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Enterprises-Driven ITS Academy as a Driver for Labour Market Development and Migrants Integration in Lombardia:

A case for Social Innovation and Social Entrepreneurship

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1. Abstract

This doctoral dissertation explores the potential for Italy's Istituti Tecnologici Superiori (ITS)—which are the equivalent of the Technical and Vocational Education and Training (TVET)—to be redefined and implemented as a framework for social innovation aimed at tackling two interrelated societal issues: ongoing shortage in labour market skilled-labour and the systematic marginalisation of migrants and refugees from access to quality vocational training opportunities. The research illustrates that TVET, when purposefully designed to promote inclusion and integrated within collective skill development systems, serves as a robust mechanism for both labour market enhancement and the integration of migrants. By conducting a comparative analysis of Germany, alongside original qualitative research involving nine semi-structured interviews with leaders of Italian ITS and their corporate partners in Lombardy, the thesis uncovers a significant paradox: while ITS programs boast employment rates exceeding 80 percent, persistent shortages of students hinder the ability to scale their impact. This imbalance between supply and demand is not attributed to the quality of training but rather to a lack of sustainable financial resources, visibility, cultural obstacles, and inadequate outreach to marginalised communities.

The thesis introduces Juvinatè (JVN8), an initiative for a social enterprise grounded in research that applies social innovation principles to close recruitment gaps and promote the integration of migrants. JVN8 encompasses pre-vocational training, cultural and lingual orientation, employment through entrepreneurship, employer engagement, and focused job placement support across three levels of innovation—incremental, institutional, and disruptive—showcasing how entrepreneurial initiatives can create social value while addressing entrenched barriers. The research concludes that while social entrepreneurship is essential, it is not sufficient unless social initiatives are integrated within existing institutional governance frameworks and the complementary strengths of public, private, and civil society sectors are harnessed.

This thesis contributes to the comprehension of how social innovation and social entrepreneurship can be utilised as effective instruments for fostering more inclusive and efficient labour market systems and societies.

Keywords: Technical and Vocational Education and Training (TVET); ITS Academy; social innovation; social entrepreneurship; social enterprise; pre-vocational programs; collective skill formation; migrant integration; labour market inclusion; skills mismatch; inclusion; employability; labour-market policy; labour market inclusion

2. Introduction

Contemporary Europe faces the intersecting challenges of demographic ageing, persistent skills shortages in certain sectors, and the incomplete labour-market integration of migrants and refugees. Technical and Vocational Education and Training (TVET) has re-emerged as a central policy arena where these pressures crystallise, yet traditional systems often reproduce rather than resolve exclusion. This thesis investigates whether Italy's Istituti Tecnologici Superiori (ITS) can be reframed and operationalised as a social innovation infrastructure—supported by social entrepreneurship—to address both recruitment deficits and migrant integration. Building on comparative evidence from Germany, and Switzerland, and drawing on original interview data with ITS executives and firms in Lombardy, the study develops Juvinatè (JVN8) as a initiative intervention that connects migrants and refugees from South West Asia and North Africa region to high-quality ITS pathways. The thesis introduces the research problem, situates it within broader debates on social innovation and collective skill formation, and outlines the research questions, methods and structure of the thesis.

Contemporary society faces complex challenges that might require more than incremental change; new, creative solutions are essential to build inclusive, resilient communities. Social innovation is premised on developing new institutional practices or tools that directly address unmet social needs, especially within the context of rapid economic, demographic, and technological transformation.

Social innovation encompasses a wide range of activities, from organisational reforms in public services to purpose-driven businesses that are radically changing the profit bottom-line concept into a triple bottom-line of people, planet and profits, to the development of inclusive education models and new pathways for vulnerable populations. It is marked by its intent to achieve both systemic change and tangible improvement in quality of life for target groups, making its application crucial in fields such as education and employment.

Social entrepreneurship translates the principles of social innovation into scalable business models, using entrepreneurial principles to solve entrenched social challenges. Social entrepreneurship is widely recognised as a powerful engine for social innovation, combining the creative disruption and mission-oriented focus of social innovators with the organisational drive and financial sustainability of entrepreneurial ventures. Social entrepreneurs are uniquely positioned to address systemic social challenges, such as exclusion, unemployment, and skill mismatches, not by supplementing existing public policies, but by pioneering new models of collaboration, service delivery, and inclusion. Their work often transcends boundaries between public, private, and non-profit sectors, transforming entrenched institutional practices and directly empowering marginalised groups.

In the context of vocational education, social entrepreneurship can serve as both a catalyst and an infrastructure for systemic change. By leveraging entrepreneurial methodologies, rapid prototyping, stakeholder engagement, & impact-oriented design, social entrepreneurs are able to intervene at key friction points in the TVET system,

fostering cross-sector partnerships and adaptive solutions. These interventions tend not only to incrementally improve existing pathways but frequently reimagine the entire configuration of education-work transitions to maximise social value. Social entrepreneurship might thus give a strong contribution to realising the potential of TVET as a tool for equitable labour market participation, especially in societies marked by deep divides and migration-driven demographic changes.

ITS institutions in Italy could exemplify social entrepreneurship in action: they blend private sector involvement with public mandates to create agile, employment-oriented training centers. By nurturing partnerships and experimentation, ITS can respond dynamically to labour market needs, including those of underrepresented groups such as migrants and refugees. ITS stands as a unique instrument for social innovation in the Italian education system. By providing technical training closely connected to local industry, ITS bridges gaps between businesses, communities, and learners. This model has the potential to reduce the mismatch between available jobs and graduate skills, addressing both employer demands and facilitating social integration for those at risk of exclusion.

Given the evidence, the central research question of this thesis arises: Can ITS be repurposed as a social innovation tool to facilitate labour market inclusion, specifically for migrants and refugees? If so, how? The following chapters, guided by international experience and extensive local research, propose ITS transformation as both theoretically justified and practically achievable.

Globally, migrants and refugees encounter multi-dimensional barriers to social integration and labour market access: racism, unequal opportunities, insufficient credentials, weak local networks, and language obstacles. Social innovation in education, including the deployment of inclusive TVET strategies could offer a lifeline for these populations. By adapting educational and employment systems, policy can promote both economic sustainability and social cohesion. Germany's dual system is a prime example of successful TVET integration for migrants. Recent studies reveal that migrants, especially those who participate in dual vocational training, achieve employment rates approaching native-born levels: first-generation migrants reach nearly 70 percent employment, while second- and third-generation integration rates often surpass 75 percent. Despite initial disadvantages, continuing in dual or similar TVET tracks narrows employment gaps, proving that targeted TVET efforts can deliver a successful occupational integration.

The origins of Technical and Vocational Education and Training (TVET) trace back to the emergence of modern industrial society in the late nineteenth and early twentieth centuries. TVET systems were strategically developed to generate the technical and organisational skills needed for industrial growth and competitiveness in countries like Germany, Japan, and later across Europe. The comparative literature emphasises differences among vocational regimes: "dual systems" (like Germany's) blend classroom instruction with apprenticeship and strong employer involvement, while other models, such as France's, remain school-centered with weaker workplace links. Across

advanced economies, TVET has long been viewed as central to skill formation, incremental innovation, and the stability of employment relationships.

Italy's history with vocational and technical education has been marked by persistent tension and fragmentation. The post-war period saw heated debates about whether Italy should structure differentiated tertiary pathways akin to the German Fachhochschulen or maintain an academic focus. Reforms such as the Gui Bill of the 1960s and 1970s and subsequent introduction of University Diplomas in the 1990s reflected these struggles, often sidelining vocational education in favor of expanding universities. This "academic drift" diminished the prestige and visibility of vocational tracks, leaving Italy with a notably low share of tertiary graduates by international comparison and a system ill-prepared for the demands of modern industry. Efforts to modernise vocational tertiary education gained momentum in the 1990s and early 2000s, especially with European integration pressures and the Bologna Process. The Istruzione e Formazione Tecnica Superiore (IFTS) programs were established as a "dual system" experiment, blending regional and national stakeholders but ultimately faltering due to administrative fragmentation, cultural resistance to scientific studies, and low employer engagement.

Although hundreds of short-term IFTS programs were created, chronic underfunding and competition from newly reformed university courses led to low enrollment and limited impact. The Bologna Process further transformed Italy's educational landscape, introducing a more flexible three-cycle structure and aiming to foster both mobility and recognition of degrees at home and abroad. Responding to ongoing economic and social pressures, Italy introduced Istituti Tecnici Superiori (ITS) as participatory foundations in 2008.

ITS programs brought together vocational schools, universities, firms, and regional authorities to target fields deemed strategic for national development, including mechatronics, energy efficiency, and new technologies for Made in Italy. ITS sought to overcome the failures of earlier reforms by ensuring greater employer participation in curriculum design, teaching, and internship governance, along with stable funding and EU alignment. Despite these advances, ITSs remain marginal in terms of enrollment relative to university pathways, and their visibility, especially among students and families, is still limited. The 2022 National Recovery and Resilience Plan (PNRR) significantly rebranded and expanded ITS, doubling investments and signaling a renewed commitment to technological education as a cornerstone of Italy's innovation strategy.

Italy's lack of widespread understanding about TVET's (ITS) benefits poses a barrier to effective skill gap bridging. Local knowledge about ITS remains limited among students, and families, which results in mismatch between the supply of students and the demand for them by the partners of the ITSs and leaving migrant and refugee groups underserved for job placement and training while leaving corporate partners' needs of recruiting ITS graduates unmet. ITS: limited scale and awareness, uneven regional distribution favoring industrialised Northern regions, and enduring prestige gaps compared to university qualifications.

Efforts to align training with business needs, and to integrate school-to-work transitions, have shown promise in settings with structured company involvement and robust local ecosystems. Yet, systemic issues, particularly in regions with weaker industry networks or smaller enterprises, hinder broader success. The ongoing evolution of ITS, especially with direct business collaboration and governance innovation, is pivotal for overcoming these legacy problems and for realising the social innovation potential needed to address new labour market and migration challenges.

The fourth chapter of the MHEO provides robust empirical evidence documenting the supply-demand imbalance at the heart of the Italian ITS sector. Regional data, including from Lombardia, consistently show high graduate employability but chronically limited enrolment and awareness. This mismatch forms the backbone of the analysis: despite companies' efforts to co-design curricula and recruit candidates, the number of students remains insufficient, mainly because of the limited supply of positions by ITSs constraining both job creation and labour market integration.

A dedicated chapter presents qualitative insights from 9 interviews: 3 with ITS executives and directors and 6 with partner companies. Two companies for each of the 3 ITSs. ITS Rizzoli, ITS Meccatronica, and ITS Green. Thematic analysis reveals a persistent recruitment challenge: executives openly state that annual demand for graduates far exceeds student supply, even among founding member companies. Those leaders confirm that the limited pool of ITS students' fuels competition between industrial partners, restricts collaboration and innovation. The empirical evidence is clear: supply-demand imbalance within ITS is a systemic issue rooted in low visibility, cultural barriers, misconceptions about the new ITS system equating it to older TVET failed systems, unclear pathways, and inconsistent outreach to underserved groups, including migrants and refugees.

Building on the interviews and data review, the thesis identifies several emerging issues: unequal access to ITS across regions (demonstrated in the MHEO different reports), Higher demand for ITS graduates by private sector than ITSs are able to provide, limited participation of migrants and refugees in ITS programs, future financial vagueness post-PNRR. These gaps threaten to undermine ITS's social innovation potential unless targeted interventions, particularly focused on vulnerable populations, are designed.

In its final chapters, the thesis introduces Juvinat (hereafter 'JVN8'), a research-based and cultural, lingual and sector-based technical training skill development intervention project. JVN8 is conceived as a social innovation tool in the form of a social startup conceived to address the recruitment gap and labour market exclusion faced by migrants and refugees, JVN8 blends preparatory training, cultural orientation, career counseling, and targeted placement support with employer-driven demand for young immigrants and refugees with potential. By doing so, it embodies the principles of social entrepreneurship: designing a solution to a collective problem, mobilising stakeholders across sectors, and piloting new models for collaboration and impact.

As a living laboratory, JVN8 aims to demonstrate how entrepreneurial action can generate new social value: improving ITS recruitment, supporting company needs, and advancing the integration of vulnerable groups, thus offering a scalable, evidence-based template for TVET-driven social innovation in Italy and beyond. Elaborated in the final chapter, this social startup would offer strategic data integration, cultural, lingual, basic technical skills modular training support, and partnership-building tools for integrated stakeholder engagement such as ITS academies and their partners, TVET high schools, social assistance organisations and of course, the targeted beneficiaries, refugees & migrants.

The introduction has positioned ITS at the intersection of three unresolved problems: Italy's underperforming transition system, chronic undersupply of ITS graduates, and the systematic exclusion of migrants and refugees from high-quality training and employment. It has also argued that social innovation and social entrepreneurship offer a conceptual and practical lens for reimagining this nexus, provided they are grounded in institutional analysis rather than treated as generic solutions. The following chapters deepen this theoretical groundwork, examine international and national evidence on TVET and migrant integration, and progressively move towards the design and critical assessment of JVN8 as an operational proposal.

3. Literature Review

3.1 Social Innovation

This chapter outlines the conceptual development of social innovation, beginning with early twentieth-century issues related to social change and behavioural experimentation, and progressing to modern institutional and systemic methodologies. It examines how researchers have addressed the dual definitional challenge of "innovation" and "the social," emphasising the conflicts among technological, organisational, and political viewpoints. Special focus is placed on frameworks that interpret social innovation as the reconfiguration of norms, regulations, and resource distributions that improve collective capabilities, while also recognising the potential for negative or exclusionary effects. The chapter concludes by clarifying how social innovation is defined in this thesis—as intentional, context-specific changes in the delivery of public goods—and connects this understanding to the challenges faced in TVET and the integration of migrants.

Before the nineteenth century's conclusion, the concept of innovation was fundamentally understood as radical transformation or the rejection of established practices. However, as the 1800s drew to a close, the meaning shifted significantly. The intellectual foundations for contemporary innovation theory were established by Joseph Alois Schumpeter, who positioned innovation “at the centre of practically all the phenomena, difficulties, and problems of economic life in capitalist society” (Schumpeter, 1939). Social innovation began to gain recognition as a distinct

phenomenon, referring to novel forms of social conduct and engagement, increasingly influenced by thinking around the 'Economie sociale' (Moulaert, 2017). Early work on social innovation however, developed from within behavioural science with a particular interest in devising 'social change' approaches to tackle key, contemporary social problems, often at a community level (Fairweather, 1967).

This scholarly work encompassed critical examinations of action research frameworks designed to genuinely involve and empower participants as active contributors to investigation (Taylor, 1970) alongside systematic investigations of how government-led social initiatives perform and deliver results in bureaucratic contexts (Shipman, 1971). These evaluations revealed that assessing social programs through an innovation lens presents considerable difficulties, necessitating careful, iterative experimental approaches rather than straightforward measurement.

For much of the twentieth century, extending through approximately the 1980s, scholarly and practical attention focused predominantly on technological advancement. Corporate innovators increasingly became the primary architects of change, which inadvertently relegated the human, political, and cultural aspects of innovation to secondary importance. The 1970s marked a turning point, however, when social innovation re-emerged as a significant concern, particularly among community-based organisations viewing it as a mechanism for advancing social fairness and justice, and within organisations sometimes called the "third sector" as a pathway toward sustainable development. Simms (2006) approached social innovation by situating it within the broader trajectory of human civilisation, examining how it connects to evolutionary processes and specifically to how living systems operate. He stressed an important distinction: unlike other organisms, humans possess the distinctive ability to innovate across both technological and social dimensions throughout their lived environments. Furthermore, he examined how both technological systems and social norms shape human behaviour as components of how living systems function.

In a more structural analysis, Hamalainen and Heiskala (2007) offered a detailed examination of how sweeping transformations in economic and technological landscapes reshape societies themselves, proposing that social innovation represents the critical driver of how well-resourced nations, geographic regions, industries, and institutions ultimately perform. They offered this articulation of their position:

"Social innovations are changes in the cultural, normative or regulative structures ... of society which enhance its collective power resources and improve its economic and social performance" (2007, p. 59).

Some scholars, like Holt (1971), trained their analytical lenses specifically on how organisations function, who described social innovation as the emergence of novel patterns in how employees interact and collaborate. In contrast to work that explored the economic effects of technological innovation on society, Gershuny (1982) employed sociological investigation to examine how fresh models for delivering household and personal services reshape the broader economic landscape and social organisation, a perspective he classified as social innovation. Collectively, these varied interpretations point toward a fundamental tension within the field. Social innovation confronts not merely

one definitional challenge, but two distinct ones. The first concerns the very meaning of "innovation" itself. Latin etymology reveals that the term fundamentally denotes something novel, unprecedented, or foreign to established understanding. Innovation may also carry connotations of restoration or renewal. Though researchers and intellectuals from diverse academic traditions have investigated what innovation means and how it manifests across different contexts, substantial confusion endures. Determining novelty requires an interpretive framework, yet frameworks themselves shift and can be understood through multiple competing lenses (Nicholls & Murdock, 2012).

Within the study of innovation generally, scholars customarily differentiate between the conceptual dimension, generating original ideas through invention, and the practical dimension, translating those ideas into operational reality through implementation. These two phases identify novelty according to distinct criteria. Financially framed, this distinction mirrors the separation between converting resources into new concepts (capital allocation) and converting concepts into tangible resources (value realisation) (Nicholls & Murdock, 2012). Social innovation therefore encompasses the production of genuinely new concepts and organisational configurations (Scott, 2007), functioning simultaneously as an ongoing process through which ideas are refitted within reconsidered frameworks of social standards regarding the common welfare, fairness, and impartiality. This type of innovation demonstrates how societal transformation unfolds based on specific contextual choices, placing weight on "the knowledge and cultural assets of communities and which foregrounds the creative reconfiguration of social relations" (MacCallum et al., 2009).

Social innovation is not confined to any single economic sector but pervades all domains of human organisation. It frequently reveals itself through distinctive combinations drawing together the normally separate operational logic of commercial enterprises, state institutions, and nonprofit and voluntary organisations. Within commerce, social innovation operates along two connected dimensions: recognition that when organisations introduce novel technologies without simultaneously transforming internal social arrangements and collaboration patterns, those technologies frequently underperform (Porter & Kramer, 2011) *second*, as a new agenda for the role of business in society (Elkington, 1997). Within the public sphere, social innovation aligns with longstanding efforts to redesign welfare provision through improved operational efficiency under conditions of fiscal limitation coupled with seemingly infinite demand (Le Grand & Bartlett, 1993).

Simultaneously, it threatens the existing governance systems by aiming to restructure power distributions throughout society that currently result in inefficient or unequal allocation of resources and support (see Moulaert, 2009, p. 12). For civil society, social innovation involves both internal organisational transformation (for instance, novel organisational forms and cross-organisational partnerships) and external creation of previously non-existent offerings (such as innovative services and products). Yet despite abundant demonstration that all three sectors actively advance innovation in social relations and social value production with growing frequency (see Bornstein, 2004; Nicholls, 2006; Light, 2008; Elkington & Hartigan, 2008), persistent challenges remain regarding how we conceptualise and define these phenomena.

An important caveat merits emphasis: social innovation does not automatically constitute progress or benefit society. Social innovation possesses potential negative dimensions. This darker potential manifests through multiple pathways (Nicholls & Murdock, 2012):

- Through purposes and objectives designed to fragment communities or cause harm (exemplified by covert organisations or extremist political movements)
- Through unplanned byproducts or departures from intended goals that generate detrimental societal impacts (such as when marginalised populations become excluded from receiving social improvements or support)
- Through internal organisational breakdown, mission corruption, or external capture by actors pursuing different agendas (Tracey & Jarvis, 2006).

Phills, et al. (2008, p. 36) appeared to recognise this potential for negative outcomes in their formulation, which prioritised measurable improvement over mere change: "A novel solution to a social problem that is more effective, efficient, sustainable, or just than existing solutions and for which the value created accrues primarily to society as a whole rather than private individuals."

This framing also highlights a potentially problematic dynamic: the possibility that benefits and value capture diverge within social innovation, potentially subordinating the personal gain and recognition of individual innovators to broader societal value accumulation (see Nicholls, 2010a for a similar argument in the context of social investment). A related challenge involves the degree to which novel innovations achieve legitimacy within their institutional environment, what researchers term the "liability of newness" (Stinchcombe, 1968). Drawing on neo-institutionalist theory, organisational and sectoral transformation operates under constraints imposed by prevailing social conventions, as established systems work to preserve themselves through various conformity-inducing mechanisms (DiMaggio & Powell, 1983).

From this perspective, change constitutes a dilemma at the organisational level since it disrupts established credibility across normative, market-based, and cognitive dimensions, potentially jeopardising the organisation's ability to secure and maintain necessary resources (Suchman, 1995). Notwithstanding these intricate considerations surrounding innovation as a socially dependent and contextually variable phenomenon, the terminology itself retains sufficient clarity in both academic and applied domains to remain useful and understandable, particularly when connected to "social." Yet this pairing, itself an innovative linguistic move, demands rigorous examination of how the adjective operates. What becomes unmistakable is that social innovation encompasses remarkable complexity and encompasses multiple interconnected dimensions (Nicholls & Murdock, 2012).

What exactly characterises "the social" within social innovation? Professionals across sociology, economics, anthropology, and political science have grappled with this question across more than one hundred years, yet conceptual clarity remains elusive (Cantor et al., 1992). Within sociology, the social encompasses the complete scope

of human endeavour. Within anthropology, it centres specifically on community contexts, traditional practices, and patterns of human connection. For many economists, it is most intelligibly understood through market consequences or shifts in how individuals calculate personal advantage. Among political scientists, "the social" frequently becomes framed around collectively enjoyed benefits, outcomes evaluated through cost-benefit frameworks, and objectives framed by utilitarian reasoning. Additionally, some interpretations position virtually all innovations as inherently social phenomena. This argument proposes that because all newly created products and services affect human existence, all innovation necessarily carries social implications. Those products and services that specifically enable improved human well-being can be seen as a subset of this larger group in that they have demonstrably positive social effects (Nicholls & Murdock, 2012). However, others -with whom my opinion aligns- can argue that the argument made above could also yield negative effects like many innovations have resulted in much bigger negative social impact rather than positive, in both cases, they're known as externalities.

An alternative perspective emphasises that even innovations lacking direct human-welfare dimensions almost invariably depend on novel forms of human participation in their creation and dissemination, participation that may itself constitute meaningful or transformative change (e.g. Latour, 2005). These varying positions suggest that divergences in how "the social" functions within social innovation fundamentally stem from sociological disagreement and may therefore be substantially addressed through deliberate investigation of the specific parties generating and experiencing the innovation. These participants can be examined at three interconnected scales: the personal, individual level, the organisational, network level, or the societal, systemic level.

Nonetheless, the purpose here is not to revisit the extensive literature on how to define terms within social innovation scholarship (see Dacin, et al., 2010), but rather to note that all qualifying uses of the term 'social' create interpretive challenges for which the only (partial) resolution is a statement of clarity in context. Thus, social innovation is defined here as "varying levels of deliberative change that aim to address suboptimal issues in the production, availability, and consumption of public goods defined as that which is broadly of societal benefit within a particular normative and culturally contingent context" (Nicholls & Murdock, 2012).

In this context, one interpretation of the increasing scholarly and policy focus on social innovation in recent years is that it serves as an adaptive response to escalating global challenges and persistent, complex issues—problems marked by conflicting interpretations and disagreements regarding their root causes (Rayner, 2006; Murray, et al., 2010). Examples include: the failure of modern state welfare systems (Leadbeater, 1997; Mulgan, 2006b); the impacts of mass urbanisation (Moulaert, et al., 2007); the failure of conventional market capitalism (Murray, 2009); Although these challenges encompass various domains, three interrelated issues warrant special consideration to comprehend the current significance of social innovation in relation to —the topic of discussion in this thesis—Technical and Vocational Education and Training (TVET) education and labour market integration. The *first* issue is the inability of traditional TVET education and state welfare systems to effectively reach and equitably serve marginalised groups, including migrants

and refugees; *second*, The second issue is the ongoing disparity between the demand for skilled workers in the labour market and the supply of graduates from conventional educational pathways—a structural imbalance that mirrors broader trends of economic disruption and sectoral change; and *third*, the systemic obstacles that hinder migrants and refugees from accessing high-quality technical training and job opportunities, obstacles that are deeply rooted in institutional fragmentation, cultural hierarchies and biases, and insufficient bridging mechanisms.

Together, these challenges highlight the inadequacy of traditional problem-solving approaches that are entrenched in rigid institutional frameworks across all three conventional sectors of society—failures in the private sector, siloed thinking in the public sector, and fragmentation within civil society (Nicholls & Murdock, 2012). When viewed through this perspective, persistent social dilemmas illustrate why adaptive, cross-sector collaboration and innovative deliberation have become essential responses.

This imperative is further clarified through a complementary analysis of the growing interest in social innovation: such initiatives are increasingly acknowledged as a vital (though not always guaranteed) counterpart to swift technological advancements and economic innovation (Heiskala and Hamalainen, 2007). In this context, social innovation is understood as the process of restructuring social frameworks to improve productive capacity and foster economic growth, often based on the assumption that these benefits would be fairly distributed among different populations. Importantly, this dual framework—economic efficiency alongside social equity—has gained significance particularly among governmental bodies and academics as a strategy within larger environmental and social sustainability initiatives (Moulaert et al., 2007). The message is unmistakable: tackling the three challenges mentioned earlier necessitates not just minor policy modifications, but intentional institutional redesign that enhances economic results while redistributing opportunities to marginalised groups.

In line with this intellectual and policy evolution, the period from 2007 to 2017 saw the emergence of numerous institutional centres focused on social innovation, along with global venture support organisations. The founding of the Social Innovation Exchange (SIX) in Beijing in 2016 serves as a prime example of this institutionalisation, although various initiatives have surfaced with differing levels of coordination and strategic coherence. Simultaneously, capital markets have shown a growing commercial interest in funding and executing social solutions, partly driven by the proven effectiveness of early-stage interventions. Innovative strategies are now empowering beneficiary communities to set innovation priorities, and new organisations are utilising technological systems to drive social change while facilitating comprehensive economic restructuring (Mulgan et al., 2007). In the context of this institutional framework, education systems—especially vocational and technical training pathways—are regarded as essential venues for social innovation. They serve not only as spaces where the three identified challenges are prominently evident but also as platforms for testing and expanding integrated, cross-sector solutions.

In conclusion, having provided a literature review of what the concept of ‘social innovation’ meant and how it evolved in time, and how it could be a strategy used by TVET institutions (ITS) to approach issues such as the efficient and

effective integration of marginalised population such as refugees and migrants, the subsequent sections will try to present an argument to social innovation tools such as social entrepreneurship that could help this approach. The review indicates that social innovation is not simply a harmless buzzword or an abstract normative ideal; rather, it represents a contested domain where issues of power, legitimacy, and distribution are pivotal. By emphasising institutional transformation, collaboration across sectors, and the challenges associated with newness, the chapter offers a framework for analysing both successful and unsuccessful efforts to reform education and labour-market institutions. This conceptual foundation supports the view of TVET as more than just a policy subsystem; it positions it as a viable social innovation infrastructure, thereby laying the groundwork for the following chapters that explore how this potential can be actualised for migrants and refugees.

3.2 TVET Education as a Social Innovation Instrument for Migrants Integration

Vocational education and training (TVET) systems globally face mounting pressure to address persistent labour market mismatches, skills shortages, and the integration of vulnerable populations, particularly migrants and refugees. This chapter argues that TVET—specifically technical post-secondary institutions such as Italy's Istituti Tecnologici Superiori (ITS Academy)—constitutes a powerful social innovation instrument capable of addressing the structural barriers that migrants and refugees encounter in labour market access. Drawing on empirical evidence from scoping reviews of European TVET systems, comparative analysis of dual apprenticeship models, and pre-vocational programme evaluations, the chapter demonstrates that TVET, when intentionally designed for inclusion, can simultaneously resolve labour market imbalances, foster migrant integration, and deliver systemic economic benefits.

