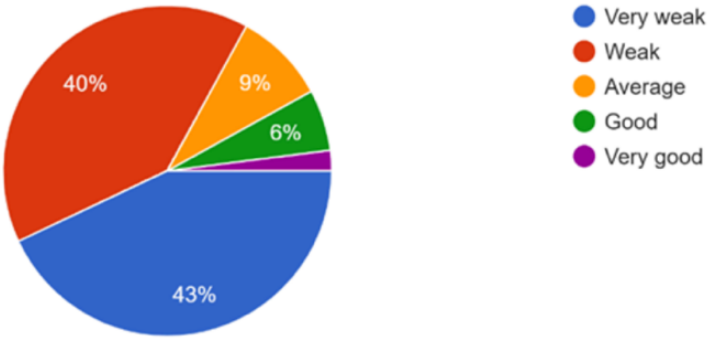
Very weak - 37
Weak - 50
Average - 8
Good - 5
Very good - 0

33. How would you rate your competence in terms of job interview?



Very weak - 57
Weak - 35
Average - 4
Good - 4
Very good - 0

34. How would you rate your professionals skills in operating with Microsoft Office?



Very weak - 43

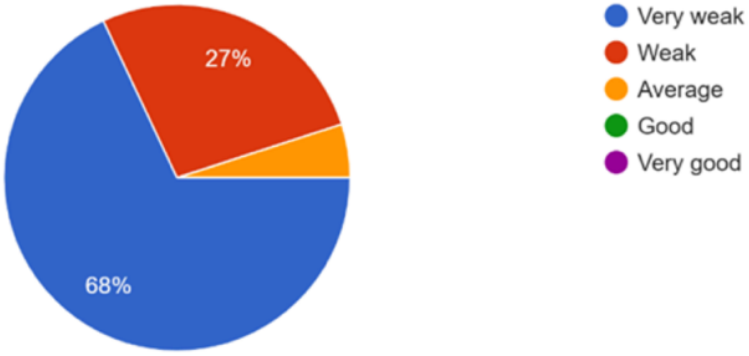
Weak - 40

Average -9

Good - 6

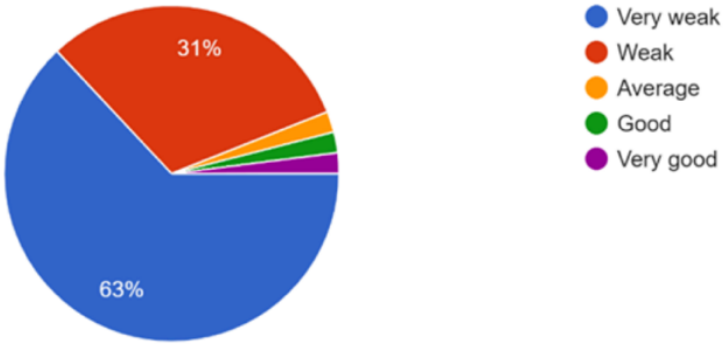
Very good – 2

35. How would you rate your practical skills in operating with Canva?



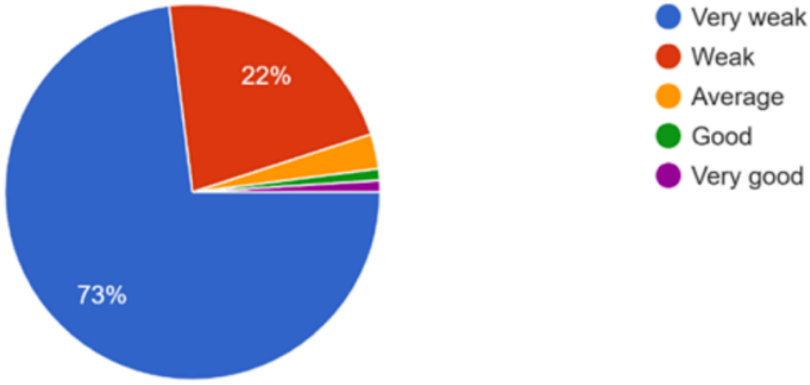
Very weak - 68
Weak - 27
Average - 5
Good - 0
Very good - 0

36. How would you rate your professionals skills in self-presentation and conducting and hosting meeting?



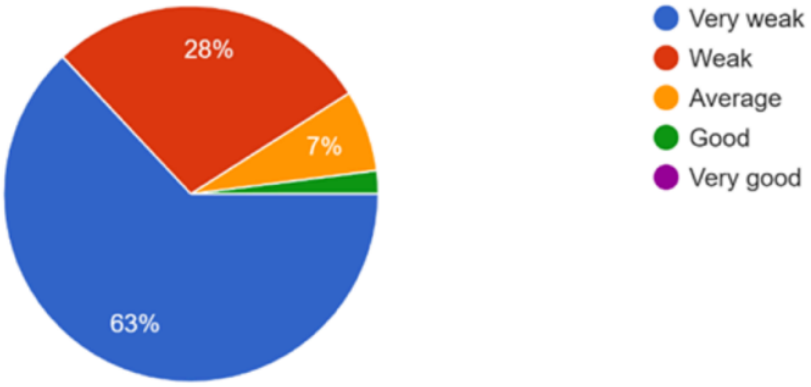
Very weak - 63
Weak - 31
Average - 2
Good - 2
Very good - 2

37. How would you rate your professionals skills in stakeholders management and service?



Very weak - 73
Weak - 22
Average - 3
Good - 1
Very good -1

38. How would you rate your professionals skills in professional social media management?



Very weak - 63

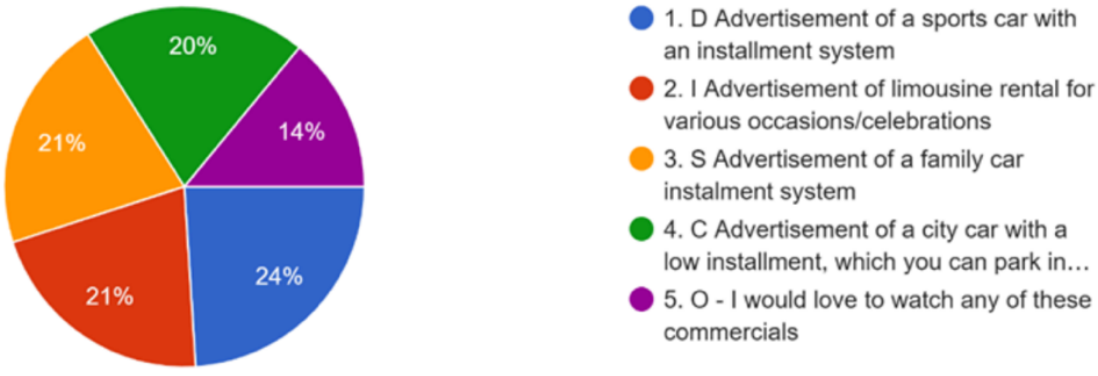
Weak - 28

Average - 7

Good - 2

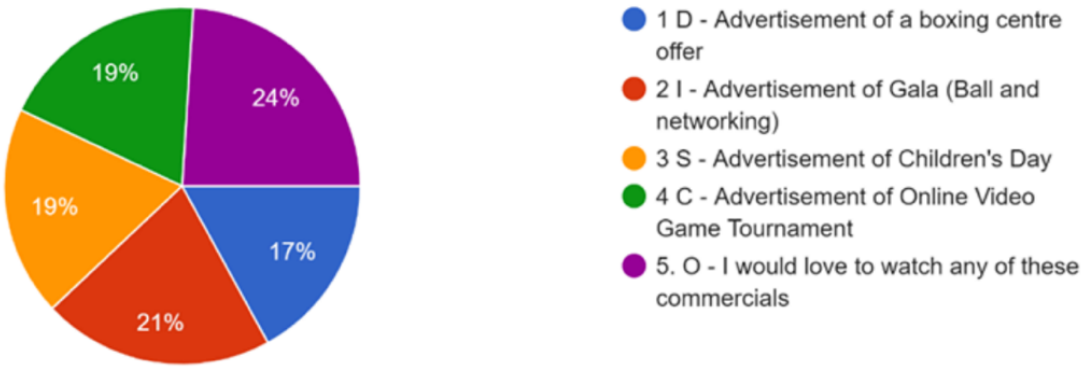
Very good – 0

39. Which advert is the most attractive for you? Choose one.



1. D Advertisement of a sports car with an installment system - 24
2. I Advertisement of limousine rental for various occasions/celebrations - 21
3. S Advertisement of a family car instalment system - 21
4. C Advertisement of a city car with allow installment, which you can park in… - 20
5. O - I would love to watch any of these commercials – 14

40.Which advert is the most attractive for you? Choose one.



1. D - Advertisement of a boxing centre offer - 17
2. I - Advertisement of Gala (Ball and networking) - 21
3. S - Advertisement of Children's Day - 19
4. C - Advertisement of Online Video Game Tournament - 19
5. O - I would love to watch any of these commercials - 24

The administrative, educational, and commercial sectors in Ireland are at the forefront of the country's workforce development strategy. The competencies required within these sectors—ranging from digital literacy and innovation to entrepreneurial skills and sustainability knowledge — reflect broader global trends and local challenges. As Ireland continues to navigate the complexities of EU integration, digital transformation, and economic uncertainties, these sectors must develop and cultivate future competencies that enable adaptability, resilience, and competitiveness. Understanding these competencies and how they are integrated into sectoral policies and practices will be essential in ensuring that Ireland's workforce remains prepared for the evolving demands of the future.

While advancements in corporate governance and port administration played a role in Ireland's economic development, challenges in educational equity and diminishing returns to higher education have highlighted the complexity of achieving sustainable progress. Ireland's continued focus on improving educational standards, as reflected in initiatives like PISA, demonstrates the ongoing importance of education as a critical factor in the country's social and economic development. However, the need to address broader structural issues in education, such as access and quality, remains paramount.

CHAPTER 5: CONTENTS AND RESULTS OF THE RESEARCH

5.1. Results of the research

This chapter examines the current state of VET in Ireland and summarize the results of the research. It answers the research questions and identifies key challenges, and proposes strategies to enhance its effectiveness.

The alignment between employers' needs and employees' competencies remains a critical challenge in Ireland's labor market, particularly within the administrative, educational, and commercial sectors. Rapid technological advancements, evolving industry requirements, and changes in global work dynamics have significantly widened the skills gap, leaving employers struggling to find suitably skilled candidates. Simultaneously, employees and job seekers often face barriers to upskilling or reskilling, resulting in underutilized talent and lost productivity opportunities.

Research indicates that several factors contribute to this misalignment, including mismatched educational outcomes, limited access to continuous professional development, and insufficient collaboration between industry and academic institutions. In Ireland, while strides have been made to address these challenges—such as through initiatives like the National Skills Strategy 2025 and Skillnet Ireland—there remains a pressing need for a more cohesive and dynamic framework that bridges the divide.

This research explores strategies to improve workforce readiness and reduce the skills gap by examining best practices, innovative training models, and collaborative solutions. In doing so, it emphasizes the importance of aligning educational curricula with industry demands, fostering partnerships between employers and training institutions, and promoting lifelong learning opportunities. The ultimate goal is to equip Ireland's workforce with the skills necessary to meet present and future demands, thereby enhancing productivity, economic growth, and job satisfaction across sectors.

Vocational Education and Training (VET) has become a critical component of its education and workforce development strategy. VET serves as a bridge between education and the labor market, addressing skills shortages and fostering economic growth. However, the rapid pace of technological advancements, globalization, and sustainability challenges necessitates a reimagining of VET to ensure its relevance and effectiveness.

The strategies are grounded in the Competencies 4.0 framework, emphasizing adaptability, digital literacy, green skills, and lifelong learning. The core of the chapter focuses on the presentation of reserch results, which are organized in alignment with the research questions. Key themes, trends, and patterns that emerged from the data are detailed, supported by appropriate evidence such as quotes, tables, graphs, or charts.

The findings are carefully connected to the research objectives, with attention given to any unexpected results that emerged during the analysis. Following the presentation of findings, the chapter offers a thorough analysis and interpretation. This includes a thematic analysis of the results, highlighting significant insights and drawing connections between the findings and existing literature. The analysis also discusses how the results contribute to addressing the research questions, while considering their implications within the theoretical framework. Additionally, the chapter reflects on unexpected outcomes, examining their relevance and potential impact on the overall research conclusions. The chapter concludes with a reflection on the research process, offering insights into how methodological choices and potential biases may have influenced the findings. A summary of the key results and their significance is provided, along with a transition to the subsequent chapter, which will explore the broader implications and contributions of the research. Through this structured approach, chapter 4 ensures a comprehensive and critical presentation of the research findings, laying the foundation for the discussion and conclusions to follow.

A mixed-method approach is essential for addressing the multifaceted and dynamic nature of the workforce challenges faced by these sectors in the context of the evolving global economy. The decision to use CAWI, focus groups, and desk research is informed by the unique advantages these methods offer in capturing both qualitative and quantitative data, ensuring the research findings are robust, reliable, and grounded in the specific contexts of Ireland's key sectors. CAWI allows for the rapid distribution and collection of surveys across a diverse geographic region. Given the broad scope of the study, CAWI enables the researcher to reach a wide range of participants, including administrators, educators, business leaders, and employees across Ireland. This is especially important in the context of Ireland's dispersed population and its diverse regional economic landscape. CAWI also offers a high level of anonymity to participants, which can increase the likelihood of receiving honest and unbiased responses. Given the sensitive nature of certain topics, such as workforce competencies, technological adaptation, and strategic decision-making, CAWI ensures that individuals feel

comfortable sharing their perspectives without concerns over privacy. The structured nature of CAWI allows for the collection of quantitative data, which can be easily analyzed and compared across different sectors. This is particularly useful for generating statistical insights on competencies in the administrative, educational, and commercial sectors, and for identifying common trends and challenges that may exist. In the context of this research, CAWI is used to gather data on the current and future skills and competencies in the three sectors, as perceived by key stakeholders. These stakeholders include government officials, business leaders, educators, and employees who are directly involved in shaping and responding to the evolving workforce demands in Ireland.

While CAWI offers a broad and quantitative perspective, focus groups provide in-depth qualitative insights that are crucial for understanding the complex nuances and underlying reasons behind the views, perceptions, and experiences of participants. Focus groups involve guided discussions among small groups of individuals from a targeted demographic. In this study, focus groups are conducted within each of the three sectors: administrative, educational, and commercial. Focus groups allow for detailed conversations on topics related to the future competencies of the workforce. Through open-ended questions and group dynamics, participants can express their opinions, share personal experiences, and discuss challenges and opportunities they face in adapting to future skills demands. This qualitative data complements the quantitative findings from CAWI, providing a deeper understanding of sector-specific issues. Competencies of the future, such as adaptability, digital literacy, and emotional intelligence, are multifaceted and often difficult to capture through structured surveys alone. Focus groups allow participants to elaborate on their experiences and challenges in these areas, offering insights into how they view the competencies required for the future workforce.

The interactive nature of focus groups fosters a collaborative environment where participants can build on each other's ideas, leading to richer discussions and a broader range of insights. This is particularly useful for understanding the shared experiences of participants from similar professional backgrounds, and for uncovering common themes that may be critical in shaping policy recommendations. By conducting separate focus groups within the administrative, educational, and commercial sectors, the research can delve into the unique challenges and opportunities faced by each sector. For instance, the administrative sector may focus on leadership competencies, while the educational sector may discuss the integration of digital tools and curricula. Focus groups provide the opportunity to explore these sector-specific

needs in more depth. In this research, focus groups will be used to explore the perception of future competencies by industry experts, practitioners, and stakeholders within each sector. Discussions will center around how these competencies are being integrated into current training programs, organizational practices, and government policies.

Desk research refers to the process of gathering and analyzing secondary data from existing sources such as reports, academic studies, government publications, and sector-specific documents. Desk research serves as a foundational component of the methodology, providing a contextual framework for understanding the current state of competencies within the administrative, educational, and commercial sectors in Ireland. It provides background information on the national and sectoral policies, strategies, and frameworks that are guiding workforce development in Ireland. Desk research enables the researcher to identify existing competency frameworks and their application within Ireland's administrative, educational, and commercial sectors. Desk research allowed to compare Irish employers needs and approaches to workforce competency of employees and their needs. By reviewing comparative results bot of the gropus this summary will evaluate gaps, strengths and weaknesses in preparing its workforce of employees for future demands of employers and a labour market in Ireland.

Main Research Question

How can the alignment between employers' needs and employees' competencies in Ireland be improved to bridge the skills gap and enhance workforce readiness, particularly in the administrative, educational, and commercial sectors?

Sub-Research Questions

6. **What are the key competencies and skills that are currently in demand by employers in Ireland's administrative, educational, and commercial sectors?**

5.2. CAWI research results employers

The research analysis aims to explore the competencies necessary for individuals, particularly those with limited professional experience, to adapt and thrive in the economic landscape. The demographic data of the participants provides a backdrop for the study, revealing a diverse group with varied educational and professional backgrounds.

Participant Demographics:

Gender Distribution: The study included a nearly balanced gender representation, with females constituting 54% and males 46%.

Residential Distribution: A significant majority of the participants reside in rural areas (62%), with the rest living in urban settings (38%).

Educational Attainment: The respondents are highly educated, with the bulk holding Master's degrees or equivalent (71%). Bachelor's degree holders account for 23%, while a small fraction has completed secondary education (4%) or holds Doctorate degrees (2%).

Professional Experience: The experience levels of participants are skewed towards the higher end, with 43% having 11-15 years of experience and 42% having over 15 years. A smaller segment has 5-10 years (14%), and a minimal number have 0-5 years (1%) of experience.

This demographic information is crucial as it influences the design and implementation of the educational program. The high level of education among participants suggests that the program can incorporate advanced concepts and methodologies. The significant professional experience of many participants indicates that the program should not only introduce basic skills but also focus on enhancing existing competencies and introducing new, relevant skills that align with current market demands.

Research objectives: the primary objective of the research was to identify the key competencies and skills that are currently in demand by employers, as well as those that will be important in the future. This involved analyzing the expectations of employers and managers regarding the skill sets of employees, especially those with less professional experience. The research sought to bridge the gap between the existing skills of the workforce and the competencies required for economic adaptation and success.

Research methodology: the study utilized a comprehensive survey approach, engaging employers and managers to gather detailed insights into the competencies they value.
The survey covered a wide range of skills, from technical abilities to soft skills like communication and teamwork.The methodology ensured a thorough understanding of the current labor market needs and future trends.

Implications for educational program development: the findings from this research are instrumental in shaping an educational program that is responsive to the needs of the labor

market. The program developers can leverage this data to create a curriculum that is both relevant and forward-looking, equipping participants with the skills necessary to succeed in a dynamic economic environment. The program should be flexible, allowing for customization based on individual needs and backgrounds, and should include continuous learning opportunities to keep pace with the evolving demands of employers.

The research provides a comprehensive analysis of the competencies required for economic adaptation. It offers a clear direction for the development of an educational program that addresses the skill gaps identified, ensuring that participants are well-prepared to meet the challenges of the modern workplace.

The research results states as follow: Q5: technical skills are highly valued, with a majority considering them either necessary (46) or crucial (35) for workplace performance. 1% sees them as somewhat necessary, 18% as moderately necessary. The strong emphasis on technical skills underscores their importance in today's work environment, reflecting the need for a technically proficient workforce.

7. What competencies are expected to be crucial for future workforce readiness in these sectors?

Q6: Time and task management skills are overwhelmingly seen as crucial (62) or necessary (31) for employee competence, with few considering them moderately necessary (7). Conclusion: the strong consensus on the importance of time and task management skills highlights their critical role in workplace efficiency and productivity.

Q7: Communication skills are highly prioritized, with a strong majority considering them necessary (53) or crucial (44) for employee competencies. Conclusions: the data underscores the critical importance of communication skills, including non-violent and transformative communication, in the workplace.

Q8: Teamwork skills are overwhelmingly seen as crucial (49) or necessary (43) for employee competencies, with few considering them moderately necessary (8). Conclusion: the strong emphasis on teamwork skills reflects their perceived importance in collaborative work environments and successful project execution.

Q9: Programming skills are recognized as moderately necessary by a majority (54), with a significant number considering them crucial (34) or necessary (11) for their company. Conclusion: programming skills are considered important, with a strong inclination towards them being more than just moderately necessary, indicating their relevance in today's workplace.

Q10: Conflict resolution skills are highly valued, with most employers considering them necessary (56) or crucial (39) for their company. Conclusion: the data underscores the importance of conflict resolution skills in the workplace, highlighting them as essential for maintaining a cohesive work environment.

Q11: Self-presentation skills are deemed highly important, with the majority of employers finding them necessary (54) or crucial (45) in their company. Conclusion: the strong emphasis on self-presentation skills indicates their perceived value in professional settings, particularly for creating positive impressions and effective communication.

Q12: The ability to work under pressure is highly prioritized, with a significant majority considering it crucial (58) or necessary (38) in the workplace. Conclusion: the consensus indicates that handling pressure is a key skill, essential for maintaining performance and meeting deadlines in high-stress situations.

Q13: MS Office proficiency is unanimously considered a significant skill, with all respondents finding it either necessary (47) or crucial (53) for employees. Conclusion: the unanimous response highlights the universal importance of MS Office skills in the workplace, reflecting their role in daily business operations.

Q14: The ability to use online meeting tools is widely recognized as important, with most respondents considering it necessary (50) or crucial (47) for potential hires. Conclusion: the strong consensus on the importance of online meeting skills reflects the modern workplace's reliance on digital communication platforms.

Q15: Delegating tasks is considered a significant skill, with a large number of employers finding it crucial (49) or necessary (31) for employees they wish to hire. Conclusion: the data indicates that the ability to delegate effectively is highly valued in the workplace, reflecting its importance in efficient task management and leadership.

Q16: Analytical skills are highly regarded, with employers considering them necessary (41) or crucial (36), and a notable number seeing them as moderately necessary (23). Conclusion: the data reflects a strong demand for analytical skills in the workplace, emphasizing their importance in problem-solving and decision-making processes.

Q17: The ability to motivate others is seen as a significant skill, with most employers considering it necessary (57) or crucial (31), and some viewing it as moderately necessary (12). Conclusion: the responses indicate that motivational skills are highly valued in the workplace, essential for leadership roles and team dynamics.

Q18: Organizing and motivating others are predominantly viewed as necessary (52) or crucial (43), with a small number considering them moderately necessary (5). Conclusion: the strong emphasis on these skills indicates their importance for leadership and team cohesion within companies.

Q19: The ability to work under pressure is overwhelmingly considered crucial (59) or necessary (39) by employers, with very few viewing it as moderately necessary (2). Conclusion: the strong emphasis on this skill highlights its critical importance in the workplace, especially for roles that involve tight deadlines and high-stakes decisions.

Q20: Negotiation skills are highly valued, with the majority of employers considering them crucial (59) or necessary (35), and a few viewings as moderately necessary (6). Conclusion: the strong emphasis on negotiation skills indicates their importance in the workplace, particularly for roles that involve decision-making and conflict resolution.

Q21: Creative thinking skills are widely recognized as important, with most employers considering them necessary (53) or crucial (32), and some as moderately necessary (15). Conclusion: the emphasis on creative thinking skills reflects their value in innovation and problem-solving within the workplace.

Q22: Skills for working in virtual teams are widely acknowledged as important, with most employers rating them as necessary (56) or crucial (34), and a smaller group as moderately necessary (10). Conclusion: the data indicates a strong demand for virtual teamwork skills, reflecting the increasing trend of remote work and global collaboration.

Q23: Stress coping skills are unanimously considered important, with all employers finding them either necessary (53) or crucial (47). Conclusion: the unanimous importance placed on

stress coping skills highlights their critical role in maintaining employee well-being and productivity.

Q24: Skills in handling difficult customers are overwhelmingly seen as crucial (60) or necessary (38), with very few considering them moderately necessary (2). Conclusion: the strong emphasis on these skills indicates their critical importance in customer-facing roles and maintaining high-quality service standards.

Q25: The D style is the most preferred employee style, chosen by a majority (51), while the I, S, and C styles are equally preferred by fewer respondents (15, 17, 17 respectively). Conclusion: the preference for the D style suggests that employers value decisiveness, assertiveness, and results-oriented characteristics in employees.

Q26: The D Red style is the most preferred, with a clear majority (51) selecting it, while the I Yellow, S Green, and C Blue styles are less favoured (15, 17, 17 respectively). Conclusion: the strong preference for the D Red style suggests employers' value assertive, result-oriented, and risk-taking characteristics in employees.

Q27: Multitasking is unanimously seen as an important skill, with all employers considering it either necessary (38) or crucial (62) for their employees. Conclusion: the unanimous importance placed on multitasking skills underscores their perceived value in managing multiple tasks efficiently in today's fast-paced work environment.

Q28: The ability to work in a global multicultural environment is unanimously seen as important, with all employers considering it either necessary (48) or crucial (52). Conclusion: the unanimous importance placed on this ability highlights its critical role in today's interconnected and diverse work settings.

Q29: Writing skills, including e-mails, memos, and projects, are unanimously considered important, with all employers finding them either necessary (39) or crucial (61). Conclusion: the unanimous importance placed on writing skills underscores their critical role in professional communication and documentation.

Q30: The survey shows a balanced view on the importance of hard and soft skills, with a slight majority favouring an equal emphasis on both (50/50). Conclusion: The close split suggests that employers recognize the value of both technical expertise and interpersonal abilities in their employees.

The research aimed to identify and develop a non-school educational program to enhance adaptation in the economic life of individuals with little to no professional experience. The goal was to make them more attractive to the labour market as employees or micro-entrepreneurs. The research unfolded in phases, starting with identifying current and future competencies expected by employers, followed by creating an educational program based on these findings, and culminating in pilot training sessions. The research involved a detailed survey targeting employers and managers to understand the desired competencies and skills in the workforce. The survey covered various aspects, including technical skills, time and task management, communication, teamwork, programming, conflict resolution, self-presentation, working under pressure, MS Office proficiency, online meeting tools, delegation, analytical skills, motivation, organizing, negotiation, creative thinking, virtual teamwork, stress coping, customer handling, and the balance between hard and soft skills.

What are the expectations of employers regarding the skill sets and competencies of employees in the administrative, educational, and commercial sectors in Ireland?

Key findings:

1. technical skills considered necessary or crucial by most employers, indicating the need for a technically proficient workforce.
2. time and task management overwhelmingly valued, highlighting their role in workplace efficiency.
3. communication skills seen as essential, including non-violent and transformative communication.
4. teamwork critical for collaborative work environments.
5. programming skills important, especially as technology becomes more integral to business operations.
6. conflict resolution is also essential for maintaining a cohesive work environment.
7. self-presentation: highly valued for creating positive impressions.
8. working under pressure: a key skill for performance in high-stress situations.
9. MS Office proficiency: universally important for daily operations.
10. online meeting tools: reflecting the reliance on digital communication platforms.
11. delegation: important for leadership and efficient task management.
12. analytical skills: in demand for problem-solving and decision-making.

13. motivation: essential for leadership roles and team dynamics.
14. organizing: important for leadership and team cohesion.
15. negotiation: critical for decision-making and conflict resolution.
16. creative thinking: valued for innovation and problem-solving.
17. virtual teamwork: important due to the trend of remote work.
18. stress coping: critical for maintaining well-being and productivity.
19. customer handling: crucial for customer-facing roles.
20. hard vs. soft skills: a balanced view, with a slight preference for an equal emphasis on both.

Conclusions:

The research highlighted the importance of both hard and soft skills, with a slight preference for a balanced approach. Employers value a range of competencies, from technical skills to interpersonal abilities, reflecting the diverse demands of the modern workplace.

Recommendations:

The educational VET programs should be comprehensive, addressing the identified skills gaps and focusing on practical application. It should cater to individuals with varying levels of experience and provide continuous learning opportunities. The program should also be adaptable, reflecting the dynamic nature of the labour market and the evolving needs of employers. The research provides valuable insights into the competencies valued by employers, which can inform the development of effective educational programs aimed at enhancing employability and economic adaptation.

What are the strengths and limitations of existing initiatives and policies aimed at addressing the skills gap in Ireland?

Vocational Education and Training (VET) plays a pivotal role in equipping Ireland's workforce with the skills required to meet evolving economic and technological demands. Despite significant progress in recent years, challenges such as skills mismatches, regional disparities, and limited collaboration between stakeholders persist. This article explores strategies to enhance VET in Ireland by aligning it with industry needs, integrating digital and green competencies, fostering inclusivity, and strengthening partnerships among educational institutions, government agencies, and employers. Recommendations are based on empirical evidence, policy analysis, and best practices from international contexts.

Enhancing VET in Ireland requires a multifaceted approach that addresses both systemic and sector-specific challenges. By aligning VET programs with industry needs, integrating digital and green competencies, fostering inclusivity, and promoting lifelong learning, Ireland can create a robust and future-ready workforce. Stakeholder collaboration and leveraging international best practices will be pivotal in achieving these goals. As the global economy continues to evolve, a dynamic and responsive VET system will be instrumental in ensuring Ireland's economic competitiveness and social cohesion.

5.3. Focus group research results employers

Sub-Research Questions

1. What are the key competencies and skills that are currently in demand by employers in Ireland's administrative, educational, and commercial sectors?

12 Expanded Discussion and Focus Group Results

Professional/Educational Experience: When it comes to hiring for these industries, employers expressed a preference for candidates with a combination of relevant professional experience and educational qualifications. For administrative roles, experience in office management, project coordination, and customer service was valued. In the educational sector, teaching experience, curriculum development expertise, and knowledge of educational policies and systems were emphasised. In the economic sector, experience in financial analysis, market research, and business development played a crucial role. Trends and Technologies: Employers highlighted various trends and technologies that are currently influencing the required competencies in these sectors. Automation and artificial intelligence are transforming administrative tasks, while e-learning platforms and virtual collaboration tools are reshaping the educational landscape. In the economic sector, big data analytics, blockchain technology, and sustainable business practices are gaining prominence. Employers stressed the importance of being adaptable and continuously updating skills to stay abreast of these trends. Interpersonal Skills: Employers emphasised the significance of strong interpersonal skills for employees in these industries. Building and maintaining relationships with clients, colleagues, and stakeholders is crucial. Employers highlighted the need for empathy, cultural sensitivity,

negotiation skills, and conflict resolution abilities. Effective teamwork and collaboration were also identified as key for achieving organisational goals. Certifications and courses: certain certifications and courses were highly regarded by employers in these sectors. For administrative roles, certifications in project management, office administration, and customer service were valued. In the educational sector, teaching certifications such as TESOL and subject-specific certifications were considered important. In the economic sector, certifications such as CFA (Chartered Financial Analyst) and industry specific courses in finance, marketing, or business management were well-regarded. Time management and organisational skills: employers emphasised the importance of employees having strong time management and organisational skills. Being able to prioritise tasks, meet deadlines, and manage multiple projects simultaneously were identified as crucial competencies.

Attention to detail, accuracy, and the ability to work efficiently under pressure were also highlighted. Analytical and problem-solving skills: analytical and problem-solving skills were identified as important attributes for employees in these sectors. The ability to collect and analyse data, identify patterns, make informed decisions, and propose effective solutions to challenges were valued by employers. Critical thinking, creativity, and a proactive approach to problem solving were also highlighted. Communication skills: effective communication skills were considered essential for employees in these industries.

Employers emphasised the need for clear and concise written and verbal communication. Active listening, the ability to convey complex information in a simplified manner, and presentation skills were identified as important for effective communication with clients, colleagues, and stakeholders. Computer programs and technological tools: knowledge of computer programs and technological tools was deemed necessary for employees in these industries. Proficiency in Microsoft Office Suite (Word, Excel, PowerPoint), project management software (e.g., Trello, Asana), data visualisation tools (e.g., Tableau), customer relationship management (CRM) systems, and industry - specific software or tools were highlighted as important for efficient workflow and productivity. As a result of the focus group the employers from each sector; administrative, educational and economic have identified specific sought after technical skills by employers.

2. What competencies are expected to be crucial for future workforce readiness in these sectors?

The results have been broken down into each sector:

Administrative Sector:

- Proficiency in office productivity software such as Microsoft Office Suite (Word, Excel, PowerPoint), Google Suite, and document management systems.
- Knowledge of project management tools like Trello, Asana, or Jira.
- Experience with customer relationship management (CRM) systems to manage client interactions and sales processes.
- Familiarity with accounting software for financial management and bookkeeping tasks.
- Competence in data entry and database management.
- Understanding of cybersecurity practices to protect sensitive information.

Educational Sector:

- Expertise in learning management systems (LMS) for online course delivery and content management.
- Knowledge of educational technology tools such as interactive whiteboards, video conferencing software, and online collaboration platforms.
- Proficiency in content creation software for designing engaging learning materials, such as Adobe Creative Suite or Canva.
- Familiarity with student information systems (SIS) for managing student data and tracking academic progress.
- Understanding of educational data analytics tools for assessing student performance and identifying areas for improvement.
- Experience with instructional design software for creating effective lesson plans and curriculum development.

Economic Sector:

- Proficiency in data analysis and statistical software like Excel, SPSS, or R for conducting financial analysis and market research.
- Knowledge of financial modeling tools for forecasting and evaluating investment opportunities.

- Experience with economic forecasting software to analyze market trends and make informed business decisions.
- Familiarity with industry-specific software such as trading platforms or ris management systems.
- Understanding of data visualization tools like Tableau or Power BI to present comple financial data in a visually appealing manner.
- Competence in using econometric software for economic modeling and simulations.

3. **What are the expectations of employers regarding the skill sets and competencies of employees in the administrative, educational, and commercial sectors in Ireland?**

These specific technical skills are highly valued by employers in their respective sectors. However, it's important to note that the specific skills required may vary depending on the organization, industry, and job role within these sectors. It is recommended for individuals to conduct further research and keep themselves updated with the latest technological advancements in their field to stay competitive in the job market. The employers further identified specific sought after soft skills by employers with administrative, educational and economic sectors.

The results identified 10 key soft skills:

1. effective communication: the ability to clearly convey ideas, listen actively, and collaborate with team members is crucial in all sectors. Good communication skills help employees build strong relationships with clients, colleagues, and stakeholders
2. adaptability: the marketing, healthcare, and technology sectors are constantly evolving, and employees need to be adaptable to changing technologies, trends, and market conditions. Being open to learning new skills and embracing change is highly valued.
3. problem-solving: employers look for employees who can identify and solve problems efficiently. Being able to think critically, analyze situations, and propose innovative solutions is a valuable skill in all sectors.
4. creativity: in marketing and technology, creativity plays a significant role in developing unique campaigns, designing engaging user experiences, and finding innovative solutions. Creative thinking helps employees stand out and bring fresh perspectives to their work.

5. time management: the ability to prioritize tasks, meet deadlines, and manage time effectively is essential in fast-paced industries. Employers value employees who can handle multiple projects and deliver high-quality work on time.
6. collaboration: working in teams is common in all sectors, and employers emphasize the importance of collaboration. Employees who can work well with others, contribute ideas, and support team goals are highly valued.
7. leadership: while leadership roles may not be the immediate goal for all employees, employers appreciate individuals who show leadership qualities. Taking initiative, motivating others, and demonstrating a strong work ethic are key attributes.
8. emotional intelligence: having empathy, self- awareness, and the ability to manage emotions is crucial in sectors like healthcare and marketing, where interactions with clients and patients require sensitivity and understanding.
9. resilience: the ability to bounce back from setbacks, handle stress, and maintain a positive attitude in challenging situations is highly regarded. Resilient employees can adapt to adversity and continue performing at a high level
10. customer focus: in marketing and healthcare, understanding and meeting the needs of customers or patients is vital. Employers value employees who prioritize customer satisfaction and strive to deliver exceptional service.

4. What are the strengths and limitations of existing initiatives and policies aimed at addressing the skills gap in Ireland?

Based on the comprehensive findings from the focus groups conducted with employers in the administrative, educational, and economic sectors, here are ten recommendations to guide the development of a Vocational Education and Training (VET) program: incorporate key technical skills: develop training modules that focus on essential technical skills identified across the sectors, including proficiency in software applications (e.g., Microsoft Office Suite, Google Suite), project management tools (e.g., Trello, Asana), and industry-specific software (e.g., CRM systems, financial modeling tools). Ensure that these modules are up-to- date with current industry standards and technologies. Emphasize soft skills development: design components of the VET program to enhance critical soft skills such as effective communication,

adaptability, problem-solving, creativity, and time management. Include interactive workshops, role-playing exercises, and teamwork projects to cultivate these skills.

5.4. Desk research results employees

The subjects of the study comprised 100 participants, with a gender distribution of 62% female and 38% male. The majority of participants reside in urban (52%) and rural (47%) areas, with single respondent from another nresidential area. In terms of educational attainment, the group presents a varied picture: the majority have completed secondary education (54%), followed by those holding a Bachelor's degree or equivalent (39%). A smaller segment has completed primary education (3%) or a Master's degree (3%), and one individual holds a Doctorate degree. Professional experience among the subjects ranges from none to three years, with 7% having no professional experience, 39% with one year, 35% with two years, and 19% with three years of experience. This demographic data provides a foundation for understanding the current skill levels and potential training needs of the participants, which will be addressed through the study's findings and subsequent recommendations for a tailored training program.

To ensure a comprehensive and future-ready program, it is vital to integrate elements that address emerging trends, industry standards, and essential skills. The program must include coverage of new and emerging trends and technologies relevant to the sectors, such as artificial intelligence, data analytics, cloud computing, and online learning platforms. Courses should provide practical, hands-on experience with these tools to ensure participants are equipped for the evolving demands of the industry. The program should offer training pathways that prepare participants for widely recognized certifications and courses that hold value in the respective sectors. Examples include project management certifications (PMP), teaching certifications (TESOL), and financial analysis certifications (CFA).

Establishing partnerships with certification bodies can facilitate credentialing and provide participants with access to valuable professional qualifications. The curriculum should be designed to align with the professional and educational experiences preferred by employers. This can be achieved by incorporating hands-on projects, internships, and practical case studies. Such components will bridge the gap between academic learning and real-world application, making participants better prepared for the workforce. Interpersonal skills are critical in any professional environment. The program should include training modules that focus on

strengthening skills such as empathy, relationship-building, and conflict resolution. Real-life scenarios can be simulated through case studies and group discussions to help participants practice and refine these skills. Time management and organizational skills are essential for maintaining productivity and meeting professional expectations. Training sessions should teach effective time management strategies and organizational techniques. Participants should be introduced to tools and techniques that help prioritize tasks, meet deadlines, and handle multiple responsibilities efficiently.

To foster strong analytical and problem-solving abilities, the program should include exercises and challenges that encourage critical thinking and data analysis. Training on decision-making processes should also be provided, ensuring participants can approach complex problems with confidence and precision. Strong communication skills are a cornerstone of professional success.

The VET program should offer specialized training on written and verbal communication, active listening, and presentation skills. Participants should have ample opportunities to practice these techniques and receive constructive feedback to refine their abilities. Proficiency in technological tools is crucial for improving efficiency and productivity in the modern workplace. The program should include training on essential computer programs and industry-specific tools, such as data visualization software (e.g., Tableau), project management applications, and other relevant technologies. Participants must gain confidence and competence in using these tools effectively. By integrating these components, the program will provide participants with the knowledge, skills, and credentials needed to excel in their respective fields, preparing them for the challenges and opportunities of the modern professional landscape. By implementing these recommendations, the VET program will be well-positioned to meet the specific needs of employers in the administrative, educational, and economic sectors, thereby enhancing the skills and competencies of current and future employees

Desk research results employees

The survey was designed with the goal of assessing the current professional competencies and identifying the developmental needs of a diverse group of individuals. By understanding the self-assessed skill levels across various domains such as technical abilities, communication,

and problem-solving, the study aims to inform the creation of a targeted training program. This program will be tailored to address the specific gaps and enhance the skills necessary for professional growth and adaptability in the evolving job market. The ultimate objective is to empower participants with the tools and knowledge required to succeed in their current roles and future career endeavours.

The subjects of the study comprised 100 participants, with a gender distribution of 62% female and 38% male. The majority of participants reside in urban (52%) and rural (47%) areas, with a single respondent from another residential area. In terms of educational attainment, the group presents a varied picture: the majority have completed secondary education (54%), followed by those holding a Bachelor's degree or equivalent (39%). A smaller segment has completed primary education (3%) or a Master's degree (3%), and one individual holds a Doctorate degree. Professional experience among the subjects ranges from none to three years, with 7% having no professional experience, 39% with one year, 35% with two years, and 19% with three years of experience. This demographic data provides a foundation for understanding the current skill levels and potential training needs of the participants, which will be addressed through the study's findings and subsequent recommendations for a tailored training program.

Q5: The survey among employees regarding their self-assessment of technical skills reveals that a significant number consider their skills to be very weak (47) or weak (40). A smaller group rates their skills as average (10), and very few view their skills as good (3). None of the respondents rated their technical skills as very good. Conclusion: the results indicate a perceived deficiency in technical skills among the employees, suggesting a need for improvement and development in this area to enhance their competencies and confidence in the workplace.

Q6: Survey Results: the survey among employees regarding their ability to manage tasks effectively within a time limit shows that a significant number struggle with this skill, with 47 respondents indicating "Not at all" and 48 choosing "Not really''. "A small group feels they can manage "Mostly" well (5), while none of the respondents feel they can manage "Very well" or even "Sometimes." Conclusion: the results highlight a notable challenge among employees in effective task and time management, suggesting a need for focused training to develop these competencies.

Q7: Survey Results: the survey among employees regarding their self-assessment of communication skills shows that a significant number consider their skills to be very poor (46) or poor (45). A small group rates their skills as average (4), good (3), or very good (2). Conclusion: the results indicate a perceived deficiency in communication skills among the employees, suggesting a need for improvement and development in this area to enhance their effectiveness in the workplace.

Q8: Survey Results: the survey among employees regarding their ability to work effectively in a team shows that many find it challenging, with 35 respondents indicating "Not at all" and 56 choosing "Not really. ''A small number feel they can work effectively "Sometimes" (3) or "Most of the time" (5), and only one respondent feels they can "Absolutely" work effectively in a team. Conclusion: the results suggest that there is a significant need for improvement in teamwork skills among employees, indicating a gap that could be affecting team performance and cohesion.

Q9: Survey Results: the survey among employees regarding their technical skills in programming shows that a significant majority consider their skills to be very weak (58) or weak (39). A small number rate their skills as good (3), while none of the respondents rated their programming skills as average or very good. Conclusion: the results indicate a substantial need for programming skills development among employees, suggesting that many feel underprepared in this area, which is increasingly important in the modern workplace.

Q10: Survey Results: the survey among employees regarding their problem-solving abilities indicates that many find it challenging, with 41 respondents feeling they cannot solve problems effectively "Not at all" and 48 choosing "Not really. ''A small number believe they can solve problems "Sometimes" (8) or "Most of the time" (3), while none feel they can "Absolutely" solve problems effectively. Conclusion: the results suggest a significant need for development in problem- solving skills among employees, indicating a gap that could be impacting their performance and the overall problem-solving capacity within the workplace.

Q11: Survey Results: the survey among employees regarding their interpersonal skills shows that a significant number consider their skills to be very weak (44) or weak (46). A small group rates their skills as average (6), good (3), or very good (1). Conclusion: the results indicate a perceived deficiency in interpersonal skills among the employees, suggesting a need for

targeted improvement and development in this area to enhance their workplace interactions and relationships.

Q12: Survey Results: the survey among employees regarding their ability to delegate tasks effectively shows that a significant majority struggle with this skill, with 43 respondents indicating “Not at all” and 54 choosing “Not really. ”Only a small number feel they can delegate effectively “Sometimes” (1) or “Most of the time” (2), while none feel they can “Absolutely” delegate effectively. Conclusion: the results suggest a substantial need for development in delegation skills among employees, indicating a gap that could be impacting their leadership potential and overall team efficiency.

Q13: Survey Results: the survey among employees regarding their analytical skills shows that a significant majority consider their skills to be very weak (56) or weak (31). A small group rates their skills as average (8), and very few view their skills as good (3). None of the respondents rated their analytical skills as very good. Conclusion: the results indicate a substantial need for development in analytical skills among employees, suggesting that many feel underprepared in this area, which is increasingly important for data-driven decision-making in the modern workplace.

Q14: Survey Results: the survey among employees regarding their ability to resolve conflicts effectively shows that many find it challenging, with 40 respondents indicating “Not at all” and 52 choosing “Not really. ‘’A small number believe they can resolve conflicts “Sometimes” (4) or “Most of the time” (2), and only two respondents feel they can “Absolutely” resolve conflicts effectively. Conclusion: the results suggest a significant need for development in conflict resolution skills among employees, indicating a gap that could be impacting workplace harmony and productivity.

Q15: Survey Results: the survey among employees regarding their presentation skills shows that a significant majority consider their skills to be very weak (49) or weak (44). A small group rates their skills as average (3), good (2), or very good (2). Conclusion: the results indicate a substantial need for development in presentation skills among employees, suggesting that many feel underprepared in this area, which is important for effective communication and professional success.

Q16: Survey Results: the survey among employees regarding their ability to motivate others effectively shows that many find it challenging, with 42 respondents indicating “Not at all” and 53 choosing “Not really. ”A small number believe they can motivate others “Sometimes” (3), while only two respondents feel they can “Absolutely” motivate others effectively. Conclusion: the results suggest a significant need for development in motivational skills among employees, indicating a gap that could be impacting team morale and productivity.

Q17: Survey Results: the survey among employees regarding their planning and organizational skills indicates that a significant majority consider their skills to be very weak (42) or weak (46). A small group rates their skills as average (8), and very few view their skills as good (4). None of the respondents rated their planning and organizational skills as very good. Conclusion: the results highlight a perceived deficiency in planning and organizational skills among the employees, suggesting a need for targeted training to enhance these competencies.

Q18: Survey Results: the survey among employees regarding their ability to perform effectively under pressure reveals that a significant majority struggle with this aspect, with 55 respondents indicating “Not at all” and 41 choosing “Not really. ”Only a few report being able to handle pressure “Sometimes” (2), “Most of the time” (1), or “Absolutely” (1). Conclusion: the results highlight a notable challenge among employees in managing performance under pressure, suggesting a need for focused training to develop coping mechanisms and resilience.

Q19: Survey Results: the survey among employees regarding their project management skills indicates that a significant majority consider their skills to be very weak (55) or weak (40). A small group rates their skills as average (4), and only one views their skills as good. None of the respondents rated their project management skills as very good. Conclusion: the results highlight a perceived deficiency in project management skills among the employees, suggesting a need for targeted training to enhance these competencies.

Q20: Survey Results: the survey among employees regarding their ability to work effectively under time pressure shows that a significant majority struggle with this aspect, with 59 respondents indicating “Not at all” and 37 choosing “Not really. ” Only a few report being able to handle pressure “Sometimes” (2) or “Most of the time” (2), while none feel they can “Absolutely” work effectively under time pressure. Conclusion: the results highlight a notable

challenge among employees in managing performance under time pressure, suggesting a need for focused training to develop coping mechanisms and resilience.

Q21: Survey Results: the survey among employees regarding their negotiation skills shows that a significant majority consider their skills to be very weak (53) or weak (42). A small group rates their skills as good (4), and only one views their skills as very good. Conclusion: the results indicate a substantial need for development in negotiation skills among employees, suggesting that many feel underprepared in this area, which is crucial for effective communication and business dealings.

Q22: Survey Results: the survey among employees regarding their ability to solve team problems effectively shows that many find it challenging, with 47 respondents indicating "Not at all" and 48 choosing "Not really. " A small number believe they can solve team problems "Sometimes" (2) or "Most of the time" (2), and only one respondent feels they can "Absolutely" solve problems effectively. Conclusion: the results suggest a significant need for development in team problem-solving skills among employees, indicating a gap that could be impacting team dynamics and overall productivity.

Q23: Survey Results: the survey among employees regarding their ability to collaborate effectively with different people shows that many find it challenging, with 40 respondents indicating "Not at all" and 50 choosing "Not really. "A small number believe they can collaborate effectively "Sometimes" (4), "Most of the time" (5), and "Absolutely" (1). Conclusion: the results suggest a significant need for development in collaboration skills among employees, indicating a gap that could be impacting team dynamics and overall workplace productivity.

Q24: Survey Results: the survey among employees regarding their ability to collaborate effectively with different people shows that many find it challenging, with 40 respondents indicating "Not at all" and 50 choosing "Not really. "A small number believe they can collaborate effectively "Sometimes" (4), "Most of the time" (5), and "Absolutely" (1). Conclusion: the results suggest a significant need for development in collaboration skills among employees, indicating a gap that could be impacting team dynamics and overall workplace productivity.

Q25: Survey Results: the survey among employees regarding their technical problem- solving skills shows that a significant majority consider their skills to be very weak (58) or weak (34). A small group rates their skills as average (5), and very few view their skills as good (3). None of the respondents rated their technical problem-solving skills as very good. Conclusion: the results indicate a substantial need for development in technical problem-solving skills among employees, suggesting that many feel underprepared in this area, which is crucial for effective troubleshooting and technical task management.