3.2.1 Defining TVET as Social Innovation

Social innovation, as established in preceding chapters, represents a deliberate reconfiguration of institutional relationships, practices, and resource flows to address social problems and redistribute opportunities. TVET operates at this intersection: it is not merely a training system but a collaborative infrastructure—bringing schools, employers, government authorities, and civil society into coordinated action around shared economic and social objectives. This hybrid institutional logic makes TVET particularly suited to function as a social innovation platform. The defining characteristic of TVET as a social innovation mechanism lies in its capacity to integrate multiple stakeholder logics: *the private sector's need for skilled labour, the public sector's commitment to equitable access, and civil society's advocacy for inclusive development.*

Unlike conventional vocational training, TVET systems in dual apprenticeship models—exemplified in Germany, Austria, Denmark, and Switzerland—embed work-based learning, employer co-governance, and responsive curriculum design, creating what Lyckander et al. (2023) term 'collective skill formation systems' wherein shared responsibility ensures training aligns with both individual and labour market needs. For migrants and refugees, this institutional configuration addresses a fundamental challenge: they arrive without local social capital, credential

recognition, or knowledge of labour market norms. TVET, particularly its apprenticeship components, mitigates these barriers by embedding learners directly within workplace communities of practice, where they acquire not only technical skills but also tacit knowledge, networks, and cultural competencies necessary for sustainable labour market participation.

3.2.2 The Migrant and Refugee Challenge: Why TVET is Essential?

3.2.2.1 *Scale and Urgency of the Problem*

Between 2014 and 2017, more than 5.3 million asylum seekers arrived in OECD countries; over 50 percent of those arriving in Europe were aged 18–34. In European Union member states, migrants comprise approximately 10–15 percent of the workforce, yet their unemployment and underemployment rates significantly exceed those of native-born populations. In 2021, the employment rate for non-EU citizens stood at 70.0 percent compared to 78.9 percent for nationals. For refugees specifically—the most vulnerable subset—labour market outcomes are substantially worse: many arrive with disrupted education, unrecognised credentials, language barriers, and insufficient knowledge of the host country's labour market systems.

Traditional pathways—whether general education or passive job-seeking—have proven insufficient. Lyckander et al. (2023) note that across European countries, immigrants' participation in TVET is lower than the majority population, attributable to multiple barriers: inadequate formal qualifications, weak language proficiency, lack of work experience, and insufficient knowledge of local labour market norms. Moreover, many migrants and refugees lack familiarity with TVET itself, having originated from countries where vocational pathways hold limited prestige or differ substantially in structure.

3.2.2.2 *TVET's Empirical Effectiveness for Migrant Integration*

Evidence from comparative analysis demonstrates TVET's efficacy as an integration mechanism. Germany's dual system, regarded as a global benchmark, shows that migrants participating in apprenticeships achieve employment rates approaching those of native-born citizens. First-generation migrants reach 70–75 percent employment, with second-generation integration rates often surpassing 75 percent. This outcome reflects the system's capacity to embed workplace learning, build social networks, and develop vocational identities simultaneously. In Switzerland, evaluation of the Pre-apprenticeship for Integration (PAI) programme reveals that nearly two-thirds of refugee and temporarily admitted participants (62.7%) secured apprenticeships, with three-quarters of completers transitioning to regular apprenticeships.

Stalder et al. (2023) attribute this success to four critical factors: high-quality learning environments linking workplace and school; participants' individual motivation and language proficiency; supportive social networks outside training;

and structured career guidance. Denmark and Austria, despite more restrictive immigration policies, demonstrate that targeted VET interventions—such as the two-year Basic Integration Programme (IGU) in Denmark—can deliver measurable outcomes when social partners commit resources and coordination. Conversely, absence of such support yields poor results: in Norway, completion rates for migrant VET students remain substantially lower than general education completion, indicating that length of residence alone does not improve outcomes without targeted intervention.

3.2.2.3 *Barriers and Institutional Solutions: The Social Innovation Logic*

Lyckander et al. (2023) delineate *two main categories* of obstacles that hinder migrants' access to and success in technical and vocational education and training (TVET): *institutional challenges* and *situational challenges*.

Institutional barriers include *inadequate dissemination of information regarding TVET systems, rigid admission criteria, insufficient language and curriculum support tailored to the needs of migrants, and poor coordination among educational authorities, employers, and social services*. *Successful interventions* that tackle these structural barriers consist of *pre-vocational bridging programs that combine language training, workplace experience, and vocational orientation, as demonstrated by initiatives in Germany and Switzerland*. Other effective strategies involve *flexible admission standards that acknowledge prior learning through competency-based assessments rather than relying solely on formal qualifications, integrated language support embedded within vocational courses—allowing learners to acquire technical vocabulary in context—and employer engagement strategies facilitated by intermediary organisations that help connect migrants with employers while challenging discriminatory hiring practices*.

Situational challenges faced by migrant learners are complex, including *language barriers, difficulties in cultural adjustment, discrimination, housing instability, and uncertainty regarding immigration policies*. These challenges require additional support mechanisms that extend beyond educational interventions alone. Effective responses include *specialised mentoring and coaching programs that support participants throughout their training and into the labour market*, comprehensive support services that address housing, childcare, transportation, and healthcare access—considered essential for maintaining refugee persistence in training—and social integration strategies that promote peer relationships with native classmates and colleagues in the workplace. Such relational networks have been recognised as protective elements that significantly improve programme completion rates.

Ultimately, it is crucial to implement structural policy reforms, which include clarifying legal status, providing work permits that facilitate employment during training, and ensuring that immigration policy frameworks are aligned with long-term training pathways to establish sustainable transitions from education to employment. These institutional and situational interventions together represent social innovation within Technical and Vocational Education and

Training (TVET) systems, illustrating how specific adjustments to governance, curriculum development, and support mechanisms can effectively tackle barriers faced by migrants while utilising the existing vocational education infrastructure (Lyckander et al., 2023). The effectiveness of these strategies is heavily reliant on cross-sectoral collaboration, ongoing political dedication, and an acknowledgment of the interconnectedness between access to education and wider social integration efforts.

3.2.3 ITS Academy as Italy's Social Innovation Opportunity

Italy presents a distinctive case. The Italian TVET landscape—historically fragmented between passive university-oriented pathways and underfunded vocational routes—has evolved through ITS: hybrid public-private foundations co-governed by schools, employers, and regional authorities. Jeon (2019) notes Italy among OECD countries where TVET systems have adapted to serve migrants, yet with significant untapped potential. Interview data from Italian ITS directors and partner companies (gathered for this thesis research) reveal a paradoxical opportunity: ITS graduate employment rates exceed 80 percent, yet chronic student shortages prevent scaling impact. Firms demand more graduates; families and students lack awareness that ITS exists or how it functions. This supply-demand imbalance is not primarily a quality problem but an inclusion and visibility problem—a social innovation challenge rather than a training design problem. For migrants, this imbalance represents both barrier and opportunity. Migrants are underrepresented in Italian ITS not because they cannot succeed (evidence suggests they complete at rates comparable to natives when supported) but because outreach and integration support are minimal. Jeon (2019) identifies information deficits, credential non-recognition, and weak employer networks as primary barriers—all addressable through social innovation mechanisms.

3.2.4 Pre-vocational Programmes as Social Innovation: Evidence from Success

The assessment of pre-vocational programs in Germany and Switzerland reveals that a structured approach—integrating language education, vocational guidance, practical work experience, and career counselling—effectively addresses both institutional and situational challenges faced by migrant learners.

James et al. (2020) evaluated the pre-vocational classes for refugees in Germany and found that participants who complete bridging programs successfully transition to regular apprenticeships at rates similar to those of native students, after accounting for initial skills and qualifications. This empirical evidence highlights the ability of targeted preparatory measures to mitigate initial access disadvantages, thereby creating feasible pathways into mainstream vocational education and training systems.

Key success factors that differentiate effective pre-vocational programs include the involvement of employers in both the design of the curriculum and the delivery of instruction, which ensures that the programs remain relevant to labour market demands while also reducing hiring biases through direct exposure to the capabilities of participants.

Additionally, extended transition support, which includes dedicated coaches and mentors to help participants navigate the complexities of dual learning environments, is equally crucial for maintaining progress beyond the preparatory stage. The flexibility of program duration further enhances effectiveness, as it accommodates the diverse language proficiency and skill levels typical of migrant groups, rather than enforcing strict timelines that could lead to premature exclusion. *Lastly, structured pathways to apprenticeships—facilitated by intermediary organisations that systematically connect participants with employers who align with their interests and regional labour market needs—serve as a fundamental aspect of program design, effectively bridging the informational gaps and trust issues that can hinder the integration of migrants into the labour market (James et al., 2020).*

3.2.5 Migrants and Refugees as Economic and Social Assets

A critical reframing emerges from the evidence: migrants and refugees, far from being purely vulnerable populations, represent underutilised economic resources. Germany's labour shortages in skilled trades, Austria's demographic decline, and Switzerland's demand for technical workers in healthcare and construction all illustrate how TVET-integrated migrants address labour market imbalances while advancing personal integration.

According to research cited in the European scoping review of immigrant TVET integration, specifically, Geven and Sprölein (2023), migrants in Germany educated domestically in TVET achieve employment outcomes comparable to natives in skilled occupations, suggesting that domestic TVET credentials effectively substitute for foreign qualifications. This finding underscores the labour market efficiency of TVET for migrants: rather than relegating them to low-skill employment, TVET enables credential conversion and occupational positioning aligned with host-country labour demand.

3.2.6 Conclusion: TVET as Systemic Integration Mechanism

TVET—particularly dual apprenticeship systems and their adapted forms—operationalises social innovation by simultaneously solving three interconnected problems: labour market skills mismatches, migrant labour market exclusion, and institutional fragmentation between education and industry. When TVET systems are intentionally inclusive—through pre-vocational support, employer engagement, language integration, and holistic support services—they become vehicles for transformative change: migrants move from exclusion and underemployment to skilled participation; employers access needed talent; economies capture productivity gains; and societies benefit from enhanced social cohesion and economic dynamism.

Italy's ITS system, with its proven employability outcomes and employer-embedded governance, possesses the institutional infrastructure to replicate international successes. Realising this potential requires deliberate social innovation: not wholesale redesign but targeted interventions in recruitment, integration support, and employer engagement—precisely the domains where JVN8, proposed in this thesis, aims to intervene.

3.3 Social Entrepreneurship as the Operationalisation Mechanism for Social Innovation in TVET Migrant Integration

This chapter reinterprets social entrepreneurship as the fundamental operational framework through which social innovation in Technical and Vocational Education and Training (TVET) can be conceptualised, executed, and expanded. It revisits the tripartite distinction among social entrepreneur, social enterprise, and social entrepreneurship as a process, emphasising their interconnectedness and the political-economic tensions that influence the creation of social value. Subsequently, the chapter presents a multi-level framework of innovation—incremental, institutional, and disruptive—and applies it to the integration of migrants within TVET, before exploring sector boundaries and hybrid organisational forms as key areas for experimentation. Case studies demonstrate how social-entrepreneurial principles engage with national institutions, while paving the way for the JVN8 project.

Entrepreneurs have historically utilised innovation as a strategic tool to secure competitive advantages that foster economic growth over various time frames. In traditional business environments, innovation is primarily focused on the acquisition and maintenance of shareholder value, which is evident through the introduction of new products, processes, or business models aimed at strengthening market presence. Conversely, social entrepreneurship arises from a completely different conceptual lineage—one that integrates various theoretical frameworks encompassing organisational studies, institutional economics, social movements theory, and development economics.

Social entrepreneurship is more than just a charitable modification of business practices. Instead, it represents a unique organisational and institutional phenomenon, where the creation of social value is the foremost goal, and financial sustainability serves as a facilitating constraint rather than a target for profit maximisation. As (Mair & Martí, 2006) assert in their seminal research, social entrepreneurship entails "innovative, social value-creating activity that can occur within or across the nonprofit, governmental, or commercial sectors." This definition is pivotal as it recognises that social entrepreneurship is not confined to a specific sector—it embodies a functional logic that surpasses conventional institutional boundaries.

The previous chapters have established Technical and Vocational Education and Training (TVET) as both a conceptual framework and an institutional mechanism capable of addressing the systemic exclusion from the labour market faced by migrants and refugees. However, frameworks alone are not enough. Social innovation—defined as reconfigured ideas, restructured relationships, and systemic interventions—necessitates operational mechanisms that allow abstract possibilities to be embedded, sustained, and scaled within existing institutional contexts. Social entrepreneurship fulfils this operationalisation role.

This chapter posits that social entrepreneurship is not simply a tool for the integration of migrants into TVET; rather, it is essential to making this integration possible. The chapter is structured as follows: *First*, it lays out the foundational theoretical framework of social entrepreneurship through the triadic model of actor-organisation-process, synthesising

recent research that addresses definitional ambiguities. *Second*, it explains how social innovation functions at various intensity levels (incremental, institutional, disruptive), each carrying unique implications for the integration of migrants into TVET. *Third*, it theorises sector boundaries as arenas for the proliferation of innovation, utilising Nicholls and Murdock's (2012) triangulation model. Fourth, it aligns social entrepreneurship responses with documented obstacles to migrant participation in TVET, grounding the theoretical discussion in empirical evidence. *Finally*, it illustrates these frameworks through specific case studies (Switzerland's PAI, Denmark's IGU, Austria's policy reversal) before examining JVN8 as a tangible example of operationalised social innovation.

3.3.1 Defining Social Entrepreneurship—The Triadic Framework Reconsidered

3.3.1.1 *The Conceptual Genealogy and Definitional Landscape*

The ambiguities in definitions related to social entrepreneurship, social enterprise, and the social entrepreneur reveal deeper epistemological conflicts within the discipline. These concepts are interconnected through shared goals (the creation of social value) while remaining conceptually distinct in terms of their foundational logic, unit of analysis, and their relational dynamics with institutional contexts. Ramani, SadreGhazi, and Gupta (2016), building upon the extensive literature review conducted by Bacq and Janssen (2011), advocate for a systematic differentiation based on distinctions in the unit of analysis. Their framework has gained significant traction as it recognises that these three terms function at varying levels of social organisation:

The *social entrepreneur* serves as the unit of individual agency. This individual identifies social or environmental challenges and formulates innovative, market-driven solutions that can produce sustainable social value. Importantly, the social entrepreneur is defined not solely by altruistic intentions but by specific skill sets: efficient resource mobilisation, the application of business management strategies, creative problem-solving, resilience, and extensive networks. Ashoka, the organisation that has globalised the concept of social entrepreneurship since 1980, characterises social entrepreneurs as "ambitious and persistent" individuals who "address significant issues and propose new ideas for systemic change," explicitly exemplifying "changemaking behaviour" and stimulating "organisations and movements." This definition carries implicit assumptions regarding scale and systems thinking; social entrepreneurs do not simply address isolated cases but envision and execute interventions on a systemic level.

In the realm of TVET migrant integration, social entrepreneurs are defined as individuals, who identify structural deficiencies (such as limited migrant awareness of vocational pathways, weak employer-migrant connections, fragmented support services) and conceive interventions that creatively utilise existing resources in innovative combinations. They act as what Kingdon (1984) refers to as "policy entrepreneurs"—agents who are adept at connecting problems, solutions, and political opportunities to create actionable policy windows.

The *social enterprise* serves as the unit of organisational form. Social enterprises merge commercial and social missions, generating and distributing social value while ensuring financial sustainability through earned income,

grants, or hybrid funding models. Important to note that social enterprises are not characterised by their legal status (whether nonprofit or for-profit) but rather by their mission framework: they operate within what Billis (2010) describes as the "liminal space" that exists between the state, market, and civil society. As highlighted by Ratten and Welpel (Ratten & Welpel, 2011) social enterprises are organised around community themes, specific sectoral focuses, or specific populations, and they may aim at Bottom-of-Pyramid (BoP) markets—economically disadvantaged groups in low-income settings who are often excluded from traditional commercial and public service offerings (Prahalad, 2005).

Within TVET environments, social enterprises position themselves as intermediaries linking educational institutions with labour markets. They may function as "businesses with a social purpose" (more aligned with market principles) or as "not-for-profits with income-generating activities" (more aligned with civil society principles). The essential characteristic is their ability to mobilise both commercial and social resources to facilitate integrative TVET pathways. Social entrepreneurship (the process) signifies a dynamic unit of activity and transformation within systems. It includes a collection of activities, strategies, and institutional negotiations that facilitate the creation and scaling of social value. This understanding at the process level positions entrepreneurship not merely as an individual characteristic or a form of organisation, but rather as a relational achievement—an endeavour accomplished through the mobilisation of stakeholders, navigation of institutions, and iterative adaptation.

3.3.1.2 *Deepening the Framework: Beyond Binary Distinctions*

The framework proposed by Ramani et al., while insightful, may risk reification if applied in a rigid manner. Current academic discourse indicates several necessary refinements:

Firstly, regarding the interplay between entrepreneur, enterprise, and process: these elements are not linear stages but rather interrelated dimensions. A social entrepreneur usually establishes a social enterprise, which subsequently initiates the processes through which social value is generated. Nonetheless, this relationship is neither straightforward nor deterministic. Enterprises may exist without fostering entrepreneurial momentum; entrepreneurs can function independently of formal organisational frameworks; and the processes of social entrepreneurship can develop through dispersed networks rather than established organisations. This complexity is especially relevant for the integration of TVET migrants, where solutions may arise from public policy reforms (process without the creation of new enterprises), initiatives by organisations (such as NGOs or enterprise led by an entrepreneurial individual), or platform ecosystems (process-driven by processes).

Secondly, regarding the political economy of social value creation: Social entrepreneurship does not function within a politically neutral environment. The process of identifying issues, framing solutions, and mobilising resources is deeply influenced by existing power dynamics and ideological beliefs. Dey and Steyaert (2012) compellingly argue that the field of social entrepreneurship must confront the visibility of certain issues (such as the exclusion of migrant labour from the market) while others (like structural racism in hiring practices and discriminatory immigration policies) remain

hidden. Furthermore, they highlight how solutions that maintain current institutional frameworks tend to be normalised, whereas more radical approaches are often sidelined. This critical viewpoint is vital when evaluating JVN8 (illustrated in subsequent chapters): its ability to enhance participation in ITS among migrants relies not only on the quality of the program but also on the political commitment to confront employer discrimination, immigration limitations, and entrenched educational hierarchies.

Thirdly, concerning the contradictions of sustainability and scaling: Social enterprises encounter what Tracey and Phillips (2007) describe as a core tension between maintaining their mission and acquiring necessary resources. Transitioning from a pilot program to a system-wide operation necessitates collaboration with funders, governmental bodies, and commercial partners, who may impose conditions that conflict with the original social missions. Mission drift—the gradual decline of social goals in the quest for financial viability—is not merely a failure in execution but rather a structural risk that is inherent to social entrepreneurship in the context of resource scarcity.

3.3.2 Multi-Level Innovation Architecture and TVET Implications

Social entrepreneurship functions not as a singular practice but rather across three unique innovation intensities, each producing varying transformative potentials and involving different stakeholder configurations (Murray et al., 2010; Hamalainen & Heiskala, 2007).

3.3.2.1 *Incremental Innovation: Enhancement of Products and Services*

Incremental innovation in technical and vocational education and training (TVET) aimed at facilitating migrant integration emphasises specific enhancements to current offerings while functioning within pre-existing institutional frameworks. Notable instances include tailored pre-vocational bridging programs that combine language education with industry-specific technical competencies, apprenticeship curricula adapted to include vocational language training interwoven throughout technical modules, mentoring programs that systematically connect seasoned workplace professionals with migrant apprentices, and updated assessment techniques that formally acknowledge prior learning obtained through educational systems in migrants' countries of origin.

This type of innovation is characterised by its high feasibility for implementation, swift deployment timelines, and the ability to produce immediately quantifiable results. The Switzerland PAI (Pre-apprenticeship to Support Integration) program serves as a prime example of this incremental strategy: designed as a one-year pathway, it effectively integrates language education, academic skills enhancement (including mathematics and digital literacy), and workplace-oriented technical training through close partnerships with employers (Stalder et al., 2023). Empirical evidence highlights its success, with 62.7% of PAI graduates advancing to regular apprenticeships—figures that significantly surpass baseline transition rates for refugees seeking direct entry into conventional VET pathways.

Nonetheless, incremental innovation is fundamentally limited by the confines of existing institutional frameworks. Although it significantly improves access and results for certain groups of migrants, these initiatives do not tackle the fundamental structural shortcomings that make mainstream TVET systems insufficiently adaptable to linguistic and cultural diversity, continue to enable discriminatory hiring practices by employers, or maintain the deep-rooted stigma associated with vocational education in comparison to academic pathways. As a result, incremental strategies produce valuable yet ultimately limited enhancements instead of leading to transformative systemic change.

3.3.2.2 *Institutional Innovation: Structural Modification and New Mechanisms*

Institutional innovation in technical and vocational education and training (TVET) involves the intentional alteration or establishment of organisational frameworks, governance structures, and coordination mechanisms aimed at unlocking hidden social value from underutilised system capacities.

Typical examples include governance reforms that set migrant recruitment targets within ITS Academy boards or regional education authorities, digital matching platforms that utilise algorithmic systems to systematically connect migrant skills and aspirations with job openings from employers—thus mitigating widespread information asymmetries—inter-agency coordination bodies that form formal committees consisting of employment services, education authorities, non-governmental organisations, and employers to harmonise otherwise disjointed policy areas, systematic recognition frameworks for validating non-formal and informal learning obtained in migrants' countries of origin, and subsidised apprenticeship programs designed to provide financial incentives for employers to hire specific disadvantaged groups.

Institutional innovation functions by strategically utilising the operational principles of existing systems while concurrently reconfiguring essential components to improve migrant inclusion. The Danish IGU (Introduktionsuddannelse—Introduction Training) program serves as a prime example of this strategy: organised as a formally recognised, tripartite (employer-education-state) two-year pathway, it achieves around 70% completion rates for advancement to regular apprenticeships (Jørgensen et al., 2021). Importantly, this innovation did not introduce new educational content but instead reorganised the coordination of technical training delivery, state support systems, and employer engagement frameworks to establish coherent progression pathways.

The implementation of institutional innovation is inherently more complex than incremental methods, necessitating extended negotiations with established stakeholders—such as ministries, employer associations, and educational institutions—who gain established advantages from existing arrangements. However, institutional innovations offer significant sustainability benefits: once they are formally integrated into policy frameworks, these structural changes exhibit resilience that transcends the tenure of individual founders or organisations, thereby embedding migrant-inclusive practices within the lasting framework of national TVET systems.

3.3.2.3 *Disruptive Innovation: Systems Reformation and Ideological Reconstruction*

Disruptive innovation in technical and vocational education and training (TVET) aimed at migrant integration seeks to fundamentally transform entrenched systems, often necessitating ideological reframing and direct challenges to established power structures. Characteristics include the strategic repositioning of vocational education—shifting its perception from a stigmatised "second track" designated for academically weaker students to a respected, professionally-oriented pathway that holds equal standing with academic routes—legal reforms that provide refugees and migrants with unconditional access to apprenticeships regardless of their immigration status, the elimination of work permit restrictions for asylum-seekers, active challenges to meritocratic narratives through systematic identification and contestation of structural discrimination, and the reframing of migrant "deficits" such as language barriers and unfamiliar credentials as systemic failures rather than individual shortcomings. Additional disruptive strategies include the redistribution of educational resources, intentionally redirecting investments from elite academic tracks to ensure universal access to vocational training pathways.

Disruptive innovation typically arises from social movements, advocacy networks, and ideologically driven coalitions rather than from isolated entrepreneurial initiatives or limited organisational efforts. Hall (1992, 1993) outlines a typology that distinguishes between first-order policy changes (incremental adjustments), second-order changes (institutional modifications), and third-order changes (fundamental transformations of policy goals, instruments, and underlying paradigms). Disruptive innovation within TVET-migrant contexts specifically targets third-order change, with the goal of reconfiguring not only operational mechanisms but also the core objectives and value frameworks that govern vocational education systems.

Empirical evidence highlights the essential need and inherent fragility of disruptive strategies. Germany's extensive policy response to the 2015 refugee influx included notable institutional innovations—such as pre-vocational programs and skills recognition systems—yet it notably failed to bring about truly disruptive reform. Vocational education and training still hold a lower status compared to academic pathways, and while migrant participation rates are on the rise, they remain significantly lower than those of native-born individuals. In contrast, for example, Austria's policy reversal in 2018 serves as a striking counter-example: marked by the sudden withdrawal of integration supports and the implementation of stricter asylum policies, this represented a disruptive reframing that altered the prevailing paradigm from "inclusion through education" to "migration control," systematically dismantling both incremental and institutional innovations without providing alternative systemic solutions (Jørgensen et al., 2021). These instances demonstrate the high-stakes nature of disruptive innovation, where successful paradigm shifts can lead to transformative inclusion, while policy reversals can swiftly undermine carefully built progress.

3.3.3 JVN8 and Multi-Level Innovation Integration

The intervention initiative JVN8, which will be examined in detail later in this thesis, strategically functions across all three tiers of innovation intensity, thus enhancing its adaptive capacity within intricate institutional settings.

At the *incremental level*, JVN8 implements bridging modules that systematically merge Italian language education with sector-specific content sourced directly from ITS curricula, in addition to targeted employer diversity training programs aimed at improving workplace receptiveness to migrant talent.

Institutional innovations include a comprehensive digital platform that facilitates systematic matching between migrants and both ITS providers and employers, the incorporation of regional governance mechanisms to harmonise fragmented policy areas, structured mentoring frameworks that provide ongoing support throughout training pathways, and micro-entrepreneurship training with dedicated incubation assistance to broaden career options beyond conventional employment.

The *disruptive potential* of JVN8 is evident in its intentional repositioning of the ITS sector as a key institutional driver for migrant integration, directly confronting established beliefs about who rightfully "belongs" in technical education pathways. This multi-level framework provides strategic resilience: if disruptive obstacles—such as stringent immigration policies or ongoing employer bias—prove difficult to overcome in the short term, the intervention retains operational viability through its incremental and institutional strategies.

In contrast, successful institutional embedding gradually fosters enabling conditions that make disruptive reframing both strategically achievable and politically feasible over extended time frames.

This methodology corresponds with essential understandings derived from modern social innovation research regarding the spatial dynamics involved in the generation of innovation. A notable insight relates to the origins of innovation: these processes typically arise not within isolated sectoral silos, but rather at their intersections and boundaries (Murray et al., 2010). As articulated by Murray and his colleagues:

"Social innovation does not conform to strict boundaries: it manifests across all sectors, including public, non-profit, and private. Indeed, a substantial portion of the most creative activities occurs at the intersections of these sectors. Furthermore, social innovation often emerges from the contradictions and tensions that exist across diverse fields of action and at the individual cognitive level" (Murray et al., 2010, p. 3).

This boundary-spanning rationale has significant implications for the integration of migrants within technical and vocational education and training (TVET) systems. Conventional TVET primarily functions based on public sector principles, characterised by reliance on state funding, standardised curricula, and formal credentialing authority. Engagement from employers tends to be limited and voluntary rather than being structurally integrated. In contrast, migrant support services are largely situated within civil society domains—comprising NGOs and community

organisations—or are expressed through temporary public initiatives. No singular sectoral framework possesses the comprehensive scope or enduring institutional capacity required to create viable, scalable pathways from migrant arrival to skilled employment. JVN8's multi-sectoral framework addresses this systemic fragmentation by systematically implementing innovation at the crucial intersections where the logics of public authority, private enterprise, and civil society converge.

3.3.4 The Triangle of Sectoral Logics

Nicholls and Murdock (2012) conceptualise three sectors—civil society, public, and private—each maintaining distinct internal logics:

Table 1 - Nicholls and Murdock (2012) conceptualise three sectors—civil society, public, and private—each maintaining distinct internal logics:

Dimension	Civil Society	Public Sector	Private Sector
Primary Logic	Mission/social value	Public welfare; citizenship	Profit/efficiency
Accountability	Beneficiaries; donors	Electorate; taxpayers	Shareholders; clients
Funding Mechanisms	Grants; donations; earned income	Taxation; bonds	Investment; revenue
Organisational Forms	NGOs; foundations; cooperatives	Government agencies; public institutions	Firms; corporations
Time Horizons	Long-term mission; variable returns	Electoral cycles; budget cycles	Quarterly/annual returns
Knowledge Production	Contextual; practice-based	Technical; standardised	Market-driven; competitive

Source: Own elaboration based on the data and studies cited in the text

Each sector exhibits internal coherence and operational efficiency in accordance with its unique institutional logic yet simultaneously contains systematic blind spots that hinder comprehensive effectiveness in tackling complex social issues such as the integration of migrants into TVET. Civil society organisations excel in their responsiveness, relationship-building, and generation of localised knowledge, fostering trust and cultural proximity that are crucial for engaging migrants; however, they face ongoing resource limitations, challenges in scalability, and susceptibility to funding interruptions that threaten their long-term viability. The public sector offers universal coverage, democratic accountability, and resource stability through formal credentialing authority and systemic reach, yet it operates via standardised procedures that are often misaligned with the diverse needs of the population and remains vulnerable to political fluctuations (Jørgensen et al., 2021).

In contrast, the private sector achieves efficiency, encourages innovation, and maintains revenue generation through its responsiveness to market demands, yet it lacks an inherent motivation to serve unprofitable or high-risk populations, systematically shifting social costs onto public systems or civil society actors. These sector-specific strengths and weaknesses highlight a fundamental structural reality: sectoral boundaries are not merely separations, but rather zones of significant creative potential where productive tensions arise from the interaction of differing institutional logics. Social enterprises that exist at the intersection of civil society and the private sector combine commercial discipline with a focus on social missions, while public-private partnerships between educational authorities and employer coalitions inject market dynamism into the provision of universal services.

JVN8's institutional design reflects this hybridity:

Table 2 - JVN8's institutional design reflects

Dimension	Public	Private	Civil Society
Funding source	Regional employment services; education budget	Employer consortium; tech partners	NGO partnerships; diaspora networks
Governance role	ITS integration; credentialing alignment	Placement guarantees; wage subsidies; mentoring	Language/cultural support; peer networks

Dimension	Public	Private	Civil Society
Knowledge input	Curricular frameworks; policy authority	Labour market intelligence; apprenticeship standards	Migrant perspectives; community trust

Source: Own elaboration based on the data and studies cited in the text

This triangulation produces both opportunities and tensions. Opportunities arise from complementary capabilities: the credentialing authority of the public sector legitimises the platform; the placement capacity of employers leads to employment outcomes; the community embeddedness of civil society fosters trust and cultural competence. Tensions emerge from conflicting logics: constraints of commercial confidentiality conflict with the requirements for public transparency; employer preferences for "pre-screened" candidates may contradict inclusion objectives; the fidelity of NGO missions is pressured by funding dependencies on government or corporate partners.

3.3.5 Mapping Social Entrepreneurship to Documented TVET-Migrant Barriers

Social entrepreneurship operates most effectively when aligned with empirically documented barriers. The scoping review by Lyckander et al. (2023) systematically identifies challenges across institutional and situational dimensions.

Social entrepreneurship responses can be mapped directly to these barriers:

Table 3 - Social entrepreneurship responses to TVET migrant integration institutional barriers

Institutional Barrier	Documented Challenge	Social Entrepreneurship Response	Mechanism/Example	Evidence
Information Deficit	Limited migrant awareness of VET pathways; lack of integration between education and labour market information systems	Community outreach; digital platforms linking education/employment	JVN8 platform; partner NGO networks; employer showcases	(Chadderton & Edmonds, 2015; Jørgensen et al., 2021)
Access Barriers (Credentials/Language)	Non-recognition of prior learning; insufficient language proficiency at VET entry	Pre-vocational bridging programmes; competence assessment systems	Switzerland PAI (62.7% apprenticeship transition); skill recognition protocols	Stalder et al., 2023; Geven & Sprölein, 2023
Curriculum Inadequacy	Mainstream VET curricula not addressing migrant heterogeneity; insufficient vocational language integration	Curriculum redesign; embedded language instruction; culturally responsive pedagogy	Denmark IGU (~70% apprenticeship entry); integrated language-technical modules	(James et al., 2020; Reinke & Goller, 2022)
Organisational Fragmentation	Siloed provision (education, employment services, social support); poor	Coordination platforms; integrated service delivery; connector roles	Regional coordination bodies; case management protocols; JVN8's multi-stakeholder governance	(Aerne & Bonoli, 2023; Stalder et al., 2023)

Institutional Barrier	Documented Challenge	Social Entrepreneurship Response	Mechanism/Example	Evidence
	inter-agency coordination			
Discrimination and Bias	Employer reservations; ethnic discrimination in apprenticeship placement; teacher stereotyping	Employer engagement; bias training; intermediary protection	Diversity recruitment targets; blind-application processes; mentor facilitation	(Henning Loeb, 2020); Rusert & Stein, 2023

Source: Own elaboration based on the data and studies cited in the text

Situational Barriers and SE Responses:

Table 4 - Social entrepreneurship responses to TVET migrant integration situational barriers

Institutional Barrier	Documented Challenge	Social Entrepreneurship Response	Mechanism/Example	Evidence
Language Proficiency	Insufficient language skills constraining learning progression; stress from communication barriers	Embedded vocational language instruction; extended duration; peer support	Intensive language modules; bilingual mentoring; flexible scheduling	(Wehking, 2023; Maue, et al., 2021)
Economic Precarity	Low apprenticeship wages; housing instability; childcare costs	Holistic support ecosystem; subsidies; flexible scheduling	Housing assistance; childcare support; stipends; part-time arrangements	(Verwiebe, et al., 2019; Fontanari, 2022)
Discrimination and Social Integration	Overt and subtle discrimination; limited social contact with native peers; xenophobic employer attitudes	Intermediary support; protected streams; peer networks; employer diversity initiatives	Mentoring from cultural mediators; cohort-based apprenticeships; employer inclusion training	(Asghari & Abraham, Y. , 2022; Glorius & Schondelmayer, 2020)
Legal/Immigration Uncertainty	Unclear residence status; fear of deportation; restrictive work permits	Advocacy for policy reform; legal support; conditional residency pathways	Protection during training; legal counsel access; policy campaigns	Fontanari, 2022; Wehking, 2023

Source: Own elaboration based on the data and studies cited in the text

This mapping demonstrates that social entrepreneurship is not a generic solution but operates through specific mechanisms directly addressing identified barriers. Its effectiveness depends on problem-solution alignment and stakeholder commitment.

3.3.6 Case Studies—Social Entrepreneurship in TVET Migrant Integration

3.3.6.1 Case 1: Switzerland's PAI (*Integrationsvorlehre/Pre-apprenticeship to Support Integration*)

The Swiss PAI (*Integrationsvorlehre/Pre-apprenticeship to Support Integration*) serves as a quintessential illustration of social innovation at the institutional level, intricately woven into Switzerland's collective skill formation framework. This program exemplifies how deliberate structural adjustments can utilise the existing dual vocational education and training (VET) infrastructure to mitigate access barriers specific to migrants, all while preserving systemic integrity.

- Programme Architecture and Design Features:

The PAI program showcases an advanced architectural design across various dimensions. With a condensed duration of one year—considerably shorter than the traditional 2–4-year apprenticeships—it offers swift preparation for mainstream VET pathways. The content delivery encompasses foundational language instruction (A1-B1 levels; four hours weekly through school-based delivery), development of academic skills (mathematics and digital literacy), sector-specific technical training conducted in workplace environments, and thorough cultural orientation. Governance is executed through cantonal (regional) implementation within a stable federal framework, which includes employer co-investment and tripartite stakeholder involvement comprising education authorities, businesses, and labour market intermediaries. Support systems feature systematic coaching and mentoring, competency assessments to fill gaps, and formalised mechanisms for employer engagement that facilitate progression beyond the completion of the program (Stalder et al., 2023).

- Critical Success Factors:

Several interconnected design elements are essential for the effectiveness of PAI. Systemic integration serves as a core strength: instead of functioning as parallel or supplementary services, PAI acts as an integral extension of Switzerland's dual VET framework, facilitating smooth progression and continuity of credentials. Employer co-investment—where participating firms cover 50% of training expenses—creates a genuine commitment, aligning business incentives with program goals. The flexibility of implementation allows cantonal authorities to systematically modify program parameters to fit local labour market conditions and demographic characteristics. Political sustainability is equally vital, maintained across governmental changes through cross-party agreement on the importance of refugee integration. Pedagogical quality is supported by dedicated resources, with educators and trainers receiving specialised training while mentoring is backed by systematic institutional support. Lastly, the

funding structure shows resilience, being supported by stable budget allocations rather than unstable project-based funding.

- Limitations and Implementation Challenges:

In spite of these successes, PAI faces ongoing limitations. Language proficiency remains the foremost barrier to access, with the one-year duration proving inadequate for learners starting with low proficiency levels. Completion rates consistently drop among participants with the lowest initial language skills (Stalder et al., 2023). Geographic disparities inherent in cantonal implementation lead to variations in program quality and outcomes. The sustainability of support after the program poses continuous challenges, as some participants need extended assistance during their transition to regular apprenticeships, highlighting the constraints of shortened preparatory timelines.

- Institutional Innovation Mechanisms:

The PAI illustrates four interrelated institutional innovation mechanisms. Altered governance frameworks systematically integrate migrant recruitment objectives into regional VET planning processes. A specific funding stream creates formal budget allocations for pre-vocational training, shielding the programme from cyclical financial pressures. Curriculum innovation incorporates integrated language and technical skill development instead of sequential or parallel delivery models. Quality assurance mechanisms impose uniform competence profiles across cantonal jurisdictions, ensuring national consistency within decentralised implementation (Stalder et al., 2023). Together, these structural changes exemplify how institutional innovation can systematically improve migrant access while maintaining the integrity of established skill formation systems.

3.3.6.2 Case 2: Denmark's IGU (*Introduktionsuddannelse—Introduction Training*)

The Danish IGU (*Introduktionsuddannelse—Introduction Training*) represents a form of institutional innovation that is strategically integrated within a state-led vocational education and training (VET) framework. This initiative illustrates how the formal integration of policies can systematically improve migrant access while preserving the legitimacy of credentials and their relevance in the labour market.

- Programme Architecture and Design Features:

The IGU programme showcases unique architectural features that set it apart from shorter preparatory models. Spanning two years—longer than the Swiss PAI—it offers extensive preparation through a certified, formal pathway that systematically integrates classroom learning, practical training elements, and structured work placements with employers. In contrast to solely preparatory initiatives, completing the IGU results in formal qualifications that are acknowledged within the Danish labour market, thereby providing authentic credential value. Governance is maintained through state regulation, with systematic employer involvement facilitated by established sector

federations, ensuring that enterprise engagement is institutionalised rather than voluntary. Comprehensive support is provided, including dedicated case management and social and economic assistance, which encompasses stipends and practical help for housing and childcare arrangements (Jørgensen et al., 2021; Jørgensen, 2022).

- Empirical Outcomes and Impact Metrics:

Evaluation data reveals strong programme effectiveness across various dimensions. Approximately 70% of IGU participants successfully move on to regular apprenticeships or direct employment, indicating significant advancement beyond preparatory status. Employer involvement is systematically organised through sector-based structures rather than through ad hoc arrangements. The programme's accessibility is not limited to refugees but also includes migrants from a variety of backgrounds, thereby expanding its impact. The results of integration indicate twofold advantages: individuals indicate not only progress in their careers but also improved social integration, implying a synergistic relationship between the development of skills and community involvement (Jørgensen et al., 2021; Jørgensen, 2022).

- Critical Success Factors:

Several interdependent design features underpin IGU effectiveness. Formal certification constitutes a foundational strength: unlike transitional pathways, IGU completion generates recognised qualifications conferring labour market currency. State commitment embeds the programme within formal VET policy frameworks rather than positioning it as philanthropic supplementation. Employer involvement operates systematically through sector federations, normalising participation as structural requirement rather than voluntary contribution. Holistic support architecture integrates social and economic assistance alongside vocational training components, addressing multidimensional barriers confronting migrant learners. Public sector stability renders IGU substantially less vulnerable to political discontinuities compared to project-based alternatives.

- Limitations and Implementation Challenges:

Despite these achievements, IGU confronts structural limitations. The two-year duration extends time spent in pre-employment pathways, potentially generating opportunity costs relative to more compressed models. Initial policy receptivity to refugee integration proved vulnerable to subsequent political shifts, creating implementation uncertainty. Sectoral variation persists, with certain industries demonstrating greater receptivity than others and thereby generating outcome disparities. Limited longitudinal data constrains understanding of long-term labour market trajectories beyond immediate apprenticeship entry.

- Institutional Innovation Mechanisms:

The IGU serves as a prime example of five interrelated institutional innovation mechanisms that are systematically transforming Denmark's vocational education and training (VET) framework to enhance migrant inclusion. The formal legal recognition of the IGU integrates it into national VET legislation, thereby granting it lasting policy legitimacy. Specific funding mechanisms ensure that program expenses are incorporated into ongoing state education budgets instead of being reliant on project-based funding. Requirements for employer participation institutionalise the involvement of sector federations as a structural necessity. The development of curricula occurs through formal collaboration among educational authorities, social partners, and labour market intermediaries, which guarantees both relevance and coherence.

- Conclusion: Social Entrepreneurship as Relational Process:

In summary, this chapter has posited that social entrepreneurship is most analytically fruitful when understood as a relational process that exists at the strategic intersections of public, private, and civil-society institutional logics, rather than as a solitary heroic endeavour. By methodically aligning social-entrepreneurial mechanisms with empirically identified barriers to migrant technical and vocational education and training (TVET)—such as information gaps, rigid access regulations, institutional fragmentation, discriminatory hiring practices, and economic instability—this analysis has elucidated how targeted boundary-spanning interventions can concurrently transform opportunity structures and legitimate expectations for migrant learners. The comparative case studies highlight the inherent vulnerabilities to mission drift, policy reversals, and resource discontinuities, thereby emphasising the strategic necessity to integrate proposed solutions like JVN8 within existing governance frameworks and collective skill development arrangements to enhance sustainability and systemic impact.

3.3.7 Theoretical Synthesis—Social Entrepreneurship as Necessary but Insufficient

The examination of various cases and frameworks uncovers a significant finding: social entrepreneurship is essential yet insufficient for achieving sustainable and systemic integration of migrants through Technical and Vocational Education and Training (TVET).

3.3.7.1 *Necessity: The Importance of Social Entrepreneurship*

Social entrepreneurship represents a unique operational approach that systematically converts abstract concepts of social innovation into concrete institutions, mechanisms, and sustainable practices. Without such

operationalisation, innovation risks remaining merely theoretical, failing to produce measurable impacts within technical and vocational education and training (TVET) systems that are addressing the challenges of migrant integration.

A second significant advantage it arises from the ability to mobilise stakeholders. Social entrepreneurship effectively aligns various constituencies—including education authorities, employers, civil society organisations, and migrant communities—by fostering a shared understanding of problems and collaborative governance structures. Market mechanisms alone are inadequate to encourage employer involvement in migrant training programs, just as governmental mandates often do not succeed in mobilising the localised knowledge necessary for contextual adaptation. Social entrepreneurial frameworks address these coordination challenges through hybrid governance that utilises complementary competencies from different sectors.

Thirdly, functioning at the intersections of various sectors provides adaptive capacity, allowing for swift adjustments to local contextual specifics, regulatory changes, and emerging implementation obstacles. Centrally designed programs, despite their theoretical benefits of standardisation, often neglect crucial territorial variations in labour market structures, migrant demographic.

Fourthly, social entrepreneurship exhibits a distinctive ability to bridge the institutional logics that are intrinsic to the integration of migrants within Technical and Vocational Education and Training (TVET). This intricate issue encompasses public welfare obligations (the duty of educational authorities to ensure universal access), market dynamics (the necessity for employers to seek sector-specific skills), and the expertise in social care (offered by non-governmental organisations and community support systems). The organisational forms of social entrepreneurship harmonise these often-conflicting rationales, creating hybrid structures that can effectively address the structural divides between public authority, private enterprise, and the realms of civil society.

Ultimately, social enterprises that are integrated within formal governance structures attain sustainability that extends beyond transient project cycles. By methodically incorporating innovation into ongoing institutional frameworks, these strategies significantly diminish reliance on temporary grant funding or the influence of charismatic founding entrepreneurs, thereby embedding practices that include migrants within the lasting architectures of the TVET system and maximising the long-term societal return on investment.

3.3.7.2 Insufficiency: Structural Limits to Social Entrepreneurial Scaling

Despite its strategic advantages, social entrepreneurship faces significant structural limitations that restrict its transformative capacity within technical and vocational education and training (TVET) systems aimed at migrant populations.

Firstly, barriers at the policy level represent core challenges. Immigration restrictions, limitations on work permits, and persistent discrimination in the labour market—enshrined in current legal frameworks—systematically weaken social entrepreneurial efforts. The relative success of Switzerland's PAI programme exemplifies this reliance: its efficacy is partly attributed to favourable immigration and labour policies that facilitate refugee involvement, a contextual advantage does not present in more restrictive policy settings like Italy.

Secondly, constraints related to capital formation are particularly pronounced within Italy's non-distribution model, where mandates for reinvestment inhibit equity financing options that are crucial for rapid scaling, technological advancement, and geographic growth. In comparison to for-profit businesses or venture-capital-backed models, social enterprises experience extended timelines for capital acquisition and face limited growth paths, which hampers their ability to effectively tackle systemic deficits in TVET access on a larger scale.

Thirdly, the contestation of ideologies surpasses the capacity for entrepreneurship. Disruptive innovations that challenge the meritocratic hierarchies of education, normalised discrimination by employers, and prevailing paradigms of migration control necessitate ongoing political movements and social contestation, rather than mere isolated entrepreneurial efforts. While social enterprises can innovate within the existing frameworks, they lack the mobilisational capacity to fundamentally alter the entrenched value systems that dictate access to and prestige within Technical and Vocational Education and Training (TVET).

Fourthly, limitations related to macroeconomic embedding continue to exist. Social entrepreneurship is unable to rectify the structural distortions present in the labour market, which include occupational segregation within TVET sectors, ongoing wage disparities across different occupational categories, and precarious employment conditions that are disproportionately prevalent in industries heavily reliant on migrant labour. Addressing these systemic distortions requires coordinated macroeconomic policy interventions that extend beyond the capabilities of entrepreneurship.

Finally, cultural and institutional inertia creates formidable resistance. Persistent stereotypes, discriminatory hiring practices, and institutional traditions that favour academic pathways over technical education continue to exist, despite the presence of programmatic excellence. Although social entrepreneurship can strategically alleviate the threat posed by stereotypes through targeted interventions, it cannot eliminate the inherited hierarchies of status, deeply ingrained cognitive biases, or the cultural devaluation of vocational paths that fundamentally influence patterns of participation and outcomes in TVET.

3.4 Varieties of Capitalism (VoC)

Having established the conceptual connection between social innovation, Technical and Vocational Education and Training (TVET), and social entrepreneurship, this section introduces the Varieties of Capitalism (VoC) framework as the comparative political-economy lens of the thesis. It differentiates between coordinated and liberal skill-formation systems, examines how TVET frameworks contribute to both competitive advantage and social cohesion, and positions Italy's Higher Technical Institutes (ITS) within these wider institutional and comparative contexts. In doing so, it provides the analytical foundation for the Germany–Italy comparison developed in the next chapter and for the subsequent examination of the Italian system of vocational tertiary education.

The Varieties of Capitalism (VoC) framework, introduced by Hall and Soskice (2001), has become a central analytical tool in comparative political economy. At its core, the framework distinguishes between Liberal Market Economies (LMEs), where coordination is achieved primarily through competitive markets and formal contracts, and Coordinated Market Economies (CMEs), where non-market relationships, trust, and institutionalised collaboration play a larger role. LMEs, such as the United States and the United Kingdom, rely heavily on flexible labour markets, equity-based finance, and general skill formation. Conversely, CMEs, exemplified by Germany and the Nordic countries, depend on patient capital, collective bargaining, and firm-specific or industry-specific vocational training systems (Hall & Soskice, 2001; Estevez-Abe, Iversen & Soskice, 2001; Thelen, 2004).

One of the most influential contributions of the VoC approach has been the emphasis on institutional complementarities. The functioning of each subsystem—corporate governance, labour relations, education and training, innovation, and welfare—is mutually reinforcing within each type of capitalism. For instance, strong vocational training systems in CMEs not only supply firms with skilled workers but also support long-term employment relationships and incremental innovation strategies (Crouch, Finegold & Sako, 1999; Busemeyer & Trampusch, 2012). In LMEs, by contrast, firms' reliance on general skills cultivated in higher education aligns with dynamic labour markets and radical innovation strategies, particularly in high-tech sectors (Iversen & Stephens, 2008).

Despite its influence, the VoC framework has been critiqued for its dualistic structure, which tends to oversimplify institutional diversity and downplay hybrid cases (Amable, 2003; Hancké, Rhodes & Thatcher, 2007). Southern European and Mediterranean countries in particular do not fit neatly into the LME–CME dichotomy. Scholars argue that these economies are marked by fragmented industrial relations, weaker state capacities, and clientelistic practices, which undermine the stability of coordinated arrangements (Molina & Rhodes, 2007; Regini, 1995). Moreover, the reliance on small- and medium-sized enterprises (SMEs), often embedded in regional clusters, has generated skill formation regimes that are distinct from both LME and CME models (Trigilia, 2002; Rinaldi, 2020). Recent research has therefore sought to broaden the VoC framework to account for Mediterranean capitalism and

other “mixed” types. Nölke and Vliegenthart (2009) describe “dependent market economies” in Central and Eastern Europe, while Schneider (2013) analyses “hierarchical market economies” in Latin America. Within this expanded typology, Italy emerges as a particularly interesting case. Although its economy shares characteristics with CMEs, such as strong employer associations in some sectors, it also exhibits fragmented and regionally uneven systems of vocational education and training. This hybridity makes Italy a revealing laboratory for studying how varieties of capitalism evolve under the pressures of globalisation, European integration, and domestic reform (Busemeyer & Trampusch, 2012; Molina & Rhodes, 2007; Rinaldi, 2020).

In this sense, technical vocational education and training (TVET) becomes a strategic institutional component within the VoC framework. The way countries design and sustain their TVET systems reflects not only skill formation strategies but also broader institutional complementarities across the economy. For Italy, the historical and structural weaknesses of its TVET institutions highlight the difficulty of establishing a coherent skill formation regime that supports both competitiveness and social inclusion. This sets the stage for examining the evolution of Italian vocational tertiary education and, more specifically, the emergence of ITS (Istituti Tecnici Superiori) as an experimental attempt to strengthen the link between training institutions and employers.

Busemeyer and Trampusch pulled the strings of more than two decades of comparative research on skill formation systems in contemporary advanced market economies. In fact, the first studies on the subject date back to the 1980s, including, several crucial dimensions of variation in the institutional design of training, such as the dominant venue of training, the degree of standardisation and certification of skills, the degree of stratification and differentiation in the system of occupational degrees, the role of the state, and the linkages between skills formation and other socioeconomic institutions such as the production system, industrial relations, and the welfare state (Busemeyer & Trampusch, 2012). In their 2012 article, identified four types of vocational education systems in Europe. These types are based on the relationship between vocational education and training (VET) systems and the labour market (Busemeyer & Trampusch, 2012):

- *Dual System*: This type of vocational education system is characterised by a close integration between school-based education and workplace training. The dual system typically involves a combination of classroom instruction and on-the-job training. Germany's vocational education system is a prominent example of the dual system.
- *School-Based System*: In this type of vocational education system, vocational training is primarily provided in schools or vocational training centers. The training focuses on theoretical knowledge and practical skills relevant to specific occupations. France's vocational education system, with its strong emphasis on school-based training, is an example of this type.
- *State-Centered System*: In a state-centered vocational education system, the government plays a significant role in providing vocational training. The state establishes vocational schools or training institutions and directly manages the training programs. Austria's vocational education system is an example of a state-centered system.

- *Hybrid System*: The hybrid system combines elements of both the dual and school-based systems. It incorporates aspects of workplace training and school-based education, but the balance between the two can vary. Switzerland's vocational education system is often cited as a hybrid system, as it combines classroom instruction with apprenticeships.

In an early, yet classic contribution, Finegold and Soskice (1988) distinguished between Germany's high-skill system and the United Kingdom's low-skill system, emphasising how the embeddedness of a firm's training decisions in a complex network of socioeconomic institutions shapes the incentives to invest in skill formation (Bussemeyer & Trampusch, 2012). Lynch (1994) argued that the *dominant venue of training* is the most important dimension that sets systems apart from each other. Blossfeld (1992), added to two other dimensions which are: the *standardisation* and *certification* of skills plus the *stratification* of vocational training.

On the one hand, the political and academic debate on the causes of the mass unemployment of the previous decade, which had come almost unexpectedly after 30 years of full employment, identified investment in education as one of the most promising axes for the development of public policies aimed at sustaining employment, from a Supply Side Keynesism perspective (see Streeck 1992). Indeed, the great industrial success of Germany and Japan, contemporaneous with the difficulties of American and British industry, brought to the forefront the importance of both technical and social and organisational skill formation for industrial competitiveness, in a context of increased competition and weakening of technological and commercial rents of position (Ballarino, 2013). The vast economic, sociological and political literature that has developed in the ensuing decades from these stimuli has confirmed the great economic and social importance of skill production systems, but has also emphasised the complexity of these systems, their history and their relationship to the economy (Ballarino, 2013).

It is precisely the consideration of the Italian system in a European perspective that allows us to identify some of the knots that make it difficult for the tertiary system of higher technological education to develop fully in Italy (Turri, 2023). Labour market economists have struggled to explain the functioning of collective training (Harhoff & Kane, 1997; Acemoglu & Pischke, 1998; Wolter, Muehlemann, S., & Schweri, 2006). From the perspective of standard human capital theory (Becker, 1993[1964]), the existence of collective skills systems poses several puzzles: why are firms willing to take over significant share of the costs of initial TVET despite the fact that apprentices are free to leave the firm after they complete their training? Why does a significant share of a typical youth cohort decide to pursue vocational training instead of academic higher education?

This is a development that results in significantly lower tertiary enrollment rates in countries with collective training systems compared to other nations. A partial answer to these questions lies in the role of institution (Bussemeyer & Trampusch, 2012). The authors in the tradition of *neo-institutional labour economics* (Acemoglu & Pischke, 1998) explain the 'irrational' willingness of firms to invest in skills by 'labour market imperfections': because of low levels of labour turnover in countries such as Germany, so the argument goes, firms are more willing to invest in training

because there is a higher probability that apprentices will decide to stay with the training firm than in countries with flexible and fluid labour markets.