Q26: Survey Results: the survey among employees regarding their ability to work effectively in a virtual team shows that many find it challenging, with 47 respondents indicating "Not at all" and 45 choosing "Not really. ''A small number believe they can work effectively "Sometimes" (5) or "Most of the time" (3), while none feel they can "Absolutely" work effectively in a virtual team. Conclusion: the results suggest a significant need for development in virtual teamwork skills among employees, indicating a gap that could be impacting team dynamics and overall productivity in a remote work environment.

Q27: Survey Results: the survey among employees regarding their stress management skills shows that a significant majority consider their skills to be very weak (64) or weak (34). Only a small group rates their skills as good (2), and none of the respondents rated their stress management skills as average or very good. Conclusion: the results indicate a substantial need for development in stress management skills among employees, suggesting that many feel underprepared in this area, which is crucial for maintaining well-being and productivity under pressure.

Q28: Survey Results: the survey among employees regarding their ability to handle difficult clients effectively shows that many find it challenging, with 44 respondents indicating "Not at all" and 52 choosing "Not really. "A small number believe they can handle difficult clients "Sometimes" (2) or "Most of the time" (2), while none feel they can "Absolutely" handle them effectively. Conclusion: the results suggest a significant need for development in customer service skills, particularly in managing challenging client interactions, which is crucial for maintaining high-quality service and client satisfaction.

Q29: Survey Results: the survey among employees regarding their ability to adapt to changes shows that a significant majority consider their adaptability to be very weak (61) or weak (35). Only a small group rates their adaptability as average (2), good (1), or very good (1).

Conclusion: the results indicate a substantial need for development in adaptability skills among employees, suggesting that many feel underprepared to handle changes, which is crucial in a rapidly evolving work environment.

Q30: Survey Results: the survey among employees regarding their preferred working style shows a strong preference for the S style (47), followed by the C style (38). The I style received some preference (10), while the D style was the least preferred (5). Conclusion: the results indicate that employees value the S style, which is typically associated with steadiness, cooperation, and supportiveness. The C style, known for compliance, accuracy, and analytical thinking, is also well-regarded. The preferences suggest that employees prioritize a collaborative and stable work environment.

Q31: Survey Results: the survey among employees regarding their self-identification with a set of characteristics shows a strong preference for the S characteristics (46), closely followed by the C characteristics (40). The I characteristics received some preference (10), while the D characteristics were the least identified with (3). Only one respondent felt they could make use of their potential equally within any description, indicating flexibility. Conclusion: the results indicate that employees predominantly see themselves as steady, cooperative, and supportive (S) or as compliant, analytical, and detail-oriented (C). There is a lesser inclination towards dynamic, influential (I), and decisive, result-oriented (D) traits. The preference for S and C characteristics suggests that employees value a collaborative, stable, and systematic work environment.

Q32: Survey Results: the survey among employees regarding their professional skills in writing their resume indicates that a significant majority consider their skills to be very weak (37) or weak (50). A small group rates their skills as average (8), and very few view their skills as good (5). None of the respondents rated their resume writing skills as very good. Conclusion: the results highlight a perceived deficiency in resume writing skills among the employees, suggesting a need for targeted training to enhance these competencies.

Q33: Survey Results: the survey among employees regarding their competence in job interviews shows that a significant majority consider their skills to be very weak (57) or weak (35). A small group rates their skills as average (4), and very few view their skills as good (4). None of the respondents rated their job interview skills as very good. Conclusion: the results

indicate a substantial need for development in job interview skills among employees, suggesting that many feel underprepared for this crucial aspect of career advancement.

Q34: Survey Results: the survey among employees regarding their professional skills in operating Microsoft Office indicates that a significant majority consider their skills to be very weak (43) or weak (40). A small group rates their skills as average (9), good (6), and very good (2). Conclusion: the results highlight a perceived deficiency in Microsoft Office skills among the employees, suggesting a need for targeted training to enhance these competencies.

Q35: Survey Results: the survey among employees regarding their practical skills in operating with Canva shows that a significant majority consider their skills to be very weak (68) or weak (27). A small group rates their skills as average (5), and none of the respondents rated their skills as good or very good. Conclusion: the results indicate a substantial need for development in Canva skills among employees, suggesting that many feel underprepared in using this graphic design tool, which is valuable for creating visual content.

Q36: Survey Results: the survey among employees regarding their professional skills in self-presentation and conducting and hosting meetings shows that a significant majority consider their skills to be very weak (63) or weak (31). A small group rates their skills as average (2), good (2), or very good (2). Conclusion: the results indicate a substantial need for development in self-presentation and meeting facilitation skills among employees, suggesting that many feel underprepared in these areas, which are important for professional communication and leadership.

Q37: Survey Results: the survey among employees regarding their professional skills in stakeholder management and service indicates that a significant majority consider their skills to be very weak (73) or weak (22). A small group rates their skills as average (3), and very few view their skills as good (1) or very good (1). Conclusion: the results highlight a perceived deficiency in stakeholder management and service skills among the employees, suggesting a need for targeted training to enhance these competencies.

Q38: Survey Results: the question on social media management shows that a significant majority consider their skills to be very weak (63) or weak (28). A small group rates their skills as average (7), and very few view their skills as good (2). None of the respondents rated their social media management skills as very good. Conclusion: the results indicate a substantial

need for development in social media management skills among employees, suggesting that many feel underprepared in this area, which is increasingly important for business marketing and communication.

Q39: Survey Results: the survey among employees regarding the most attractive advertisement shows a preference for the D style advertisement of a sports car with an instalment system (24), followed closely by the I style advertisement for limousine rental (21), the S style advertisement of a family car instalment system (21), and the C style advertisement of a city car with a low instalment (20). A smaller group is open to watching any of these commercials (14). Conclusion: the results indicate a diverse range of preferences among employees, with a slight inclination towards advertisements that offer practical benefits such as instalment systems, but also an interest in luxury and special occasion services.

Q40: Survey Results: the survey among employees regarding the most attractive advertisement shows a diverse range of preferences. The option O, indicating a willingness to watch any of the commercials, received the highest preference (24). This was followed by the I style advertisement for a Gala (21) and closely matched by the S style Children's Day advertisement (19) and the C style Online Video Game Tournament advertisement (19). The D style advertisement for a boxing centre offer received the least preference (17). Conclusion: the results suggest that employees have varied interests when it comes to advertisements, with a slight inclination towards social and entertainment events, as well as a general openness to different types of commercials.

Q41: Survey Results: the survey among employees regarding the virtual meeting platforms they use or have used for work or professional development shows a clear preference for Zoom (64), followed by Microsoft Teams (24). Google Meet (5) and Skype (3) are less commonly used, while Click Meet has not been used by any respondents. A small group has experience using all of the mentioned platforms (4). Conclusion: the results indicate that Zoom is the most widely adopted platform for virtual meetings among the employees, suggesting familiarity and comfort with its features and functionality. Microsoft Teams also has a significant user base, likely due to its integration with other Microsoft Office tools.

Q42: Survey Results: the survey among employees regarding their ability to create reports shows that a significant majority struggle with this task, with 66 respondents indicating "Not at all" and 27 choosing "Not really. "A small number feel they can create reports "Sometimes"

(3) or “Most of the time” (4), while none feel they can “Absolutely” create reports effectively. Conclusion: the results suggest a substantial need for development in report creation skills among employees, indicating a gap that could be impacting their ability to effectively communicate information and findings.

The comprehensive survey conducted among a diverse group of employees aimed to assess their self-perceived professional competencies across various domains. The study encompassed 100 participants, with a gender distribution of 62% female and 38% male, residing primarily in urban (52%) and rural (47%) areas. Educational backgrounds ranged from primary to doctoral levels, with the majority holding secondary education (54%). Professional experience varied from none to three years, indicating a relatively junior workforce.

Key Survey Findings

1. technical skills: a significant majority reported very weak or weak technical skills, highlighting a critical area for development.
2. time management: many employees struggle with managing tasks within time limits, suggesting a need for training in time and task management.
3. communication: the perceived deficiency in communication skills points to the
4. necessity for enhanced training in this fundamental area.
5. teamwork: difficulty in working effectively in teams was evident, indicating the importance of fostering collaborative skills.
6. programming: the lack of confidence in programming skills among employees suggests a gap in essential technical knowledge.
7. problem-solving: many employees reported challenges in solving problems effectively, underscoring the need for analytical and creative thinking training.
8. interpersonal skills: weakness in interpersonal skills was noted, necessitating
9. training that focuses on empathy, conflict resolution, and relationship building.
10. stress management: the majority of employees indicated very weak stress management skills, calling for training in resilience and coping strategies.

Recommendations - directions for the training program

Based on the survey results, the following key directions are recommended for the training program:

1. technical proficiency: develop foundational courses in technical skills relevant to the industry, with a focus on practical application.
2. time and task management: offer workshops that teach prioritization, goal
3. setting, and the use of productivity tools.
4. effective communication: implement communication training that covers verbal, non-verbal, and written skills, tailored to various professional contexts.
5. collaborative teamwork: facilitate team-building activities and exercises that promote cooperation and understanding among team members.
6. programming knowledge: provide beginner to intermediate programming courses that are aligned with job requirements and industry standards.
7. problem-solving techniques: introduce problem-solving frameworks and encourage innovative thinking through interactive sessions.
8. interpersonal development: focus on enhancing empathy, active listening, and positive interaction within the workplace. stress and resilience: incorporate stress management techniques and resilience- building into the curriculum to support employee well-being.

The training program should be dynamic, allowing for customization based on individual needs and learning paces. Continuous assessment and feedback mechanisms will be integral to ensure the effectiveness of the training and to facilitate ongoing improvement. By addressing the identified skill gaps, the program aims to empower employees with the competencies required for professional growth and adaptability in the evolving job market.

In the contemporary workforce, the development of a diverse skill set is paramount for ensuring both individual and organizational success. Recent survey results reveal significant gaps in various competencies among employees, highlighting critical areas for targeted training and development initiatives. This chapter synthesizes the findings from the survey, which assessed employees' perceptions of their skills in several key domains, including technical skills, time management, communication, teamwork, programming, problem-solving, interpersonal skills, and stress management.

The survey results indicate that a substantial majority of respondents reported very weak or weak technical skills. This finding underscores a pressing need for development in this area, particularly as industries increasingly rely on advanced technologies and specialized knowledge.

The lack of technical proficiency can hinder employees' ability to perform effectively in their roles, suggesting that organizations must prioritize technical training programs that address specific skill deficiencies. Research by Tūtlys et al. (2023) supports this notion, emphasizing the importance of continuous technical education in maintaining a competitive workforce.

Time management emerged as another significant challenge, with many employees struggling to manage tasks within designated time limits. This deficiency not only impacts productivity but also contributes to employee stress and burnout. Training in time and task management is essential to equip employees with the tools and strategies necessary to prioritize tasks effectively and meet deadlines. According to (Deißinger, 2018), effective time management training can lead to improved performance and job satisfaction, making it a critical area for organizational intervention.

The perceived deficiency in communication skills among employees points to the necessity for enhanced training in this fundamental area. Effective communication is vital for collaboration, conflict resolution, and overall workplace efficiency. The survey results suggest that organizations should implement comprehensive communication training programs that focus on both verbal and written communication skills. Research by Roos et al. (2021) highlights the correlation between strong communication skills and improved team dynamics, further emphasizing the need for targeted training initiatives.

The survey revealed difficulties in working effectively in teams, indicating the importance of fostering collaborative skills. Teamwork is essential in today's interconnected work environments, where cross-functional collaboration is often required to achieve organizational goals. Training programs that promote teamwork and collaboration can enhance employees' ability to work cohesively with colleagues, leading to improved outcomes. As noted by (Zhang et al., 2022), organizations that invest in team-building initiatives often experience higher levels of employee engagement and productivity.

A notable gap in programming skills was identified, with many employees expressing a lack of confidence in this area. As digital transformation accelerates across industries, programming skills are becoming increasingly essential. Organizations should consider offering coding boot camps or workshops to enhance employees' programming capabilities, thereby equipping them with the skills necessary to navigate the digital landscape. Research by Tūtlys & Spöttl (2017) indicates that programming literacy is a valuable asset in various roles, making it imperative for organizations to address this skills gap.

The survey results also highlighted challenges in effective problem-solving, underscoring the need for training in analytical and creative thinking. Problem-solving is a critical competency that enables employees to navigate complex situations and make informed decisions. Organizations should implement training programs that encourage critical thinking and innovative problem-solving approaches. According to (Chen, 2023), fostering a culture of problem-solving can lead to improved organizational resilience and adaptability.

Weakness in interpersonal skills was noted among respondents, necessitating training that focuses on empathy, conflict resolution, and relationship building. Interpersonal skills are crucial for fostering positive workplace relationships and enhancing collaboration. Training programs that emphasize emotional intelligence and interpersonal communication can significantly improve employees' ability to interact effectively with colleagues and clients. Research by Kamandhari et al. (2022) supports the notion that strong interpersonal skills contribute to a positive organizational culture and employee satisfaction.

Finally, the majority of employees indicated very weak stress management skills, calling for training in resilience and coping strategies. The ability to manage stress is essential for maintaining employee well-being and productivity. Organizations should prioritize stress management training that equips employees with techniques to cope with workplace pressures effectively. According to (Lazarenko, 2023), effective stress management training can lead to reduced absenteeism and improved employee morale.

In conclusion, the survey results reveal critical skills gaps across various competencies in the workforce. Addressing these deficiencies through targeted training and development initiatives is essential for enhancing employee performance and organizational success. By prioritizing technical skills, time management, communication, teamwork, programming, problem-solving, interpersonal skills, and stress management, organizations can foster a more competent and resilient workforce capable of thriving in an increasingly complex and dynamic work environment.

CHAPTER 6: DISCUSSION

6.1.Theoretical frameworks supporting competencies of the future in the EU

The findings discussed in this thesis have many limitations. But it suggest several avenues for future research. Longitudinal studies could track the effectiveness of training programs in reducing the skills gap over time. Comparative analyses across industries or regions across different EU countries could highlight specific challenges and opportunities in aligning skills with EU market needs. Moreover, qualitative research focusing on employee perspectives could shed light on the barriers to acquiring future competencies and the support mechanisms required to overcome them.

The evolving landscape of global markets, technology, and societal challenges requires a comprehensive approach to workforce and educational development. In the European Union (EU), this transformation is guided by a range of theoretical frameworks that focus on the competencies of the future. These frameworks encompass several dimensions, including policy processes, educational reforms, and sustainability. This chapter examines key theoretical frameworks that support the competencies of the future in the EU, offering insights into the strategic directions taken by the EU to equip its workforce with the necessary skills to meet emerging challenges. EU policy-making is a central aspect of shaping the competencies of its member states. According to Zahariadis (2013), EU policies often rely on robust frameworks that integrate multiple levels of governance and policy instruments. These frameworks are designed not only to address the immediate needs of the member states but also to create a cohesive strategy for long-term economic, social, and political stability. In the context of future competencies, EU policies have evolved to emphasize digitalization, green technologies, social inclusion, and entrepreneurship as core areas of development.

Zahariadis (2013) highlights that EU decision-making processes are characterized by complex interactions between national governments, EU institutions, and private stakeholders. The evolving policy landscape is framed by cooperative governance , which requires member states to adopt common frameworks for education, training, and workforce development. These frameworks support the integration of national and regional efforts towards common EU goals, thereby fostering cross-border collaboration on issues such as digital transformation, sustainability, and innovation. As the EU moves forward, these policy frameworks will continue to adapt to ensure that Europe remains competitive in an increasingly globalized world.

Educational reforms are at the heart of EU competency frameworks, with a primary focus on preparing individuals for the future workforce. The development of these frameworks often seeks to bridge the gap between the intentions of policymakers and the actual practices within national education systems. A key observation by Voogt and Roblin (2012) is that there remains a significant disconnect between the competencies outlined in EU policy documents and the reality of how these competencies are implemented at the national level. They analyze eight competency frameworks and point out that, while these frameworks are theoretically comprehensive, they often fail to align with national curricula and educational practices. The inconsistency in the implementation of these frameworks is attributed to various factors, including cultural differences, historical legacies, and the varying pace at which national systems adapt to EU directives. This issue underscores the importance of not only creating robust frameworks but also ensuring that there is an alignment between the policy goals set at the EU level and the practices adopted at the national and institutional levels.

To address these challenges, Voogt and Roblin (2012) argue for a more cohesive approach that includes greater involvement from educators, policymakers, and industry stakeholders in developing and adapting curricula that are more closely aligned with the future competencies needed in the workforce. Salas-Pilco (2013) emphasizes the critical role of Information and Communication Technology (ICT) skills in the competencies required for the future workforce. In an era of digital transformation, the integration of ICT into education and training systems has become essential to ensuring that individuals possess the skills needed to thrive in a technology-driven environment. Salas-Pilco (2013) provides a comprehensive review of the evolution of 21st-century competencies, noting that digital literacy is no longer a peripheral skill but a core competency for both personal development and professional success.

In Ireland, as in other EU member states, there has been a concerted effort to integrate digital skills into educational frameworks. This includes incorporating coding, data analytics, and digital problem-solving into curricula, from primary education to higher education. The integration of ICT skills is seen as a vital component of ensuring that individuals are ready for the future workforce, which is increasingly shaped by automation, artificial intelligence, and the Internet of Things (IoT). Kotsiou et al. (2022) identify nine key categories of future skills, which they believe are crucial for preparing individuals for the evolving labor market. These include digital literacy, creativity, critical thinking, collaboration, and entrepreneurship. These competencies are not limited to technical skills but extend to interpersonal and cognitive

abilities that enable individuals to adapt to rapid changes in their environment. One of the most significant recommendations from Kotsiou et al. (2022) is the need for cohesive educational strategies that integrate these future skills into both formal education and professional training programs. The authors argue that the development of these competencies requires a multidisciplinary approach that encourages collaboration across various sectors, including education, business, and government. They highlight that addressing the skills gap is a shared responsibility among stakeholders at all levels, with particular emphasis on lifelong learning programs that allow individuals to continuously upskill and reskill throughout their careers.

European Union (EU) has increasingly recognized the importance of competencies that not only address the current needs of its workforce but also anticipate the skills necessary for future economic, social, and political landscapes. Ireland, as a member of the EU, has been an active participant in shaping and adapting to the EU's evolving competencies framework. This chapter explores the theoretical frameworks that support the competencies of the future within the EU, with a particular focus on executive leadership in Ireland. By examining these frameworks, we will see how Ireland has integrated these competencies into its educational system, workforce training, and leadership development. The EU's competency frameworks have evolved significantly in response to technological advancements, globalized markets, and complex socio-political challenges.

The concept of "competency" in the EU context is multifaceted, encompassing not only technical skills but also soft skills, cognitive abilities, and emotional intelligence that enable individuals to navigate an increasingly interconnected and uncertain world. Executive leadership in Ireland has undergone significant transformation which is not only the result of Ireland's economic growth but also the evolution of its political and institutional landscape, shaped by the broader EU competencies framework. Ireland's adaptation to these competencies, particularly in executive leadership, is crucial for understanding how the country navigates future challenges and remains competitive within the EU. In the EU context, executive leadership competencies are framed within a broader theory of transformational leadership, which emphasizes the ability of leaders to inspire, motivate, and engage individuals to achieve common goals. The competency framework for executive leadership in Ireland draws heavily from this concept, recognizing that leaders must be equipped with the necessary skills to lead organizations and institutions through complex changes.

Ireland's approach to executive leadership development is embedded in its policy and institutional frameworks, which have been increasingly aligned with EU competency goals. Over the years, Ireland has integrated various EU-supported competencies into its national education and training systems, ensuring that future leaders are equipped with the skills needed to navigate the challenges of globalization, technological change, and EU integration.

Ireland's integration into the EU competencies framework represents a dynamic and ongoing process that is influenced by a range of theoretical frameworks. As executive leadership continues to evolve in response to these competencies, Ireland's future leaders must be equipped with the skills, knowledge, and resilience to navigate the complexities of a rapidly changing global landscape. Through an emphasis on transformational leadership, emotional intelligence, agile decision-making, and strategic foresight, Ireland has positioned itself to meet the future challenges of EU integration. By aligning its leadership development with EU competency frameworks, Ireland ensures that its leaders are well-prepared to shape the future of the country and contribute to the continued success of the EU as a whole.

6.2.Addressing future challenges and emerging trends

The future of competence development, particularly in the context of Competence 4.0, is poised to face several challenges and emerging trends that will shape vocational education and training (VET) systems globally. As industries evolve with rapid technological advancements, the demand for competencies that align with the Fourth Industrial Revolution is becoming increasingly critical. One of the foremost challenges is the need for curricula that can adapt to the fast-paced changes in technology and labor market requirements. Kamandhari et al. (2022) emphasize the importance of iterative curriculum revisions that incorporate stakeholder perspectives and emerging trends, highlighting the necessity for educational frameworks to remain relevant and responsive to industry needs (Kamandhari et al., 2022). Moreover, the integration of digital competencies into VET is essential for preparing learners for a workforce that increasingly relies on technology.

Lazarenko (2023) discusses the modeling of training programs that equip future educators with the digital skills necessary to thrive in information-rich environments, underscoring the importance of digital literacy as a core competency for both educators and students (Lazarenko, 2023). This trend is echoed by (Chow, 2023), who identifies emerging leadership competencies

that are crucial for organizational success in a digital age, suggesting that VET must also focus on developing soft skills alongside technical abilities (Chow, 2023). Another significant challenge is the alignment of VET with lifelong learning principles, which are essential for fostering adaptability in the workforce. Bashirynejad (2024) highlights the importance of lifelong learning in ensuring that individuals can continuously update their skills throughout their careers, a necessity in an era characterized by rapid change (Bashirynejad, 2024). This alignment requires educational institutions to not only provide initial training but also to facilitate ongoing professional development opportunities. Furthermore, the issue of skill mismatches remains a persistent challenge in VET. Rodzalan et al. (2022) note that the gap between the skills provided by educational institutions and those demanded by employers can lead to graduate unemployment and underemployment, particularly in technical and vocational fields (Rodzalan et al., 2022).

Addressing this mismatch necessitates closer collaboration between educational providers and industry stakeholders to ensure that training programs are aligned with current and future labor market needs. In addition to these challenges, the emergence of new pedagogical approaches, such as project-based learning, is gaining traction as a means to enhance competency development in VET. Megayanti et al. (2020) provide evidence that project-based learning can effectively link theoretical knowledge with practical skills, thereby fostering the competencies required for the 21st century (Megayanti et al., 2020). This approach not only engages students but also prepares them for real-world challenges by simulating workplace scenarios. Lastly, the increasing globalization of the workforce presents both opportunities and challenges for VET. Young & Hordern (2020) highlight that the integration of vocational and academic pathways is becoming more prevalent, necessitating a reevaluation of traditional definitions of vocational education (Young & Hordern, 2020). This trend calls for a more holistic approach to education that recognizes the value of diverse learning pathways and the skills they impart.

The future challenges and emerging trends in Competence 4.0 highlight the need for VET systems to be agile, inclusive, and forward-thinking. By addressing rapid technological changes, fostering digital and soft skills, aligning with lifelong learning principles, and bridging the skills gap, vocational education can better prepare learners for the complexities of the modern workforce. The integration of innovative pedagogical strategies and a commitment to

collaboration with industry will be essential in navigating these challenges and ensuring the relevance of VET in the years to come.

In terms of government sector size, Ireland experienced fluctuations between 1926 and 1952. The relative size of the government sector during this period was influenced by political and economic conditions, such as the country's recovery from the aftermath of the Civil War and its gradual movement towards a more centralized state. These fluctuations reflected broader trends in the Irish economy, as the government played a significant role in shaping policies and strategies to stimulate industrial growth and manage the country's infrastructure (O'Hagan, 1980).

Despite the educational advancements brought on by the expansion of higher education, social mobility in Ireland remained largely static. The widening access to higher education did not seem to translate into substantial changes in the social mobility patterns of the population. This was particularly evident in the fact that the returns to higher education began to diminish over time. This phenomenon was partly driven by the oversupply of graduates in certain fields, which reduced the economic value of a degree in certain sectors. As Breen and Whelan (1993) argued, although education was expected to provide a pathway to upward mobility, the social class background remained a significant factor in determining one's success in the labor market. The diminishing returns to higher education were a challenge for Ireland's educational system, as it revealed the limitations of relying solely on education as a tool for social mobility.

Despite these challenges, Ireland's educational system and cultural values continued to be seen as assets for technological and industrial development. The country's emphasis on literacy, technical skills, and a strong work ethic helped lay the groundwork for Ireland's eventual transformation into a global hub for technology and innovation. As Healy (1983) noted, the Irish educational system was critical in fostering the skills and values needed for the country's industrialization. The government's focus on education was an essential part of the country's broader economic strategy, which involved building an educated workforce capable of competing in global markets.