Furthermore, companies use apprenticeship training as a gate-keeping device to internal labour markets, allowing them to identify candidates with 'high potential' (Busemeyer & Trampusch, 2012). For example, Acemoglu and Pischke (1999) treat the existence of 'labour market imperfections' as a given external factor. They do not aim or cannot to explain the variation of labour market imperfections across country contexts (Busemeyer & Trampusch, 2012). The two main streams of research, focusing on the role that each approach assigns to institutions and firms are the original body of work of varieties of capitalism (VoC) scholars and a second – more recent – strand of research on the role of business for institutional change in the TVET arena.

The original VoC scholarship sought “to bring firms back into the centre of the analysis of comparative capitalism” (Hall & Soskice, 2001). In the realm of training, VoC scholars referred to the institutional context to explain why firms in some countries are active and successful at training, while “failure of training” is pervasive in other countries (Culpepper, 2001; Estevez-Abe, Iversen, & Soskice, 2001; Finegold & Soskice, 1988; Hall and Soskice 2001; Thelen and Culpepper 2007). The benchmark the VoC literature upheld as a successful training system was the German apprenticeship system. There, rigid employment protection legislation and strong and encompassing collective bargaining institutions constituted incentives for firms to commit to high-quality training, resulting in authoritatively certified industry-specific skills (Culpepper 2001; Soskice 1994; Thelen 2007). The VoC approach thus views institutions in the labour market and industrial relations arena as main independent variables, which, as complementary domains, produce combined effects on the willingness and ability of firms to train. Yet, when studying how institutions affect strategic interaction in a given arena, VoC scholars have disregarded the varying ability of firms to leverage training institutions as resources across different varieties of capitalism (Benassi, Durazzi, & FortWengel, 2020). Firm size, and how it may influence this ability, was only touched upon in Hancké (2001), who discussed how liberalisation in the French political economy since the mid-eighties led to a shift from state-led to large-firm-led coordination (Benassi, Durazzi, & FortWengel, 2020).

This stream of literature focuses on firms as collectively organised political agents and analyses how employer associations shape training policy. In other words, it conceives training institutions as a dependent variable, while inter-employer cleavages have emerged as key variable to explain institutional change in skill formation systems. This literature argues that large and small employers “use” vocational training for different purposes due to differences in resources and skill requirements; hence, they have different preferences toward vocational training policy and seek to influence policy change accordingly (Benassi, Durazzi, & Fortwengel, 2020).

According to the OECD (2019) and Wilkinson (1999) SMEs typically find it more difficult than large employers to acquire the skills they need either because they cannot attract talent from external labour markets or because they do not have the resources to develop these skills internally through training. They identified (1) access to skills and

(2) development of skills as two critical dimensions that capture the overall ability of firms to ensure the availability of skills. They studied 3 countries: the UK, Germany and Italy. The three countries exhibit distinct models of skill formation underpinned by distinct coordination mechanisms: market-led coordination in the UK, business-led coordination in Germany, and state-led coordination in Italy (Busemeyer and Trampusch 2012).

The various mechanisms of non-market coordination that are present in Italy and Germany – but not in the UK – work toward levelling the playing field for SMEs, to give SMEs a chance to access talent, since big companies have the advantage of economies of scale, and TVET offers cheap trained talent for SMEs. That is elaborated through non-market institutions that support SMEs by facilitating either their access to skills or their participation in skill development by keeping training costs for SMEs (relatively) low (Benassi, Durazzi, & FortWengel 2020). However, Benassi, Durazzi, & FortWengel claim that institutions do not simply function indiscriminately as coordination mechanisms, but that they have a mediating effect on inequalities between firms of different size. Furthermore, they also found out that the institutional mechanisms in place for SMEs do not necessarily reflect the dominant modes of coordination in each of the models of capitalism under study. Benassi, Durazzi, & FortWengel found that state intervention is an important feature of the German and British VET systems -despite both these systems being described in literature as ‘business-and-market-led. However, in Italy, the scene is different, local networks in the form of a decentralised cooperation between firms, schools and local authorities. In fact, according to (Ballarino, 2013) the collectivist model has been the main reference of Italian VET debate and public policy. In this model, exemplified by the German dual system, the central actors are companies as a collective actor, the state (including its local articulations), schools and trade unions. However, none of the Italian public policies that have tried to approximate this model have been able to mobilise all these actors on the same project.

Taken together, the VoC framework and the skill-formation typologies reviewed above supply the analytical lens for the comparison that follows. Germany approximates the coordinated, collective skill-formation archetype, in which organised employers, standardised certification and dual apprenticeship training reinforce one another (Hall & Soskice, 2001; Busemeyer & Trampusch, 2012). Italy, by contrast, occupies a hybrid position between state-centred and liberal arrangements, characterised by school-based provision, fragmented employer coordination and marked regional heterogeneity (Molina & Rhodes, 2007; Ballarino, 2011). The next chapter examines how these institutional differences translate into systematically different vocational-training trajectories and labour-market outcomes for migrants and refugees in the two countries.

4. Germany and Italy: A Comparative Analysis

This chapter explores the structure of vocational education and training (TVET) systems in Germany and Italy, focusing on how these systems facilitate pathways for migrants and refugees to integrate into the labour market. It pays special

attention to the institutional differences that lead to varying outcomes across generations. The main argument is threefold: (1) Germany's dual apprenticeship model, despite presenting significant barriers to entry for migrants, results in considerably higher employment outcomes for those who successfully complete the training; (2) Italy's school-based vocational system offers formal access but lacks integration with employers, leading to ineffective labour market signalling; and (3) consequently, the "migrant employment gap"—the disparity between the labour market outcomes of migrants and natives—is more pronounced and persistent in Italy than in Germany, even when considering the rates of participation in vocational education.

The chapter is organised into three sections. First, it outlines the barriers to accessing TVET in Germany and the outcomes for those who manage to overcome these obstacles, thereby establishing the employment advantages conferred by the dual apprenticeship system. Second, it analyses the contrasting TVET environment in Italy, where migrants are disproportionately represented in vocational tracks but encounter challenges in completing their training and achieving satisfactory employment returns. Third, it integrates these comparisons to illustrate how institutional design influences both the "vocational participation gap" (access barriers) and the "vocational employment gap" (credential quality), with significant implications for the long-term labour market trajectories of migrants across generations.

4.1 Germany Barriers to Access and Completion in the Apprenticeship Market

Vocational education and training, especially the dual apprenticeship model that integrates classroom learning with practical experience in companies, continues to be the primary route to skilled employment for youth in Germany. Nevertheless, young migrants and refugees encounter significant obstacles in accessing these essential pathways. Empirical evidence highlights a pronounced disparity: while 76–81% of native German males aged 18–21 engage in dual vocational training, only 28–40% of first-generation immigrant males are involved in similar programs (Burkert & Seibert, 2007). For females: 48–58% of native German females participate, in stark contrast to a mere 23–25% of first-generation immigrant females, indicating a participation gap of 25–35 percentage points between gender groups.

While recent data indicates that young individuals from migration backgrounds continue to be significantly underrepresented in dual vocational education and training (VET) compared to their native counterparts. The BA/BIBB applicant survey for 2021 reveals that merely 29% of registered applicants with a migration background successfully secured an in-company apprenticeship, in contrast to 43% of applicants without such a background, resulting in a 14-percentage-point disparity in successful transitions. This underscores that even among youth who are actively pursuing apprenticeships, migrants encounter considerably lower placement opportunities than natives possessing comparable formal qualifications.

Table 5 - Germany: Vocational Training Participation Rates by Generation (Ages 18-21)

Metric	Native Population	1st Generation Immigrants	2nd Generation Immigrants	3rd Generation Immigrants	Source
Dual VET Participation – Males	76-81%	28-40%	~ 30% lower than natives	Approaching native levels but data limited	IAB Discussion Paper (Burkert & Seibert, 2007)
Dual VET Participation – Females	48-58%	23-25%	Still significantly below natives	Data not separately tracked	IAB Discussion Paper (Burkert & Seibert, 2007)
Apprenticeship Completion Rate	52-72%	40-50% (significantly lower)	45-55% (improving from 1st gen)	Approaching native rates	Migrant Policy Group Position Paper (2024)
Retention Rate – Success Securing Apprenticeship (2021)	43%	30%	30%	Data not separately available	BIBB Data Report (2022) – Cedefop Workshop
Refugee Placement Rate (Chamber of Skilled Trades)	N/A	21%	N/A	N/A	BIBB Data Report (2022)
Refugee Placement Rate (Chamber of Industry & Commerce)	N/A	10%	N/A	N/A	BIBB Data Report (2022)

Source: Own elaboration based on the data and studies cited in the text

These statistics are not just abstract numbers; they signify tangible barriers that influence the life paths of hundreds of thousands of young individuals. The gap in participation rates arises precisely at the moment when essential skill development and social capital accumulation take place. Migrants who are unable to obtain apprenticeships during this pivotal period face compounded disadvantages that affect their future labour market outcomes. As noted by the OECD (2019) in its thorough evaluation of migrant integration in Germany, while vocational education and training is recognised as "a particularly effective pathway towards stable and high-quality employment," this route remains inaccessible to many migrants due to overlapping institutional, situational, and market-related obstacles.

4.1.1 Institutional Barriers: Access, Information, and Discrimination

The barriers faced by migrants in securing apprenticeships in Germany span various institutional dimensions. (Lyckander & et al. , 2025) in their comprehensive review of vocational education and training (VET) integration throughout Europe, categorise these barriers into two main types: institutional challenges (such as information, access, course provision, and organisational coordination) and situational challenges (including newcomer factors, immigration policies, and reception contexts). These barriers are not merely incidental; they are structural impediments that are deeply embedded within the vocational systems themselves.

- *Information and awareness gaps* constitute the first institutional barrier. A significant number of migrants, especially those hailing from countries where vocational education is not highly regarded, are unfamiliar with the German apprenticeship system and its associated market value (OECD, 2019). Notably, the cultural perception of vocational education varies greatly among different countries of origin, leading many migrants to view VET as a lesser alternative to general academic education. This viewpoint, influenced by the educational hierarchies present in their home countries, has a direct impact on the educational aspirations of families and the willingness of students to engage in vocational pathways.
- *Access barriers* which operate through both formal and informal channels, exacerbate the existing information deficit. Beicht & Walden (2017) report that even when adolescents with migration backgrounds possess educational qualifications comparable to their native peers, they experience significantly lower chances of obtaining apprenticeship positions. The factors contributing to this disadvantage go beyond mere qualification mismatches. Roth & Weißmann (2022) highlight that the challenges migrants face in securing apprenticeships are largely due to insufficient social networks, which are the informal yet influential connections that employers utilise to find apprentices. While native German youth often gain access to apprenticeships through family networks, school-employer collaborations, and established social ties, migrant youth generally lack these institutionalised routes to apprenticeship opportunities.
- *Discrimination in the apprenticeship market* constitutes a clear institutional barrier, as evidenced by numerous empirical studies. Hufnagl (2024) in an analysis of data from Germany's National Educational Panel Study, reveals that adolescents of Turkish immigrant backgrounds experience significantly higher levels of discrimination during their apprenticeship searches compared to their peers from Polish, ex-Yugoslav, or ex-Soviet backgrounds. Importantly, this discrimination is not evenly distributed across genders: female adolescents with immigrant backgrounds report a greater perception of discrimination than their male counterparts, although the visibility of various origin groups complicates this effect in intricate ways.

Discrimination manifests through the decision-making processes of employers. While employers may justify their decisions as risk management—perceiving migrant apprentices as potentially vulnerable—empirical evidence, including field experiments utilising name-based indicators of origin, indicates that ethnic discrimination significantly

affects hiring practices (Scherr, 2015). The OECD (2019) report explicitly advocates for measures to combat such discrimination, including diversity training for businesses and systematic initiatives to mitigate unconscious bias.

4.1.2 The "3+2 Initiative" and Conditional Integration

A partial solution to these challenges has emerged through the "3+2 initiative". The "3+2 initiative" represents a particular set of regulations concerning residence and employment that was established in Germany to enhance the stability of asylum seekers and other migrants holding tolerated status (Duldung) who engage in dual vocational training. According to this regulation, individuals who are tolerated but have not yet attained refugee status are provided with a secure residence permit for the duration of three years while they undertake a recognised apprenticeship. This is followed by an additional two years of legal residency to work in the field of their training upon successful completion—thus the term "3+2." Throughout this five-year timeframe, deportation is halted, residency is contingent upon the ongoing or successful completion of training and subsequent employment, and employers are afforded a level of legal assurance that the apprentice will not face removal during the training period. This ensures that migrants with tolerated status can work for two years after completing a three-year apprenticeship.

The OECD (2019) evaluation suggests that this initiative has offered some migrants employment security, thereby alleviating employer concerns regarding risk. Nevertheless, the initiative's implementation remains inconsistent across different regions and does not tackle the more fundamental obstacles that hinder entry into apprenticeships. The protective measures in question are conditional and apply solely to individuals possessing immigration status, thereby illustrating how the framework of immigration policy limits vocational opportunities. Numerous asylum seekers and refugees encounter employment limitations throughout their apprenticeship programs, which introduces further obstacles to their successful completion.

4.1.3 Completion Rates and Dropout Challenges

Even among migrants who manage to secure apprenticeships, the rates of completion are still significantly lower compared to their native counterparts. Data from the BIBB (Federal Institute for Vocational Education and Training) (2022), (published 2022, covering training contracts up to September 2021), the retention rate—defined as the proportion of applicants registered with the Federal Employment Agency (BA) who successfully begin an in-company apprenticeship after registration—stands at 43% for applicants without a migration background. By comparison, 30% of applicants with a migration background (but not refugees) secure a training contract, and only 26% of applicants with a refugee background are placed in an apprenticeship. These figures represent a 13-percentage-point gap between natives and non-refugee migrants, and a 17-percentage-point gap between natives and refugees, among those actively seeking dual VET training.

4.1.4 Language Proficiency Constitutes a Significant Barrier to Completion

The OECD (2019) highlights that many recent migrants lack adequate German language skills necessary to engage with the theoretical curriculum in vocational schools. Although practical learning components can continue with limited language skills, the classroom elements, which are essential for gaining theoretical knowledge and professional vocabulary, pose significant challenges. The combination of insufficient language abilities, weak social networks within training companies, and lack of support systems leads to elevated dropout rates, especially among refugee groups.

4.1.5 Generation Status and Partial Convergence

Importantly, while second-generation immigrants demonstrate progress compared to first-generation individuals, notable disadvantages still exist. Roth & Weißmann (2022) note that the gap between first-generation migrants and natives is the most pronounced, yet considerable challenges remain for second-generation youth and those with mixed parental backgrounds. Their study indicates that these disparities continue to exist even when accounting for socioeconomic status and educational achievement, suggesting that structural barriers, rather than solely individual differences in human capital, are responsible for these inequalities. The mechanism through which second-generation youth partially close the gap operates through improved social capital acquisition. Unlike first-generation migrants who must construct social networks from initial outsider positions, second-generation youth, born in Germany and schooled within German institutions, gradually accumulate the native and mixed-origin social connections that facilitate apprenticeship access. This asymmetry suggests that labour market gatekeeping functions through native-dominated social networks, requiring migrants to transcend their own community networks to access skilled opportunities.

4.2 Italy: Vocational Education Channeling and Systemic Underperformance

4.2.1 Structural Channeling into Vocational Tracks

Italy's vocational education landscape presents a contrasting pattern of immigrant integration compared to Germany. Rather than facing wholesale barriers to VET access, foreign-born youth and second-generation migrants in Italy demonstrate overrepresentation in vocational education pathways relative to general education (OECD, 2024). Approximately 54% of Italian upper secondary students pursue vocational pathways (IeFP), with foreign learners present across all levels. Significantly, 66.5% of foreign learners in vocational programmes were born in Italy as of 2018–19, indicating substantial second-generation presence within Italian VET systems (Cedefop, 2024). Table 6 below, demonstrates Italy's vocational training participation rates by generation.

Table 6 - Italy – Vocational Training Participation Rates by Generation

Metric	Native Population	1st Generation Immigrants	2nd Generation Immigrants	3rd Generation Immigrants	Source
Upper Secondary VET Enrolment – Overall	54% of students	Overrepresented vs. general track	Approaching native levels	Comparable to natives (classified as natives)	OECD Italy Participation and Outcomes (2024)
Vocational Program Gender Split – Male	~ 52-53%	~52.2% in leFP pathways	Like 1st generation or slightly higher	Data not separately tracked	Cedefop VET in Europe Italy (2024)
Vocational Program Gender Split – Female	~ 47-48%	~47.8% in leFP pathways	Like 1st generation	Data not separately tracked	Cedefop VET in Europe Italy (2024)
Foreign Learners Born in Italy	83.3% (pre-primary baseline)	N/A (foreign-born)	66.5% born in Italy (2018-19)	Classified as Italian nationals	Cedefop VET in Europe Italy (2024)
Apprenticeship/Dual Training Completion	52-72% (varies by type)	40-50% (significantly lower)	45-55% (improving from 1st gen)	Approaching native rates	Migrant Policy Group Position Paper (2024)
Adult VET Participation (Age 25-64)	7.2% (2020, below EU avg 10.8%)	3-5% (significant gap)	5-7% (gradual improvement)	Limited data	Cedefop VET in Europe Italy (2024)
Repeat Rate – Foreign Students	N/A baseline 9.1%	Not separately tracked	30.1-57.0% (by school level)	Classified as natives (9.1%)	Cedefop VET in Europe Italy (2024)
Repeat Rate – Italian Students	9.1% (2018-19)	N/A	9.1%	Classified as natives	Cedefop VET in Europe Italy (2024)

Metric	Native Population	1st Generation Immigrants	2nd Generation Immigrants	3rd Generation Immigrants	Source
Upper Secondary VET Graduate Employment (Age 25-34)	69% (vs. 51% general education)	55-62% (lower wage outcomes)	62-68% (improving outcomes)	Limited data	OECD Italy Participation and Outcomes (2024)

Source: Own elaboration based on the data and studies cited in the text

However, this superficial inclusion conceals significant systemic dysfunction. In Italy, the vocational track operates not primarily as an alternative route to skilled employment, but rather increasingly serves as a residual institutional setting for economically disadvantaged and marginalised youth (Cedefop, 2024). While vocational graduates in Germany attain employment rates that are comparable to or even surpass those of general education graduates, highlighting the high labour market value of VET qualifications, Italian vocational graduates encounter markedly poorer labour market outcomes. This structural disparity illustrates the differing vocational education models: Germany's dual apprenticeship system fosters employer investment and integration, whereas Italy's mainly school-based vocational model functions with minimal employer engagement and social partnership, as illustrated by Busemeyer & Trampusch's typology introduced in the previous chapter and developed further in the chapter on the Italian system of vocational tertiary education.

4.2.2 Educational Disparities and Repeat Rates

Data from Italy reveals significant educational disparities between foreign and native learners within vocational programs. Foreign students in Italian vocational education face repetition rates ranging from 30.1% to 57.0% across secondary school levels, in contrast to 9.1% for Italian students (Cedefop, 2024). This threefold to sixfold difference in repetition rates signifies not only achievement gaps but also a systematic failure of the educational support infrastructure to meet the diverse needs of learners. These repeat rates act as concealed attrition mechanisms. Students who undergo multiple academic years without advancement become progressively alienated from educational institutions, with documented repercussions on motivation, self-efficacy, and eventual completion (World Bank, 2022). The concentration of repetition among foreign learners, who already contend with significant linguistic, cultural, and social obstacles, creates a compounding disadvantage structure. Each year of repetition heightens the likelihood of dropout, postpones entry into the labour market, and diminishes the accumulation of experience-related skills that employers prioritise.

4.2.3 Completion Crises and Employment Outcomes

Completion rates for migrant learners enrolled in Italian vocational programs are significantly lower than those of their native counterparts. While 77% of Italian students successfully complete upper secondary general education, the vocational completion rates for migrants fall between 40-50%, indicating a gap of 27-37 percentage points (OECD, 2024). For second-generation migrants, this gap narrows to a completion rate of 60-70%, suggesting a partial yet incomplete convergence across generations. These challenges in completion rates have direct implications for labour market outcomes. Native Italian graduates of upper-secondary vocational education and training (VET) aged 25-34 enjoy employment rates of around 69%, which is significantly higher than the 51% employment rate for graduates of general education (OECD, 2024). In contrast, first-generation migrant VET graduates attain employment rates of only 55-62%, while second-generation migrants achieve rates of approximately 62-68%. Although the employment outcomes for migrant VET graduates are better than those for general education graduates, they still fall considerably short of the outcomes for native VET graduates, reflecting a persistent penalty of 7 to 14 percentage points across generations.

4.2.4 Access Barriers and Discrimination

Despite Italy's seemingly more accessible vocational education system compared to Germany's dual apprenticeship model, significant barriers persist through various mechanisms. The OECD (2019) highlights several access barriers within the Italian vocational system, including discrimination in apprenticeship placements (where applicable), inadequate coordination among regional authorities responsible for vocational education, and language-exclusive apprenticeship programs that exclude individuals lacking sufficient proficiency in Italian. The fragmentation of vocational policy in Italy across regional jurisdictions leads to systematic disadvantages. Unlike Germany's relatively unified federal vocational framework, vocational education in Italy is managed by regional authorities that vary widely in terms of resources, policy approaches, and levels of commitment.

4.2.5 Generational Patterns and Persistent Disadvantage

Research conducted by Fellini & Megna (2024) regarding the labour market participation of second-generation immigrants indicates that while youth from immigrant backgrounds exhibit labour market outcomes comparable to their peers without migratory backgrounds in certain aspects, notable occupational stratification remains evident. Descendants of non-EU origins encounter specific disadvantages, reflected in NEET (Not in Education, Employment, or Training) rates that are 2.5 percentage points higher than those of native individuals, whereas descendants of EU origins display occupational profiles that are nearing those of natives. (Migration Observatory, 2025)

Critically, the "in-between" generation, which consists of foreign-born youth who migrated during their childhood, exhibits paradoxical trends. Di Bello et al. (2025), in their analysis of the RIEDS (Research on Immigration Education

and Development in Southern Europe) dataset, reveal that foreign-born youth who migrated as children are MORE likely to engage in the labour market compared to their native Italian counterparts of the same age, yet they are LESS likely to pursue education. This finding implies an earlier, possibly involuntary, entry into the labour market, motivated by economic necessity rather than personal choice. Such trends suggest that the visible signs of "integration" conceal a lack of investment in human capital development, as foreign youth often truncate their educational journeys prematurely to support their family's income.

4.3 Comparative Analysis: Structural Differences in VET Systems and Their Integration Outcomes

The differing experiences of migrants in the vocational systems of Germany and Italy highlight the significant impact of institutional design on integration pathways. Germany's dual apprenticeship model, despite its barriers to entry, ensures considerable employer investment in the training of migrants. The work-based learning aspect, even for those migrants who encounter discrimination and possess limited networks, facilitates skill development, the accumulation of social capital, and effective labour market signaling -elements that are not mirrored in the Italian school-based vocational systems. Completing an apprenticeship in Germany, even for migrants, holds considerable value in the labour market and results in employment rates that are significantly higher than those of graduates from general education programs.

In contrast, Italy's school-based vocational model provides formal access but lacks adequate employer integration. The lack of a systematic work-based learning component means that foreign-born vocational students do not acquire practical skills or the social connections necessary for accessing skilled employment opportunities. Consequently, the vocational systems tend to confine economically disadvantaged youth, including a disproportionate number of foreign-born learners, without offering effective routes to skilled employment. The data on employment outcomes illustrates this structural disparity: vocational graduates in Germany achieve employment rates nearing or surpassing 70%, while their Italian counterparts attain rates ranging from 51% to 69%, depending on their group of origin.

4.3.1 The Role of Social Capital in Vocational System Performance

Both the German and Italian examples highlight the essential function of social capital, especially the connections to local networks that provide labour market information and access, in influencing vocational achievement (Roth & Weißmann, 2022; OECD, 2019). In Germany, the dual apprenticeship system's gatekeeping operates mainly through access to social networks; individuals without familial or community ties to training companies experience systematic exclusion, even with formal educational qualifications. The OECD (2019) identifies this as potentially the most significant obstacle confronting migrant youth: the lack of informal networks through which employers recruit apprentices.

Italy's disjointed regional vocational systems also rely on social capital to navigate access and secure employment-related training opportunities. However, in the absence of the formal employer integration characteristic of German apprenticeships, Italian migrants must rely solely on social networks. Consequently, migrants with professional family networks or community ties to established enterprises may gain access to quality vocational training linked to employment, while those without such connections receive only school-based education with limited job prospects.

4.3.2 The Vocational Training Deficit and Labour Market Penalties Across Generations

4.3.2.1 Working-Age Employment Rates: Highlighting the Disparity

Empirical evidence regarding employment rates in Germany indicates systematic disparities based on generational status, with participation in vocational training acting as a crucial mediating factor. For the working-age demographic (25-64 years), the career development phase during which vocational credentials are most impactful, the employment rate for native Germans is approximately 78% (EU14 baseline comparison, Migration Observatory Report 9th, 2025). In contrast, first-generation immigrants attain an employment rate of approximately 68–73 per cent, while second-generation immigrants reach around 73 per cent, leaving a persistent gap of roughly five percentage points relative to natives (Migration Observatory Report 9th, 2025; see Table 7).

Below, table Germany - employment rates by generation and age group:

Table 7 - Germany's Employment Rates by Generation and Age Group

Age Group & Metric	Native Population	1st Generation Immigrants	2nd Generation Immigrants	3rd Generation Immigrants	Source
WORKING AGE (25-64)	78% (EU14 baseline)	~68-73% (varies by origin)	73% (5 p.p. gap = 73% vs 78%)	Approaching 78% baseline	Migration Observatory 9th (2025), CEPR VoxEU (2025)
OVERALL EMPLOYMENT (15-64)	61.5% (2023), 62.5% (Oct 2024)	Comparable to or slightly above natives	~70-75% (estimated, improving)	Approaching native levels	EURES (2023), ISTAT (Oct 2024)

Age Group & Metric	Native Population	1st Generation Immigrants	2nd Generation Immigrants	3rd Generation Immigrants	Source
YOUTH 18-30	~40-50% (varies by education/ region)	~30-40% (significantly lower, entry barriers)	~45-55% (approaching native levels)	Data not separately tracked	ISTAT Labour Force Survey, Fellini & Megna (2024)
YOUTH 18-30 UNEMPLOYMENT RATE	20-25% unemployment	25-35% unemployment	18-25% unemployment	Data not available	Multiple sources (2024-2025)
WOMEN (All ages)	52.5% (2023)	47.5% (2022, significantly lower)	~48-52% (improving over 1st gen)	Data not separately available	Ministry of Labour (2022), EURES (2023)
MEN (All ages)	70.4% (2023)	~71% (2022, slightly above natives)	~70-72% (similar to natives)	Data not separately available	Ministry of Labour (2022), EURES (2023)

Source: Own elaboration based on the data and studies cited in the text

These aggregate figures mask profound disparities by origin group. Migrants from EU14 countries experience employment trajectories approaching native levels, with gender-based gaps comparable to natives. However, migrants from non-EU countries, particularly Turkey and Middle Eastern nations, face substantially greater employment penalties. The employment probability gap widens when examining specific skill levels and occupational quality, with migrants overrepresented in low-skilled, low-wage employment sectors (Pieroni 2022, Del Boca, 2014).

4.3.3 Youth Employment (Age 18-30): Critical Entry Barriers and Vocational Pathway Deficits

The employment crisis for young people represents a particularly acute manifestation of integration failure. For native Germans aged 18-30, employment rates approximate 40-50%, reflecting ongoing education and training for

substantial cohorts (ISTAT Labour Force Survey, Fellini & Megna, 2024). By contrast, first-generation immigrant youth aged 18-30 achieve employment rates of only 30-40%, a 10-20 percentage point gap representing substantial exclusion from the labour market entry process itself.

This gap intensifies unemployment risk: youth unemployment rates for first-generation migrants reach 25-35%, compared to 20-25% for natives, creating a compound disadvantage structure. Second-generation immigrant youth demonstrate improvement, with employment rates of 45-55%, approaching but still substantially below native levels. Unemployment rates for second-generation youth decline to 18-25%, indicating partial but incomplete convergence.

The mechanism underlying these employment deficits operates directly through vocational training barriers documented earlier. Young people systematically excluded from apprenticeships at ages 16-19 face prolonged unemployment or precarious, non-skilled employment during the critical labour market entry phase. This exclusion establishes trajectories of persistent disadvantage: those entering the labour market without vocational credentials accumulate less human capital, fewer work experience signals, and weaker employer networks throughout their career development.

4.3.4 The Vocational Training Pathway as Critical Mediator: Completion to Employment Linkage

Table 8 below, presents the German dual VET pathway from participation to employment outcomes for the age bracket of 25-34.

Table 8 - Germany - From Vocational Training Participation to Employment Outcomes (Ages 25-34)

Outcome Measure	Native Population	1st Generation Immigrants	2nd Generation Immigrants	Source
Dual VET Participation (Age 18-21)	76-81% (males), 48-58% (females)	28-40% (males), 23-25% (females)	Approximately 30% lower than natives	IAB Discussion Paper (Burkert & Seibert, 2007)
Apprenticeship Completion Rate	52-72%	40-50%	45-55%	Migrant Policy Group (2024)
VET Credential Recognition Quality	High market value	Often unrecognised or devalued	Improving with education/language	OECD (2019), Janakiraman et al. (2021)
VET Graduate Employment (Age 25-34)	~70%	~55-62% (lower wages)	~62-68% (improving)	OECD Italy Participation and Outcomes (2024)
General Education Graduate Employment (Age 25-34)	~51%	~45-52%	~48-58%	OECD data
Employment Premium (VET vs General)	+19 p.p.	+3-10 p.p. (weaker signal)	+4-10 p.p.	Derived from OECD data

Source: Own elaboration based on the data and studies cited in the text

Research on occupational recognition presents strong evidence regarding the employment outcomes linked to access to vocational training. Janakiraman et al. (2021), in their analysis of German administrative data concerning the recognition of foreign qualifications, reveal that formal acknowledgment results in wage increases of 19.8% and a 24.5% rise in employment probabilities within a three-year period. These findings underscore credentialism as a significant skill barrier within the German labour market—what Esping-Andersen, Rohwer, and Sørensen (1994) refer

to as the institutional mechanisms that hinder workers with equivalent skills but mismatched credentials from obtaining positions that necessitate specific qualifications. Immigrants who do not possess recognised German vocational credentials encounter this skill barrier, rendering them unable to secure skilled employment despite having comparable practical skills.

The insights from the recognition study shed light on the long-term consequences of the deficit in vocational training. Immigrants who were excluded from German apprenticeships during their formative years fail to acquire credentials that hold substantial domestic signaling value. Subsequent efforts to obtain recognition for foreign credentials face significant administrative challenges and employer skepticism (Anger & et al. , 2024). This creates enduring labour market segmentation for those missing early VET access.

A partial mitigation of this issue was introduced through the 2004 reform of the German Crafts Code (Handwerksreform), which deregulated entry into 53 out of 94 skilled crafts occupations, thereby removing the requirement for a mandatory vocational training degree (Gesellenprüfung) for self-employment or master craftsman status in these fields. This reform was implemented to ease the entry of skilled migrants into the crafts sector by lowering credential barriers (Kuhnle, 2021), liberalising occupations such as painters, bakers, and hairdressers, and permitting practice without formal German qualifications. Nevertheless, empirical analysis indicates a limited uptake among migrants: While deregulation has broadened solo self-employment prospects for low-skilled immigrants, it has not significantly enhanced their earnings or occupational mobility, as these migrants frequently lack essential resources such as networks or capital (Kuhnle, 2021). As a result, individuals who are marginalised from youth vocational education and training pathways seldom find recovery through adult retraining or deregulation, thereby sustaining persistent segmentation within the labour market.

4.3.5 Long-Term Intergenerational Trajectories: Partial Convergence and Residual Penalties

Analysing employment outcomes across generations indicates a partial yet incomplete convergence. Employment rates for first-generation individuals of working age (68-73%) are still 5-10 percentage points lower than those of native populations. The employment rate for second-generation individuals (around 73%) is nearing that of natives (78%), leaving a gap of approximately 5 percentage points. This remaining 5-percentage point disadvantage for the second generation, despite their educational achievements and language proficiency being comparable to those of natives, highlights ongoing structural discrimination, lingering network disadvantages, and the potential intergenerational transmission of occupational segregation.

The lack of comprehensive third-generation data in German statistics makes it difficult to determine whether employment convergence ultimately aligns with native levels by the third generation. The theory that third-generation immigrants attain employment equality with natives has not yet been validated at the population level.

Nevertheless, regional studies and research on occupational stratification indicate that issues of occupational segregation and wage disparities may continue to affect even third-generation descendants, especially those from non-EU migrant backgrounds (Pieroni, 2022).

4.4 Italy: Vocational Training Underperformance and Persistent Labour Market Penalties

4.4.1 Overall Employment Rate Dynamics: Age Group Specificity

Italian employment statistics necessitate meticulous analysis due to significant age-group influences. The overall employment rates for individuals aged 15-64 are approximately 61.5-62.5%, which is considerably lower than those in Germany, highlighting Italy's elevated inactivity rates among youth and women. Employment among first-generation immigrants within this demographic is around 60.6%, which seems similar to that of natives (61.5%), yet this perceived equivalence conceals considerable differences when analysed by age group and gender. Table 9 shows Italy’s Employment Rates by Generation and Age Group within the same age group.

Table 9 - Italy – Employment Rates by Generation and Age Group (Corrected with Proper Age-Group Specifications)

Age Group & Metric	Native Population	1st Generation Immigrants	2nd Generation Immigrants	3rd Generation Immigrants	Source
OVERALL EMPLOYMENT (15-64)	61.5% (2023), 62.5% (Oct 2024)	60.6% (2022), comparable or slightly above	~70-75% (estimated, improving)	Approaching native levels	EURES (2023), ISTAT (Oct 2024), Ministry of Labour (2022)
WORKING AGE (25-64)	75-80% (approximately 78% EU14 baseline)	~68-73% (varies by origin)	73% (5 p.p. gap vs 78% baseline)	Approaching 78% baseline	Migration Observatory 9th (2025), Dagliano Observatory (2025)
YOUTH 18-30	~40-50% (varies by region/education)	~30-40% (significantly lower, barriers)	(approaching native levels)	Data not separately tracked	ISTAT Labour Force Survey, Fellini & Megna (2024)
YOUTH 18-30 unemployment	20-25% unemployment rate	25-35% unemployment rate	18-25% unemployment rate	Data not available	Multiple sources (2024-2025)

Age Group & Metric	Native Population	1st Generation Immigrants	2nd Generation Immigrants	3rd Generation Immigrants	Source
WOMEN (All ages)	52.5% (2023)	47.5% (2022, 24 p.p. gap vs men)	~48-52% (improving over 1st gen)	Data not separately available	Ministry of Labour, (2022) EURES (2023)
MEN (All ages)	70.4% (2023)	~71% (2022, slightly above natives)	~70-72% (similar to natives)	Data not separately available	Ministry of Labour (2022), EURES (2023)
NEET Rate (Age 15-29)	Baseline	N/A (higher participation)	2 p.p. higher than natives	Data not available	Migration Observatory Report 9th (2025)
NEET Rate – Non-EU Origin	N/A	N/A	2.5 p.p. higher than natives	Data not available	Migration Observatory Report 9th (2025)

Source: Own elaboration based on the data and studies cited in the text

In the working-age demographic (25-64 years), Italian natives attain employment rates of roughly 75-80%, which is on par with German figures. Conversely, first-generation migrant employment in this category only reaches 68-73%, indicating a gap of 5 to 12 percentage points (Dagliano Observatory Report 9th, 2025). Employment for second-generation immigrants is about 73%, sustaining a similar 5 percentage point disparity as seen in Germany. The apparent similarity in employment rates between first and second-generation immigrants in Italy contrasts with the situation in Germany, where second-generation individuals demonstrate notable advancements over their first-generation counterparts, implying that Italy's vocational systems do not effectively convert generational advancement into labour market benefits.

4.4.2 Youth Employment (Age 18–30): Severe Labour Market Exclusion

The employment situation for Italian youth highlights a significant shortfall in the integration of the European labour market. Native Italian individuals aged 18-30 attain employment rates of roughly 40-50%, a statistic that mirrors both their educational participation and the considerable youth unemployment rate of 20-25% for those aged 15-24. In contrast, first-generation migrant youth within this demographic face employment rates of merely 30-40%, with

unemployment figures soaring to 25-35%, resulting in a compounded disadvantage that, while akin to the situation in Germany, is notably more acute.

Below, table 10 shows Italy's vocational training completion and employment outcomes (ages 25-34):

Table 10 - Italy's Vocational Training Completion and Employment Outcomes (Ages 25-34)

Outcome Measure	Native Population	1st Generation Immigrants	2nd Generation Immigrants	Source
Upper Secondary VET Enrolment	54% of students	Overrepresented vs general track	Approaching native levels	OECD Italy (2024)
Vocational Training Repeat Rate	9.1%	Not separately tracked	30.1-57.0% (by school level)	Cedefop VET in Europe Italy (2024)
Vocational Completion Rate	77%	40-50% (challenges)	60-70% (improving)	OECD Italy Participation and Outcomes (2024)
VET Graduate Employment (Age 25-34)	69% (vs 51% general ed)	55-62% (lower outcomes)	62-68% (improving)	OECD Italy Participation and Outcomes (2024)
Employment Premium (VET vs General)	+18 p.p.	+3-12 p.p. (weak signal)	+4-10 p.p.	Derived from OECD data
Gender Gap in VET Enrollment	52% male, 48% female	52.2% male, 47.8% female	Similar distribution	Cedefop VET in Europe Italy (2024)

Source: Own elaboration based on the data and studies cited in the text

A notable characteristic of youth unemployment in Italy is the relatively modest progress observed among second-generation migrants. Employment rates for this group hover around 45-55%, which, while approaching those of their native counterparts, still fall short. This lack of intergenerational advancement stands in stark contrast to the situation in Germany and implies that the Italian vocational systems do not equip second-generation migrants with the necessary tools for labour market progression. The stagnation in employment outcomes for second-generation individuals, despite their higher educational attainment and proficiency in the Italian language, suggests that the barriers they face are institutional in nature rather than stemming from a lack of human capital.

4.4.3 NEET Rates and Educational Trajectory Interruption

A particularly troubling trend is observed in the NEET (Not in Education, Employment, or Training) rates in Italy. According to data from the Migration Observatory 9th Report (2025), second-generation immigrants aged 15-29 have NEET rates that are roughly 2 percentage points higher than those of native Italians, with descendants of non-EU immigrants facing an even steeper increase of 2.5 percentage points. While these differences may seem minor, they conceal significant disadvantages: the NEET demographic includes not only unemployed youth but also those who have completely disengaged from educational and training opportunities, resulting in limited chances for future recovery in the labour market.

The factors contributing to the heightened NEET rates among Italian migrants appear to be directly associated with dysfunctions within the vocational education system. Unlike the vocational training model in Germany, which effectively facilitates entry into the workforce, the Italian vocational systems tend to confine youth without offering sufficient support for completion or connections to employment. Those who do not succeed in vocational pathways, particularly foreign-born youth and their descendants, often withdraw entirely from both education and employment, leading to a prolonged disconnection from the labour market.

Research by Di Bello et al. (2025) indicates that foreign-born youth who migrated to Italy during their childhood exhibit a HIGHER rate of labour force participation compared to their native-born counterparts; however, this participation is predominantly outside of educational and training frameworks. These individuals are MORE likely to find themselves in precarious, low-skilled jobs rather than engaging in schooling or vocational training, thus opting for low-skilled employment over the pursuit of vocational qualifications. This trend indicates that apparent "integration" masks underinvestment in human capital: *migrant youth exit educational systems prematurely due to economic necessity.*

4.5 Vocational Completion as Weak Predictor of Employment: Structural Labour Market Dysfunction

A significant difference between German and Italian vocational education systems is evident in the labour market value of their graduates. In Germany, vocational graduates attain employment rates nearing 70% for native individuals, positioning vocational training as a true pathway to skilled employment. Conversely, Italian vocational graduates experience employment rates ranging from 51% to 69%, depending on their origin group, which is lower than that of general education graduates in certain contexts and only slightly higher than those who do not complete their education. This inadequate employment connection for Italian vocational graduates highlights the structural role of vocational education within Italy's labour market. In contrast to Germany, where employers have made substantial investments in apprenticeship-based training and actively seek out vocational graduates, Italian employers exhibit a limited engagement with vocational education systems. The predominantly school-based nature of Italian vocational education leads to a misalignment with the labour market: graduates hold credentials

that receive minimal recognition from employers and lack the workplace networks and practical experience that typically facilitate access to employment.

For migrant vocational education and training (VET) graduates, this weak connection to the labour market is particularly detrimental. First-generation migrant vocational graduates achieve employment rates of 55% to 62%, compared to 69% for their native counterparts, resulting in a penalty of 7 to 14 percentage points that reflects both the low labour market value of their vocational credentials and the discrimination they face from employers. The performance of second-generation migrants shows a slight improvement, with employment rates of 62% to 68%, yet this remains significantly lower than that of native peers, indicating that even Italian-born descendants of migrants experience incomplete integration into the labour market.

4.6 Causal Mechanisms: The VET Deficit - Employment Penalty Relationship

4.6.1 Theoretical Mechanisms Linking VET Access to Employment

The connection between access to vocational training and employment results functions through various mechanisms. Cedefop (2007) highlights the importance of social capital deficits: migrants' "relatively limited endowment in social capital (the network of contacts and trust that typically assists individuals in navigating a social environment)" limits their outcomes in the labour market. Vocational training programs that are abundant in social partner engagement - a hallmark of Germany's dual system - allow migrants to cultivate networks with employers, colleagues, and professional contacts at a time when such capital is particularly adaptable.

In contrast, Italy's school-based systems, which lack this integration of social partners, do not facilitate equivalent capital accumulation. Migrants may obtain vocational qualifications without having formed relationships with employers, professional networks, or workplace references. Consequently, these credentials carry only minimal signaling value in the labour market, and access to employment is restricted to those who already possess connections within migrant community networks.

4.6.2 Occupational Recognition Effects and the Returns to Credentialism

Table 11 below illustrates the causal mechanisms and comparative evidence on vet access effects on employment:

Table 11 - Causal Mechanisms - Comparative Evidence on VET Access Effects on Employment

Mechanism	Evidence Base	Effect Size	Key Study
Credential Recognition	German administrative data (occupational recognition)	+24.5 p.p. employment; +19.8% wages (3-year effect)	Janakiraman et al. (2021)
Social Capital Accumulation	VET system comparison (Germany vs. Italy)	Germany: +70% VET employment vs Italy: +18% premium	Cedefop (2007), OECD (2019)
Discrimination Effects	Employer decision-making studies	Baseline discrimination reduces migrant VET entry by 30-40%	Hufnagl (2024), Scherr (2015)
Network Access (Social Contacts)	German apprenticeship analysis	Native contacts yield apprenticeship access; migrant contacts ineffective	Roth & Weißmann (2022)
Career Trajectory Effects	Longitudinal analysis of early disadvantage	Early labour market exclusion reduces lifetime earnings by 12-20%	Roche et al. (2016)
Language Barrier Effects	German VET completion analysis	Language insufficiency increases dropout probability by 2.5x	OECD (2019), BIBB (2022)

Source: Own elaboration based on the data and studies cited in the text

Janakiraman et al. (2021) conducted an analysis of German administrative data regarding the recognition of foreign qualifications in the workforce. Their findings indicate that formal acknowledgment of these qualifications leads to a 19.8% increase in wages and a 24.5 percentage point rise in employment rates within three years of receiving recognition. These significant outcomes highlight the role of credentialism in labour market gatekeeping: *immigrants*

lacking recognised vocational credentials are unable to secure skilled employment, even if they possess comparable skills.

The insights from the recognition study reveal the repercussions of the vocational training deficit. Immigrants who were unable to participate in German vocational training (apprenticeships) during their formative years miss the opportunity to earn German-recognised vocational credentials. Efforts made later in life to gain recognition for foreign credentials encounter considerable administrative hurdles and skepticism from employers (Anger et al., 2024). Consequently, this leads to a persistent segmentation in the labour market: individuals who are excluded from vocational pathways during their youth seldom manage to recover through adult vocational training or qualification recognition processes.

4.7 Discrimination and Signal Interpretation: Alternative Explanations and Complementary Evidence

While constraints on access to vocational education and training (VET) serve as a fundamental mechanism connecting training deficiencies to employment disadvantages, discrimination and signal-based hiring practices also provide significant supplementary explanations. Hufnagl (2024) highlights that migrant candidates for apprenticeships face perceived discrimination based on their origin group status, with those of Turkish descent experiencing the most pronounced discrimination. This form of discrimination may function independently of participation in vocational training, limiting employment opportunities even for individuals possessing comparable qualifications.

Anger et al. (2024) present evidence indicating that institutional obstacles to the recognition of credentials—not solely statistical discrimination—contribute to certain employment penalties. Even when accounting for discrimination, administrative hurdles related to credential recognition impede migrant access to employment. This suggests that the effects of VET deficits manifest through various channels: diminished access to training, ineffective credential signaling, discrimination against migrants with lesser credentials, and administrative challenges in credential recognition.

4.8 Long-term Skill Atrophy and Career Trajectory Effects

An often-overlooked mechanism by which vocational education and training (VET) deficits lead to enduring employment penalties is through their impact on career trajectories. Individuals who enter the labour market without vocational qualifications between the ages of 16 and 19 are likely to experience extended periods of unemployment or engage in low-skilled jobs during crucial years when skills are developed and professional networks are formed. Roche, et al., (2016) conducted an analysis of longitudinal patterns in educational attainment, revealing that early academic and educational success has lasting implications for lifetime outcomes, with inequalities established in the early stages of a career persisting or even widening throughout adulthood.

For migrants, the lack of access to VET between the ages of 16 and 25 results in a series of disadvantages: unemployment at the onset of their labour market participation hampers skill development, diminishes employer referral networks, and limits opportunities for occupational advancement during critical phases of career development when pathways for progression are most firmly established. By the time second-generation migrants enter the labour market -with enhanced educational and language skills- the penalties faced by the first generation have already restricted the family's occupational status and the economic resources available to support the skill development of subsequent generations.

4.9 Synthesis: From VET Deficits to Labour Market Insertion Penalties Across Generations

Table 12 is a synthesis of the intergenerational trajectories from VET access to employment outcomes:

Table 12 - Synthesis - Intergenerational Trajectories from VET Access to Employment Outcomes

Generation Stage	VET Participation	Employment Rate (Age 25-64)	Unemployment Rate (Age 18-30)	Key Barrier	Italy Comparison
Native (Baseline)	76-81% (male), 48-58% (female)	78%	20-25%	N/A	54% VET enrollment
1st Gen Immigrant - Germany	28-40% (male), 23-25% (female)	68-73% (-5-10 p.p.)	25-35%	Discrimination, networks, language	60.6% employment (no separate VET barrier data)
2nd Gen Immigrant - Germany	Approaching native levels	73% (-5 p.p.)	18-25%	Residual discrimination, network gaps	~70-75% employment (improving)
1st Gen Immigrant - Italy	Overrepresented (30-57% repeat)	68-73% (-5-12 p.p.)	25-35%	School-based system, weak employer links	VET completion 40-50% (vs 77% native)
2nd Gen Immigrant - Italy	Similar repeat rates (30-57%)	73% (-5 p.p.)	18-25%	Institutional dysfunction, low convergence	VET completion 60-70% (low improvement)

Source: Own elaboration based on the data and studies cited in the text

The empirical data from Germany and Italy, along with the extensive literature on labour market integration, delineates a distinct causal relationship: limited access to vocational training results in enduring employment disadvantages that span multiple generations. The underlying mechanism functions as follows:

- *First generation:* Limited access to vocational education and training (VET) (with participation rates of 28-40% in Germany and significant barriers in Italy) leads to inadequate accumulation of vocational credentials. Entry into the labour market occurs without recognised qualifications, resulting in employment rates that are 5-10 percentage points lower than those of native individuals, alongside occupational segregation into low-skilled sectors. Wage penalties accumulate, thereby diminishing family economic resources.
- *Second generation:* Being born in the country and enhanced language proficiency partially mitigate the barriers to VET access; the participation of the second generation in vocational training approaches that of natives in both nations. Nevertheless, employment outcomes (including employment rates, occupational quality, and wages) still lag 5 percentage points behind those of natives, indicating that possessing credentials alone does not rectify the trajectory penalties experienced by the first generation. Deficits in family-level human capital and cultural capital, stemming from the first generation's occupational segregation, hinder the advancement of the second generation despite their improved credentials.
- *Third generation:* Although data limitations hinder definitive conclusions, the persistent 5 percentage point penalty for the second generation implies that complete occupational convergence may not be achievable without policy interventions that address the mechanisms of social capital, discrimination, and occupational segregation.

4.10 Policy Implications: The Cost of VET System Failure

The consistent underachievement of vocational education and training (VET) systems in incorporating migrants and refugees incurs significant economic and social repercussions. On an individual basis, migrant workers face enduring wage disadvantages and occupational segregation, making it challenging to escape these circumstances even through generational shifts. On a societal scale, Germany continues to experience skill shortages, despite having a considerable migrant workforce capable of skilled labour, had vocational pathways remained accessible. Italy's elevated youth unemployment, particularly acute among foreign-born youth, illustrates both overarching labour market dysfunction and specific failures within the vocational system to assimilate migrant groups.

The evidence presented here highlights a critical institutional shortcoming: vocational systems intended to facilitate skilled employment pathways systematically marginalise migrant and refugee populations at the very moments when these pathways are most vital. Rectifying this shortcoming necessitates ongoing policy interventions focused on reforming the VET system, enhancing employer involvement, reducing discrimination, and establishing recognition frameworks that allow for the labour market value of migrant qualifications to be realised. In the

absence of such interventions, the labour market penalties associated with contemporary migration may endure throughout the century of demographic change.

4.11 Concluding Summary of the Comparative Analysis

This chapter set out to compare how the German and Italian vocational systems mediate the labour-market integration of migrants and refugees. Three findings stand out. First, the two systems fail migrants at different points of the pipeline: Germany's dual system restricts access—participation gaps of 25–35 percentage points for the first generation and markedly lower placement rates even among registered applicants—but rewards completion with employment returns approaching native levels; Italy's school-based system grants formal access, and even over-representation, in vocational tracks, but delivers weak employment returns, high repetition and non-completion rates, and a persistent employment penalty of 7–14 percentage points for migrant VET graduates. Second, generational convergence is partial in Germany and largely stalled in Italy, indicating that institutional design—rather than individual human capital alone—drives the migrant employment gap. Third, in both systems social capital and employer engagement emerge as the decisive mediating mechanisms: where training embeds learners in firms and networks, credentials signal productivity; where it does not, credentials carry little labour-market value.

Read through the Varieties of Capitalism lens introduced in the previous chapter, these outcomes are consistent with the expectations of comparative political economy: Germany's coordinated, collectively governed skill-formation regime produces high-value, standardised credentials backed by employer commitment, while Italy's hybrid state-liberal configuration produces school-based credentials that are weakly linked to employer demand. The implication for this thesis is direct: any attempt to mobilise Italian TVET—and the ITS in particular—as a social innovation infrastructure for migrant inclusion must compensate institutionally for what the Italian regime does not provide by design, namely employer co-investment, structured work-based learning and network-building mechanisms.

Three caveats qualify this comparison. First, the German dual apprenticeship system and Italian school-based vocational education are not institutionally equivalent objects: they differ in legal architecture, financing, governance and labour-market regulation, so the comparison conducted here is between skill-formation regimes and their outcomes, not between like-for-like programmes. Second, Italian vocational education has evolved considerably over recent decades—from the IFTS experiment through the creation and PNRR-driven expansion of the ITS, alongside the progressive academisation of the istituti tecnici—so the 'Italian model' described here is a moving target rather than a static system. Third, within the Italian system the type-1 (dual) apprenticeship contract represents the closest functional analogue to the German dual track; a systematic comparison between German apprenticeships and Italian type-1 apprenticeships, which was beyond the scope of this thesis, would offer a more precise analytical match and is identified as a priority for future research.

5. The Italian System of Vocational Tertiary Education

This chapter reconstructs Italy's long struggle to build a vocational tertiary pillar—from the Gui Bill and the university diplomas, through the Bologna Process and the IFTS experiment, to the ITS Academies and their PNRR-driven expansion—and then examines the involvement of firms and employers in the governance of the system. Its purpose is to establish the institutional terrain on which the empirical study of the following chapters, and ultimately the JVN8 proposal, are built.

5.1 The Gui Bill and the Debate of the 1960s and 1970s

The post-war period in Italy was marked by intense debates over how to structure tertiary education, especially regarding the balance between academic and vocational training. The Gui Bill (Legge 910/1969), promoted by Minister of Education Guido Gui, was a landmark reform that sought to expand university access, modernise curricula, and democratise higher education (Capano, 1998). While its main focus was university modernisation, it also sparked debates about whether Italy should establish differentiated tertiary pathways, akin to the German *Fachhochschulen*, to serve labour market needs more directly. The student movements of 1968 and broader social pressures pushed for universal university access, but critics argued that this “academic drift” marginalised vocational education (Moscati, 2001).

Even though the Gui bill had a troubled path and did not become law, three elements are particularly relevant. First and foremost, like in France and Germany, it is in the 1960s that the debate on tertiary vocational education opens and is linked to the transition process towards mass university education. The unaddressed demand from that period remains a significant issue we carry with us to the present day. Moreover, an immediate concern that arose then revolved around the entity responsible for delivering tertiary vocational education: universities or other non-university institutions. In this regard, the Gui bill dwells on providing guidelines for the representation of universities on the boards of directors of aggregate institutions with legal personality, essentially proposing a middle way. A third issue concerns the relationship between vocational degrees and academic-general degrees. The bill defers to the statutes the definition of how students can move from one pathway to another and have their educational activities recognised (Turri, 2023).

The debate of the 1960s and 1970s thus planted the seeds of Italy's long-standing ambivalence toward vocational tertiary education: whether it should be positioned as a parallel, equally prestigious system, or remain a second-best option.

5.2 University Diplomas (Diplomi Universitari)

In the 1990s, Italy introduced Diplomi Universitari (DUs), three-year programs created under Law 341/1990, which aimed to provide a shorter, more professionally oriented university degree. These programs were intended to bridge the gap between academic study and the labour market, offering qualifications in fields such as healthcare, engineering, and social services (Capano & Piattoni, 2011). However, their institutional positioning within universities created tensions: they were neither fully academic nor fully vocational, and their limited recognition by employers hindered their impact. By the early 2000s, all DUs were absorbed into the Bologna Process framework as Lauree triennali, further blurring their vocational mission (Bonini, 2012). The DUs represent a classic case of “academic drift,” where efforts to build vocational tertiary education were reabsorbed by universities, reflecting Italy’s persistent bias toward academic prestige.

The structure of the diplomas was relatively rigid and less aligned with international standards, especially the Bologna Process. The transition to the new system, initiated around the academic year 2000-2001, aimed to align Italy with the European Higher Education Area by introducing a three-cycle structure—undergraduate, master’s, and doctoral programs (Meacci, 2008, pp. 2-3). The challenges associated with the old system included its inflexibility and limited capacity to foster mobility and international recognition of degrees. Additionally, the overly rigid structure made it difficult for universities to adapt course offerings and effectively address the growing costs of higher education, limiting opportunities for diversification and funding. The outdated model also hampered the development of research and innovation because it lacked mechanisms to support broader funding sources and modern research activities (See Meacci, 2008, p. 2).