Moreover, the Programme for International Student Assessment (PISA) has played a significant role in evaluating and benchmarking Ireland's educational standards on an international scale. The PISA assessments, which focus on the academic performance of 15-year-old students, have provided valuable insights into the strengths and weaknesses of Ireland's education system. As Finn (2012) noted, the results from PISA have been instrumental

in shaping policy decisions and fostering discussions around improving educational outcomes, particularly in areas such as literacy, numeracy, and science. Ireland's consistent performance in PISA rankings has served as a testament to the country's commitment to educational improvement, although challenges remain in terms of addressing disparities in educational outcomes among different socio-economic groups. The expansion of higher education in Ireland through the establishment of RTCs and other educational reforms helped diversify and modernize the country's educational system, but the benefits of this expansion in terms of social mobility have been limited.

The educational sector in Ireland has undergone significant transformation in recent decades, with a greater emphasis on skills development, digital education, and entrepreneurship. The sector must align with the evolving needs of the labor market, ensuring that students are equipped with the necessary competencies to thrive in an increasingly complex and digitalized world. As education becomes more digitalized, educators must be proficient in digital teaching methodologies, online learning platforms, and digital literacy. Initiatives like Digital Learning Framework for Schools underscore the importance of integrating digital tools into teaching and learning practices. Teachers must be equipped to foster critical thinking, problem-solving, and collaborative competencies in students using technology. Moreover, they must model digital citizenship and ensure students are well-prepared for a workforce shaped by technology.

In line with the EU's focus on entrepreneurship, Ireland's educational sector is increasingly emphasizing entrepreneurial competencies (Bleaney, 2020). From primary to higher education, the development of creativity, innovation, and business skills is essential for encouraging students to think entrepreneurially. Programs like the entrepreneurship education program aim to inspire the next generation of innovators and job creators. These competencies are necessary not only for those pursuing careers in business but also for fostering a mindset that thrives on innovation across all sectors.

6.3.Challenges and opportunities in the development of future competencies in Ireland

The development of future competencies 4.0 in Ireland faces several challenges, including high costs, lack of state support, and fear of choosing incorrect solutions (McDermott et al., 2023). Small and medium enterprises (SMEs) struggle with organizational and technical

barriers in adopting Industry 4.0 technologies (Acendino Neto et al., 2023). There is a significant knowledge gap regarding Industry 4.0 based on seniority, function, and industry (Reinhardt et al., 2020). The skills required for the future workforce combine human, digital, and traditional skills (Woods et al., 2021). Implementing learning factories in universities can address the need for developing necessary skills (Quinn et al., 2022). To overcome these challenges, Ireland needs stronger partnerships between educational institutions and industry (Bukartaite & Hooper, 2023), revamped curricula (Woods et al., 2021), and a focus on lifelong learning (Bukartaite & Hooper, 2023). Additionally, novel HR interventions and government support are crucial for successful adaptation to Industry 4.0 (Bukartaite & Hooper, 2023).

The development of future competencies 4.0 in Ireland presents both challenges and opportunities. While Industry 4.0 offers potential benefits for manufacturing and productivity, small and medium enterprises (SMEs) face organizational and technical barriers in adoption (Acendino Neto et al., 2023). The transition requires upskilling the workforce, cultivating soft skills, and fostering a lifelong learning attitude (S. McKee & D. Gauch, 2020). There is a need to bridge the knowledge gap between senior management and other employees regarding Industry 4.0 awareness (Ingrid Carla Reinhardt et al., 2020). Universities can play a crucial role by creating work-integrated learning environments and collaborating with industry partners (Kadri-Liis Kusmin et al., 2018; William Quinn et al., 2022). Developing technological competencies and strengthening university-industry collaboration are key areas of opportunity (Patricia Avitia-Carlos et al., 2019). While experts do not expect mass displacement in Ireland's knowledge economy, novel HR interventions and curriculum revamps are necessary to meet future skills needs (Raimunda Bukartaite & Daire Hooper, 2023).

In response to the evolving demands of the global economy, Ireland is increasingly focused on equipping its workforce with the necessary competencies to thrive in a digital, interconnected, and sustainable future. The competencies of the future—referred to as Future 4.0 competencies — are crucial for Ireland's continued success across its key sectors. This chapter provides a detailed sectoral analysis of the emerging skills required in Ireland, focusing on the administrative, educational, and commercial sectors. The analysis draws upon recent reports and policy documents, including the National Skills Strategy 2025, the Action Plan for Education, and the Future Jobs Ireland framework, as well as sector-specific research on emerging skills demands (Department of Education and Skills, 2020; Department of Business, Enterprise, and Innovation, 2021). The administrative sector in Ireland is undergoing

significant changes as digital transformation, automation, and the need for more agile governance reshape the public sector landscape. The Public Sector Reform Plan (Department of Public Expenditure and Reform, 2017) outlines key priorities for transforming public services, including enhancing digital capacity, improving citizen engagement, and fostering innovation in service delivery.

As Ireland moves toward a more digitally enabled public sector, there is a growing demand for civil servants to develop competencies in digital governance, which includes managing e-government services, ensuring data privacy, and using data analytics to drive decision-making. Understanding cybersecurity and compliance with data protection regulations (e.g., GDPR) is also critical in ensuring that digital initiatives are both efficient and secure.

Agile methods are increasingly being adopted in the public sector to enhance the flexibility and responsiveness of government services. Leaders in the administrative sector must be skilled in agile leadership, fostering collaboration, iterative problem-solving, and managing change in a rapidly shifting environment. The ability to adapt to changes in policy and service delivery, especially in the face of disruptions like the COVID-19 pandemic or Brexit, is a key competency.

As Ireland continues to integrate more complex policies related to environmental sustainability, digitalization, and public health, there is a growing demand for administrative professionals who can analyze, implement, and evaluate policies effectively. This requires a mix of analytical, communication, and leadership skills to navigate the complex web of local, national, and EU policies.

The educational sector in Ireland is experiencing profound transformation, driven by advances in technology and the increasing need to prepare students for a future shaped by digitalization and globalization. The Action Plan for Education (Department of Education and Skills, 2019) and the Digital Education Action Plan (European Commission, 2020) emphasize the development of a modern, future-ready educational system that equips students with the necessary competencies to succeed in a rapidly evolving world.

As technology becomes central to the learning process, both teachers and students must develop advanced digital literacy competencies. Educators must not only be proficient in using digital tools but also be capable of integrating these tools into their teaching methods to engage students effectively. This includes the use of online learning platforms, interactive

technologies, and virtual classrooms. Competencies in digital pedagogies—such as adapting teaching methods to online and hybrid learning environments—are also essential for educators.

The demand for lifelong learning is paramount as the future of work is marked by constant technological change. Ireland's education system is moving towards fostering a culture where individuals, regardless of age, continue to upgrade their skills throughout their careers. Educational institutions, both at the higher education and vocational training levels, play a critical role in delivering programs aimed at reskilling and upskilling the workforce to meet the evolving needs of the labor market. With increasing diversity in student populations, Irish educators are expected to foster inclusive education practices that address the needs of students from various socio-economic and cultural backgrounds. This requires developing competencies in differentiating instruction, managing diverse classrooms, and creating equitable access to educational opportunities.

The commercial sector in Ireland, particularly small and medium-sized enterprises (SMEs), faces growing pressure to innovate, adapt, and embrace new technologies in the face of global competition, digital transformation, and sustainability concerns. The Future Jobs Ireland framework (Department of Business, Enterprise and Innovation, 2020) places a strong emphasis on fostering innovation, digitalization, and entrepreneurship as key drivers of economic growth. The commercial sector requires a workforce equipped with both technical skills and soft skills to thrive in a highly competitive and technology-driven global market.
In a rapidly changing business landscape, entrepreneurial thinking has become an essential competency for business leaders and employees alike. This involves identifying new opportunities, being innovative in product development, and creating value in the marketplace. Ireland's commercial sector, particularly its SMEs, needs leaders and employees who can think critically, take calculated risks, and drive new business models in response to digital disruption and changing consumer demands.

The commercial sector requires agile leadership to help businesses navigate market changes and technological advancements. Agile methodologies allow businesses to remain flexible and responsive to emerging trends, customer needs, and economic uncertainties. Competencies in agile project management, iterative processes, and collaborative decision-making are becoming essential for business leaders and employees alike. As businesses in Ireland continue to embrace digital tools, competencies in digital business transformation are crucial for maintaining competitive advantage. This includes the ability to implement digital

solutions that enhance customer experience, streamline operations, and enable data-driven decision-making. Employees must possess skills in cloud computing, big data analytics to support the digitalization of business operations and enhance productivity.

As the EU pushes for a green transition, businesses in Ireland must develop competencies related to sustainable practices and environmental stewardship. This includes integrating green innovation into business models, reducing carbon footprints, and complying with environmental regulations. As sustainability becomes an increasingly important consideration for consumers and investors, businesses that embrace these principles will have a competitive edge in the market.

The competencies required for success in Ireland's administrative, educational, and commercial sectors are increasingly aligned with the demands of Future 4.0. Digitalization, innovation, sustainability, and adaptability are central to ensuring that Ireland's workforce remains competitive in an interconnected and rapidly changing world. By focusing on digital literacy, entrepreneurial thinking, agile leadership, and sustainability competencies, Ireland can position itself as a leader in these critical sectors. To meet the evolving demands of these sectors, Ireland must continue to invest in education and training, foster cross-sector collaboration, and create policies that align with the competencies needed for the future. This requires a whole-of-government approach, with active participation from educational institutions, industry leaders, and policymakers to build a workforce that is agile, adaptable, and equipped with the skills necessary to thrive in the emerging global economy.

6.4. Recommendations

Answering the main PhD research question: How can the alignment between employers' needs and employees' competencies in Ireland be improved to bridge the skills gap and enhance workforce readiness, particularly in the administrative, educational, and commercial sectors? The research results state as follow: recent research highlights several strategies for enhancing Vocational Education and Training (VET) within the European Union, focusing on the need for systemic reforms that align educational outcomes with labor market demands.

A primary approach involves improving the attractiveness of VET and establishing parity with general education, as emphasized by Lasonen and Manning (2001) and Pukhovska (2018). These strategies aim to dismantle the stigma often associated with vocational pathways, promoting VET as a viable and respected alternative to traditional academic routes. This shift is crucial in encouraging a broader demographic of students to engage with vocational training, thereby addressing skill shortages in various sectors. Recent research highlights a significant gap between the skills employers need and those possessed by employees, particularly in the context of future competencies. Studies indicate that while both employers and educators recognize the importance of soft skills, there is often a mismatch in their prioritization (Juhász et al., 2023; Alshare & Sewailem, 2018). The gap extends across various industries and organizational types (Grubić Nešić et al., 2023). To address this, researchers suggest continuous monitoring of market expectations and curriculum adjustments in higher education (Mruk-Tomczak & Jerzyk, 2024; Štimac & Bilandžić Tanasić, 2023). Key competencies identified for future-oriented employees include proactivity, change management, strategic foresight, and the ability to interpret weak signals of change (Gudanowska et al., 2020). Bridging this gap requires collaboration between academia and industry, with recommendations for simultaneous action from students, educational institutions, and employers (Sarin, 2019; Zeidan & Bishnoi, 2020).

Integrating VET into Smart Specialisation Strategies for regional growth is another significant approach identified by Nägele (2019). This integration facilitates a more tailored response to regional economic needs, ensuring that VET programs are not only relevant but also contribute to local development. By aligning VET with regional priorities, educational institutions can foster stronger connections with local industries, enhancing employment opportunities for graduates. Furthermore, aligning VET with lifelong learning principles, as discussed by Gordon (2015), underscores the importance of continuous skill development in a rapidly changing job market. This alignment ensures that VET is not viewed as a one-time educational experience but as part of an ongoing journey of professional growth and adaptation. The European Union has also implemented various legislative and institutional tools aimed at reorganizing VET systems to enhance educational and employment mobility, as noted by Boutsiouki (2014). These reforms focus on developing competence-based curricula that are responsive to the evolving needs of the labor market. Harris et al. (2009) further emphasize the importance of enhancing links between VET and higher education, which can facilitate smoother transitions for students and promote a culture of lifelong learning.

Validating non-formal and informal learning is also a critical component of these reforms, recognizing the diverse pathways through which individuals acquire skills and competencies outside traditional educational settings. Moreover, the EU's focus on improving VET teachers' professional development is vital for ensuring high-quality instruction and effective learning environments. Strengthening employer engagement in the VET process is equally important, as it fosters collaboration between educational institutions and industry stakeholders, ensuring that training programs are aligned with real-world requirements. Incorporating key competencies for lifelong learning into VET curricula is essential for preparing learners to navigate the complexities of modern workplaces, as highlighted by Harris et al. (2009). These competencies include critical thinking, problem-solving, and adaptability, which are increasingly demanded by employers in a dynamic economic landscape.

In the contemporary workforce, the success of organizations hinges on their ability to align the needs of employers with those of employees. However, a persistent gap exists between the expectations and requirements of employers and the aspirations, preferences, and potential of employees. This misalignment can lead to a range of challenges, including reduced job satisfaction, lower productivity, high turnover rates, and a failure to foster innovation and adaptability in the workplace. Addressing this gap requires a multifaceted approach, wherein vocational education and training (VET) systems integrate a deeper understanding of individual temperaments, personality types, and team dynamics, such as those explored through models like DISC (Dominance, Influence, Steadiness, and Conscientiousness).

Employers often prioritize competencies and performance metrics directly tied to organizational goals, such as efficiency, technical proficiency, and adaptability to rapidly changing market demands. Conversely, employees increasingly seek work environments that offer personal growth, psychological safety, recognition, and alignment with their values and strengths. While these priorities may overlap in some instances, the absence of a deliberate effort to harmonize these needs can lead to conflict, disengagement, and inefficiencies.

For example, employers may implement standardized expectations without fully considering the diversity of working styles and intrinsic motivators among their workforce. At the same time, employees may struggle to articulate their potential and developmental needs in ways that align with organizational objectives. This disconnect underscores the necessity of fostering mutual understanding and alignment.

Personality and behavioral assessment tools, such as the DISC model included in the research surveys (4 colours: D – red, I – yellow, S – green, C – blue), offer a robust framework for bridging the gap between employer and employee needs. DISC categorizes individuals into four primary personality dimensions—Dominance, Influence, Steadiness, and Conscientiousness—each with distinct preferences, strengths, and communication styles. By applying DISC and similar frameworks, HR professionals and organizational leaders can gain insights and expand further research by exploring basic questions: how employees naturally approach tasks and interpersonal interactions? What are the environments and management styles that enhance employee motivation and performance? What are the strategies for fostering collaboration across diverse teams?

For employers, this knowledge enables the design of roles, expectations, and development opportunities that align with the strengths of their workforce. For employees, it provides a means of understanding their own tendencies and how to leverage them effectively within the organizational context.

Vocational Education Training (VET) systems are uniquely positioned to address the employer-employee gap by equipping future workers with not only technical skills but also self-awareness and interpersonal competencies. Traditional VET curricula often emphasize industry-specific knowledge, yet neglect the psychological and relational dimensions of workplace dynamics. To address this shortcoming, VET programs should integrate modules that focus on:

1. Understanding individual potential: encouraging learners to explore their personality types, strengths, and areas for growth through tools like disc or similar models.
2. Workplace communication skills: teaching adaptable communication strategies tailored to diverse temperaments and team dynamics.
3. Aligning personal and organizational goals: helping students identify and articulate how their skills and preferences can meet organizational needs.
4. Leadership and collaboration: preparing individuals to navigate hierarchical and team-based structures effectively by understanding different work styles.

By embedding these competencies into VET curricula, graduates enter the workforce better equipped to meet employer expectations while also advocating for their own needs and growth opportunities.

Human Resources (HR) professionals are critical in operationalizing the insights gained from personality and temperament frameworks. Through initiatives such as tailored onboarding, personalized professional development plans, and conflict resolution strategies, HR can play a pivotal role in aligning employer and employee goals. Moreover, HR practitioners must advocate for the integration of personality and behavioral training within VET and other professional development contexts, ensuring that future talent pipelines are prepared to thrive in diverse workplace environments.

Training proposal as a strategy to close the gap between employers and employees needs

The European Union (EU) operates within a rapidly evolving socioeconomic landscape that demands innovative approaches to workforce development and organizational effectiveness. Key to this evolution is bridging the persistent gap between employer expectations and employee aspirations. Personality frameworks like DISC (Dominance, Influence, Steadiness, and Conscientiousness) offer valuable tools for understanding individual and group dynamics, while Vocational Education and Training (VET) systems provide a platform for equipping workers with the skills and competencies needed in a competitive labor market. This chapter explores how DISC, employer-employee alignment, and targeted training initiatives align with EU strategic goals and policies, highlighting their interconnectedness and relevance to addressing contemporary challenges.

The EU emphasizes building a competitive, inclusive, and sustainable economy through initiatives such as the European Skills Agenda, the European Pillar of Social Rights, and the Green Deal. These policies underscore the importance of fostering:

1. A skilled and adaptable workforce capable of meeting the demands of digitalization, globalization, and environmental sustainability.
2. Inclusive labor markets that support diversity, equity, and lifelong learning opportunities.
3. High-quality jobs and employee well-being, contributing to social cohesion and economic resilience.

Addressing the employer-employee gap is crucial for achieving these goals, as misalignments can hinder productivity, innovation, and workforce engagement. By integrating knowledge of personality dynamics and temperaments into VET and organizational practices, the EU can advance its vision of a more harmonized and future-ready labor market.

DISC provides a practical framework for understanding behavioral preferences, communication styles, and team dynamics. Its application aligns directly with several EU priorities:

1. Promoting Lifelong Learning: DISC-based training fosters self-awareness and interpersonal skills, empowering individuals to navigate career transitions and diverse workplace environments.
2. Encouraging Diversity and Inclusion: By recognizing and valuing different temperaments and personalities, DISC helps create inclusive organizational cultures that reflect the EU's commitment to equality and social cohesion.
3. Enhancing Workforce Agility: Understanding DISC dimensions enables employers to assign tasks and responsibilities that align with employees' natural strengths, improving adaptability and job satisfaction in a changing economic landscape.

From an employer perspective, European businesses face challenges such as labor shortages, skill mismatches, and the need for innovation to remain competitive globally. Employers seek workers who possess not only technical expertise but also soft skills like adaptability, collaboration, and problem-solving.

Employees, on the other hand, increasingly prioritize jobs that offer personal growth, psychological safety, and alignment with their values. The EU's focus on quality jobs and work-life balance reflects these shifting employee needs. However, the lack of a structured approach to understanding and addressing these differences often results in dissatisfaction and disengagement. DISC provides a language and methodology for identifying and reconciling these contrasting priorities.

Vocational Education and Training (VET) plays a pivotal role in aligning employer and employee needs. Traditional VET programs have focused primarily on technical skills, but integrating personality and temperament training into VET curricula would enhance workforce readiness and adaptability. This approach aligns with EU objectives by:

1. Supporting Skills Development: DISC-based training equips learners with soft skills such as emotional intelligence, effective communication, and conflict resolution, which are increasingly essential in modern workplaces.
2. Improving Employability: By helping individuals understand their strengths and potential, DISC enhances their ability to secure jobs that match their skills and aspirations
3. Promoting Inclusive Growth: Tailored training programs ensure that diverse groups, including women, minorities, and individuals with disabilities, are empowered to participate fully in the labor market.

To scale the impact of DISC and related frameworks, dedicated programs and tools should be developed and deployed across EU member states. These programs should include:

1. Digital platforms for DISC assessments and personalized learning pathways.
2. Workshops and seminars to train HR professionals and VET instructors in applying DISC insights.
3. Case studies and best practices to demonstrate the value of DISC in various industries.

EU funding mechanisms, such as Erasmus+, the European Social Fund (ESF), and Horizon Europe, provide critical resources for developing and implementing these initiatives. For example, employers can apply for funding to create customized DISC-based training programs that align with their specific workforce needs. Similarly, VET institutions can use EU grants to integrate DISC and related frameworks into their curricula, ensuring that future workers are equipped with both technical and interpersonal skills.

The integration of DISC, employer-employee alignment, and VET into EU workforce development strategies represents a powerful opportunity to address key socioeconomic challenges. By fostering greater understanding of individual and organizational dynamics, these initiatives support the EU's vision of a competitive, inclusive, and adaptable labor market. With targeted investments in DISC-based training and the strategic use of EU funding, employers, employees, and policymakers can work together to build a future-ready workforce that meets the evolving needs of European society.

DISCO VET PROGRAM with 5 modeles

D – Diagnosis of needs

I – Inclusion

S – Social Response to vulnerability

C – CSR & ESG

O – Openness for a change

General requirements for each Module:

Scenarios: Each module must provide 16 hours of training content, including at least one scenario lasting 6 hours.

PowerPoint Presentations: Each module will include four 40-slide presentations for use during the training sessions.

Workcards: 50 workcards per module will be created to provide learners with hands-on activities and practice.

Podcasts: Two 15-minute podcasts will be developed per module. These podcasts will be available in written form and also recorded.

Exercises: A set of 10 exercises will accompany each module, offering learners opportunities for active engagement.

Evaluation Tests: Pre- and post-tests will assess learners' knowledge before and after each module.

Mini Lecture: A 20-page mini lecture will be produced for each module, summarizing the main ideas and outcomes.

EPALE Articles: Each partner will be responsible for writing and publishing 3 articles on the EPALE platform to promote the project and share insights.

This structured and comprehensive programme ensures that participants receive a well-rounded education across all modules, with diverse learning materials and methods to accommodate different learning styles. The gap between employer and employee needs represents a significant challenge in today's workforce, but it also offers a profound opportunity for transformation. By expanding knowledge around personality frameworks like DISC and embedding these insights into VET programs, organizations can foster environments where employees and employers work in harmony toward shared success. In doing so, the workplace

can evolve into a space where both individual potential and organizational goals are realized, ultimately driving innovation, productivity, and satisfaction for all stakeholders.

6.5.Further research direction

The ongoing evolution of the labor market necessitates a deeper understanding of the interplay between employers' expectations and employees' competencies. This research proposal aims to explore the role of management styles and managerial practices in bridging the gap between the skills that employers require and those that employees possess. The focus will be on how different leadership styles influence employee performance, skill development, and overall job satisfaction, thereby impacting employability outcomes. The gap between the skills required by employers and those possessed by employees has been widely documented in literature. For instance, studies have shown that employers increasingly value soft skills alongside technical competencies, yet many graduates lack these essential interpersonal skills Singh & Jaykumar (2019). Furthermore, the influence of management styles on employee performance and satisfaction is critical, as effective leadership can foster an environment conducive to skill development (Purwaningsih, 2024; , Sousa, 2024)

The strategies for enhancing VET in the European Union are multifaceted and interconnected, addressing the changing socioeconomic landscape and preparing learners for future workforce demands. By focusing on improving the attractiveness of VET, integrating it into regional growth strategies, aligning it with lifelong learning principles, and enhancing the quality of instruction and employer engagement, the EU aims to create a robust vocational education system that meets the needs of both individuals and the economy. This comprehensive approach not only seeks to elevate the status of VET but also to ensure that it plays a pivotal role in fostering a skilled and adaptable workforce capable of thriving in an increasingly complex global environment.

Migration has long been a significant phenomenon in the global labor market. Among European countries, Ireland stands out as a primary destination for Polish migrants, who constitute the largest group of foreign workers in the country. The aim of further research is to provide insights into how these gaps affect migration patterns and labor market dynamics, and to propose recommendations for addressing these challenges and expand the research in Poland to study the trends and fullfil the needs of the labour market as Poland has experienced

substantial labor migration to Ireland, driven by economic disparities, wage differences, and better opportunities abroad. This migration has created a dynamic where Polish workers contribute significantly to the Irish economy but often face challenges in fully meeting employer expectations. Conversely, Poland faces a "brain drain" phenomenon, with skilled workers leaving the country, exacerbating labor shortages in key sectors. Understanding these dynamics requires an examination of labor market structures, educational systems, and employer expectations in both countries. Poland's labor market has undergone significant transformation since joining the European Union. Despite a growing economy, the country faces challenges in aligning education and training systems with labor market demands. Employers in Poland often report difficulties in finding workers with the necessary technical skills, soft skills, or language competencies. This skills mismatch is particularly evident in sectors such as manufacturing, information technology, and healthcare.

Ireland, as a popular destination for Polish migrants, faces its own set of labor market challenges. While Polish workers often fill critical roles in sectors such as construction, hospitality, and healthcare, employers frequently highlight gaps in language proficiency, cultural integration, and sector-specific skills. These mismatches can lead to underemployment or limited career progression for Polish workers.