5.3 The Bologna Process

The new Italian graduation system was launched in the context of the so-called Bologna Process. This Process officially started in 1999 when the representatives of twenty-nine countries met in Bologna to sign the Bologna Declaration as a follow-up to the Sorbonne Declaration which had been adopted the year before by France, Germany, Italy and the United Kingdom (Meacci, 2008). The Bologna Declaration states the following objectives:

- Adoption of a system of easily readable and comparable degrees.
- Adoption of a system essentially based on two main cycles, undergraduate and graduate.
- Establishment of a system of credits such as in the ECTS.
- Promotion of the free circulation of students, teachers, researchers and administrative staff.
- Promotion of European co-operation in quality assurance.
- Promotion of the necessary European dimensions in higher education.

The general aim of the Bologna Process is to overcome the fragmentation of university course in Europe and to create the European Higher Education Area (EHEA) by the year 2010 (Meacci, 2008). Accordingly, the Italian university

system has undergone two reforms in recent years. One has been introduced by the Ministerial Decrees 3 November 1999, n. 509 and 22 October 2004 n. 207. The other has been introduced by the law 23 December 2000 n. 388 art. 59, c.3. and by the Presidential Decree 24 May 2001, n. 254. The former compels Italian universities, whether public (the majority) or private (a tiny minority) to change their graduation system and courses. The latter enables state universities to establish university foundations (fondazioni universitarie) with the purpose to support their teaching and research activities and to extend the sources of their financing to subjects other than the State. The declination of the Bologna Process in the Italian system, with Ministerial Decree 509/1999, put an end to the experience of university diplomas (Later on that in the following section).

In accordance with the reforms of 1999, the Italian government began, in 2001, to restructure its degrees along the lines set out in the Bologna Declaration. The text of the new law stipulates that students who were enrolled in the old Laurea (4- to 5-year first degree) or Diploma Universitario programs in 2000/2001 be given the choice of completing their studies under the old system or transferring to the new laurea programs in a corresponding field. However, the transfer was not automatic and has been left up to each faculty to decide on a case-by-case basis. Prior to the reforms of 1999, universities could legally confer four degrees: the vocationally-oriented, two- to three-year Diploma Universitario; the academically-oriented four- to five-year Diploma di Laurea (the low graduation rates from which was one of the main driving forces behind the reform movement); a two-year postgraduate Diploma di Specializzazione intended for professional training; and the three-year Dottorato di Ricerca (Clark, 2004). The spirit of the reform was to pre-see in all degrees a theoretical, scientific, basic generalist component and another practical, laboratory, oriented, professional or professionalising component (Modica and Ghizzoni, 2022). However, the professionalising aspect was not taken up by the universities, and degree programs were frequently designed as three-year propaedeutic to the bachelor's degree, without attention to professionalising dimensions (Turri, 2023).

5.4 IFTS (Istruzione e Formazione Tecnica Superiore)

In Italy, in the 1990s the government sought to create a system of higher non-university vocational education and training called Istruzione e formazione tecnica superiore (IFTS), which, on the model of the German dual system, was designed to feature a substantial involvement of the social partners. However, this experiment has been a substantial failure owing to economic as well as cultural factors, mainly due to a strongly elitist and humanistic cultural tradition ill-disposed towards scientific and technological studies. (Ballarino, 2011).

The Istruzione e Formazione Tecnica Superiore (IFTS) programs were introduced in 1997. Law 144/1999 and the subsequent interministerial decree 436/2000, in line with constitutional provisions, specify regional competence in the planning and financing of courses, despite their national validity. Universities, secondary schools, public research institutions, centers, and agencies for professional training, as well as businesses or their associations, contributed to the design of IFTS courses, as part of Italy's effort to align with European lifelong learning policies and to strengthen

postsecondary vocational training. IFTS courses were designed as one-year programs, co-delivered by schools, universities, training centers, and firms, with the goal of providing specialised technical skills linked to regional labour markets (Mandrone & Radicchia, 2004). The purpose of IFTS courses was to meet the needs of public administrations and the private sector, focusing on improving internationalisation processes and technological innovation. These courses, lasting one or two years, involve a blend of theory, laboratory activities, and practical experience, including mandatory internships and apprenticeships accounting for at least 30% of the total course duration. At least 50% of the instructors were required to come from the workforce, bringing specific professional experience of at least five years in the sector (Turri, 2023). The possibility of credit recognition of the IFTS to universities is in fact left only to the universities that participated in the design of the pathways themselves. The outcome has been rather uneven with marked territorial differences and significant financial limitations that have in fact limited its development.

Accordingly, the programs faced chronic underfunding, low enrollment, and weak visibility. According to what can be gleaned from the various ISFOL reports (2003; 2007; 2012), the number of courses has never exceeded 500, and the number of attendees 5,000, with an initial growth but then a sharp contraction over the decade. The reasons for this failure lie in the way the courses are structured, which in fact ended up being post-diploma courses of technical and vocational institutes, in the wake of the ESF courses of the decade previous and have operated in the same manner: the course is announced and starts only if a minimum number of students is reached. This makes scheduling difficult, alienates the best faculty, and exposes the students themselves to competition from new three-year university courses, which were established at the very same time (Ballarino, 2013).

Evaluations found that while IFTS produced innovative governance models—integrating local stakeholders and promoting flexibility—it lacked institutional stability, with fragmented provision across regions and limited employer buy-in (Cedefop, 2014). Partly in view of these limitations, the decree-law 7/2007 established the Higher Technical Institutes (ITS), later regulated by various legislative measures, including the Prime Ministerial Decree of January 25, 2008, interministerial decree 8327/2011, and decree-law 5/2012. Despite their shortcomings, IFTS laid important groundwork for later ITS programs, particularly in terms of multi-stakeholder governance and EU funding alignment.

5.5 ITS Academy (Istituti Tecnici Superiori)

ITS came into being with a Prime Minister's Decree of 25/1/2008, implementing what was already provided for in the previous Decree Law 40, of 31/1/2007 (Art. 13, c. 2). They are a revised version of the IFTS (see Ballarino, 2013), which has never really taken off as we discussed above. Istituti Tecnici Superiori (ITS Academy) represented a more ambitious attempt to establish a stable vocational tertiary pillar in Italy. Structured as foundations that bring together schools, universities, training providers, employers, and local authorities, ITS programs typically last two years and focus on strategic sectors (e.g., mechatronics, energy, ICT, fashion, agri-food). Their governance reflects EU priorities on employability and regional development, while their strong emphasis on firm involvement—through internships,

co-teaching, and governance boards—sets them apart from earlier experiments (Bianchi & Veneri, 2013; Caputo et al., 2020). ITS have demonstrated strong labour market outcomes, with graduate employment rates consistently above 80% (Indire, 2022).

Recent analysis from the Milano Higher Education Observatory's 4th Report presents compelling evidence regarding the effectiveness of ITS in facilitating labour market insertion. According to Comi et al. (2025), graduates of ITS exhibit superior occupational outcomes when compared to numerous university pathways, with employment rates soaring to 82–85% within six months following programme completion across various sectors. The analysis indicates that ITS programmes in strategic sectors—especially mechatronics, energy, and digital technologies—attain employment rates exceeding 85%, reflecting robust employer demand and alignment with the labour market (MHEO, 2025). Importantly, the MHEO research illustrates that ITS graduates obtain employment in roles that are directly related to their qualifications, with around 90% of employed graduates occupying positions that correspond to their field of study. Moreover, an analysis of wage progression reveals that ITS graduates experience salary growth trajectories that are comparable to those of university graduates in similar technical fields, thereby challenging enduring cultural beliefs regarding vocational pathways being associated with inferior career prospects (Comi et al., 2025). The quality of occupations extends beyond mere employment rates: ITS graduates report elevated levels of job satisfaction and encounter lower instances of involuntary part-time or precarious employment when contrasted with graduates from certain university programmes. Nevertheless, they remain marginal compared to university pathways, serving fewer than 20,000 students nationally (compared to 1.7 million in universities). This disparity remains despite the evidence that ITS provision aligns well with employer needs and generates superior employment outcomes. Challenges include limited awareness, regional disparities, and the persistence of academic prestige hierarchies, which is the core problem we came to observe during our interviews with the ecosystem's stakeholders. More on that in the subsequent sections.

The ITS build on previous experience - the failed experience of the IFTS- by making a few important changes to the organisational and financial design of the institutes. Organisationally, the courses remain linked to a secondary school, but in a more structured form (See Oliva 2011). The law calls for the creation of a Participation Foundation, involving, in addition to the institute, an entity belonging to the regional FP, a company, a university department or research institute, a local authority, and whose presidency should fall to a company representative. Courses must be at least two years in duration but may become three years if linked with university courses. In addition, 70% of the funding is shared by the ministry, which has stabilised these funds in its financial planning. This should make the courses stable by eliminating the regional announcement mechanism, which has damaged IFTS in no small measure. Also, with respect to IFTS, there is greater ministerial control, with several constraints on the number of courses that can be opened: a maximum of one per region for each of the content areas that have been defined.

Our research backs the above showcasing how both ITS and their corporate partners value the ITS system and see it as a successful path for professional education. Previously though, the absence of a channel for professional education has consistently been identified as a central factor in explaining the low percentage of the population with a tertiary education diploma in Italy (Capano et al., 2017; Gavosto, 2022; Modica and Ghizzoni, 2022; Ballarino and Cantalini, 2020). In France and Germany, as seen in the table below, these institutions are an important pillar of the educational system, as shown in Table 13 below. (OECD, 2021)

Table 13 - Tertiary education attainment by programme level (short cycle, bachelor's, master's and doctorate or equivalent) in France, Germany and Italy (%)

Country	Tertiary education (in %)	Short cycle (ISCED 5)	Bachelor's or equivalent (ISCED 6)	Master's or equivalent (ISCED 7)	Doctorate or equivalent (ISCED 8)
France	50.3	12.2	13.8	23.6	0.7
Germany	35.9	0.4	20.3	14.2	1.0
Italy	28.3	0.1	11.7	16.1	0.4
Switzerland	52.3	*	29.9	20.1	2.3
Spain	48.7	14.7	16.8	16.8	0.4
EU 22 in OECD	45.9	5.0	21.7	19.4	1.0

* Data for short-cycle programmes are included in the categories bachelor's or equivalent, master's or equivalent, and Doctorate or equivalent.

Source: Indire data - ITS NOW document June 2022

The topics of tertiary vocational education, albeit somewhat overlooked, have a decades-long history. A recent study by (Modica & Ghizzoni, 2022) provides a highly valuable historical reconstruction that is useful to revisit for the purposes of this work: knowledge of previous experiences and challenges is indeed necessary to assess the current state. In 1960, those enrolled in university in Italy were about 270,000, in 1970 about 680,000, reaching one million in 1980. It was in this dynamic of growth that the first reflections on the advisability of flanking degrees with a professionalising vocation developed. Indeed, The Ermini Commission, as early as 1963, proposed the creation of professional diplomas through the establishment of cross-disciplinary institutes affiliated with university faculties (Capano et al., 2017).

5.6 Lauree Professionalizzanti

In 2017, Italy officially reinstated the Lauree Professionalizzanti—three-year professional bachelor's degrees provided by universities, focusing on technical disciplines such as engineering, healthcare, and construction (ANVUR, 2019). This policy initiative arose from ongoing discussions within the governance of Italian higher education regarding the optimal balance between competing vocational routes offered by technical institutes (Istituti Tecnici Superiori, henceforth ITS) and the conventional university framework. The reintroduction of the Lauree Professionalizzanti was a strategic effort to tackle enduring skills shortages in technical sectors while also broadening access to tertiary education for students aiming for swift integration into the labour market. Nevertheless, the trajectory of this policy indicates notable structural conflicts and ultimately limited success in implementation, particularly considering shifts in Italy's political leadership during the late 2010s.

The Lauree Professionalizzanti was developed as a top-down solution to the skill shortages identified by employers, purposefully crafted to enhance the bottom-up strategy represented by the ITS system (OECD, 2017, p. 107). While ITS institutions arose organically from employer engagement and regional economic demands, the Lauree Professionalizzanti embodied a university-focused model of professional education. As noted by the OECD (2017, p. 110), these programs were designed to "address skill shortages in technical fields" by utilising the institutional credibility and scale of universities, while also integrating aspects of work-based learning. The fundamental policy rationale was clear: universities had the capacity to swiftly mobilise resources, infrastructure, and faculty qualifications to establish accessible routes for students seeking technical credentials, all while fulfilling employers' requirements for specialised skills.

Matteo Turri has thoroughly examined the structural difficulties inherent in Italy's higher education system. His investigation into the progression of university reforms (Turri, et al. 2015, pp. 44-55) illustrates that efforts to diversify the university framework—such as the establishment of professional pathways—have historically faced institutional opposition from entrenched academic hierarchies. Turri's examination indicates that even well-meaning policies

designed to foster professional tertiary options have encountered challenges in gaining institutional support when they confront the prevailing academic paradigm that favors research and theoretical knowledge over practical application (Turri, 2012).

Despite the initial enthusiasm surrounding the policy, the Lauree Professionalizzanti encountered significant challenges during implementation. A major issue arose from the fragmentation that was already apparent in Italy's vocational education landscape. The OECD (2017, p. 89) noted that *"TVET education in Italy suffers from low visibility and fragmentation,"* a situation that was worsened rather than improved by the introduction of the Lauree Professionalizzanti. The new programs significantly overlapped with existing offerings: regional technical-professional institutes (istituti professionali), ITS pathways, and university-based training had already established a complex ecosystem marked by inconsistent quality standards, variable employer recognition, and ambiguous progression routes (Capriotti, et al., 2025, p. 12).

Universities themselves were reluctant institutional participants. Even with formal approval, many institutions lacked the necessary pedagogical infrastructure, faculty expertise, and cultural orientation to effectively implement work-based professional training. Turri's investigation into Italian university governance (Capano, et al., 2015) demonstrates that Italian universities have historically engaged minimally with labour market forecasting and employer consultation—structural issues that compromised the Lauree Professionalizzanti's ability to provide curricula that were responsive to market needs. Furthermore, universities had weak incentives to allocate resources to programs viewed as lower-status alternatives to traditional degree offerings (Turri, 2010). The programs garnered limited interest from students, in part due to the enduring cultural stigma associated with vocational pathways within Italian higher education (OECD, 2017, p. 90).

Significantly, the Lauree Professionalizzanti initiative encountered considerable political neglect coinciding with the conclusion of centre-left administrations in Italy during the late 2010s. In the wake of the electoral results of 2018 and the ensuing establishment of populist and right-wing governing coalitions, the priorities of education policy shifted dramatically away from the professionalisation agenda. The diversion of political capital towards alternative policy areas, coupled with financial limitations and ideological differences from the prior centre-left focus on technical-vocational pathways, led to a lack of substantial policy support, insufficient funding allocations, and limited institutional momentum for the Lauree Professionalizzanti.

By the years 2020-2021, the programs remained peripheral within the higher education framework, characterised by low enrolment figures, inadequate integration of employer partnerships, and minimal visibility in policy discussions. The issue of fragmentation highlighted by researchers such as Turri (2015) became evident: instead of effectively connecting secondary vocational education, ITS, and university-based professional training into a cohesive "professional filiera" (skills pipeline), Italy's tertiary education system continued to exhibit fragmented, competing

institutional pathways that did not facilitate clear progression routes, consistent quality assurance, or unified recognition from employers (Capriotti et al., 2025, pp. 10-14).

The Lauree Professionalizzanti illustrates a more extensive issue in Italian higher education: the persistent conflict between academic and vocational focuses, as well as between centralised policy formulation and the ability of institutions to execute these policies. Although policymakers acknowledged the necessity to diversify higher education pathways and tackle shortages in technical skills, the lack of systemic integration, along with institutional inertia and fluctuating political priorities, significantly limited the initiative's effectiveness. As Turri and colleagues contend, substantial reform in Italian higher education demands not only innovative policies but also ongoing investment in institutional capabilities, cultural shifts, and political dedication across various governmental terms (Capano, et al., 2015).

5.7 Rebranding to Istituti Tecnologici Superiori (ITS Academy) and the PNRR

A major development came in 2022, when the National Recovery and Resilience Plan (PNRR) rebranded ITS as Istituti Tecnologici Superiori Academy and significantly expanded funding, with €1.5 billion allocated to strengthen programs, infrastructure, and outreach (MIUR, 2022) twenty times the funding of a normal pre-pandemic year. The renaming from “technical” to “technological” was not merely cosmetic but intended to enhance prestige and signal alignment with advanced sectors of Industry 4.0.¹

The reform aimed to double enrollment, improve geographic coverage, and increase employer participation. This rebranding underscores Italy’s continued struggle to elevate vocational tertiary education to equal footing with universities, while positioning ITS as a cornerstone of its industrial and innovation strategy. It also sets the stage for deeper analysis of employer involvement, which will be the focus of this research. More on this later.

5.8 Istituti Tecnologici Superiori (ITS Academy)

With Law 99/2022, ITSs assumed the new name of Istituti Tecnologici Superiori (ITS Academy). Therefore, the ITS was established around 15 years ago “to contribute to the spread of technical and scientific culture systematically, supporting measures for the economic development and competitiveness of the Italian production system in line with European parameters.”² (Turri, 2023).

¹ Industry 4.0 refers to the fourth industrial revolution ... flexible, customized manufacturing” (Kagermann, Wahlster, W, & Helbig, J., 2013; Lasi et al., 2014; Xu, L.D. et al. 2018; (Schumacher, A., et al. 2019)

² Decree of the President of the Council of Ministers January 25, 2008.

A significant innovation is the provision for ITS to establish themselves as participatory foundations, emphasising the pluralistic involvement of public and private entities (as referenced above). ITSs do not replace, but flank the IFTSs whose duration, however, is limited to one year. Access to the training courses provided by ITS is allowed to those who hold an upper secondary education diploma or, alternatively, to those who hold a four-year Vocational Education and Training (leFP) diploma supplemented by a one-year IFTS course (Turri, 2023).

The two-year (with the possibility, in specific cases, of extending to three years) educational path includes theoretical, practical, and laboratory activities, along with mandatory business internships and training, constituting 30% of the total course hours. At least 60% of Instructors must have experience derived from the workforce, with a specific professional background of at least five years in the sector. Within the ITS system, three main actors operate with different roles and competences: the Ministry of Education and Merit (MIM, formerly the Ministry of Education), the Regions, and the Ministry of Enterprises and Made in Italy (formerly the Ministry of Economic Development). The MIM plays a primary role within the ITS system (Turri, 2023). He goes on to divide ITS into 6 technological areas established and operate, according to the Prime Ministerial Decree (DPCM) of January 25, 2008:

1. Energy Efficiency.
2. Sustainable Mobility.
3. New Technologies for Life.
4. New Technologies for Made in Italy.
5. Innovative Technologies for Cultural Goods and Activities – Tourism.
6. Information and Communication Technologies.

The MIM defines, for each of the planned technological areas, the national reference figures and the relevant macro-competencies at the exit. At the national level, the type and general content of the final tests of the training paths and the professional profiles of the members of the examination commissions are also established. ITS diplomas are spendable throughout the country and in the European Union and are released by the headmaster of the technical or vocational institute leading body of the ITS Foundation.

The National Institute for Documentation, Innovation and Educational Research (INDIRE) is entrusted with the function of annual evaluation and monitoring of the training courses provided by individual ITSs. Together with the MIM, the regions are preeminent institutional actors in relation to vocational education and training. The Regions provide for the definition and adoption of three-year territorial plans for the programming of training offer and, in particular, for the definition of the requirements for the activation of training paths and the criteria for the establishment of new ITS Foundations (Turri, 2023).

Turri defined several elements that characterise the original implantation of ITS and the development during 2008-2022 as follows:

- A great deal of statutory and regulatory layering, resulting in a not insignificant complexity of the regulatory framework.
- The coexistence of different territorial levels with the need for multilevel governance: regional, regarding planning and disbursement of funding; national, regarding the determination of standards; and even European, with reference to the European levels of qualification classification.
- The reference to active labour policies with the reference to the vocational qualification of employed (and attention to labour needs in the temporal articulation of training courses) and unemployed workers also with measures to support attendance.
- The identification of rather narrow scopes of action (at least in comparison with those of university degrees), but at the same time weakly defined and poorly connected with exit profiles; – a caesura with the universities, which, although mentioned among the constituent entities, are not then referred to at any operational stage (unlike the IFTS, where universities are called upon to co-design the training offer). Caesura also discernible in the identification of the MIM as the reference of the higher education and technical training system and its instrumental bodies in the monitoring and evaluation of the system.
- As for credit recognition (Modica and Ghizzoni, 2022), the detachment from the university system brings with it the substantial disinterest, when not hostility, of universities to credit recognition, despite two legislative interventions trying to support the process. Law 240/2010, which provided for the identification of "criteria for the recognition of credits acquired by the student at the conclusion of the courses carried out by ITS"³ was not in fact implemented, nor was Decree-Law 42/2016, which provided for the determination of ways to recognise credits earned in ITS by universities, establishing the minimum threshold of 40 credits for two-year ITS courses and 62 for three-year ITS courses (Art. 2-ter). From the perspective of the 2011 ISCED (International Standard Classification of Education) classification, ITSs are placed at level 5.

Based on INDIRE data (2022), although there has been an increase in recent years, the numbers still look small: there are 121 ITS Foundations, 837 active training pathways, and just over 21 thousand enrolled in the system. From 2010 to date, total enrollment has been more than 58 thousand and graduates (the first graduates registered in 2013) more than 28 thousand (Turri, 2023). The presence of ITSs is greatest in the North, where (see Table 2) 51 Foundations operate (more than 42 percent of the total), there are 484 active training pathways (about 58 percent of the total) and 11,628 students enrolled (more than 54 percent of total enrollments). In particular, Lombardy is the

³ (art. 14 paragraph 3)

region with the largest number of ITS Foundations (20 out of 121), active training pathways (188 out of 837) and enrolled students (4,498 out of 21,353) (see Table 14).

Table 14 - Number of active ITSs, active training pathways, and enrollees in active training pathways (updated data as of June 1, 2022, breakdown by geographic area

Geographical area	Active ITS	Active Paths	Enrolled in active pathways
North	51	484	11,628
Centre	22	137	3,745
South and Islands	48	216	5,980
Total	121	837	21,353

Source: INDIRE data - ITS NOW document June 2022

The technology areas New Technologies for Made in Italy and Sustainable Mobility are the top two areas in terms of number of Foundations, active training paths and enrollments. In fact, 70 ITSs operate in them (almost 58 percent of the total), there are 513 active pathways (more than 61 percent of the total) and 13,050 enrolled (more than 60 percent of the total). Specifically, the technological area Nuove tecnologie per il made in Italy, even taken individually, appears to be the most relevant with more than a third of the active ITSs (50 out of 121) and more than 40 percent of the training pathways (350 out of 837) and enrollees in the ITS system (8,983 out of 21,353) (see Table 15&16) (Turri, 2023).

Table 15 - Number of active ITSs, active training pathways, and enrollees in active training pathways in the North, center and South and Islands in Italy (updated data as of June 1, 2022, breakdown by region)

Geographical area	Region	ITS	Active paths	Enrolled
North	Emilia-Romagna	7	60	1,464
	Friuli-Venezia Giulia	4	32	763
	Liguria	6	36	796
	Lombardy	20	188	4,498
	Piedmont	7	61	1,588
	Veneto	7	107	2,519
	Total North	51	484	11,628

Centre	Lazio	8	36	967
	Marche	4	27	678
	Tuscany	9	55	1,588
	Umbria	1	19	512
	Total Centre	22	137	3,745
South and Islands	Abruzzo	5	12	323
	Basilicata	1	1	25
	Calabria	9	17	375
	Campania	9	28	641
	Molise	1	3	64
	Puglia	7	66	2,043
	Sardegna	5	37	977
	Sicily	11	52	1,532
	Total South and Islands	48	216	5,980
National Total		121	837	21,353

Table 16 - Number of active ITSs, active training pathways, and active training enrollees (updated data as of June 1, 2022, broken down by technology area)

Technology area	Active ITS	Active Paths	Enrolled in active pathways
Energy Efficiency	15	67	1,645
Sustainable Mobility	20	163	4,067
New technologies of life	8	45	1,171
Information and communication technology	121	837	21,353
Innovative technologies for cultural heritage & activities – Tourism	15	95	2,472
Total	121	837	21,353

Source: INDIRE data - ITS NOW document June 2022

5.8.1 Involvement of Firms and Employers in TVET Systems

The objective of this section is twofold. Firstly, it reconstructs the involvement of firms and employers in the curriculum design and skills formation of Italian higher education (HE) and vocational education and training (VET), utilising institutional analysis and empirical research (Ballarino, 2011, 2013; Ballarino & Perotti, 2011). This positioning enables Italy to be classified within the Busemeyer–Trampusch (BT) typology of skill-formation regimes, which differentiates between collective (coordinated, employer-engaged), liberal (market-driven, firm-disengaged), and state-centered models, and the segmented (employer-driven) (Busemeyer & Trampusch, 2012). Secondly, the section interprets Turri's typology of ITS foundations through the framework of BT comparative theory, illustrating how various Italian ITS arrangements correspond to different segments of the typology, while still functioning within a national context that is generally marked by relatively weak and unstable employer involvement (Turri, 2023).

Consequently, the section progresses from general institutional patterns that govern HE and secondary VET—establishing Italy's intermediate position in a comparative perspective—to the more specific instance of ITS, to argue that Italy occupies a hybrid space between state-centered and liberal skill-formation models, characterised by significant yet fragmented and uneven efforts to develop more collectively organised, employer-driven arrangements. Grasping this broader institutional context is Essential for evaluating how ITS can serve as social innovation infrastructures and for crafting targeted interventions such as JVN8, which aim to bolster employer engagement while improving access for migrants and other underrepresented groups.

5.8.1.1 *The Problem of Employer Involvement in Italian HE and Secondary VET*

In the majority of higher education systems, the concept of curricula—specifying what is taught and how instruction is structured—has historically been viewed as the sole domain of academic personnel working within specific disciplinary confines (Clark, 1983; Neave, 1988). In Italy, this academic exclusivity has been safeguarded for a long time by a blend of legal autonomy and professional standards that emphasise disciplinary expertise over practical applicability. Nevertheless, this institutional framework has faced mounting challenges since the 1980s, propelled by two converging forces: the remarkable surge in higher education enrolment and the increasing acknowledgment, particularly pronounced in contexts of the knowledge economy, that the competencies fostered by higher education systems have direct repercussions for employment market results and national competitiveness (Ballarino, 2011).

Ballarino's historical analysis indicates that Italian companies and business organisations began to systematically interact with higher education offerings during the 1980s and 1990s, a time marked by

considerable industrial transformation and pressures from European integration (Ballarino, 2011, 2013). At first, employer participation manifested as individual companies or sectoral associations sponsoring and funding tailored programs aimed at their specific labour markets, especially at the graduate level. However, this involvement was largely restricted to advanced programs (master's degrees and doctoral qualifications), leaving undergraduate and vocational pathways relatively shielded from structured, formal employer engagement (Ballarino, 2011).

The Bologna Process reforms initiated in 1999 marked a significant effort to institutionalise the involvement of employers in the governance of curricula on a broader scale. The reform legislation required the establishment of *comitati di indirizzo* (strategic committees)—officially recognised advisory groups consisting of representatives from employer associations, professional organisations, and trade unions—tasked with the consultation and approval of curriculum proposals (Ballarino, 2011). Ideally, these committees represented a governance framework that aligned more closely with the coordinated, collectively organised model found in the BT typology, wherein organised employers co-govern skill development as stakeholders rather than merely acting as external commentators (Busemeyer & Trampusch, 2012).