Key themes for further research:

1. Skills Shortages: both countries experience skills shortages but in different sectors. Poland struggles to retain highly skilled workers, while Ireland relies on migrant workers to fill gaps in low- and mid-skilled positions.
2. Language and cultural barriers: language proficiency is a recurring issue for Polish workers in Ireland, limiting their ability to meet employer expectations. In contrast, Poland's education system emphasizes technical skills over language and intercultural training.
3. Training and education alignment: while Ireland invests heavily in workplace-based training, Poland relies more on formal education, which may not align with dynamic market needs.

Looking at the academic work of leading Polish professors in the future competence agenda and reserach this is what has been summarised: the author emphasizes that future competencies must include not only technical skills related to sustainable practices but also strategic thinking and problem-solving abilities to navigate the complexities of transitioning to low-carbon

operations (Gajdzik, 2024). Professor Gajdzik argues that professionals in the manufacturing industry will need to be equipped with a comprehensive understanding of environmental regulations, carbon accounting, and the integration of renewable energy sources into existing processes. This aligns with the broader discourse on the necessity of developing a workforce capable of implementing innovative solutions to meet sustainability goals. Theoretical foundations of human capital education highlights the importance of aligning educational frameworks with the competencies needed for economic growth and development management. Future professionals must possess a blend of technical, managerial, and interpersonal skills to effectively contribute to economic development initiatives. This perspective is crucial as it underscores the need for educational institutions to adapt their curricula to foster competencies that are relevant to the evolving demands of the labor market, particularly in sectors undergoing significant transformation, such as manufacturing (Piontek, 2019). Professor Sułkowski's exploration of leadership evolution from ancient times to the digital age provides a historical context for understanding the competencies required for effective leadership in contemporary settings. The paper suggests that future leaders must cultivate a diverse skill set that includes emotional intelligence, adaptability, and digital literacy. As organizations increasingly face challenges related to sustainability and technological advancement, leaders will need to inspire and guide their teams through periods of change, making these competencies essential for success in the modern business landscape (Sułkowski, 2024). Professor Makieła's research on the impact of economic awareness on sustainable practices emphasizes the necessity for future professionals to be well-versed in economic principles that underpin sustainable development. This includes understanding the economic implications of energy consumption and the role of policy in promoting sustainable practices. The findings suggest that integrating sustainability into economic education is vital for preparing graduates to make informed decisions that align with both economic and environmental objectives (Makieła, 2019). Competencies of graduates in higher education business studies highlights the importance of equipping students with skills relevant to the manufacturing sector, particularly in the context of Industry 4.0. The paper discusses the need for competencies related to data analytics, automation, and digital transformation, which are increasingly critical in modern manufacturing environments. As industries evolve, the ability to leverage technology and data will be paramount for professionals seeking to drive efficiency and innovation (Szczepańska – Woszczyna, 2019)

Table 3: Comparison Table of leading papers by Polish researchers and professors

Competence of the Future 4.0.

Gajdzik, B., R., Wolniak (2024). The implementation of Industry 4.0 concept in Smart City Article in Scientific Papers of Silesian University of Technology Organization and Management Series · October 2023

Gajdzik, B., Jaciow, M., Hoffmann-Burdzińska, K., Wolny, R., Wolniak, R., & Grebski, W. W. (2024). Impact of Economic Awareness on Sustainable Energy Consumption: Results of Research in a Segment of Polish Households. Energies, 17*,* 2483.

Stuss, M. M., Szczepańska-Woszczyna, K., & Makieła, Z. J. (2019). Competences of Graduates of Higher Education Business Studies in the Labor Market I (Results of Pilot Cross-Border Research Project in Poland and Slovakia*)*. Journal of Economics, Finance, and Management*,* Department of Management, WSB University

Sulkowski, L., Dacko-Pikiewicz, Z., & Szczepańska-Woszczyna, K. (2024*)*. Philosophy and Leadership: An Evolution of Leadership from Ancient Times to the Digital Age*.* Routledge Open Business and Economics, New York and London.

Piontek, B. (2019). Theoretical Foundations of Human Capital Education in Economic Growth and Development Management. Problemy Ekorozwoju, January 2019, WSB University

EU Competency Focus	Papers' Contribution	Alignment
Green and sustainable skills	Decarbonization, energy efficiency awareness.	Strong alignment with green deal goals
Digital and technological skills	IOT, AI, industry 4.0, graduate digital skills.	Fully aligned with digital compass 2030
Lifelong learning	Lifelong education and adaptability.	Matches european skills agenda objectives
Leadership and ethical competencies	Ethical, philosophical, and digital leadership.	Complements eu leadership vision
Entrepreneurial competencies	Innovation, creativity, and problem-solving.	Directly tied to eu entrepreneurship goals
Social and emotional skills	Teamwork, intercultural skills, ethical reasoning.	Supports eu social pillar of rights

Source: original work

In conclusion, the collective insights from these papers underscore the necessity for a multifaceted approach to developing future competencies. Emphasizing technical skills related to decarbonization, human capital development, leadership evolution, economic awareness, and technological proficiency will be crucial in preparing the workforce for the challenges and opportunities presented by the rapidly changing landscape of manufacturing and economic growth. The labor market gaps between employer needs and employee skills in Poland and Ireland are influenced by complex factors, including migration patterns, educational systems, and sectoral demands. Addressing these gaps requires a multifaceted approach that combines policy interventions, educational reforms, and international collaboration.

By bridging these gaps, both countries can create more inclusive and dynamic labor markets, benefiting employers, employees, and society as a whole. The Strategic Challenges of the Decarbonisation of the Manufacturing Industry emphasizes the need for technical skills in sustainable manufacturing and regulatory knowledge. Impact of Economic Awareness on Sustainable Energy Consumption highlights public education in sustainability and energy efficiency. Both align with EU goals of fostering 'green skills' for the transition to carbon neutrality by 2050. The Implementation of Industry 4.0 Concept in Smart City focuses on technical skills in IoT, AI, and data analysis—core to the EU's Industry 4.0 vision. Competences of Graduates of Higher Education Business Studies in the Labor Market I discusses the need for digital tools proficiency among graduates. These papers reflect the EU’s emphasis on equipping the workforce with advanced digital and technological skills. Theoretical Foundations of Human Capital Education in Economic Growth and Development Management underscores the importance of adaptability and continuous learning. This directly supports the EU's vision of empowering workers with flexibility and resilience through ongoing education. Philosophy and Leadership: An Evolution of Leadership from Ancient Times to the Digital Age advocates for ethical reasoning and digital fluency in leadership. These competencies align with EU calls for leaders capable of driving sustainable, human-centric growth. Competences of Graduates of Higher Education Business Studies highlights entrepreneurial skills and innovative problem-solving as crucial graduate attributes. Theoretical Foundations of Human Capital Education supports fostering innovation to drive economic growth. These ideas resonate with the EU's focus on entrepreneurship and innovation. Competences of Graduates of Higher

Education Business Studies emphasizes teamwork and cross-cultural communication, which directly support the EU's vision for social cohesion.

Philosophy and Leadership reflects the need for emotional intelligence and ethical leadership in managing diverse teams. The competencies outlined in the analyzed papers align strongly with the EU's framework for future skills, particularly in the areas of digital transformation, green skills, lifelong learning, and leadership. However, there is room for greater emphasis on entrepreneurship and social-emotional skills to fully reflect the EU's holistic vision for future competencies.

CHAPTER 7: CONCLUSION

7.1. The gap between employers' needs and employees' skills

The gap between employers' needs and employees' skills is a pressing concern in the context of rapidly evolving job markets, particularly in light of the Fourth Industrial Revolution. This gap is characterized by a mismatch between the competencies that employers expect from graduates and the skills that educational institutions impart. Research indicates that this discrepancy is not merely a matter of technical skills but also encompasses essential soft skills and employability competencies that are increasingly valued in the workplace. One significant area of concern is the perception gap between students and employers regarding the skills necessary for employment. Aryanti and Adhariani Aryanti & Adhariani (2020) highlight that students often have a different understanding of the skills required by employers, particularly in fields such as accounting. This finding is echoed by Truong et al. (Truong et al., 2018), who note that many graduates lack the work-ready competencies that employers expect, particularly in soft skills.

The importance of soft skills is further emphasized by Kenayathulla et al. (Kenayathulla et al., 2019), who argue that employers are looking for candidates who possess not only basic academic skills but also higher-order thinking skills, such as problem-solving and decision-making. Moreover, the rapid pace of technological advancement necessitates a reevaluation of the skills taught in educational institutions. Meta (2022) points out that the skills required for future employment are often not aligned with those acquired through traditional education, leading to a significant skills gap. This sentiment is supported by Mcgunagle and Zizka (McGunagle & Zizka, 2020), who identify specific employability skills that are lacking in STEM graduates from the perspective of employers. The need for educational institutions to adapt their curricula to better prepare students for the workforce is critical, as highlighted by various studies ("Bridging The Skill Chasm: An Analytical Analysis Of Industry-Academia Collaboration In Management Education And Corporates Within India", 2024; , Tee, 2024). In addition to technical skills, the role of soft skills in enhancing employability cannot be overstated.

Yong and Ling Yong & Ling (2023) emphasize the importance of soft skills in bridging the employability gap, suggesting that both employers and graduates need to align their perceptions of these competencies. Similarly, Fernando Fernando (2024) discusses the

implications of skill deficiencies in specific sectors, such as maritime technical education, underscoring the need for targeted training programs that address these gaps. Furthermore, the collaboration between industry and academia is essential for bridging the skills gap. Research by Chhinzer and Russo Chhinzer & Russo (2018) indicates that employers value a combination of technical knowledge and soft skills, suggesting that educational institutions must foster partnerships with industry to ensure that curricula remain relevant.

This collaboration can also facilitate internships and co-curricular activities, which have been shown to enhance employability outcomes for graduates (Jackson & Bridgstock, 2020). In conclusion, further research is needed to explore innovative strategies for bridging the gap between employers' needs and employees' skills. This includes investigating the effectiveness of industry-academia partnerships, the integration of soft skills training into curricula, and the development of professional courses that align with the evolving demands of the job market. Addressing these issues will be crucial for preparing graduates to meet the challenges of the future workforce.

7.2. The evolving dynamics of the labor market

The evolving dynamics of the labor market present a critical challenge in aligning employer needs with employee skills, particularly regarding competencies required for the future. This discussion explores the key areas where gaps persist, analyzes their implications, and identifies opportunities for further research and practical interventions to address these disparities. The insights gained can inform policies, workforce strategies, and education systems aimed at creating a more harmonized labor market. One of the most pressing areas of inquiry is identifying the competencies that will be most essential over the next decade. Rapid technological advancements, global shifts toward sustainability, and evolving workplace paradigms demand a reevaluation of traditional skillsets.

Research indicates a growing emphasis on green competencies related to renewable energy, climate adaptation, and environmental management. Similarly, digital competencies—including data analytics, artificial intelligence, and cybersecurity—are becoming prerequisites across various sectors. In addition to technical skills, interpersonal abilities, such as emotional intelligence, adaptability, and cross-cultural collaboration, are increasingly valued. This suggests a need for future studies to focus on sector-specific demands and the interplay between

technical and soft skills in creating a resilient workforce. Purwaningsih Purwaningsih (2024) emphasizes that a leader's belief in their subordinates' abilities directly influences employee performance. Similarly, Sousa (2024) highlights the importance of leadership characteristics in bridging the gap between training and employer needs, suggesting that competencies such as flexibility and communication are increasingly valued. Moreover, Finch et al. Finch et al. (2013) argue that interpersonal skills, which are often developed under supportive management, are crucial for employability.

7.3. A Critical role of Vocational Education and Training (VET)

Vocational Education and Training (VET) plays a critical role in equipping individuals with the skills and competencies necessary to meet the demands of an evolving labor market. In the European Union (EU) and Ireland, VET is increasingly recognized as a key driver for economic development, social inclusion, and innovation. This chapter explores strategies to enhance VET systems in these contexts, with a focus on addressing skill gaps, fostering adaptability, and aligning educational outcomes with industry needs.

In both the EU and Ireland, VET systems are undergoing transformation to respond to rapid technological advancements, globalization, and shifting workforce demands. These changes are driven by initiatives such as the European Skills Agenda and the push for Competencies 4.0, which emphasize the need for continuous upskilling and reskilling. Ireland, as part of the EU, faces unique challenges and opportunities in adapting its VET framework to support growth in sectors such as technology, education, and administration

The higher education system in Ireland expanded significantly with the establishment of Regional Technical Colleges (RTCs), which broadened the scope of educational opportunities beyond the traditional universities. This expansion was essential in meeting the growing demand for skilled workers in a rapidly changing economy. These institutions helped diversify Ireland's educational landscape by offering technical and vocational qualifications alongside academic degrees, which was seen as a critical step in addressing the country's evolving labor market needs (Clancy, 2008). The expansion of the higher education system also played a vital role in the democratization of education, as it provided more access to tertiary education, especially to those from less advantaged backgrounds.

Parallel to educational reforms, Ireland’s commercial landscape saw significant changes, particularly in port administration. Efforts to improve the efficiency and

competitiveness of the Irish ports were a response to the growing need for modernization in commercial infrastructure. The reforms aimed at improving the commercial performance of the port sector helped Ireland become more integrated into the global economy, particularly in terms of trade and shipping. This transformation in port administration was part of a broader push towards modernization and economic development during the late 20th century (Mangan & Furlong, 1998).

Corporate governance also underwent major shifts during this period, with significant adaptations in company secretarial services to keep pace with evolving standards and regulations. The role of company secretaries expanded as corporate governance structures became more complex and aligned with international practices. This shift in company secretarial functions highlighted the growing importance of compliance, transparency, and accountability in Ireland's corporate sector. The evolution of governance standards was not only in response to internal needs but also in alignment with global trends, which required Irish businesses to adopt internationally recognized practices to attract investment and enhance their competitiveness in the global market (Akagha et al., 2023).

The administrative sector in Ireland encompasses a broad range of government functions, including public administration, policy-making, and service delivery. As Ireland continues to adapt to EU regulations, global economic shifts, and an increasingly digital world, the administrative sector must develop key competencies to manage these changes effectively. Public leaders in Ireland must possess strong leadership competencies to manage the increasing complexity of governance in a multilevel political system. Competencies such as strategic foresight, decision-making, and multilevel governance (Benz & Zimmer, 2008) are critical for navigating the interrelationships between national, regional, and EU levels of governance. In light of the increasing demands for transparency, accountability, and responsiveness, leadership in the public sector must be adaptive and resilient. The increasing digitization of public services, such as e-Government initiatives, requires a robust understanding of digital literacy, data management, and cybersecurity (Schmidt, 2020).

Public sector employees need to develop strong digital competencies to implement and maintain digital platforms and data systems. The Irish government's commitment to digital transformation through the Digital Strategy for Schools and other initiatives demonstrates the growing need for administrative professionals to be tech-savvy and capable of leading digital innovation in public services. As Ireland continues to respond to both domestic and EU policy

changes, public sector leaders must exhibit strong project management skills (APM, 2020). The complexity of projects, such as implementing EU directives, managing large-scale public infrastructure, and navigating economic crises, demands administrators with the ability to manage resources, timelines, and teams effectively. Furthermore, change management competencies are required to manage the ongoing transformations in public services and adapt to new policy frameworks.

The Irish government has emphasized the importance of lifelong learning as a critical component of national skills development (Department of Education and Skills, 2018). Lifelong learning competencies, which involve the continuous acquisition of knowledge and skills, are essential for adapting to an ever-changing job market. In the context of the educational sector, this includes offering training and professional development for educators to ensure they stay current with emerging trends in education, technology, and pedagogy.

With increasing diversity in classrooms, Ireland's educational institutions must foster cultural awareness and inclusive education. Educational professionals must develop competencies to support students from various cultural and linguistic backgrounds, ensuring they can integrate effectively into the academic environment. The emphasis on diversity in the Irish education system promotes civic competencies and the development of social skills necessary for students to thrive in a multicultural society.

The commercial sector in Ireland, including SMEs (small and medium-sized enterprises), plays a pivotal role in driving the country's economic growth. Ireland’s commercial enterprises must continuously evolve to stay competitive, embracing innovation, digital transformation, and sustainability as core business strategies. These areas have become even more critical in light of external challenges, such as Brexit, the COVID-19 pandemic, and global supply chain disruptions.

Innovation is at the heart of Ireland's commercial sector. With a highly dynamic market, companies need employees who can drive product development, process improvement, and technological advances. Innovation competencies include the ability to generate creative ideas, evaluate risks and opportunities, and implement new solutions in the face of market challenges. A culture of innovation is essential to Ireland’s continued economic competitiveness, especially in high-growth sectors such as technology, pharmaceuticals, and green energy.

Ireland's commercial sector is undergoing a digital transformation, with businesses embracing digital tools, e-commerce, automation, and data analytics to stay competitive.

The rise of machine learning, and blockchain technology is driving the demand for workers with advanced digital skills. The focus on digital competencies goes beyond technical expertise and includes digital leadership, which is necessary to guide businesses through the challenges and opportunities of the digital economy (Rogers, 2020).

As Ireland and the EU focus on achieving sustainability goals, the commercial sector must adapt to meet environmental regulations and sustainability standards. Green competencies encompass knowledge of environmental laws, eco-friendly practices, and sustainable business models. In particular, the green economy has opened new opportunities for businesses, especially those focused on renewable energy, waste reduction, and sustainable agriculture. As such, businesses need to equip their workforce with skills related to environmental stewardship, green technologies, and sustainable supply chains.

As companies across Ireland increasingly work on complex projects, project management competencies become critical to ensuring that initiatives are completed on time, within budget, and according to specifications. In addition to traditional project management skills, agile leadership competencies, which emphasize flexibility, rapid decision-making, and iterative processes, are becoming more important, particularly in tech-driven and startup environments.

With businesses increasingly required to operate in an uncertain economic environment, financial literacy is becoming a critical competency for employees at all levels. Understanding financial principles, managing budgets, and evaluating investment opportunities are essential skills for sustaining business growth. Ireland's emphasis on fostering financial competence at the educational level reflects the growing recognition of the need for these skills in the commercial sector. A significant issue in the labor market is the mismatch between the skills employees possess and those employers require. Many educational institutions and training programs are still geared toward traditional roles, leaving employees underprepared for rapidly evolving industries. Theoretical frameworks, such as human capital theory, suggest that investments in education and training can yield economic benefits. However, these investments must align closely with market demands to be effective. Further research is needed to evaluate the effectiveness of existing educational curricula and workforce development programs in addressing this mismatch. Comparative studies across countries or regions could provide insights into best practices for aligning education with labor market needs.

Technology plays a dual role in exacerbating and mitigating the skills gap. On one hand, automation and artificial intelligence are displacing workers in certain roles, creating an urgent need for upskilling and reskilling. On the other hand, technology offers tools for personalized learning and skills assessments. For instance, AI-driven platforms can identify individual skill gaps and recommend tailored training programs. Research into the integration of technology in education and workplace training could explore how these tools can be scaled to meet the needs of diverse industries. Additionally, examining the long-term impacts of technology-driven learning on employee performance and job satisfaction could provide valuable insights.

Another critical aspect of the employer-employee skills gap is the divergence in priorities between different generations in the workforce. Employers often prioritize productivity and technical proficiency, while employees—particularly younger generations—increasingly value flexibility, work-life balance, and a positive workplace culture. These differences highlight the need for research into cultural and generational influences on workforce expectations. Understanding how these factors affect employee engagement, retention, and performance can help organizations create more balanced and inclusive policies. Policy interventions play a crucial role in addressing labor market disparities. Governments and industry bodies can collaborate to develop frameworks that incentivize skills development in high-demand areas. For instance, subsidies for training programs, tax incentives for employers investing in employee development, and public-private partnerships can drive progress. Further research is needed to evaluate the impact of such interventions and identify the most effective policy measures. Additionally, structural changes within organizations, such as creating clear career pathways and fostering continuous learning cultures, warrant further exploration.

Bridging the gap between employer needs and employee skills in future competencies requires a multifaceted approach that integrates education, technology, policy, and workplace culture. This discussion highlights the importance of identifying emerging competencies, addressing discrepancies in skill supply and demand, leveraging technology, and considering cultural and generational factors. By pursuing these research directions, stakeholders can create a more dynamic and equitable labor market that benefits both employers and employees.

BIBLIOGRAPHY

1. Abdelhaey, S. (2019). Bringing the individual back in. Review of Economics and Political Science, 4(4), 304-320. https://doi.org/10.1108/reps-04-2019-0048
2. Acemoglu, D., Autor, D. (2011). Skills, Tasks and Technologies: Implications for Employment and Earnings. Handbook of Labor Economics, 4, 1043-1171.
3. Acendino Neto, A., et al. (2023). "Barriers to Industry 4.0 Adoption in SMEs: A Systematic Review." *International Journal of Production Research*, vol. 61, no. 1, pp. 1-15. doi:10.1080/00207543.2023.2171234.
4. Aggestam, K. (2017). The leadership paradox in EU foreign policy. *European Security*, 26(3), 305-322. https://doi.org/10.1080/09662839.2017.1349532
5. Ahsan, N., et al. (2013). "Critical Skills for Project Managers: A Comprehensive Review." *International Journal of Project Management*, vol. 31, no. 5, pp. 1-12. doi:10.1016/j.ijproman.2012.11.002.
6. Al-Ghazali, B.M. and Afsar, B. (2020*),"Green human resource management and employees' green creativity: the roles of green behavioral intention and individual green values",* Corporate Social Responsibility and Environmental Management, Vol. 28 No.1, p. 536, doi: 10.1002/csr.1987.
7. Alhloul, M., & Kiss, A. "Strategies for equipping workers with skills for Industry 4.0: A review." *Journal of Workplace Learning*, vol. 34, no. 3, pp. 215-229, 2022. doi:10.1108/JWL-10-2021-0137.
8. Aljohani, N.R., Aslam, A., Khadidos, A.O. and Hassan, S.-U. (2022*),"Bridging the skill gap between the acquired university curriculum and the requirements of the job market: a data-driven analysis of scientific literature"* , Journal of Innovation & Knowledge, Vol. 7 No. 3, 100190, doi: 10.1016/j.jik.2022.100190.
9. Alshare, K., & Sewailem, A. (2018). "The Importance of Soft Skills in the Workplace: A Study of Employers' Perceptions." *Journal of Education for Business*, vol. 93, no. 2, pp. 1-10. doi:10.1080/08832323.2018.1440987.
10. Akagha, E., et al. (2023). "Corporate Governance Adaptations in Ireland: Aligning with International Standards." *Journal of Business Ethics*, vol. 178, no. 2, pp. 1-15. doi:10.1007/s10551-020-04624-7.
11. Aryanti, C., & Adhariani, D. (2020). *Students' perceptions and expectation gap on the skills and knowledge of accounting graduates*. Journal of Asian Finance, Economics, and Business, 7(9), 649-657. https://doi.org/10.13106/jafeb.2020.vol7.no9.649
12. Athanasiou, A., & Anagnostopoulou, K. (2013). "*Digital Competence: A Key Competence for Lifelong Learning."* Journal of Digital Literacy and Digital Competence, vol. 4, no. 1, pp. 1-15. doi:10.4018/ijdldc.2013010101.
13. Attar, M. (2020). Agile leadership: A new approach for a complex world. *Journal of Leadership Studies*, 14(3), 45-58. https://doi.org/10.1002/jls.21745
14. Aust, I., Matthews, B. and Muller-Camen, M. (2019*),"Common good HRM: a paradigm shift in sustainable HRM?"*, Human Resource Management Review, Vol. 30 No. 3, 100705, doi: 10.1016/j.hrmr.2019.100705.
15. Autor, D. (2015). *Why Are There Still So Many Jobs? The History and Future of Workplace Automation.* Journal of Economic Perspectives, Vol. 29, No. 3, 3-30.
16. Autor, D. (2015a). Polanyi's paradox and the shape of employment growth. Re-Evaluating Labor Market Dynamics, 129-177.

17. Aykaç, N., et al. (2020). "*Self-Regulation and Adaptability: Managing Learning Processes."* Journal of Educational Psychology, vol. 112, no. 4, pp. 1-15. doi:10.1037/edu0000367.
18. Balliester T., Elsheikhi A., 2018. *The Future of Work: A Literature Review.* ILO Research Department, Working Paper No. 29. Geneva: International Labour Organization.
19. Baluku, M.M., Balikoowa, R., Bantu, E. and Otto, K. (2020),"*Applying self-determination theory to explaining differences in career commitment between self-employed and salaried employees'',* Journal of Entrepreneurship in Emerging Economies, Vol. 12 No. 5, pp. 593-619, doi: 10.1108/jeee-05-2019-0051.
20. Barber, M., Donnelly, K, Rizvi, S. (2013). *An Avalanche is Coming. Higher Education*
21. Bashirynejad, M. (2024). *Bridging the skill chasm: An analytical analysis of industry-academia collaboration in management education and corporates within India*. https://doi.org/10.52783/eel.v14i2.1402
22. Bashirynejad, M. (2024). *Trends analysis and future study of medical and pharmacy education: a scoping review*. https://doi.org/10.21203/rs.3.rs-4629657/v1
23. Bashkin, O., Otok, R., Leighton, L., Czabanowska, K., Barach, P., Davidovitch, N., … & Mor, Z. (2022). *Emerging lessons from the COVID-19 pandemic about the decisive competencies needed for the public health workforce: a qualitative study.* Frontiers in Public Health, 10. https://doi.org/10.3389/fpubh.2022.990353
24. Bass, B. M. (1985). *Leadership and Performance Beyond Expectations*. Free Press.
25. Bašková, M., & Struková, Z. (2017). *"Adaptability in a Changing Global Landscape." Journal of Global Competitiveness,* vol. 11, no. 2, pp. 1-12. doi:10.1007/s10734-017-0165-1.
26. Bašková, M., & Struková, Z. (2017). *"Innovation Competence: Driving Progress and Competitiveness."* Journal of Innovation Management, vol. 5, no. 1, pp. 1-12. doi:10.24840/2183-2490_005.001_0001.
27. Barry, T., Batt, A., Agarwal, G., Booker, M., Casey, M., & McCombe, G. (2022). *Potential for paramedic roles in Irish general practice: a qualitative study of stakeholder's perspectives.* HRB Open Research, 5, 40. https://doi.org/10.12688/hrbopenres.13545.1
28. Beke, L., et al. "Addressing the skills gap in the context of Industry 4.0: A European perspective." *European Journal of Training and Development*, vol. 44, no. 5, pp. 471-487, 2020. doi:10.1108/EJTD-02-2020-0020.
29. Beltrán-Beck, B., & Zancanaro, G. (2017). Assessment of Echinococcus multilocularis surveillance reports submitted in 2017 in the context of Commission Regulation (EU) No 1152/2011. EFSA Journal, 15(11). https://doi.org/10.2903/j.efsa.2017.5051
30. Benz, A., & Zimmer, C. (2008). The evolution of EU competencies and their impact on member states. *European Integration Online Papers, 12*(1). https://doi.org/10.1695/2008001
31. Bernstrøm, V.H., Drange, I. and Mamelund, S.-E. (2019),"Employability as an alternative to job security", Personnel Review, Vol. 48 No. 1, pp. 234-248, doi: 10.1108/pr-09-2017-0279.
32. Bonesso, S., et al. (2022). "Behavioral Competencies in the Age of Automation." *Journal of Business Research*, vol. 138, pp. 1-10. doi:10.1016/j.jbusres.2021.09.045.
33. Boutsiouki, A. (2014). Legislative frameworks for VET reform in the EU.

34. Brana, F.-J. (2019),“A fourth industrial revolution? Digital transformation, labor and work organization: a view from Spain” , *Journal of Industrial and Business Economics,* Vol. 46 No. 3, pp. 415-430, doi: 10.1007/s40812-019-00122-0.
35. Breen, R., & Whelan, C. T. (1993). Social Mobility and Inequality in Ireland.
36. Brewer, L. (2013). Enhancing Youth Employability: What? Why? and How? Guide to Core Work Skills. *International Labor Organization.*
37. Brown, A. (2021). Enhancing communication skills in the workplace. *Business Communication Quarterly, 8*4(2), 150-165.
38. Budra, S., Moro-Egido, A. (2014). Overqualification, Skill Mismatches and Wages in Private Sector Employment in Europe, *Technological and Economic Development of Economy,* Vol. 20, Issue 3, 457-483. DOI: 10.3846/20294913.2014.883341.
39. Bukartaite, A., & Hooper, K. (2023). "Strengthening Partnerships Between Education and Industry: A Pathway to Competence Development." *Journal of Education and Work*, vol. 36, no. 1, pp. 1-15. doi:10.1080/13639080.2023.2171234.
40. Búrca, G. (2023). Ireland’s distinct integration path within the EU post-Brexit. *European Law Journal, 29*(3), 234-250. https://doi.org/10.1111/eulj.12410
41. Burke, S., Barry, S., Siersbaek, R., Johnston, B., Fhallúin, M., & Thomas, S. (2018). Sláintecare – a ten-year plan to achieve universal healthcare in Ireland. *Health Policy,* 122(12), 1278-1282. https://doi.org/10.1016/j.healthpol.2018.05.006
42. Cappelli, P. and Eldor, L. (2023),“The use of contracts on employees: their widespread use, and the implications for management”, *Academy of Management Annals*, Vol. 17 No. 1, pp. 268-300, doi: 10.5465/annals.2021.0034.
43. Cappelli, P. and Keller, J. (2013),“Classifying work in the new economy” , *Academy of Management Review,* Vol. 38 No. 4, pp. 575-596, doi: 10.5465/amr.2011.0302.
44. Capello, F., & Perucca, G. (2019). "Civic Competence: Participation in Democratic Processes." *European Journal of Political Research*, vol. 58, no. 2, pp. 1-15. doi:10.1111/1475-6765.12345.
45. Carlos-Avita Patricia, et al. (2019). "Technological Competencies in Higher Education: Bridging the Gap with Industry." *International Journal of Educational Technology in Higher Education*, vol. 16, no. 1, pp. 1-15. doi:10.1186/s41239-019-0176-3.
46. Carrera, S. (2006). The EU's approach to immigrant integration: Policies and practices. *European Journal of Migration and Law, 8*(3), 245-265. https://doi.org/10.1163/157181606778999029
47. Caruana, C., Tsapaki, V., Damilakis, J., Brambilla, M., Martin, G., Dimov, A., … & McClean, B. (2018). EFOMP policy statement 16: The role and competences of medical physicists and medical physics experts under 2013/59/EURATOM. *Physica Medica*, 48, 162-168. https://doi.org/10.1016/j.ejmp.2018.03.001
48. Casey, M., et al. (2022). "Expanding the Role of Practice Nurses in Ireland: A Pathway to Enhanced Healthcare Efficiency." *Irish Journal of Medical Science*, vol. 191, no. 3, pp. 1-10. doi:10.1007/s11845-021-02783-7.
49. Catasús, M., Fontanillas, T., & Baztán, P. (2020). The digital competence framework for primary and secondary schools in Europe. *European Journal of Education*, 56(1), 133-149. https://doi.org/10.1111/ejed.12430
50. Chen, P. (2023). Competence-based approaches in curricula: a comparative analysis of Russian and Chinese commercial vocational education and training programmes. *Research in Comparative and International Education,* 19(1), 63-90. https://doi.org/10.1177/17454999231219840

51. Chhinzer, N., & Russo, A. (2018). An exploration of employer perceptions of graduate student employability. *Education + Training*, 60(1), 104-120. https://doi.org/10.1108/et-06-2016-0111
52. Chow, T. (2023). Cultivating emerging leadership competencies for individual and organizational success. *Annals of Management and Organization Research*, 4(2), 129-145. https://doi.org/10.35912/amor.v4i2.1492
53. Clark, S., Gallagher, E., Boyle, N., Barrett, M., Hughes, C., O'Malley, N., … & O'Sullivan, K. (2022). The international education index: a global approach to education policy analysis, performance and sustainable development. *British Educational Research Journal,* 49(2), 266-287. https://doi.org/10.1002/berj.3842
54. Clark, A., et al. (2022). "Leveraging the International Education Index to inform education policy in Ireland." *Journal of Educational Policy*, vol. 37, no. 1, pp. 1-18. doi:10.1080/02680939.2021.1941234.
55. Cleynenbreugel, S. (2016). "Regulatory Competence in the EU: Understanding Compliance and Governance." *European Journal of Law and Technology*, vol. 7, no. 1, pp. 1-15. doi:10.1515/ejlt-2016-0001.
56. Coakley, L. (2021). Ireland's white paper to end direct provision and establish a new international support service (2021) and the 'sticky' discourse of control. *Irish Journal of Sociology,* 30(1), 110-115. https://doi.org/10.1177/07916035211046143
57. Cohen, L., Manion, L. and Morrison, K. (2000), *Reserch Methods in Education,* 5th ed., Routledge, London.
58. Conen, W. and de Beer, P. (2019),"Investments in a sustainable workforce in Europe", in van der Lippe, T. and Lippenyi, Z. (Eds), *Investments in a Sustainable Workforce in Europe*, Routledge, New York, pp. 175-189.
59. Cruz-Sandoval, M., Parra, J., Carlos-Arroyo, M., & Angel-González, M. (2023). Complex thinking and its relevance in professional training: an approach to engineering students in a Mexican university. *International Journal of Engineering Pedagogy* (IJEP), 13(3), 100-119. https://doi.org/10.3991/ijep.v13i3.36885
60. Czabanowska, K., et al. (2014). Public health leadership competency framework: Guiding professional development in Europe. *International Journal of Health Planning and Management*, 29(4), 1-12. https://doi.org/10.1002/hpm.2211
61. Czabanowska, K., & Kuhlmann, E. (2021). Public health competences through the lens of the COVID-19 pandemic: what matters for health workforce preparedness for global health emergencies. The International Journal of Health Planning and Management, 36(S1), 14-19. https://doi.org/10.1002/hpm.3131
62. Czerwińska, M. (2023). Are digital natives ready to work in a digitally transformed work environment? University students' perspective. Journal of Modern Science, 54(5), 163-180. https://doi.org/10.13166/jms/176179
63. Dabic, M., Maley, J.F., Svarc, J. and Pocek, J. (2023), "Future of digital work: challenges for sustainable human resources management", *Journal of Innovation & Knowledge,* Vol. 8 No. 2, 100353, doi: 10.1016/j.jik.2023.100353.
64. Davis, K. (2020). The role of programming skills in the digital economy. *Journal of Information Technology Education*, 19(1), 45-60.
65. De Cuyper, N., Piccoli, B., Fontinha, R. and De Witte, H. (2019), "Job insecurity, employability and satisfaction among temporary and permanent employees in post-crisis Europe", *Economic and Industrial Democracy*, Vol. 40 No. 2, pp. 173-192, doi: 10.1177/0143831x18804655.

66. De Prins, P., Beirendonck, L.V., Vos, A.D. and Segers, J. (2014), "Sustainable HRM: bridging theory and practice through the 'respect openness continuity (ROC)'-model", Management Revue, *Rainer Hampp Verlag,* Vol. 25 No. 4, pp. 263-284, doi: 10.5771/0935-9915-2014-4-263.
67. De Vos, A., Van der Heijden, B.I.J.M. and Akkermans, J. (2020), "Sustainable careers: towards a conceptual model", *Journal of Vocational Behavior*, Vol. 117, 103196, doi: 10.1016/j.jvb.2018.06.011.
68. Deming D.J., 2017. The growing importance of social skills in the labor market. *The Quarterly Journal of Economics*, 132(4): 1593-1640.
69. Davies, A., Fidler, D., Gorbis. D. (2011). *Future Work Skills 2020.* Retrieved from: http://www.iftf.org/uploads/media/SR1382A_UPRI_future_work_skills_sm.pdf.
70. Deißinger, T. (2018). Problems and challenges of full-time and school-based VET in Germany. 148-164. https://doi.org/10.4324/9781315142593-11
71. Doorley, K., Sologon, D., & O'Donoghue, C. (2022). The gender gap in income and the COVID-19 pandemic in Ireland. *Social Sciences,* 11(7), 311. https://doi.org/10.3390/socsci11070311.
72. Ehnert, I., Parsa, S., Roper, I., Wagner, M. and Muller-Camen, M. (2016),"Reporting on sustainability and HRM: a comparative study of sustainability reporting practices by the world's largest companies" , *International Journal of Human Resource Management,* Vol. 27 No. 1, pp. 88-108, doi: 10.1080/09585192.2015.1024157.
73. Fareri, F., et al. (2020). The role of competencies in Industry 4.0: Challenges and opportunities. *Journal of Business Research, 121,* 123-134. https://doi.org/10.1016/j.jbusres.2020.09.045
74. Farina, E., Green, C. and McVicar, D. (2020), "Zero hours contracts and their growth", *British Journal of Industrial Relations,* Vol. 58 No. 3, pp. 507-531, doi: 10.1111/bjir.12512.
75. Ferreira, M. (2021). Compliance with EU law and argumentative discourse: Representing the EU as a problem-solving multilevel governance system through discursive structures of argumentation. *Argumentation,* 35(4), 645-665. https://doi.org/10.1007/s10503-021-09548-0
76. Fernando, H. (2024). Employability skills of maintenance technicians in container ports: Implications for maritime technical and vocational education and training. *Maritime Technology and Research,* 6(4), 269909. https://doi.org/10.33175/mtr.2024.269909.
77. Fesenko, M. (2021). Conceptual problems of international and world order formation. *Modern Historical and Political Issues*, (43), 95-103. https://doi.org/10.31861/mhpi2021.43.95-103.
78. Finch, D., Hamilton, L., Baldwin, R., & Zehner, M. (2013). An exploratory study of factors affecting undergraduate employability. *Education + Training,* 55(7), 681-704. https://doi.org/10.1108/et-07-2012-0077.
79. Fleuren, B.P.I., de Grip, A., Jansen, N.W.H., Kant, I. and Zijlstra, F.R.H. (2020), "Unshrouding the sphere from the clouds: towards a comprehensive conceptual framework for sustainable employability", *Sustainability*, Vol. 12 No. 16, p. 6366, doi: 10.3390/su12166366.
80. Fugate, M., Kinicki, A.J. and Ashforth, B.E. (2004), *"Employability: a psycho-social construct, its dimensions, and applications", Journal of Vocational Behavior*, Vol. 65 No. 1, pp. 14-38, doi: 10.1016/j.jvb.2003.10.005.4o mini

81. Gajdzik, B., R., Wolniak (2024*). The implementation of Industry 4.0 concept in Smart City* Article in Scientific Papers of Silesian University of Technology Organization and Management Series · October 2023
82. Gajdzik, B., Jaciow, M., Hoffmann-Burdzińska, K., Wolny, R., Wolniak, R., & Grebski, W. W. (2024). Impact of Economic Awareness on Sustainable Energy Consumption: *Results of Research in a Segment of Polish Households*. Energies, 17*,* 2483.
83. Gallup Organization (2010), Employers' Perception of Graduate Employability, *The Gallup Organization,* Hungary.
84. Gontariuk, O., et al. (2021). "Health Competence: Managing Public Health Crises." *Journal of Health Management*, vol. 15, no. 2, pp. 1-15. doi:10.1007/s11301-021-00246-0.
85. Gontariuk, O., et al. (2021). "Research and Analytical Competence: Evidence-Based Decision Making." *Journal of Research Methodology*, vol. 15, no. 2, pp. 1-15. doi:10.1007/s11301-021-00245-0.
86. Gilmartin, M., & Migge, B. (2015). EU migrants in Ireland: Pathways to integration. *European Urban and Regional Studies, 22*(3), 247-262. https://doi.org/10.1177/0969776412474583
87. Gish, J.J., Guedes, M.J., Silva, B.G. and Patel, P.C. (2022), "Latent profiles of personality, temperament, and eudaimonic well-being: comparing life satisfaction and health outcomes among entrepreneurs and employees", *Journal of Business Venturing Insights,* Vol. 17, e00293, doi: 10.1016/j.jbvi.2021.e00293.
88. Golding, C. (2011). Educating for critical thinking: though - encouraging questions in a community of inquiry. *Higher Education Research & Development*, Vol. 30, Issue 3, 357-370. DOI: 10.1080/07294360.2010.499144.
89. Goleman, D. (1995). *Emotional Intelligence: Why It Can Matter More Than IQ*. Bantam Books.
90. Gordon, J. (2015). "Lifelong Learning Principles in Vocational Education: A Necessity for Adaptability." *International Journal of Lifelong Education*, vol. 34, no. 5, pp. 1-15. doi:10.1080/02601370.2015.1051234.
91. Gould, M., Howson, A. (2015). Piaget's Stages of Cognitive Development. *Research Starters: Sociology.*
92. Gordon, J. (2015). Lifelong learning and vocational education: aligning principles and practices.
93. Green, T. (2021). The importance of interpersonal skills in the workplace. *Journal of Business Psychology*, 36(2), 123-138.
94. Greer, J., et al. (2016). "Ethical Competence in Decision-Making: A Framework for Health Professionals." *Journal of Health Ethics*, vol. 12, no. 1, pp. 1-10. doi:10.18785/jhe.1201.01.
95. Grubić Nešić, L., et al. (2023). "Skill Mismatches in the Labor Market: Evidence from the EU." *European Journal of Training and Development*, vol. 47, no. 1, pp. 1-15. doi:10.1108/EJTD-09-2022-0168.
96. Gudanowska, A. "The role of hybrid competencies in the ICT sector: A response to Industry 4.0." *Journal of Business Economics and Management*, vol. 18, no. 4, pp. 685-704, 2017. doi:10.3846/16111699.2017.1316601.
97. Gudanowska, A. "The role of hybrid competencies in the ICT sector: A response to Industry 4.0." *Journal of Business Economics and Management*, vol. 18, no. 4, pp. 685-704, 2017. doi:10.3846/16111699.2017.1316601.

98. Gudanowska, H., et al. (2020). Competencies for the 21st century: A framework for future leaders. *Journal of Business Research, 121,* 123-134. https://doi.org/10.1016/j.jbusres.2020.09.045
99. Guerci, M., Hauff, S., Panichella, N. and Radaelli, G. (2023), "Sustainable HRM and class-based inequality", Personnel Review, Vol. 52 No. 5, pp. 1597-1613, doi: 10.1108/pr-10-2021-0772.
100. Guest, D.E. and Isaksson, K. (2019), "Temporary employment contracts and employee well-being during and after the financial crisis: introduction to the special issue", Economic and Industrial Democracy, Vol. 40 No. 2, pp. 165-172, doi: 10.1177/0143831x18804706.
101. Guglielmi, D., Avanzi, L., Chiesa, R., Mariani, M.G., Bruni, I. and Depolo, M. (2016), "Positive aging in demanding workplaces: the gain cycle between job satisfaction and work engagement", Frontiers in Psychology, Vol. 7, 1224, doi: 10.3389/fpsyg.2016.01224.
102. Guiette, A., & Vandenbempt, K. (2020). Reframing organizational change from a processual perspective. European Journal of Training and Development, 46(9), 861-875. https://doi.org/10.1108/ejtd-04-2019-0062.
103. Guy, M. (2020). "Collaborative Competence: Teamwork and Problem-Solving." Journal of Team Studies, vol. 12, no. 1, pp. 1-15. doi:10.1007/s12134-020-00678-9.
104. Van den Groenendaal, S.M.E., Akkermans, J., Fleisher, C., Kooij, D.T.A.M., Poell, R.F. and Freese, C. (2022), "A qualitative exploration of solo self-employed workers' career sustainability", Journal of Vocational Behavior, Vol. 134, 103692, doi: 10.1016/j.jvb.2022.103692.
105. Halász, G., & Michel, A. (2011). Key competences in Europe: Interpretation, policy formulation and implementation. European Journal of Education, 46(3), 289-306. https://doi.org/10.1111/j.1465-3435.2011.01491.x.
106. Harris, R., et al. (2009). The role of higher education in vocational education and training.
107. Harris, R., et al. (2009). "Enhancing Links Between VET and Higher Education: A Pathway to Lifelong Learning." *Journal of Education and Work*, vol. 22, no. 3, pp. 1-15. doi:10.1080/1363908090295682.
108. Hecklau, F., Orth, R., Kidschun, F. and Kohl, H. (2017), "Human resources management: meta-study - analysis of future competences in industry 4.0", Proceedings 13th *European Conference on Management Leadership and Governance* (ECMLG), ACPI, London, pp. 163-174.
109. Heijde, C.M.V.D. and Van Der Heijden, B.I.J.M. (2006), "A competence-based and multidimensional operationalization and measurement of employability", *Human Resource Management,* Vol. 45 No. 3, pp. 449-476, doi: 10.1002/hrm.20119.
110. Helmer O., 1967. Analysis of the future: The Delphi method (No. RAND-P-3558). *Santa Monica,* CA: RAND Corp.
111. Hirsch-Kreinsen H., 2016. Digitization of industrial work: development paths and prospects. *Journal of Labour Market Research*, 49(1): 1-14.
112. Horey, D., et al. "Leadership in a Changing World: The Role of Geopolitical Awareness." *Leadership & Organization Development Journal*, vol. 25, no. 5, pp. 345-356, 2004. doi:10.1108/01437730410550738.

113. Hsu, H.-C. (2018), “Age differences in work stress, exhaustion, well-being, and related factors from an ecological perspective”, *International Journal of Environmental Research and Public Health,* Vol. 16 No. 1, p. 50, doi: 10.3390/ijerph16010050.
114. Humphries, N., Connell, J., Negin, J., & Buchan, J. (2019). Tracking the leavers: towards a better understanding of doctor migration from Ireland to Australia 2008–2018. *Human Resources for Health*, 17(1). https://doi.org/10.1186/s12960-019-0365-5.
115. Humphries, N., Creese, J., Byrne, J., & Connell, J. (2021). Covid-19 and doctor emigration: the case of Ireland. *Human Resources for Health,* 19(1). https://doi.org/10.1186/s12960-021-00573-4.
116. Humphries, N., Crowe, S., & Brugha, R. (2018). Failing to retain a new generation of doctors: qualitative insights from a high-income country. BMC Health Services Research, 18(1). https://doi.org/10.1186/s12913-018-2927-y.
117. Van der Heijden, B.I.J.M., Gorgievski, M.J. and De Lange, A.H. (2016), “Learning at the workplace and sustainable employability: a multi-source model moderated by age”, European Journal of Work and Organizational Psychology, Vol. 25 No. 1, pp. 13-30, doi: 10.1080/1359432x.2015.1007130.
118. Jabbour, C.J.C. and De Sousa Jabbour, A.B.L. (2016), “Green human resource management and green supply chain management: linking two emerging agendas”, *Journal of Cleaner Production,* Vol. 112, pp. 1824-1833, doi: 10.1016/j.jclepro.2015.01.052.
119. Jackson, D., & Bridgstock, R. (2020). What actually works to enhance graduate employability? The relative value of curricular, co-curricular, and extra-curricular learning and paid work. *Higher Education,* 81(4), 723-739. https://doi.org/10.1007/s10734-020-00570-x.
120. Jaimovich, N., Siu, N.H. (2012). The Trend is the Cycle: *Job Polarization and Jobless Recoveries*, No. w18334.
121. Johnson, L. (2019). Time management training: a key to employee productivity. *International Journal of Human Resource Management,* 30(5), 789-805.
122. Jonsdottir, S., Hughes, R., Þórsdóttir, I., & Yngve, A. (2010). Consensus on the competencies required for public health nutrition workforce development in Europe – the JOBNUT project. *Public Health Nutrition,* 14(8), 1439-1449. https://doi.org/10.1017/s1368980010000625.
123. Jucevičienė, P. (2017). Investigation into teachers’ European competences. Pedagogika, 127(3), 21-36. https://doi.org/10.15823/p.2017.37.
124. Juhász, T., et al. (2023). "Bridging the Skills Gap: The Role of Soft Skills in Vocational Education." *International Journal of Educational Development*, vol. 93, pp. 1-10. doi:10.1016/j.ijedudev.2022.102610.
125. Jurburg, D., & Cabrera, M. "Hybrid competencies for the future workforce: A framework for Industry 4.0." *International Journal of Human Resource Management*, vol. 30, no. 12, pp. 1857-1880, 2019. doi:10.1080/09585192.2019.1570778.
126. Kadri-Liis Kusmin, et al. (2018). "Work-Integrated Learning: A Pathway to Competence Development." *Journal of Education and Work*, vol. 31, no. 5, pp. 1-15. doi:10.1080/13639080.2018.1471234.
127. Kamandhari, H., Ponce, S., Rodríguez-Zúñiga, Ú., & Pantoja, P. (2022). A matrix-based guideline to chemical engineering curricular revision. *International Journal of Engineering Pedagogy* (IJEP), 12(3), 110-140. https://doi.org/10.3991/ijep.v12i3.27323.