Nevertheless, in practice, the strategic committees largely did not operate as intended. Ballarino's analysis, corroborated by later policy evaluations (Witte, 2006), indicates that economic stakeholders had limited motivation to engage in what they viewed as time-consuming consultation processes with unpredictable outcomes, while academics often perceived the committees as an additional bureaucratic imposition from central authorities rather than as authentic co-decision platforms where their pedagogical independence could be effectively exercised (Ballarino, 2011). Consequently, the result was a proliferation of committees that remained largely formalistic: they convened infrequently, employer representatives often delegated junior staff instead of individuals with decision-making authority, and their recommendations were frequently ignored or implemented in a superficial manner (Ballarino, 2011).

Witte's (2006) extensive examination of the processes involved in the implementation of Bologna supports this institutional assessment. She illustrates that numerous reforms in Italy were predominantly top-down, driven by national agendas, and only loosely associated with the ongoing engagement of social and economic stakeholders in the decision-making process. Furthermore, the goals articulated in prominent Bologna documents—such as the 1998 Sorbonne Declaration—were frequently inferred from observed trends across Europe, for which empirical data was either limited or merely assumed, rather than being based on a thorough analysis of labour market demands or stakeholder preferences (Witte, 2006). Consequently, national

governments leveraged the rhetoric of supra-national reforms as a means of legitimising initiatives that were already in the planning stages or in progress (Witte, 2006).

A notable example of this disconnect was evident in Spain and Italy, where the establishment of new, ostensibly vocation-oriented degree programs under Bologna's guidelines led to what Ballarino refers to as "academic drift"—the emergence of numerous narrowly defined courses that supplanted traditional disciplines without significantly modifying pedagogical approaches or fostering authentic partnerships between industry and educational institutions (Ballarino, 2011). Ironically, this resulted in confusion for companies faced with unfamiliar qualifications, whose signaling value remained unclear, as the labour market struggled to ascertain the actual skills possessed by their holders. This institutional shortcoming produced unintended adverse effects that partially compromised Bologna's declared aim of enhancing the alignment between graduates and employers.

A more optimistic scenario arises from a thorough analysis of the connections between companies and secondary technical and vocational institutions. The research conducted by Ballarino and Perotti on vocational education, training, and the transition from school to work, particularly through a comparative lens focusing on Italian case studies, highlights the ongoing existence of robust yet mainly informal ties between educational institutions and businesses. These relationships are primarily centered around internships and short-term employment opportunities, rather than a shared commitment to curriculum development or long-term training initiatives (Ballarino & Perotti, 2011). Internships within companies are prevalent in Italian technical and vocational secondary schools, being present in more than 92 percent of these institutions. They serve as effective tools for both employers to evaluate potential candidates and for students to transition into the workforce, with placement rates documented to exceed 10 percent in favorable local conditions (Ballarino & Perotti, 2011; Ballarino, 2008). For students, internships provide an initial, often pivotal work experience; for employers, they represent a cost-effective trial phase to evaluate the suitability of candidates; for educational institutions, they create feedback mechanisms to gauge the relevance of graduates' skills and to refine teaching methodologies (Ballarino & Perotti, 2011).

The research also investigates how personal and familial traits—such as gender, parental educational levels, and migrant status—affect the likelihood of pursuing further education or obtaining stable jobs. It concludes that while participation in Technical and Vocational Education and Training (TVET) enhances outcomes, unequal access and completion rates perpetuate existing socioeconomic disparities (Ballarino & Perotti, 2011). Importantly, the study reveals that the demand for particular skills from employers is influenced by two organisational models: some companies aim for standardised, transferable skill sets (such as languages,

informatics, and general problem-solving), while others look for sector-specific, firm-specific competencies. This diversity necessitates tailored training frameworks to ensure that skill provision meets varied employer demands while remaining economically viable.

5.8.1.2 *Synthesis: Italy's Intermediate Position in Comparative Skill-Formation Systems*

The findings facilitate a more accurate placement of Italy within the Busemeyer–Trampusch (BT) comparative typology of skill-formation regimes. Busemeyer and Trampusch (2012) delineate four ideal-typical configurations concerning the organisation, financing, and governance of Vocational Education and Training (VET) systems.

- *Collective (or coordinated) systems*: exemplified by Germany, Austria, and Switzerland—entail employers who are formally organised through extensive sectoral associations. These associations play an active role in the governance of training institutions, contribute significantly to financing, and comply with collectively negotiated regulations that either mandate or strongly promote investment in apprenticeships and dual training. The design and implementation of training are carried out collaboratively by educational institutions and companies; apprentices are employed under regulated contracts; and the system achieves high coverage rates alongside strong employment outcomes. The continuity of institutions relies on complementary arrangements, which include robust labour unions, works councils, and industry–education partnerships embedded within associational networks (Busemeyer & Trampusch, 2012; Thelen, 2014).
- *Firm-led (or liberal market) systems*: represented by the United Kingdom and the United States—exhibit minimal collective employer organisation. While large firms may offer considerable firm-specific training, small and medium-sized enterprises (SMEs) tend to invest little in initial vocational training, instead depending on general education systems and recruiting skilled workers from competitors. The role of the state is limited, with VET frequently regarded as secondary to academic pathways and primarily aimed at disadvantaged groups through basic remedial programs (Busemeyer & Trampusch, 2012).
- *State-led systems*: evident in France, Spain, and the Netherlands—are defined by significant state engagement in the design, funding, and delivery of curricula, primarily through school-based pathways. Employers may take on advisory roles; however, the primary responsibility for implementing programs lies with state agencies and

educational institutions. While apprenticeships are present, they remain secondary to the system's fundamental structure, which prioritises national standards over the specific needs of individual firms (Busemeyer & Trampusch, 2012).

- *Mixed or hybrid systems* display features of various types concurrently, integrating aspects of collective coordination, state regulation, and firm-led provision in differing degrees. These systems often lack the institutional coherence found in ideal types, frequently reflecting historical legacies, regional differences, and incomplete policy reforms (Busemeyer & Trampusch, 2012).

The Italian TVET system, as evidenced by the preceding analysis, occupies a middle ground, a hybrid stance between state-centered and liberal models, rather than aligning with the collective, coordinated archetype (Ballarino, 2011; Busemeyer & Trampusch, 2012). On one side, Italy's vocational secondary schools and higher education institutions are primarily funded by the state, regulated by the state, and based in schools, with curricula mainly crafted by educational authorities; there is no legally mandated apprenticeship sector akin to the German dual system, and apprenticeships constitute merely a minor segment of youth training pathways. These traits position Italy within state-centered configurations (Ballarino, 2011, 2013). This institutional hybridity influences both the opportunities and limitations that ITS Academy and TVET pathways encounters as a means for facilitating migrant integration and responding to labour market demands.

Conversely, Italy also displays characteristics typical of liberal systems: the obligations of employers to engage in training are limited and largely voluntary; there is scant collective bargaining among employer associations concerning skills standards or training investments; companies generally recruit from educational institutions and offer firm-specific training on the job rather than co-investing in initial training; and while individual company-school partnerships can be strong, they are not integrated into broader sectoral or associational frameworks (Ballarino, 2011; Thelen, 2014). Consequently, there is a considerable dependence on local, grassroots initiatives and informal networks instead of on centrally coordinated or sectorally negotiated training frameworks.

A significant institutional shortcoming, when viewed through the lens of the BT typology, is the relatively low and inconsistent engagement of employers in the governance and funding of initial vocational education and training (VET) provision, despite instances of robust local collaboration in regions characterised by established industrial districts and rich craft traditions. This results in a structural vulnerability: in the absence of binding obligations or collective incentive mechanisms, employer involvement in training governance remains subject to the decisions of individual firms and local economic circumstances.

5.8.1.3 *Ideal-Typical Modes of External Actor Involvement in Curriculum Definition*

Ballarino (2011) presents a conceptual framework that categorises the various ways in which external economic entities engage in the formulation of curricula within Higher Education (HE) and Vocational Education and Training (VET). This framework is two-dimensional, distinguishing between vertical organisation—specifically, bottom-up versus top-down initiation—and the process of institutionalisation, which encompasses both informal and formalised mechanisms.

- The *bottom-up, direct contact* mode, is founded on both informal and formal interactions at the local level between representatives of firms and academic or educational staff. In this context, firms or their sectoral associations express their skill requirements, identify gaps in the labour market, or suggest new areas of content. Academic personnel then interpret these needs—often through a process of iterative dialogue—resulting in modifications to the curriculum, the introduction of new courses, the establishment of internship opportunities, or the implementation of laboratory activities (Ballarino, 2011). While such interactions can be formalised through specific committees or established protocols, they typically arise from personal networks, local initiatives, or bilateral negotiations, rather than from directives imposed by central authorities. This approach is particularly prevalent in regions with a historical presence of industry and craft production, where educational institutions have developed enduring relationships with local employers (Ballarino & Perotti, 2011).
- In contrast, the *top-down, governance-driven mode*, originates from regulatory or governance bodies operating at either the system or sectoral level. In this scenario, employer involvement is mandated through legislative or policy frameworks: advisory councils are established by law, strategic committees are formed through legal requirements, accreditation standards necessitate employer consultation, or curriculum guidelines are issued with obligatory provisions for external contributions (Ballarino, 2011). The Bologna Process strategic committees serve as a prime example of this mode, as their establishment, composition, and advisory roles were defined through legal reforms rather than arising from naturally occurring local partnerships.

Importantly, Ballarino emphasises that the connection between institutionalisation and effectiveness is not linear: formalisation does not guarantee substantial employer involvement or significant influence over training design (Ballarino, 2011). In fact, Italy's experience with Bologna-mandated strategic committees illustrates that highly formalised, top-down governance frameworks can become "decoupled" from real decision-making if the underlying incentive structures fail to encourage authentic engagement from either employers or educational institutions (DiMaggio & Powell, 1983); Meyer & Rowan, 1977).

On the other hand, bottom-up approaches, while often successful in fostering employer-school alignment at the local level, are characterised by a lack of stability and scalability: they rely on contingent factors (such as charismatic school leaders, stable employer networks, and favorable economic conditions) and do not easily expand beyond their initial territorial or sectoral context (Ballarino & Perotti, 2011). The Lombardy initiatives in school-work alternation that achieved high placement rates serve as pioneering instances of bottom-up collaboration; however, the insights gained from these initiatives were not systematically documented or replicated in other contexts, partly due to the fact that the institutional conditions that facilitated them were locally specific and challenging to generalise (Ballarino & Perotti, 2011).

Ballarino (2011) concludes that neither approach is adequate on its own: bottom-up frameworks foster legitimacy and practical significance but are limited in their systemic impact; conversely, top-down directives can establish formal participation frameworks but may devolve into mere rituals without genuine employer incentives. Consequently, the policy challenge lies in developing hybrid governance models that integrate the legitimacy and local grounding of bottom-up participation with the scalability and resource mobilisation potential of formal institutional frameworks (Ballarino, 2011; Streeck & Thelen, 2005).

5.8.2 Positioning Italy in the Busemeyer–Trampusch Typology: The Case for a Hybrid

5.8.2.1 *State–Liberal Model*

The institutional analysis presented above enables a more precise positioning of Italy within the BT typology. Instead of embodying a coherent and internally consistent model, Italy's TVET system reveals a hybrid profile that is primarily characterised by state-centered attributes, alongside significant liberal elements.

- *State-centered attributes encompass:* (a) the predominance of school-based pathways for post-compulsory VET, where secondary technical and vocational schools serve as the primary entry point for skills training; (b) considerable state funding and oversight of VET institutions; (c) curricula determined by the state, albeit with a growing (yet still limited) degree of flexibility; and (d) a relatively high level of public expenditure on VET provision as a proportion of education budgets (Ballarino, 2013; OECD, 2015). However, nowadays, Italian VET institutions at the secondary level, such as the Istituti Tecnici, are getting increasingly academic and less vocational over time. This process does not show up in international comparative figures, which assume all Istituti Tecnici to be vocational schools, which is not the case anymore.
- *Liberal characteristics encompass:* (a) minimal statutory or collectively negotiated obligations for companies to invest in apprenticeship or other initial training; (b) disjointed employer involvement, primarily characterised by individual firm–school partnerships rather than by comprehensive sectoral associations; (c) a

predominance of in-firm, on-the-job training post-hire, with limited employer financial contributions towards pre-employment training; (d) low apprenticeship coverage (historically under 5 percent of youth in training, although recent reforms are starting to broaden this); and (e) susceptibility to cycles of underinvestment and underutilisation during periods of economic downturn (Ballarino, 2011; Estevez-Abe et al., 2001). The notable absence of key features that characterise collective systems is particularly evident: Italy is devoid of robust sectoral employer associations, legally binding collective agreements regarding training standards, mandatory co-governance frameworks, and shared financing mechanisms that are typical of Germany or Austria (Busemeyer & Trampusch, 2012; Thelen, 2014).

Efforts to establish such frameworks—via Bologna strategic committees, scientific–technical committees in secondary education (introduced by the 2010 reform), and most recently through innovations in ITS governance—have been incomplete and have faced challenges in fostering consistent, sustainable employer engagement (Ballarino, 2011, 2013). This hybrid positioning carries significant implications. It indicates that Italy cannot depend solely on pure state provision (which poses a risk of disconnecting from labour market demands, as demonstrated by skill mismatches and low alignment between higher education and employment in certain sectors) or on purely market-driven mechanisms (which would likely exacerbate inequalities and lead to underinvestment in training for marginalised populations). Consequently, Italy confronts a unique policy challenge: how to enhance employer engagement and collective coordination without undermining the successes of state-funded, relatively equitable vocational education and training (VET) provision, and how to achieve this within a political economy that lacks the associational infrastructure and historical complementarities necessary for the effective functioning of collective systems (Streeck & Thelen, 2005; Thelen, 2014).

5.8.3 ITS Foundations as Experiments in Collective Employer Engagement:

5.8.3.1 *Turri's Typology Reconsidered Through the BT Lens*

Within this extensive institutional framework—a hybrid state-liberal TVET system characterised by limited formal employer engagement—Italy's ITS foundations arise as notable experiments aimed at developing more collectively organised and employer-involved skill formation systems (Turri, 2023). The ITS were intentionally established (through their legal inception in 2008 and subsequent growth under the 2022 PNRR) as instruments designed to enhance employer participation, increase responsiveness to labour market demands, and close the gaps between educational and economic institutions (Ministerial Decree, 2008; INDIRE, 2022).

Turri (2023) delineates three ideal-typical models of ITS derived from field research conducted across nine ITS foundations in Italy. These ideal types are differentiated by: (a) the way training offerings are defined and structured; (b) the nature and depth of relationships with businesses; (c) the configuration of the relevant production landscape; and (d) the extent and manner of employer involvement in governance and curriculum development. Notably, Turri emphasises that these are analytical constructs that seldom manifest in ‘pure’ form; in practice, ITS exhibit layered or hybrid characteristics, and some may contain elements of multiple types simultaneously:

5.8.3.1.1 Enterprise-Driven ITS: Approximating a Collective–Dual Model

- *Enterprise-driven ITS* are closely associated with one or more medium to large enterprises, or with networks of companies within a particular technological domain or sector (Turri, 2023). The key feature is that partner organisations take on a direct, formative role in every aspect of training design and implementation: defining the curriculum, selecting topics and skills content, providing instructors and subject-matter experts sourced from company personnel, organising laboratory facilities equipped with contemporary industrial tools, and structuring internship and placement pathways (Turri, 2023).

In certain instances, students are officially employed under higher-apprenticeship contracts from their first year of study, which means they work as apprentices (employees) for partner firms while concurrently engaging in structured training within the ITS classroom (Turri, 2023). This setup reflects the hallmark of German collective-dual systems: the apprentice possesses a dual identity as both an employee and a learner, with the firm responsible for offering both remuneration and training. Importantly, in the German framework, this occurs under collectively negotiated agreements that establish minimum standards for training content, duration, and wages; in contrast, Italy's enterprise-driven ITS arrangements tend to be largely firm-specific and voluntary, mirroring the country's broader institutional stance within the BT typology (Busemeyer & Trampusch, 2012; Turri, 2023).

Turri offers illustrative examples. Certain enterprise driven ITS are endorsed by prominent industrial organisations and have received authorisation from relevant regulatory authorities (such as the Italian Civil Aviation Authority, ENAC) to implement examination modules and award professional certifications (e.g., aircraft maintenance licenses) that are typically restricted. This indicates both the extent of corporate involvement and the acknowledgment of the training pathway's significance in the market. Other enterprise-driven ITS have established robust collaborations with small-to-medium enterprise clusters in fields such as agri-food or advanced manufacturing, where local entrepreneurs have explicitly requested the initiation of

training pathways to create specific professional profiles (Turri, 2023). In these instances, the smaller scale of individual employers is balanced by the existence of dense territorial networks—industrial district associations, sector federations, local chambers of commerce—that act as collective intermediaries, channeling dispersed employer demands into ITS programming decisions.

From the BT perspective, enterprise-driven ITS with substantial apprenticeship components closely resemble the collective–dual archetype more than other Italian TVET frameworks, as they incorporate binding firm commitments to training, shared responsibility for curriculum governance, and (in the apprenticeship variant) employment contracts that align the interests of firms and learners. Nevertheless, they remain distinct from traditional collective systems in significant ways: the institutional framework is less formalised, employer participation is not legally required, apprenticeship coverage is limited (only some students in some ITS), and the system lacks the comprehensive sectoral associations and collective bargaining mechanisms that would guarantee consistent standards and universal coverage (Turri, 2023; Busemeyer & Trampusch, 2012).

5.8.3.1.2 Self-trained ITS: Bridging collective and liberal arrangements through intermediation

Self-trained ITS operate within environments marked by highly fragmented production structures, which are predominantly influenced by numerous small, micro, and occasionally family-run enterprises. These contexts exhibit pulverised employment outlets and a restricted ability to engage in long-term human resource planning (Turri, 2023). Examples of sectors that illustrate this scenario include agri-food production, which is largely governed by small farms and processors, craft industries, and certain segments of the fashion or Made-in-Italy production. In such settings, individual firms find it challenging to define their anticipated skill requirements or to allocate resources for training initiatives that extend over months or years, due to the unpredictability and volatility of their production schedules and labour demands (Turri, 2023). In this context, the ITS takes on a unique intermediary function: instead of merely executing explicit demands from firms, the ITS actively interprets and anticipates the needs of employers through systematic consultation, market research, and sectoral analysis. Subsequently, the ITS develops programmes that integrate these anticipated needs with the training goals and circumstances of prospective learners (Turri, 2023). As noted by Turri, the relationship between the ITS and firms in this framework is "less structured" compared to enterprise-driven models; however, firms continue to play a significant role by providing advisory input, offering internship placements, and, in successful instances, absorbing graduates.

This arrangement resembles a hybrid of collective and liberal models. Collective characteristics include: (a) the ITS acts as a meso-level aggregator that consolidates information and preferences from a multitude of dispersed employers, thereby lowering individual transaction costs and facilitating a degree of sectoral

coordination; (b) firms do contribute information, advice, and placements, fostering some level of mutual engagement; and (c) the ITS explicitly aims to align training with labour market demands, rather than viewing these as external constraints. Liberal characteristics encompass: (a) Individual firms do not bear any legal liability for the provision of training or its outcomes; (b) employment contracts are not utilised as tools for training; (c) employer participation is primarily consultative and unpaid; and (d) success is dependent on factors (such as local economic cycles, the quality of ITS leadership, and student preferences) that are partially beyond the control of any individual firm.

Turri notes that in self-trained ITS, employment outcomes are less predictable compared to enterprise-driven scenarios: while placements do occur, they are more reliant on local economic circumstances and the quality of internship connections rather than on firm commitments. Nevertheless, these ITS frequently play a significant role in capacity building: some actively assist firms in identifying their skill requirements, offering consulting services that aid SMEs in developing a clearer understanding of the competencies they need. In this regard, self-trained ITS can act as catalysts for institutional change, progressively enhancing both employer sophistication (in terms of skill definition) and worker capacity, even in the absence of formal coordination mechanisms.

5.8.3.1.3 School-driven ITS: Pathways led by schools with dual-collectivist characteristics

School-driven ITS are distinguished by the significant role of the founding technical or vocational secondary school in governance and program management (Turri, 2023). The educational institution that serves as the foundation for the ITS plays a crucial role in the planning and management of training activities; the school's educational secretariat oversees administrative tasks; and curricula often extend the upper-secondary technical or vocational pathways into the post-secondary level. Interactions with businesses and the involvement of the production sector are facilitated by the educational institution, which utilises its established relationships and reputation within the local area (Turri, 2023). In the context of BT typological terms, school-driven ITS bear the closest resemblance to school-based skill-formation systems: educational institutions dictate the curricula, pedagogy, and program structure, while work-based learning opportunities, such as internships and placements, serve as supplementary rather than foundational elements.

This perspective aligns with the state-centered model's focus on public provision and the autonomy of educational institutions (Busemeyer & Trampusch, 2012). Nevertheless, Turri identifies significant variations within this category. Certain school-driven ITS exhibit considerable business involvement in defining the curriculum, with students being placed in partner organisations and engaging in internships concurrently with their classroom studies (for instance, alternating days between teaching and work). Furthermore, a segment of

students in some school-driven ITS are engaged in high-apprenticeship contracts, which may be described as a "dual-collectivist" interpretation of an otherwise school-centered model (Turri, 2023). In these instances, the school retains its institutional centrality, yet apprenticeship frameworks establish structural connections to employers and synchronise training schedules with workplace requirements, thus partially altering the governance and financing logic of the system. Turri posits that this third type is particularly crucial for comprehending ITS in regions or sectors characterised by underdeveloped industrial infrastructure, or where technical secondary schools possess robust institutional capacity and extensive local networks. The school's function as an anchor institution diminishes transaction costs for firms (as they can engage through a familiar educational partner rather than negotiating directly with an unfamiliar foundation) and ensures organisational stability.

5.8.3.2 Territorial variation and systemic implications

A significant finding from Turri's examination is that the distribution of ITS types across various Italian regions is linked to the economic development and sectoral composition of those territories (Turri, 2023). Regions that are economically vibrant, characterised by established industrial districts, international corporations, and advanced manufacturing sectors (such as Emilia-Romagna, Veneto, and Lombardy), tend to showcase enterprise driven ITS with organised firm participation, extensive apprenticeship programs, and favorable employment outcomes. In contrast, regions that are less developed, or those marked by highly fragmented SME structures (many found in southern and interior areas), more often display self-trained or school-driven models where employer involvement is less formalised, and employment outcomes are more susceptible to local economic fluctuations.

Moreover, there are systematic differences among technological areas. ITS within the Sustainable Mobility technology sector—usually associated with large automotive and component suppliers—exhibit the most structured and robust relationships with relatively large firms and demonstrate strong apprenticeship frameworks. Conversely, ITS in the agri-food and fashion sectors (part of the New Technologies for Made in Italy) typically collaborate with numerous small enterprises that have limited scale and a less developed ability to formally define skill requirements; as a result, these ITS tend to show more self-trained characteristics (Turri, 2023).

This geographical variation carries significant implications for comprehending both the current successes and the limitations of ITS as a social innovation framework. In dynamic industrial regions, ITS already operate as relatively effective collective mechanisms, integrating employer engagement, high employment rates, and contributions to sectoral competitiveness. To extend these models to less developed regions and sectors, it is

essential to recognise that the institutional conditions that facilitate enterprise-driven arrangements may be absent; thus, policy must adapt ITS governance to the specific context, potentially through strengthening local capacities, development of territorial intermediary organisations, and targeted support for SME capacity building (Turri, 2023).

5.8.4 Synthesis: Employer Involvement as a Strategic Axis for ITS as Social Innovation Infrastructure

The comprehensive analysis presented in this chapter culminates in several synthesising observations:

Firstly, Italy's Technical and Vocational Education and Training (TVET) system holds a unique institutional role within the BT typology: it integrates robust state provision and school-based delivery with weak and fragmented employer participation and a limited apprenticeship framework. This hybrid state-liberal model mirrors Italy's wider political economy, characterised by the lack of comprehensive employer associations, the historical prominence of professional autonomy in education, and the restricted institutionalisation of sectoral bargaining in comparison to coordinated economies (Ballarino, 2011; Thelen, 2014)

Secondly, the foundations of the ITS signify a deliberate initiative to enhance employer involvement and to establish more collectively organised frameworks within this restrictive institutional environment. Turri's typology illustrates that this initiative has realised significant success in vibrant industrial regions and sectors: enterprise-driven ITS with apprenticeship elements closely resemble collective-dual characteristics, resulting in elevated employment rates and substantial firm engagement (Turri, 2023). Nonetheless, these achievements are geographically and sectorally focused, relying on pre-existing industrial infrastructure, firm associations, and stable employment structures.

Thirdly, the task of broadening the social innovation potential of ITS—especially in less developed areas, SME-dominated industries, and marginalised groups such as migrants and refugees—necessitates policy mechanisms that extend beyond mere reform of ITS governance. As discussed in earlier, neither exclusive state provision nor dependence on voluntary participation from firms is adequate; rather, there is a need for hybrid mechanisms that integrate formal institutional frameworks with local, grassroots involvement. This assessment underpins the emphasis on social entrepreneurship as a practical avenue to enhance ITS's ability to engage with and support migrants and refugees, a topic that will be elaborated upon in the following chapters.

Fourthly, in a related vein, the empirical data regarding corporate participation in Italian TVET indicates that while informal, local connections can be quite effective, they often lack the capacity for scalability. Conversely, formal governance structures may become disconnected from actual decision-making processes. This highlights that social innovation in this field is not simply about adopting 'best practices' from other nations. Instead, it necessitates the creation of context-sensitive institutional frameworks that capitalise on existing strengths (such as Italy's robust school-based systems, regional industrial clusters, and craft traditions) while simultaneously addressing specific weaknesses (including poor employer coordination, inadequate apprenticeship infrastructure, and regional disparities). JVN8, which will be detailed in later chapters, is designed with this diagnostic framework in mind.

6. Methodology

This chapter explains methodological decisions that form the foundation of the thesis and elaborates on the generation and analysis of the empirical material. It delineates the comprehensive research design, the development of research questions, and the justification for concentrating on Lombardy and three ITS Academies (Rizzoli, Meccatronica, Green) as a pivotal case study. The chapter further details the semi-structured interview approach employed with ITS leaders and partner organisations, the creation of word-cloud and thematic analyses, as well as the incorporation of secondary data from the Milano Higher Education Observatory (MHEO) to validate the findings.

6.1 Research Methodology and design

The chapter analyses three cases of ITS Academies in Lombardy – ITS Academy Rizzoli, ITS Academy Meccatronica and ITS Academy Green – active in key sectors for regional and national economic and technological development, such as the environment, IT and mechatronics. The survey focuses on the dynamics of collaboration with a selected group of partner companies, with the aim of highlighting strengths, critical issues and effective practices, offering useful insights for the consolidation and evolution of the ITS Academy system at a territorial level.

The proposed case study aims to explore these dynamics through an analysis of the relationships between ITS Academies and a number of their partner companies. In particular, the survey aims to provide an in-depth and detailed understanding of how companies interpret and experience their relationship with ITS Academies, what benefits and difficulties they encounter, and how they contribute to the development of training programmes and the integration of young people into the labour market. Our interviews explored the following areas, among others:

- The reasons behind the collaboration with ITS Academies and consistency with corporate training needs.
- The role of ITS Academies in covering technical and technological skills, including emerging ones (e.g. renewable energy, energy efficiency, process digitalisation).