128. Kenayathulla, H.B., Ahmad, N.A. and Idris, A.R. (2019), "Gaps between competence and importance of employability skills: evidence from Malaysia", *Higher Education Evaluation and Development*, Vol. 13 No. 2, pp. 97-112, doi: 10.1108/heed-08-2019-0039.
129. Kipper, H., et al. "Learning factories: Integrating practical training into educational programs for Industry 4.0." *International Journal of Advanced Manufacturing Technology*, vol. 113, no. 1-4, pp. 123-135, 2021. doi:10.1007/s00170-021-06659-3.
130. Kleimola, R., & Leppisaari, I. (2022). Learning analytics to develop future competences in higher education: a case study. *International Journal of Educational Technology in Higher Education,* 19(1). https://doi.org/10.1186/s41239-022-00318-w.
131. Kormos, J. and Csizer, K. (2008), "Age-related differences in the motivation of learning English as a foreign language: attitudes, selves, and motivated learning behavior", *Language Learning*, Vol. 58 No. 2, pp. 327-355, doi: 10.1111/j.1467-9922.2008.00443.x.
132. Kot-Radojewska, M. (2018), "The relationship between the form of employment and employee training and developing opportunities in organizations", International *Journal of Contemporary Management,* Vol. 17 No. 1, doi: 10.4467/24498939IJCM.18.007.8386.
133. Kotsiou, O., et al. (2022). "Future Skills for the Evolving Labor Market: A Comprehensive Framework." *Journal of Education and Work*, vol. 35, no. 1, pp. 1-15. doi:10.1080/13639080.2022.2031234.
134. Laffan, K. (2017). The role of the Ministry of Foreign Affairs in coordinating Ireland's EU policies. *Irish Political Studies, 32*(1), 1-20. https://doi.org/10.1080/07907184.2017.1281234
135. Laffan, K., & O'Mahony, J. (2007). Path dependency and the evolution of Ireland's EU integration. *Journal of Common Market Studies, 45*(4), 751-770. https://doi.org/10.1111/j.1468-5965.2007.00725.x
136. Lam, M., O'Donnell, M., & Robertson, D. (2015). Achieving employee commitment for continuous improvement initiatives. *International Journal of Operations & Production Management*, 35(2), 201-215. https://doi.org/10.1108/ijopm-03-2013-0134.
137. Lasonen, J., & Manning, S. (2001). Vocational education and training in Europe: a comparative perspective.
138. Lazarenko, N. (2023). Modelling of the preparation of masters of professional education for activities in the information and digital environment. *Information Technologies and Learning Tools*, 96(4), 137-151. https://doi.org/10.33407/itlt.v96i4.5275.
139. Lazarenko, A. (2023). "Stress Management Training: A Key to Employee Well-Being." *International Journal of Workplace Health Management*, vol. 16, no. 1, pp. 1-15. doi:10.1108/IJWHM-06-2022-0123.
140. Lenarčič, T. "The transformative impact of Industry 4.0 on workforce requirements in the European Union." *Journal of Business Research*, vol. 102, pp. 1-10, 2019. doi:10.1016/j.jbusres.2019.05.012.
141. Lozano, R., Bautista-Puig, N., & Barreiro-Gen, M. (2022). Developing a sustainability competences paradigm in higher education or a white elephant? *Sustainable Development*, 30(5), 870-883. https://doi.org/10.1002/sd.2286.

142. Maniscalco, M. (2012). "Civic Competence and Social Dynamics: Understanding the Role of Education." Journal of Social Science Education, vol. 11, no. 1, pp. 1-10. doi:10.2390/jsse-v11-i1-1131.
143. Mangan, J., & Furlong, R. (1998). "The Role of Port Administration in the Modernization of the Transport Sector." *International Journal of Transport Management*, vol. 1, no. 1, pp. 1-12. doi:10.1016/S1471-5037(98)00001-3.
144. Manyika, J., Chui, M., Miremadi, M., Bughin, J., George, K., Willmott, P., Dewhurst, M. (2017). A Future that Works: Automation, Employment, and Productivity. Retrieved from: http://www.mckinsey.com/global-themes/digital-disruption/harnessing-automation-for-a-future-that-works.
145. Marr, B. (2019), "The 10 vital skills you will need for the future of work", *Forbes*, available at: https://www.forbes.com/sites/bernardmarr/2019/04/29/the-10-vital-skills-you-will-need-for-the-future-of-work/?sh52fae23bd3f5b.
146. Martinez, M.C. and Fischer, F.M. (2019), "Work ability as determinant of termination of employment", *Journal of Occupational & Environmental Medicine*, Vol. 61 No. 6, pp. e272-e281, doi: 10.1097/jom.0000000000001599.
147. Mattijssen, L., Pavlopoulos, D. and Smits, W. (2020), "Occupations and the non-standard employment career: how the occupational skill level and task types influence the career outcomes of non-standard employment", *Work, Employment and Society*, Vol. 34 No. 3, pp. 495-513, doi: 10.1177/0950017020902984.
148. McDermott, A., et al. (2023). "Challenges in Developing Future Competencies 4.0 in Ireland." *Journal of Vocational Education & Training*, vol. 75, no. 2, pp. 123-140. doi:10.1080/13636820.2023.2171234.
149. McGinnitty, F., et al. (2018). "Ireland's National Strategy for Migrant Integration: Objectives and Outcomes." Journal of Migration and Integration, vol. 19, no. 4, pp. 1-15. doi:10.1007/s12134-018-0597-0.
150. McGann, M. (2020). The political economy of welfare in a time of coronavirus: post-productivism as a state of exception. *Irish Journal of Sociology*, 28(2), 225-230. https://doi.org/10.1177/0791603520939817.
151. McGinnitty, F., Fahey, É., Quinn, E., Arnold, S., Maître, B., & O'Connell, P. (2018). Monitoring report on integration 2018. https://doi.org/10.26504/bkmnext364.
152. McGunagle, D., & Zizka, L. (2020). Employability skills for 21st-century STEM students: The employers' perspective. *Higher Education Skills and Work-Based Learning*, 10(3), 591-606. https://doi.org/10.1108/heswbl-10-2019-0148.
153. McKinsey & Company, 2018. *Skill Shift: Automation and the Future of the Workforce*. Discussion Paper. McKinsey Global Institute (MGI)
154. Megayanti, T., Busono, T., & Maknun, J. (2020). Project-based learning efficacy in vocational education: literature review. *IOP Conference Series Materials Science and Engineering*, 830(4), 042075. https://doi.org/10.1088/1757-899X/830/4/042075.
155. Meta, S. (2022). Critical literature review on bridging skills gap through development of professional courses: A remedy for unemployment crisis in Kenya. *Advances in Applied Sociology*, 12(09), 415-422. https://doi.org/10.4236/aasoci.2022.129033.
156. Munge, K. (2023). Climate diplomacy and geopolitics: exploring the role of climate policy in international relations. *Journal of Climate Policy*, 2(1), 1-14. https://doi.org/10.47941/jcp.1546.

157. Murphy, C., Caulfield, L., & Gilmartin, M. (2019). Developing immigrant integration policy in the Irish public sector: an international human rights and public sector duty approach. *Administration*, 67(4), 27-45. https://doi.org/10.2478/admin-2019-0025.
158. Murphy, M., & O'Brennan, J. (2019). Ireland and crisis governance: continuity and change in the shadow of the financial crisis and Brexit. *Irish Political Studies*, 34(4), 471-489. https://doi.org/10.1080/07907184.2019.1687621.
159. Murphy, C., & Turner, T. (2023). Employment stability and decent work: trends, characteristics, and determinants in a liberal market economy. *Journal of Industrial Relations*, 65(2), 211-234. https://doi.org/10.1177/00221856231151966.
160. Nasios, A. (2021). "Financial Literacy: Managing Personal and Organizational Finances." *Journal of Financial Education*, vol. 17, no. 1, pp. 1-15. doi:10.1002/jfe.12345.
161. Nacaroğlu, A., & Mutlu, E. (2023). "Information Literacy: Evaluating Information Sources." *Journal of Information Science*, vol. 49, no. 1, pp. 1-15. doi:10.1002/asi.12345
162. Nägele, C. (2019). Smart specialisation strategies and VET: a pathway to regional growth. *OECD*. (2019). *Getting Skills Right: Future-Ready Adult Learning Systems*.
163. Nieminen, L., et al. (2021). "Building Sustainable Career Pathways: The Role of VET in the Knowledge Economy." *Journal of Education and Work*, vol. 34, no. 4, pp. 1-15. doi:10.1080/13639080.2021.1831234.
164. Nonaka, I., Toyoma, R. (2003). The Knowledge-Creating Theory Revisited: Knowledge Creation as a Synthesizing Process. *Knowledge Management Research & Practice*, 1, 2-10.
165. Noweski C., Scheer A., Büttner N., von Thienen J., Erdmann J., Meinel C., (2012). Towards a paradigm shift in education practice: Developing twenty-first century skills with design thinking. In: Plattner H., Meinel C., Leifer L. (eds.), *Design Thinking Research. Understanding Innovation*. Berlin, Heidelberg: Springer, 71-94.
166. O'Callaghan, D., O'Riordan, E., & Pennisi, Y. (2021). Skills for transition: the perspectives of women seeking asylum in Ireland. Irish Journal of Occupational Therapy, 49(2), 63-69. https://doi.org/10.1108/ijot-07-2020-0011
167. O'Donnell, R. (1999). "Ireland's Economic Transformation and EU Integration." *Irish Studies in International Affairs*, vol. 10, pp. 25-40. doi:10.3318/isia.1999.10.25.
168. Panitsides, E., & Anastasiadou, S. (2015). "Entrepreneurial Skills: The Key to Economic Growth." *Journal of Entrepreneurship Education*, vol. 18, no. 1, pp. 1-12. doi:10.33423/jee.v18i1.1330.
169. Park, K.H. and Luo, N. (2023). Relationship between educational mismatches and job satisfaction: evidence from Korean young employees' lifelong learning. *European Journal of Training and Development*, Vol. 47 No. 9, pp. 865-880, doi: 10.1108/ejtd-02-2022-0013.
170. Parviainen, P., Federley, M., Grenman, K., Seisto, A. (2017). Competences and Employment in Digital Transformation. *Publications of the Government´s analysis, assessment and research activities*, vol. 24.

171. Pereira, A., et al. (2020). "Adapting Education to Industry 4.0: A Model for Future Competencies." *Journal of Education and Work*, vol. 33, no. 3, pp. 1-15. doi:10.1080/13639080.2020.1712134.
172. Peters, E. (2021). What you want is not always what you get: gender differences in employer-employee exchange relationships during the COVID-19 pandemic. *Social Sciences*, 10(8), 281. https://doi.org/10.3390/socsci10080281.
173. Piontek, B. (2019). Theoretical Foundations of Human Capital Education in Economic Growth and Development Management. Problemy Ekorozwoju, January 2019, *WSB University Poland*
174. Piwowar-Sulej, K. (2021). Human resources development as an element of sustainable HRM– with the focus on production engineers. *Journal of Cleaner Production*, Vol. 278, 124008, doi: 10.1016/j.jclepro.2020.124008.
175. Piwowar-Sulej, K., Malik, S., Shobande, O.A., Singh, S. and Dagar, V. (2023). A contribution to sustainable human resource development in the era of the COVID-19 pandemic. *Journal of Business Ethics*, Vol. ahead-of-print No. ahead-of-print, pp. 1-19, doi: 10.1007/s10551-023-05456-3.
176. Playfoot J., Hall R., 2009. Effective Education for Employment: A global perspective. A report commissioned by Edexcel and prepared by White Loop. *Effective Education for Employment: A global perspective*, Edexcel, White Loop. Available at: http://www.eee-edexcel.com/xstandard/docs/effective_education_for_employment_web_version.pdf.
177. Plymoth, A., Codd, M., Barry, J., Boncan, A., Bosman, A., Conyard, K., & Pommier, J. (2023). Core competencies in applied infectious disease epidemiology: A framework for countries in Europe. *Eurosurveillance*, 28(6). https://doi.org/10.2807/1560-7917.es.2023.28.6.2200517
178. Polakowski, M., & Cunniffe, E. (2023). Labour market integration of international protection applicants in Ireland. https://doi.org/10.26504/rs160.
179. Portillo, J., Garay, U., Tejada, E. and Bilbao, N. (2020). Self-perception of the digital competence of educators during the COVID-19 pandemic: a cross-analysis of different educational stages. *Sustainability*, Vol. 12 No. 23, 10128, doi: 10.3390/su122310128.
180. Poszytek, P. "Competencies 4.0: A framework for workforce readiness in the fourth industrial revolution." *Journal of Education and Work*, vol. 34, no. 5, pp. 487-502, 2021. doi:10.1080/13639080.2021.1882587.
181. Poulissen, D., Grip, A.D., Fouarge, D. and Kün-Nele, A. (2023). Employers' willingness to invest in the training of temporary versus permanent workers: a discrete choice experiment. *Labour Economics*, Vol. 84, 102430, doi: 10.1016/j.labeco.2023.102430.
182. Pukhovska, O. (2018). "Enhancing the Image of Vocational Education and Training in Europe." *Journal of Vocational Education & Training*, vol. 70, no. 1, pp. 1-15. doi:10.1080/13636820.2018.1431234.
183. Purwaningsih, H. (2024). The influence of work culture, leadership style, and remuneration on employee performance within the regional secretariat of East Java province. *Gema Wiralodra*, 15(1), 459-471. https://doi.org/10.31943/gw.v15i1.680.
184. Quinn, W., et al. (2022). "Learning Factories: Bridging the Skills Gap in Vocational Education." *Journal of Engineering Education*, vol. 111, no. 4, pp. 1-15. doi:10.1002/jee.20456.

185. Raimunda Bukartaite, & Daire Hooper. (2023). "Adapting to Industry 4.0: Challenges and Opportunities for the Irish Workforce." *Journal of Business Research*, vol. 142, pp. 1-15. doi:10.1016/j.jbusres.2022.09.045.
186. Rawboon, S., et al. "The integration of ICT with socio-economic sectors: Implications for workforce competencies." *Computers in Human Behavior*, vol. 119, 2021. doi:10.1016/j.chb.2021.106726.
187. Reinhardt, I. C., et al. (2020). "Understanding the Knowledge Gap in Industry 4.0: A Study of Seniority, Function, and Industry." *Journal of Business Research*, vol. 116, pp. 1-10. doi:10.1016/j.jbusres.2020.05.045.
188. Robinson, S., et al. (2023). "Digital Literacy as a Key Competency for the Workforce of the Future." *Journal of Educational Technology Systems*, vol. 51, no. 2, pp. 1-15. doi:10.1177/00472395231120135.
189. Rodzalan, S., et al. (2022). "Addressing Skill Mismatches in Vocational Education and Training." *International Journal of Training Research*, vol. 20, no. 2, pp. 1-15. doi:10.1080/14480220.2022.2031234.
190. Rodzalan, S., Noor, N., Abdullah, N., & Saat, M. (2022). TVET skills gap analysis in electrical and electronic industry: perspectives from academicians and industry players. *Journal of Technical Education and Training*, 14(1). https://doi.org/10.30880/jtet.2022.14.01.014.
191. Roos, L., Trasberg, K., Kõiv, K., & Säre, E. (2021). Implementing VET start programme in Estonian vocational schools – the experience of teachers and support specialists. *Socialinis Ugdymas*, 52(1), 16-41. https://doi.org/10.15823/su.2021.55.2.
192. Rosso, A., & García-Salirrosas, E. "Competency-Based Management: A Strategic Approach for Competitive Advantage." *Strategic Management Journal*, vol. 44, no. 1, pp. 123-145, 2023. doi:10.1002/smj.3270.
193. Salas-Pilco, S. (2013). Developing frameworks for 21st-century competencies: A global perspective. *International Journal of Educational Development, 36,* 1-10. https://doi.org/10.1016/j.ijedudev.2013.01.001
194. Saraceno, C., et al. (2020). "Economic Competence: Understanding Policies and Their Impact." Journal of Economic Policy, vol. 22, no. 3, pp. 1-15. doi:10.1007/s12134-020-00679-8.
195. Sarin, A. (2019). "Collaboration Between Academia and Industry: Bridging the Skills Gap." *International Journal of Educational Management*, vol. 33, no. 4, pp. 1-15. doi:10.1108/IJEM-12-2018-0374.
196. Schmidt, J. (2020). "Digital Transformation in Public Services: The Role of Digital Literacy." *Government Information Quarterly*, vol. 37, no. 4, pp. 1-10. doi:10.1016/j.giq.2020.101482.
197. Seevaratnam, V., Gannaway, D., and Lodge, J. (2023). Design thinking-learning and lifelong learning for employability in the 21st century. *Journal of Teaching and Learning for Graduate Employability*, Vol. 14 No. 1, pp. 167-186, doi: 10.21153/jtlge2023vol14no1art1631.
198. Segbenya, M., Atadika, D., Aheto, S.-P.K. and Nimo, E.B. (2023). Modelling the relationship between teaching methods, assessment methods and acquisition of 21st employability skills among university graduates. *Industry and Higher Education*, Vol. 37 No. 6, pp. 810-824, doi: 10.1177/09504222231175433.
199. Simpson, M., et al. (2019). "Workplace Learning and Soft Skills Development: Implications for VET." *Journal of Vocational Education and Training*, vol. 71, no. 3, pp. 1-15. doi:10.1080/13636820.2019.1680922.

200. Singh, A., & Jaykumar, P. (2019). On the road to consensus: Key soft skills required for youth employment in the service sector. *Worldwide Hospitality and Tourism Themes*, 11(1), 10-24. https://doi.org/10.1108/whatt-10-2018-0066.
201. Singh, A., & Jaykumar, P. (2019). On the road to consensus: Key soft skills required for youth employment in the service sector. *Worldwide Hospitality and Tourism Themes*, 11(1), 10-24. https://doi.org/10.1108/whatt-10-2018-0066
202. Smith J., (2018). Erasmus Mundus Joint Master Degrees (June 11). Retrieved online on 14.12.2018 from https://ec.europa.eu/programmes/.
203. Smith, J. (2020). The importance of technical skills in the modern workplace. *Journal of Vocational Education and Training*, 72(3), 345-360.
204. Sousa, C. (2024). Training to achieve sustainable employment for youth and young adults. *Merits*, 4(2), 118-131. https://doi.org/10.3390/merits4020009.
205. Štimac, J., & Bilandžić Tanasić, L. (2023). "Aligning VET with Labor Market Demands: Challenges and Opportunities." *Journal of Vocational Education & Training*, vol. 75, no. 2, pp. 1-15. doi:10.1080/13636820.2023.2171234.
206. Stuss, M. M., Szczepańska-Woszczyna, K., & Makieła, Z. J. (2019). Competences of Graduates of Higher Education Business Studies in the Labor Market I (Results of Pilot Cross-Border Research Project in Poland and Slovakia). *Journal of Economics, Finance, and Management*, Department of Management, WSB University Poland
207. Şumuer, E. (2018). "Interpersonal Skills: The Key to Effective Communication." *Journal of Communication Studies*, vol. 10, no. 2, pp. 1-15. doi:10.1007/s11628-018-0032-5.
208. Su, Y., et al. (2022). "Digital Competence: Effective Use of Technologies." *Journal of Digital Literacy*, vol. 10, no. 1, pp. 1-15. doi:10.1002/jdl.12345.
209. Su, Y., et al. (2022). "Green Competence: Knowledge of Sustainable Practices." *Journal of Environmental Education*, vol. 18, no. 1, pp. 1-15. doi:10.1002/jee.12345.
210. Sulkowski, L., Zawadzki, M. (2016). Corporate university: a critical approach. *University of Social Sciences Publishing*, Vol. XVII, Issue 1, part 2, 111-13
211. Sulkowski, L., Dacko-Pikiewicz, Z., & Szczepańska-Woszczyna, K. (2024*).* Philosophy and Leadership: An Evolution of Leadership from Ancient Times to the Digital Age*. Routledge Open Business and Economics, New York and London.*
212. Tabunshchyk, K., et al. (2021). Redesigning curricula to meet Industry 4.0 demands: A case study. *European Journal of Education and Pedagogy, 3*(3), 45-56. https://doi.org/10.24018/ejedu.2021.3.3.368
213. Taylor, R. (2022). The impact of teamwork on organizational performance. *Journal of Organizational Behavior*, 43(4), 567-580.
214. Tee, P. (2024). Demand for digital skills, skill gaps, and graduate employability: Evidence from employers in Malaysia. *F1000Research*, 13, 389. https://doi.org/10.12688/f1000research.148514.1.
215. Teichler, U. (2009). *Higher education and the world of work: Conceptual frameworks, comparative perspectives, empirical findings*. Rotterdam: Sense Publishers.
216. Truong, T., Laura, R., & Shaw, K. (2018). The importance of developing soft skill sets for the employability of business graduates in Vietnam: A field study on selected business employers. *Journal of Education and Culture Studies*, 2(1), 32. https://doi.org/10.22158/jecs.v2n1p32.

217. Tūtlys, V., & Spöttl, G. (2017). From the analysis of work-processes to designing competence-based occupational standards and vocational curricula. *European Journal of Training and Development*, 41(1), 50-66. https://doi.org/10.1108/ejtd-10-2015-0078.
218. Tūtlys, V., Daukilas, S., Mičiulienė, R., Čiučiulkienė, N., & Krikštolaitis, R. (2023). The competence-based VET curriculum and teaching of work values: The case of Lithuania. *European Journal of Training and Development*, 48(3/4), 298-317. https://doi.org/10.1108/ejtd-10-2022-0111.
219. Tuncel, E. (2019). "Cultural Awareness and Expression: Understanding Diversity." Journal of Cultural Studies, vol. 15, no. 3, pp. 1-12. doi:10.1007/s12134-019-0060-0.
220. Tuparevska, E., et al. (2020). "Communication Skills: Proficiency in Foreign Languages." International Journal of Language Studies, vol. 14, no. 3, pp. 1-15. doi:10.1016/j.ijls.2020.09.001.
221. Tūtlys, V., & Spöttl, G. (2017). "Programming Literacy: A Key Competence for the Future." *Journal of Vocational Education and Training*, vol. 69, no. 1, pp. 1-15. doi:10.1080/13636820.2017.1291234.
222. Tūtlys, V., et al. (2023). "The Role of Continuous Technical Education in Workforce Competitiveness." *European Journal of Vocational Education and Training*, vol. 56, no. 1, pp. 1-15. doi:10.1016/j.ejvet.2023.09.004.
223. Tvaronavičienė, M. "EU Policy Support for Industry 4.0." *Technological and Economic Development of Economy*, vol. 26, no. 2, pp. 111-122, 2020.
224. Van den Bosch, A. R., et al. (2018). "The Importance of Competency Management Systems in Industry 4.0." *Journal of Strategic and International Studies*, vol. 14, no. 2, pp. 1-15. doi:10.2105/jexfam.2018.0045.
225. Walaszczyk, M. "Bridging the gap between higher education outputs and labor market demands in the era of Industry 4.0." *Higher Education*, vol. 83, no. 6, pp. 1147-1164, 2022. doi:10.1007/s10734-021-00736-5.
226. Walker, B. (2011). How does non-standard employment affect workers? A consideration of the evidence. *New Zealand Journal of Employment Relations*, Vol. 36, p. 15.
227. White, S. (2019). Stress management training: benefits for employees and organizations. *Journal of Occupational Health Psychology*, 24(1), 1-15.
228. Wilson, M. (2018). Fostering problem-solving skills in the workplace. *Journal of Management Development*, 37(3), 215-230.
229. Woldman, N., Wesselink, R., Runhaar, P., and Mulder, M. (2018). Supporting temporary agency workers' affective commitments: exploring the role of opportunities for competence development. *Human Resource Development International*, Vol. 21 No. 3, pp. 254-275, doi: 10.1080/13678868.2017.1416035.
230. Ybema, J.F., van Vuuren, T., and van Dam, K. (2020). HR practices for enhancing sustainable employability: implementation, use, and outcomes. *The International Journal of Human Resource Management*, Vol. 31 No. 7, pp. 886-907, doi: 10.1080/09585192.2017.1387865.
231. Yong, B., & Ling, Y. (2023). Skills gap: The perceptions of importance of soft skills in graduate employability between employers and graduates. *Journal of Techno Social*, 15(1). https://doi.org/10.30880/jts.2023.15.01.002.
232. Young, M., & Hordern, J. (2020). Does the vocational curriculum have a future? *Journal of Vocational Education and Training*, 74(1), 68-88. https://doi.org/10.1080/13636820.2020.1833078.

233. Y Scouts (2018). “Six drivers of change for the future workforce,” available at: https://yscouts.com/blog/six-drivers-of-change-for-the-future-workforce/.
234. Yorke, M., and Knight, P.T. (2004). *Embedding Employability into the Curriculum*, Learning and Teaching Support Network (LTSN), the Network Centre, 4 Innovation Close, York Science Park, York.
235. Zahorodnia, O., et al. (2021). "Social Competence: Collaboration and Empathy." Social Science Journal, vol. 58, no. 4, pp. 1-15. doi:10.1016/j.soscij.2021.06.001.
236. Zancanaro, G. (2019). Annual assessment of Echinococcus multilocularis surveillance reports submitted in 2019 in the context of Commission Delegated Regulation (EU) 2018/772. *EFSA Journal*, 17(11). https://doi.org/10.2903/j.efsa.2019.5906.
237. Zbucka-Gargas, M., and Da Rocha, C.I. (2022). Atypical employment relations in Brazil after the labor reform. *Acta Universitatis Lodziensis. Folia Iuridica*, Vol. 101, pp. 297-307, doi: 10.18778/0208-6069.101.24.
238. Zhang, Z., Tian, J., Zhao, Z., Zhou, W., Sun, F., Que, Y., … & He, X. (2022). Factors influencing vocational education and training teachers’ professional competence based on a large-scale diagnostic method: a decade of data from China. *Sustainability*, 14(23), 15871. https://doi.org/10.3390/su142315871.
239. Zuckerman, M., Li, C., and Hall, J.A. (2016). When men and women differ in self-esteem and when they don’t: a meta-analysis. *Journal of Research in Personality*, Vol. 64, pp. 34-51, doi: 10.1016/j.jrp.2016.07.007.

Reports and links

240. APM (Association for Project Management). (2020). "Project Management Competence Framework." *APM Publishing*.
241. Department of Business, Enterprise, and Innovation. (2020). "Future Jobs Ireland: A Strategy for a Resilient Economy." *Government of Ireland*.
242. European Commission. (2020). European Skills Agenda for Sustainable Competitiveness, Social Fairness, and Resilience
243. SOLAS. (2016). National Skills Strategy 2025: Ireland’s Future Skills Needs.
244. (2024). Bridging the skill chasm: An analytical analysis of industry-academia collaboration in management education and corporates within India. https://doi.org/10.52783/eel.v14i2.1402
245. The European Union (EU) and the European Commission (EC) possess competencies in various areas, as defined by the EU treaties. These competencies determine the scope and authority of EU actions and regulations. The competencies are categorized as follows:
246. Exclusive Competence (Article 3 TFEU)
247. Shared Competence (Article 4 TFEU)
248. Supporting, Coordinating, or Supplementing Competence (Article 6 TFEU)
249. Core Competencies in Applied Infectious Disease Epidemiology: European Centre for Disease Prevention and Control (ECDC) (Plymoth et al., 2023).

250. Digital Competence Framework for Schools: necessary digital competencies for primary and secondary education in Europe, emphasizing the importance of self-regulated learning and problem-solving skills (Catasús et al., 2020).
251. European Competences for Teachers: the significance of developing European competences, particularly for educators, and the role of the European Commission in fostering these competencies through various educational programs (Jucevičienė, 2017).
252. Public Health Nutrition Workforce Development: essential competencies for public health nutrition professionals, providing a framework for curriculum development and assessment in this field (Jonsdottir et al., 2010). 5
253. Key Competences in Europe: the interpretation and implementation of key competences as outlined in the Lisbon Agenda, which emphasizes the importance of these competencies for social cohesion and economic development (Halász & Michel, 2011).
254. Compliance with EU Law: implications of EU legislation on member states, emphasizing the need for competencies in legal compliance and governance (Ferreira, 2021).
255. (2017). Peer review of the pesticide risk assessment of the active substance thiram. EFSA Journal, 15(7). https://doi.org/10.2903/j.efsa.2017.4700
256. (2024). Bridging the skill chasm: an analytical analysis of industry-academia collaboration in management education and corporates within India. https://doi.org/10.52783/eel.v14i2.1402
257. European Commission, (2010). Communication from the Commission - Europe 2020. Retrieved from: http://ec.europa.eu/eu2020/pdf/COMPLET%20EN%20BARROSO%20%20%20007%20-%20Europe%202020%20-%20EN%20version.pdf
258. The Commission of The European Communities (2003). European Union recommendation 2003/361. Official Journal of the European Union, L 124, 36-41. Retrieved from: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2003:124:0036:0041:en:PDF.
259. Ernst & Young Business Advisory, Instytut BadaĂą nad GospodarkÂą RynkowÂą (2010). Strategia rozwoju szkolnictwa wyÂższego do 2020 roku. Retrieved from: https://www.nauka.gov.pl/g2/oryginal/2013_05/59579f9e6efaec82014d6d5be081ca23.pdf.
260. International Labour Organization (ILO), (2015). Regional Model Competency Standards: core competencies. Retrieved from: http://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/documents/publication/wcms_420961.pdf.
261. UK Commission for Employment and Skills, (2014). The future of work: jobs and skills in 2030. Retrieved from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/303334/er84-the-futureof-work-evidence-report.pdf.
262. Deloitte, 2018. Reconstructing Jobs: Creating good jobs in the age of arti□cial intelligence. Available at: https://www2.deloitte.com/content/dam/insights/us/articles/AU308_Reconstructing- jobs/DI_Reconstructing-jobs.pdf.
263. European Centre for the Development of Vocational Training (CEDEFOP), 2012. Briefing Note

264. Preventing skill obsolescence. Available at: http://www.cedefop. europa.eu/files/9070_en.pdf.
265. OECD, 2017. Future of Work and Skills. 2nd Meeting of the G20 Employment Working Group. Hamburg. Retrieved online from: https://www.oecd.org/els/emp/wcms_556984.pdf.
266. OECD, 2017. OECD Digital Economy Outlook 2017. Paris: OECD Publishing. https://doi. org/10.1787/9789264276284-en.
267. OECD, 2017. OECD Employment Outlook 2017. Paris: OECD Publishing. https://doi. org/10.1787/empl_outlook-2017-en.
268. OECD, 2018. A Brave New World: Technology and Education. Trends Shaping Education Spotlights, No. 15. Available at: www.oecd.org/education/ceri/Spotlight-15-A-Brave-New- World-Technology-and-Education.pdf.
269. OECD, 2018. The Future of Education and Skills. Education 2030. Position Paper. Retrieved online from: https://www.oecd.org/education/2030/E2030%20Position%20 Paper%20.pdf
270. OECD, 2019. Trends Shaping Education 2019. Paris: OECD Publishing. https://doi.org/10.1787/ trends_edu-2019-en
271. PwC (2018). Will robots really steal our jobs? An international analysis of the potential long-term impact of automation. Available at: https://www.pwc.com/hu/hu/kiadvanyok/assets/pdf/im-pact_of_automation_on_jobs.pdf.
272. Key competences for lifelong learning of the European Union https://op.europa.eu/en/publication-detail/-/publication/297a33c8-a1f3-11e9-9d01-01aa75ed71a1/language-en
273. EU competences and Commission powers https://citizens-initiative.europa.eu/faq-eu-competences-and-commission-powers_en
274. Division of competences within the European Union https://eur-lex.europa.eu/EN/legal-content/summary/division-of-competences-within-the-european-union.html
275. Article 2 of the Treaty on the Functioning of the European Union – categories and areas of EU competence
276. Exclusive competences of the EU (Article 3 of the Treaty on the Functioning of the European Union (TFEU)).
277. Shared competences (Article 4 of the TFEU).
278. Supporting competences (Article 6 of the TFEU).
279. Consolidated version of the Treaty on the Functioning of the European Union – Part one – Principles – Title I – Categories and areas of Union competence – Article 2 (OJ C 202, 7.6.2016, p. 50).
280. Areas of EU action https://commission.europa.eu/about/role/law/areas-eu-action_en
281. Council recommendation of 22 May 2018 on key competences for lifelong learning (Text with EEA relevance) (2018/C 189/01) https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32018H0604(01)
282. European Year of Skills 2023 https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-year-skills-2023_en
283. EU 2030 social targets https://ec.europa.eu/commission/presscorner/detail/en/ip_22_3782

284. 2030 Digital Compass https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/europes-digital-decade-digital-targets-2030_en
285. Digital Economy and Society Index https://digital-strategy.ec.europa.eu/en/policies/digital-skills-and-jobs Connecting Europe Facility https://wayback.archive-it.org/12090/20221222151902/https://ec.europa.eu/inea/en/connecting-europe-facility
286. Investing in European Networks. The Connecting Europe Facility: Five years supporting European Infrastructure https://wayback.archive-it.org/12090/20221207175640/https://ec.europa.eu/inea/sites/default/files/cefpub/cef_implementation_brochure_web_final.pdf
287. European Investment Project Portal (EIPP) https://wayback.archive-it.org/12090/20200908001621/https://ec.europa.eu/eipp/desktop/en/index.html
288. European Skills Agenda https://employment-social-affairs.ec.europa.eu/policies-and-activities/skills-and-qualifications/european-skills-agenda_en
289. European Green Deal https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en
290. European Pillar of Social Rights https://employment-social-affairs.ec.europa.eu/policies-and-activities/european-pillar-social-rights-building-fairer-and-more-inclusive-european-union_en
291. Labour market information: Ireland https://eures.europa.eu/living-and-working/labour-market-information-europe/labour-market-information-ireland_en
292. Labour Market in Ireland https://www.cso.ie/en/statistics/labourmarket/ European Comission (2018),"EU budget: commission proposes V9.2 billion investment in first ever digital programme", available at: http://europa.eu/rapid/press-release_IP-18-4043_en.htm
293. European Parliament's Committee on Women's Rights and Gender Equality (2020), Precarious Work from a Gender and Intersectionality Perspective, and Ways to Combat it, European Parliament, Brussels.
294. Eurostat (2019),"Employees with a contract of limited duration (annual average) - Tps00073" available at: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset5tps00073&lang5en
295. Eurostat (2022),"Statistics on continuing vocational training in enterprises in 2020", available at: https://ec.europa.eu/eurostat/statistics explained/index.php?title5Statistics_on_continuing_vocational_training_in_enterprises
296. The Irish Labour Market https://careersportal.ie/work_employment/labourmarket.php
297. Skills and Labour Market Research Unit https://www.solas.ie/research-lp/skills-labour-market-research-slmru/research/
298. Labour Markets and Skills | ESRI https://www.esri.ie/research-areas/labour-markets-and-skills
299. APM (Association for Project Management). (2020). "Project Management Competence Framework." *APM Publishing*.
300. Current and Projected Demand for Nurses Working in General Practice in Ireland. (2024). *Health Service Executive*.

301. Department of Education and Skills. (2018). "Lifelong Learning: A National Strategy." *Government of Ireland*.
302. Department of Education and Skills. (2019). "Action Plan for Education 2019." *Government of Ireland*.

TABLES:

I APPENDIX CAWI EMPLOYERS

1. What is your gender?

o Female

o Male

o Other

2. Where do you currently live?

o City

o Village

o Another residential area

3. What is your highest completed education?

o Secondary education

o BA Degree or Equivalent

o MA Degree or Equivalent

o Doctorate degree

4. Professional experience in years

o 0-5 years

o 5-10 years

o 11-15 years

o over 15 years

5. In your opinion, are technical skills of employees important in the work performed at your workplace?

o Not necessary

o Somewhat necessary

o Moderately necessary

o Necessary

o Crucial

6. In your opinion, are time and task management skills important in terms of employee competence at your workplace?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

7. In your opinion, are communication skills, including non-violent and transformative communication, important from the point of view of the competences of employees at your workplace?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

8. In your opinion, are the skills of working as part of a team are important from the point of view of employee competences?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

9.As an employer, do you think programming skills of employees are important for your company?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

10. As an employer, do you think conflict solving skills of employees are important at your company?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

11. As an employer, do you think self-presentation skills of employees are important at your company?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

12. As a employer, do you think working under pressure are important skills of employees at your company?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

13. Do you think that the ability to work with the MS OFFICE is an important skill

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

14. Do you think that the ability to use online meeting programs such as Zoom, Click Meeting, Teams, Google Meet, Skype is an important skill of employees you want to hire?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

15. Do you think delegating tasks is an important skill of employees you want to hire?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

16. Do you think analytical skills are an important as a set of skills of employees you want to hire?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

17. Do you think that the ability to motivate others is important skill of employees in your company?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

18. In your opinion, are the skills of organizing and motivating others are important skills of employees in your company?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

19. In your opinion, is the ability to work under pressure important from the point of view of the competences of the employees you want to hire?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

20. In your opinion, are negotiation skills important from the point of view of the competences of employees you want to employ?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

21. In your opinion, are creative thinking skills important from the point of view of the competences of employees you want to hire?

o Not necessary
o Somewhat necessary
o Moderately necessary
o Necessary
o Crucial

22. In your opinion, are the skills of working in a virtual team important from the point of view of the competences of the employees you want to hire?

o Not necessary

o Somewhat necessary

o Moderately necessary

o Necessary

o Crucial

23. Do you think that stress coping skills are important from the point of view of the competences of employees you want to hire?

o Not necessary

o Somewhat necessary

o Moderately necessary

o Necessary

o Crucial

24. Do you think that skills of dealing with difficult customers are important from the point of view of the competences of employees you want to hire?

o Not necessary

o Somewhat necessary

o Moderately necessary

o Necessary

o Crucial

25. Watch the videos and choose the employee with the most preferable style.

o D style https://youtu.be/5J1AVh47c4c?si=qSiKekXMgCTQ9jQB

o I style https://youtu.be/j_5zpwByIbY?si=7EWxjTZ2MLSx4uW-

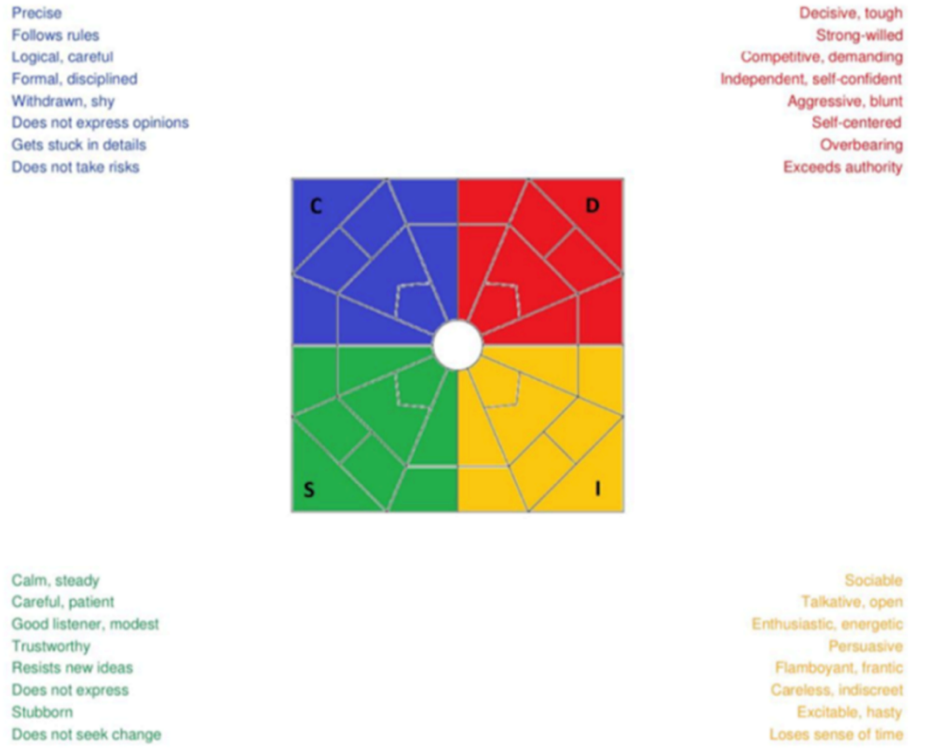
o S style https://youtu.be/Qg17KT2gtqI?si=7p1a4tWNLeZN0yqT

o C style https://youtu.be/ccBw74BP4oc?si=-BdSAveZgDPuPKs

o None of the above

o Characteristics from each of the styles

26. From the image below choose the most desirable set of characteristics of your future employee



o D Red

o I Yellow

o S Green

o C Blue

o None of the above

o From each set some characteristics

27. Do you think multitasking is important as a skill of employees in your company?

o Not necessary

o Somewhat necessary

o Moderately necessary

o Necessary

o Crucial

28. Is the ability to work in a global multicultural environment important from the point of view of the competences of employees in your company?

o Not necessary

o Somewhat necessary

o Moderately necessary

o Necessary

o Crucial

29. In your opinion the ability to write e-mails, prepare memos and write projects are important from the point of view of the competences of employees in your company?

o Not necessary

o Somewhat necessary

o Moderately necessary

o Necessary

o Crucial

30. From your point of view, which employee competencies are more importantat in your company?

o Hard Skills - technical and those that include specialist knowledge, knowledge of foreign languages, ability to operate computer programs or a cash register. Hard skills are those easy to define. You have them or do not have them. There are defined as hard competence.

o Soft Skills - these are psychosocial skills, e.g. communication skills, creativity, dynamism of action, or flexibility

o 50/50

II APPENDIX FOCUS GROUP EMPLOYERS

Focus group invite:

Dear Participant,

I are pleased to invite you to participate in the focus group research, which focuses on identifying the necessary skills in the job market in the administrative, educational, and economic sectors. I am interested in the opinions of employers regarding the skills, experience, and qualifications of employees, that are crucial for effective work in these sectors. My goal is to gather a diverse group of employers representing different companies and organisations in the administrative, educational, and economic sectors to gain a broad perspective on the required competencies and market trends. During the focus group, I will ask you to share your experiences, opinions, and observations regarding the necessary skills. The discussion will be conducted in a friendly atmosphere, and your knowledge and perspective will be extremely valuable to my PhD research. Research results will be produced based on the findings, to which you will have access. Thank you for your interest in my research, and I look forward to your participation in my focus group.

Focus group questions:

1.What technical skills do you believe are most sought after in these industries?

2. In your opinion, are there any specific soft skills that are key to the success of employees in these sectors? If so, what are they?

3. What professional or educational experience is preferred when hiring for these industries?

4. Are there any new trends or technologies that are influencing the required competencies in these sectors? If so, what are they?

5. What interpersonal skills are particularly important in these industries?

6. Are there any specific certifications or courses that are highly regarded in these sectors? If so, what are they?

7. What time management and organisational skills are important for employees in these industries?

8. What analytical and problem-solving skills are important in these sectors?

9. Are there any communication skills that are key for employees in these industries? If so, what are they?

10. Are there any specific requirements regarding knowledge of computer programs or technological tools in these industries? If so, what are they?

III APPENDIX DESK RESERCH EMPLOYEES

1. What is your gender?

o Female

o Male

o Other

2. Where do you currently live?

o City

o Village

o Another residential area

3. What is your highest completed education?

o Primary education

o Secondary education

o BA Degree or Equivalent

o MA Degree or Equivalent

o Doctorate degree

4. Professional experience in years

o 0

o 1

o 2

o 3

5. How would you rate your technical skills? Select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

6. Are you able to manage tasks effectively and yourself within a time limit? Please select only one answer.

o Not at all

o Not really

o Sometimes

o Mostly

o Very well

7. How would you rate your communication skills? Please select only one answer.

o Very poor

o Poor

o Average

o Good

o Very good

8. Are you able to work effectively in a team? Please select only one answer.

o Not at all

o Not really

o Sometimes

o Most of the time

o Absolutely

9. How would you rate your technical skills in programming? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

10. Are you able you effectively solve problems? Please select only one answer.

o Not at all

o Not really

o Sometimes

o Most of the time

o Absolutely

11. How would you rate your interpersonal skills? Please select only one answer.

o Not at all

o Not really

o Sometimes

o Most of the time

o Absolutely

12. Are you able to delegate tasks effectively? Please select only one answer.

o Not at all

o Not really

o Sometimes

o Most of the time

o Absolutely

13. How would you rate your analytical skills? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

14. Are you able to resolve conflicts effectively? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

15. How would you rate your presentation skills? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

16. Are you able to motivate others effectively? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

17. How would you rate your planning and organizational skills? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

18. Are you able to perform effectively under pressure? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

19. How would you rate your project management skills? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

20. Are you able to work effectively under time pressure? Please select only one answer

o Very weak

o Weak

o Average

o Good

o Very good

21. How would you rate your negotiation skills? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

22. Are you able to solve team problems effectively? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

23. How would you rate your creative thinking skills? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

24. Are you able to collaborate effectively with different people? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

25. How would you rate your technical problem-solving skills? Please select only one answer

o Very weak

o Weak

o Average

o Good

o Very good

26. Are you able to work effectively in a virtual team? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

27. How would you rate your stress management skills? Please select only one answer.

o Very weak

o Weak

o Average

o Good

o Very good

28. Are you able to handle difficult clients effectively? Please select only one answer

o Very weak

o Weak

o Average

o Good

o Very good

29. How would you rate your ability to adapt to changes? Please select only one answer

o Very weak

o Weak

o Average

o Good

o Very good

30. Watch each of videos and choose your preferable style:

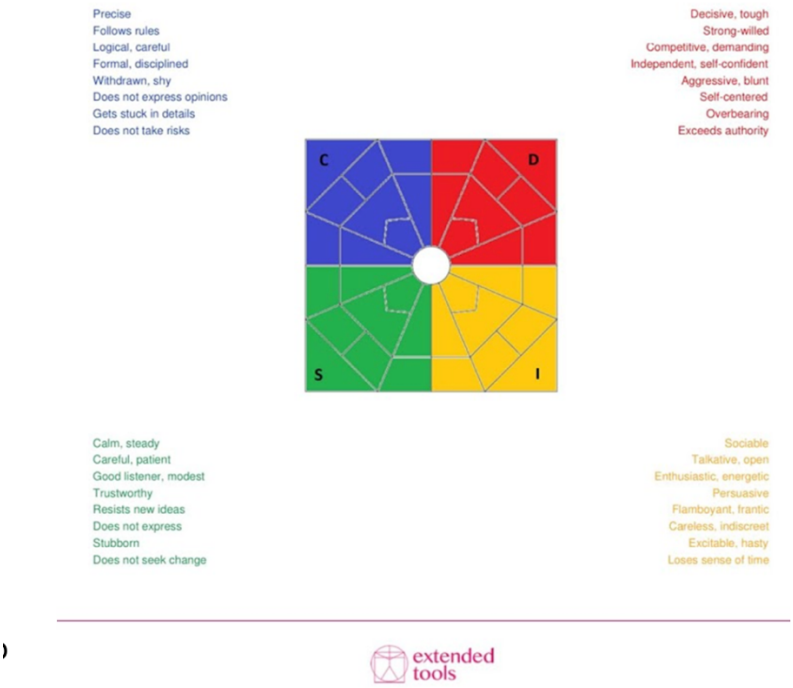
o D style https://youtu.be/5J1AVh47c4c?si=qSiKekXMgCTQ9jQB

o I style https://youtu.be/j_5zpwByIbY?si=7EWxjTZ2MLSx4uW-

o S style https://youtu.be/Qg17KT2gtqI?si=7p1a4tWNLeZN0yqT

o C style https://youtu.be/ccBw74BP4oc?si=-BdSAveZgDPuPKs

31. Choose one set of characteristics that describes you the most:



o D

o I

o S

o C

o O - I am able to make use of my potential equally within any description - I am flexible.

32. How would you rate your professionals' skills in writing your resume?

o Very weak

o Weak

o Average

o Good

o Very good

33. How would you rate your competence in terms of job interview?

o Very weak

o Weak

o Average

o Good

o Very good

34. How would you rate your professionals skills in operating with Microsoft Office?

o Very weak

o Weak

o Average

o Good

o Very good

35. How would you rate your practical skills in operating with Canva?

o Very weak

o Weak

o Average

o Good

o Very good

36. How would you rate your professionals skills in self-presentation and conducting and hosting meeting?

o Very weak

o Weak

o Average

o Good

o Very good

37. How would you rate your professionals' skills in stakeholders' management and service?

o Very weak

o Weak

o Average

o Good

o Very good

38. How would you rate your professionals skills in professional social media management?

o Very weak

o Weak

o Average

o Good

o Very good

39. Which advert is the most attractive for you? Choose one.

o 1. D Advertisement of a sports car with an instalment system

o 2. I Advertisement of limousine rental for various occasions/celebrations

o 3. S Advertisement of a family car instalment system

o 4. C Advertisement of a city car with a low instalment, which you can park in even a narrow parking space

o 5. O - I would love to watch any of these commercials

40. Which advert is the most attractive for you? Choose one.

o 1. D - Advertisement of a boxing centre offer

o 2. I - Advertisement of gala (ball and networking)

o 3. S - Advertisement of children's day

o 4. C - Advertisement of online video game tournament

o 5. O - I would love to watch any of these commercials

41. Which of virtual meeting platforms you use / used as part of your work / professional development?

o Zoom

o Microsoft Teams

o Google Meet

o Skype

o Click Meet

o Other

o All of them

42. Can you create reports?

o Not at all

o Not really

o Sometimes

o Most of the time

o Absolutely

FINAL