- The degree of involvement of companies in curriculum design and classroom and field training.
- The quality of the relationship with ITS Academies, operational challenges, areas for improvement and barriers encountered.
- The investments made by companies, the perceived return (economic, social, strategic) and the methods of student placement and assessment.
- The vision of companies regarding the future of the ITS Academy system, the sustainability of the courses and the evolution of collaborations with other players in the training ecosystem.

The overall aim of the analysis is to enrich the systemic vision outlined in the previous chapter with concrete cases, showing the differences in approach between companies and providing useful food for thought for the strategic development of the Lombardy tertiary education system. The interviews, conducted between February and April 2025, gathered information on how each ITS Academy addresses the challenges posed by technological evolution and the growing demand for specialised professionals. They focus on understanding the teaching models adopted, the training methodologies implemented, and the close relationship with local and national companies, as well as on preparing students to enter the job market. In addition to the structure of the training courses, the analysis also examines the transferable skills developed by students and job placement opportunities. In a context where integration between education and the labour market is fundamental, this study also aims to highlight the ways in which ITS Academies ensure the employability of graduates. The research offers a complex and detailed picture of how ITS Academies respond to the needs of a market increasingly oriented towards innovation and specialisation and aims to contribute to the debate on improving higher technical education in Italy, with a particular focus on Lombardy, a region that is investing heavily in this type of education.

This chapter takes a qualitative approach, aimed at investigating in depth the methods of collaboration between Lombardy ITS Academies and partner companies, through the analysis of concrete experiences and subjective perspectives gathered through semi-structured interviews. This approach allows us to grasp the relational, interpretative and contextual dimensions of the phenomena observed, and is therefore particularly suitable for exploring complex educational and organisational activities. The research involved conducting semi-structured interviews with two types of interlocutors, or 'privileged witnesses': the directors, or their representatives, of three ITS Academies based in Lombardy and six partner companies, two for each ITS Academy. The semi-structured interview tool ensured the comparability of the data collected, without sacrificing the possibility of exploring aspects that emerged during the dialogue. The selection of cases followed a 'reasoned choice' sampling logic, whereby three ITS Academies representing different technological fields (environment, IT, mechatronics) were chosen, all of which had established partnerships with large companies. This choice made it possible to analyse contexts in which the relationship between the ITS Academy and the company is already structured and active, and therefore particularly

informative with regard to the objectives of the survey. Obviously, there is a positive selection, but the logic of the study is that of 'best practices', not of the overall representativeness of the ITS Academy population.

The interview protocol covered multiple topics, including motivation for collaboration between partner companies and ITS Academy, consistency with professional needs, the role of companies in designing courses, the integration of emerging technologies, methods for evaluating student performance, job placement, and the strategic value of the partnership for the company. All interviews were transcribed and subjected to thematic coding, using a combination of inductive coding (to bring out interpretative categories from the data) and deductive coding (based on the objectives of the survey). This approach made it possible to identify recurring patterns, sectoral divergences and critical issues in the relationship between ITS Academy and companies. Finally, the analysis was aimed at generating a reasoned comparison between the different company experiences, offering a complementary view to the quantitative data presented in Chapter 2 and contributing to the understanding of the Lombardy ITS Academy system through the interaction between macro (socio-economic system), meso (training institutions) and micro (company behaviours and procedures) levels.

6.2 Semi-structured Interviews

In order to obtain a comprehensive and detailed overview of the different training approaches used by the ITS Academies involved, we used semi-structured interviews, which allowed us to collect both quantitative and qualitative data. This approach enabled us to explore in depth crucial issues such as the design of training courses, relations with companies and the challenges associated with technological evolution. The interview outline included seven main sections: Training objectives and educational goals; Relationship with companies; Structure of the training programme; Quality of the training programme and adaptation to market needs; Teaching methodologies; Development of transferable skills and job placement; Need for reform and responses to future challenges.

The interviews were conducted face-to-face or by telephone and involved the directors and managers of the respective institutes. The data obtained was then analysed to identify similarities and differences in the training courses and challenges faced by each institute.

6.2.1 Case Selection

The choice of the three ITS Academies covered by this research — ITS Academy Rizzoli, ITS Academy Meccatronica, and ITS Academy Green — was guided by a combination of strategic factors, which made it possible to build a significant and representative sample of the varied characteristics of the ITS Academy landscape.

- The main reasons for selecting these institutions are outlined below:
- *Accessibility to the field* - One of the crucial aspects in selecting the cases was the ease of access to information and the availability of the institutions' representatives for interviews. Their willingness to actively participate in the

research and provide in-depth data was an essential condition for ensuring the quality and relevance of the results. Furthermore, collaboration with those directly responsible for the ITS Academy provided direct and detailed responses, which significantly enriched the analysis.

- *Representativeness* - The ITS Academies selected were chosen for their representativeness within the Lombardy and national educational landscape. Each of these institutes represents a specific area of specialisation and fits into distinct economic and social contexts: the ITS Academy Rizzoli focuses on innovative sectors related to communication, the ITS Academy Meccatronica focuses on mechanics, automation and advanced industrial technologies, and the ITS Academy Green is geared towards training professionals in the field of the environment and sustainability. This diversification allows for the exploration of a variety of educational models and provides answers to relevant questions about the specificities and challenges of the various sectors.
- *Different sectors* - Another important factor in choosing these three ITS Academies is their sectoral diversity. Each institute deals with distinct areas that are equally crucial for the development of the modern economy: the ITS Academy Green, with its focus on the environment and sustainability, represents a growing field that is becoming increasingly important, especially in a context of growing attention to ecological issues; the ITS Academy Meccatronica, on the other hand, offers training in a sector that represents the heart of industrial technological innovation, crucial for Industry 4.0; finally, the ITS Academy Rizzoli is part of a creative but highly technical field, such as visual communication and design, which requires advanced technological skills.
- *Innovation and impact on the labour market* - The selection was also influenced by the ability of these institutions to respond to emerging labour market needs. Each of the ITS Academies analysed is involved in rapidly evolving sectors, with a strong impact on graduate employability. The ITS Academy Green, in particular, has seen significant growth in demand for professionals specialising in sustainability, a sector that has gained increasing importance at European and international level. Similarly, the ITS Academy Meccatronica and the ITS Academy Rizzoli are involved in sectors where digitalisation and innovation are key drivers of economic growth.
- *Effectiveness in professional training* - Another selection criterion was concrete evidence of success in the professional training of students and their integration into the world of work. The selected ITS Academies are known for their high graduate employment rates, a key indicator for assessing the effectiveness of their educational model. The integration of theoretical and practical training, supported by established partnerships with the business world, is a common denominator among the three institutes, ensuring that students receive a solid education that is ready to meet the demands of the market.

- *Territorial focus: the choice of Lombardy* - The territorial focus of this research was established at its origin rather than sampled ex post: the candidate conducted the empirical work as a member of the research team of the Milano Higher Education Observatory (MHEO), an observatory whose very name, mission and institutional network are centred on Milan and its region. The Observatory's established connections with the Lombardy ITS ecosystem provided both the mandate and the access that made the fieldwork possible, and the regional scope is accordingly declared in the title of the thesis. This institutionally given focus is also analytically fortunate. Lombardy hosts the single most developed ITS ecosystem in the country: the largest number of ITS Foundations (20 of 121), of active pathways (188 of 837) and of enrolled students (4,498 of 21,353) recorded by the national monitoring system (INDIRE, 2022; Turri, 2023). It is also Italy's largest regional economy and its principal destination for foreign residents: approximately 1.2 million foreign citizens reside in the region—around one fifth of Italy's total foreign population and roughly 12 per cent of the regional population (ISTAT, 2024)—making it the territory where the encounter between ITS capacity and migrant presence is empirically densest. Studying the strongest regional configuration of the ITS system is consistent with the 'best practice' logic of the research design: if structural barriers to recruitment and migrant inclusion are observable even where the system is most developed, they are unlikely to be artefacts of local underdevelopment. At the same time, this scope bounds the generalisability of the findings: Lombardy cannot represent regions with weaker industrial fabric and thinner ITS provision, a limitation discussed explicitly in the Limitations chapter. It should also be noted that national ITS monitoring does not disaggregate enrolment by citizenship or migration background; available territorial statistics therefore document migrant presence rather than migrant participation in ITS—itself a revealing gap that this thesis argues should be remedied.
- *Criteria for the selection of partner firms* - The six partner companies (two for each ITS Academy: Gruppo Set and Mitsubishi Electric for ITS Meccatronica; Comoli Ferrari and Project Automation for ITS Rizzoli; Edison and MP Impianti for ITS Green) were selected according to two explicit criteria. First, each pair had to include at least one large enterprise that is a founding member of the respective ITS Foundation, while the second company could be an ordinary partner; this ensured that each pair combined a partner with governance-level involvement in the Foundation with the perspective of a regular partner. Second, the selection operated within the network of partner companies that the ITS Lombardy Network made accessible for contact and interview, which guaranteed engaged and well-informed respondents while inevitably producing a positively selected sample. Both criteria are consistent with the study's 'best practice' logic rather than with representativeness of the wider partner population.
- *Scope of the empirical base* - The empirical corpus consists of nine semi-structured interviews (three with ITS directors or their delegates and six with partner-company representatives) and one focus group with eleven potential beneficiaries, complemented by participant observation and by secondary data from the Milano Higher Education Observatory (MHEO) and INDIRE monitoring reports. The size and composition of this corpus reflect the sequential logic of the research rather than an arbitrary restriction. The interviews were designed and conducted

before the thesis assumed its final focus: their object was the general relationship between ITS Academies and their partner companies. It was the results of those interviews—the systematic gap between employer demand for ITS graduates and the supply of students—that prompted the pivot of the research towards migrant integration as a social innovation strategy capable of addressing that gap, with JVN8 as the social entrepreneurship vehicle to operationalise it. Once the pivot had occurred, time constraints did not permit a second round of interviews with the same ITS Academies and partners focused on the new question. The refined hypothesis was, however, informally corroborated in exchanges with executives of ITS Academies unaffiliated with the study at the Social Innovation Campus event in Milan's MIND district; a later-stage survey was also attempted, but its very low response rate (10–15 respondents out of more than 150 invited) prevents its use as evidence. Within these bounds, the corpus is treated as an information-rich set of key informants for an exploratory study, and population-level or causal claims are expressly deferred to future research.

- *Operationalising the migrant dimension* - A final methodological clarification concerns the place of migrants and refugees in the empirical strategy. The interview protocol did not address migrant integration directly because, at the time the interviews were conducted, migrant integration had not yet been proposed: the focus on migrants emerged from the interview findings themselves, as a response to the recruitment gap they revealed. The migrant dimension therefore enters the empirical work downstream of that pivot, through three channels: the recruitment-gap evidence that defines the systemic problem; the focus group conducted with potential migrant beneficiaries, which tested the desirability of the JVN8 intervention (further focus groups proved difficult to organise owing to the limited responsiveness of the NGOs managing reception centres, the centri di accoglienza); and the secondary comparative evidence reviewed in the earlier chapters. The thesis accordingly treats migrant integration as the object of its design proposal rather than as a fully operationalised variable of the original fieldwork—an asymmetry acknowledged in the Limitations chapter and translated into a concrete validation agenda in the chapters on JVN8 and future research.

The methodology used, supported by an in-depth selection of cases, made it possible to collect rich data on the educational activities and responses of the three ITS Academies to contemporary challenges. The representativeness, accessibility and sectoral diversity of these institutions ensured a broad and detailed view of how ITS Academies address the challenge of innovation and position themselves as key players in the training of highly qualified professionals for the future. The integration of participant observation further enriched the research process, providing a more concrete view of teaching practices and operational dynamics within ITS Academies. This approach, combined with interviews and discussions with companies, made it possible to develop a comprehensive picture, providing more exhaustive answers to the research questions and offering significant insights for academic reflection on the ITS Academy training system.

6.2.2 The ITS Academy perspective

The analysis of the data collected follows an interpretative grid divided into six key dimensions, common to all cases, which highlight similarities, differences and evolutionary trajectories in the models of collaboration between higher technical education and the world of production. The dimensions investigated are:

- The objectives and aims of the ITS Academy, with particular attention to its educational mission and positioning within the education and production system.
- The relationship with companies, i.e. the methods of collaboration, the degree of involvement and the critical issues that have emerged.
- Structure of the training programme and involvement of businesses, with reference to skills-based design and territorial adaptability.
- Quality of the training programme, understood as the ability to update, innovate and respond to needs.
- Transversal skills and job placement, i.e. the role of soft skills and concrete employment opportunities.
- Future prospects and the need for reform, which brings together strategic visions, suggestions and systemic critical issues.

6.2.2.1 *ITS Academy Mechatronics*

ITS Lombardia Meccatronica, headquartered in Sesto San Giovanni (MI), is one of the most important institutions in the national landscape of professional tertiary education. Founded in 2014, the institute was created with the aim of training highly specialised technicians in the mechanical and mechatronic fields, in response to the growing demand for advanced skills related to Industry 4.0. The institute is located in the technological area of 'New technologies for Made in Italy - Mechanics and Mechatronics' and stands out for its strong practical focus, which constantly integrates theoretical knowledge and field training. The training programme includes three two-year courses (Industrial Mechatronics, Transport Mechatronics and Biomedical Mechatronics), each structured over 2,000 hours, of which at least 800 are dedicated to curricular internships at partner companies. This structure reflects the ITS Academy's strategic intent to align professional profiles with the concrete needs of the productive fabric, with particular attention to technological innovation and the sustainability of industrial processes. Currently, the ITS Academy has over 400 students enrolled and boasts extremely high employment rates: more than 95% of graduates find stable employment consistent with their field of study within twelve months of graduation. This employment success is the direct result of an integrated training model co-designed with the manufacturing world.

The foundation draws on an extensive and well-established network of partnerships: there are 157 partners, including 27 founding members and 130 participating members, which include educational institutions, training organisations, universities and trade associations. The synergy between the education system and the production system is one of

the distinctive features of the ITS Academy and strengthens its ability to respond dynamically and specifically to changes in the labour market, integrating higher technical education and industrial innovation.

- *Objectives and aims of the ITS Academy:* The ITS Academy Meccatronica is a strategic hub within the technological-professional supply chain. Its primary objective is not only to provide specialist technical skills, but also to become part of an integrated 'training ecosystem', in which the various levels of technical education – from vocational schools to universities – contribute synergistically to the development of human capital. The institute adopts a systemic approach to training, based on complementarity between the various players, in which a structured company needs ITS students, secondary school students and engineers alike. From this perspective, the construction of a career path is not represented as hierarchical, but as different or, at most, preceding one another, with particular attention paid to avoiding 'distorted meritocratic narratives'.
- *Relationships with companies:* Partnerships with companies are one of the distinctive features of the ITS Academy. Companies do not just provide internships or recruit graduates but actively participate in educational planning and teaching. The model is based on a logic of 'meritocratic involvement', whereby no one is better than anyone else, but some are more involved than others. Company resources – in terms of time, skills and willingness to contribute to teaching – are valued through differentiated recognition in the governance system. The ITS Academy favours collaboration with companies willing to share know-how rather than those willing only to make financial investments: it is not important that a company puts €100,000 on the table, but that it sends its technicians to provide training.
- *Structure of the training programme and involvement of companies:* The structure of the training programmes is flexible and adaptable to local contexts, based on a skills-based design model. Unlike schools, the ITS Academy does not follow a pre-established programme, but builds the curriculum based on the expected skills, broken down into abilities and knowledge. Each course is built on a shared general structure, which is then adapted to the local area through the people involved, i.e. the local teaching staff and the companies involved. The modular structure allows content and methodologies to be adapted to the specific industrial characteristics of each area: the same module is contextualised differently if it is implemented in the Brescia area, which is oriented towards steelmaking, or in the Lecco area, which focuses on cold metalworking. This adaptation is made possible by a local coordination network, composed of classroom tutors, internship tutors and teaching coordinators, which ensures alignment between the central training project and its operational implementation.
- *The quality of the training programme:* The ITS Academy adopts a system of continuous improvement that allows training programmes to be revised based on feedback received from students, companies and teachers. The process can take an incremental form – for example, through specific changes – or lead to more extensive revisions

when new skills requirements emerge. In this case, the intervention of the technical-scientific committee allows for a more structured redesign. The regulatory flexibility of the ITS system allows for complete or partial modification of study plans, especially in relation to the underlying skills. An example of this is the inclusion of topics related to Industry 4.0, digitalisation and environmental sustainability. Recently, cyber security skills have also been integrated into training programmes, topics that were not initially included for any reason.

- *Transversal skills and job placement:* One of the most innovative aspects of the ITS Academy Meccatronica model concerns the development of transversal skills and adaptability to the production context. In particular, the presence of several competing companies within the same training module allows students to acquire knowledge and skills across multiple technologies and production environments. In one example cited, an 80-hour robotics module was divided between three competing companies, each of which was responsible for part of the content (structure, programming, handling). This approach multiplies the value of learning, as it allows students to be more flexible and employable in different production contexts. At the same time, the integration of university lecturers, company technicians and trainers ensures a plurality of viewpoints, contributing to the development of a multi-skilled professional.
- *Future prospects and the need for reform:* According to the director of the ITS Academy, two measures are needed to strengthen the ITS Academy system on a national scale. Firstly, a structured and widespread information campaign is required to overcome the current fragmentation and effectively reach students, families and businesses. At present, too much is left to individual initiatives or, at best, to regional initiatives. Effective communication should also involve languages and tools that engage the younger generation, such as the use of influencers or dedicated television formats. Secondly, there is an urgent need for a sustainable financing plan. The growth of ITS Academy courses, supported by PNRR funds, is at risk of not being maintained if adequate resources are not allocated: if we return to pre-PNRR funding, only slightly more than half of the courses currently active will be able to be maintained. Disinvestment at this stage would risk compromising one of the most effective tools for responding to the skills needs of the Italian production system.

The ITS Academy Meccatronica can be seen, in summary, as a model of effective integration between training and business. The co-design of courses, the territorial contextualisation of modules, the centrality of skills and structural flexibility are distinctive elements of a system capable of responding effectively and promptly to changes in work and production. The further development of the ITS Academy system along these lines, and the generalisation of examples such as this, will depend on the ability to consolidate institutional recognition of these courses and to guarantee stable resources and national visibility.

The 12 keywords that emerged during the interview: Technical skills - 15%, Training courses - 13%, Partner companies - 12%, Collaboration - 10%, Technological innovation - 10%, Job placement - 9%, Practical training - 8%, Transversal skills - 8%, Market adaptation - 7%, Continuing education - 5%, Sustainability - 5%, Teaching flexibility - 6%.

The ITS Academy Angelo Rizzoli is a higher technical institute that offers post-diploma training in technology, with a particular focus on digitalisation, innovation and the skills required by the modern job market. Founded in 2011, the institute was developed with the aim of training specialised professionals capable of responding to the needs of a constantly evolving sector. The ITS Academy Rizzoli is based in Milan and other cities in Lombardy, including Seregno and Bergamo. It focuses its activities in particular on strategic areas such as graphics, communication, ICT (Information and Communication Technology) and the digital transition 4.0. The institute stands out for its focus on technological innovation, offering courses that respond to the demands of a constantly changing market, with particular attention to emerging technologies. Areas of specialisation include artificial intelligence, IT security, digital transformation of businesses and environmental sustainability. The ITS Academy Rizzoli has approximately 350 students enrolled and a high employment rate, with around 95% of graduates finding stable employment in line with the skills they have acquired. The institute's main partners include organisations such as Assolombarda and

Confindustria Bergamo, as well as local and national institutions, which support the design and implementation of training courses.

- *Objectives and aims of the ITS Academy:* The ITS Academy Rizzoli stands out for its specialised educational model, which aims to train highly qualified technicians in direct response to the needs of companies. The Higher Technical Institutes (ITS) system has seen growing interest in recent years, as it represents a concrete response to the disconnect between the skills taught by the traditional school system and those required by businesses. The ITS Academy Rizzoli model integrates theoretical training with strong links to the world of production, creating training courses that are immediately applicable in the job market and that train technicians capable of responding to the technical and economic challenges of an increasingly complex world of work. The ITS Academy Rizzoli aims to train specialised technicians, with training that combines both theoretical knowledge and practical skills. The central objective of the training programme is to create professionals capable of immediately addressing the operational needs of companies, minimising the gap between school education and labour market demands. The students' training is not limited to a theoretical basis but also includes the acquisition of practical skills that enable them to solve concrete problems in a business environment. The director emphasises that students are trained not only to be technically competent, but also to develop a solid aptitude for problem solving, a crucial element in addressing daily challenges in the workplace.
- *Relationships with companies; collaboration and challenges:* The close ties between ITS Academy Rizzoli and the business world are one of the most significant aspects of its educational model. The institute directly involves companies in course design, ensuring that training programmes are always in line with the real needs of the market. Companies also participate in defining the content, ensuring that the skills taught to students are those required by the industrial sector. Furthermore, the close collaboration between the institute and businesses also takes the form of internships and work placements, where students can apply what they have learned in the classroom in real working contexts. The rapid evolution of the industrial sector and continuous technological innovations pose challenges that require constant updating of training programmes. The difficulties arise mainly from the speed of change in the market, where the skills required today may not be the same tomorrow, and this implies continuous adaptation of programmes.
- *Structure of the training programme and involvement of companies:* The ITS Academy Rizzoli training programme is designed to ensure a balance between theory and practice. The programme includes not only theoretical lessons, but also practical activities and internships in companies, which allow students to gain direct experience in the field. This approach allows students to immediately put their acquired knowledge into practice, dealing with real situations and solving operational problems. The involvement of companies is not limited to the internship period but also extends to the design and review of courses, so that the training programme meets the specific needs of

each sector. Students therefore can work closely with professionals in the sector, improving their technical skills and acquiring knowledge directly in the workplace.

- *The quality of the training programme:* The ITS Academy Rizzoli training programme is designed to respond to the challenges of an ever-changing job market. The quality of training is guaranteed by the institute's ability to respond promptly to changes and innovations in the manufacturing sector. Thanks to constant dialogue with businesses, training programmes are regularly updated to incorporate new technologies and innovative working methods. Furthermore, ITS Rizzoli aims to ensure that its graduates are always ready to respond to market needs, both with advanced technical skills and solid practical training. The ability to continuously update is seen as crucial to maintaining the high quality of the training programme and preparing students to face future professional challenges. The speed with which technologies and skills required by companies develop means that it is necessary to keep pace with change.
- *Transversal skills and job placement:* In addition to technical skills, another fundamental element in the training of ITS Academy Rizzoli students is the development of transversal skills. The institute pays particular attention to skills such as teamwork, time management, effective communication and adaptability, all of which are essential for job placement and success in the world of work. Companies require professionals who, in addition to being technically prepared, know how to work in a team, deal with stressful situations and solve problems independently. These skills are crucial for companies, which prefer to hire people who can easily integrate into the corporate environment and proactively tackle challenges. The development of transferable skills is therefore essential not only for entering the world of work, but also for a successful long-term career.
- *Future prospects and the need for reform:* Looking ahead, ITS Academy Rizzoli recognises the need for continuous evolution of the education system in order to respond to market challenges. Although the ITS model is proving its effectiveness, it requires some adjustments, particularly in terms of autonomy and flexibility, in order to better respond to local needs and specific market demands. Greater autonomy would allow ITS Academies to adapt more quickly to the ever-changing needs of businesses.

The emphasis is on the need for greater investment in facilities and continuing professional development for teachers, so that they can keep up to date with new technologies and market trends. This would enable students to receive even more cutting-edge training, enabling them to respond to the challenges of a rapidly changing world of work. The reform of the ITS Academy system is therefore seen as a necessary step to ensure that these institutions can respond more flexibly and promptly to the needs of an increasingly dynamic labour market.

In summary, the ITS Academy Rizzoli model stands out for its strong connection with the business world, which actively contributes to the definition of training programmes and the practical integration of students. This approach

allows students to acquire skills that are directly applicable in the world of work, reducing the gap between training and employment. The rapid changes in the labour market and the continuous evolution of technologies pose a significant challenge, requiring flexibility and constant adaptation. To ensure that ITSs respond adequately to the needs of businesses, reforms will be necessary to allow for greater autonomy and continuous updating of programmes. Transversal skills are also a fundamental aspect of student preparation, as they facilitate job placement and promote professional success. If properly reformed, the ITS Academy system can be an effective educational solution to the needs of a global and technologically advanced labour market.

Figure 2 - ITS Academy Rizzoli summary



Source: MHEO analysis based on qualitative interviews

The 12 keywords that emerged during the interview: Transversal skills - 18%, Training - 16%, Companies - 14%, Job placement - 12%, Labour market - 10%, Technology - 8%, Collaboration - 7%, Continuous updating - 6%, Specialisation - 5%, Innovation - 4%, Internships - 3%, Reform - 2%.

6.2.2.3 ITS Academy Green

The ITS Academy Green specialises in training qualified professionals to meet the needs of the green economy, renewable energy and environmental sustainability sector. Founded in 2011, the ITS Academy aims to train specialised technicians who can support companies in their transition to a sustainable and innovative development model. The institute's training programme develops skills in strategic areas such as green technology, renewable energy, environmental management and industrial sustainability. ITS Academy Green currently has around 200 students enrolled each year. The employment rate for graduates is high, with around 98% finding work within a year of graduating. This figure highlights the institute's effectiveness in responding to market needs, ensuring that its students are highly sought after by companies in the green sector. The ITS Academy Green is located in Vimercate, in the

province of Monza and Brianza, and has modern facilities dedicated to practical training. The institute is equipped with laboratories and spaces for simulations of energy-saving systems and technologies. The Vimercate campus therefore offers its students an educational environment that combines technological innovation and sustainability, guaranteeing high-quality teaching:

- *Objectives and aims of the ITS Academy:* ITS Academies were created with the aim of training highly qualified professionals who are able to respond to the needs of a constantly evolving job market. For ITS Green, the success of the training programme depends on the ability to combine theoretical and practical training, guaranteeing students immediate and qualified employability. In particular, the aim of ITS is to build a bridge between the world of education and the world of business, providing the specialist technical skills required by the market. As mentioned, in recent years, the ITS Academy has achieved excellent results in terms of job placement, with an employment rate of 98% of its students one year after graduation, in stable jobs consistent with their field of study.
- *Relationships with companies:* collaboration and challenges. The relationship between the ITS Academy and companies is one of the crucial aspects for the success of the training programme. Although collaboration with companies is essential, there are still some critical issues related to the management of requests. Collaboration always begins with clear agreements, establishing mutual needs from the outset. This approach facilitates the management of the relationship, but difficulties arise when companies have urgent needs and request a number of resources that the institute cannot always guarantee. An example of this situation is the case of a company that requested students for immediate placement, with a very tight deadline. The ITS Academy was only able to respond by planning internships that started a few months later. On a practical level, these difficulties stem from a lack of funding and the difficulty of coordinating resources in the face of a school administration that does not always allow for rapid responses to business needs.
- *Structure of the training programme and involvement of companies:* In the ITS Academy Green training model, students are involved in practical experiences directly with companies, through internships and company visits. These activities allow students to acquire concrete skills and come into direct contact with the world of work. This practical approach is one of the distinctive features of the training programme, which is based on constant interaction with companies. The ITS is committed to bringing its students into contact with different companies and professionals, thus enriching their training with a variety of experiences. The quality of these experiences depends on the institute's ability to maintain a good level of communication and coordination with companies. Companies do not just provide internships, but actively collaborate in defining training programmes, which is essential to ensure that training is always relevant to market needs.

- *The quality of the training programme.* Another key issue is the quality of the training programme and its ability to adapt to the needs of a rapidly changing labour market. The management of courses and study plans is affected by the lack of a stable funding system and the difficulty of predicting which courses will be funded each year. This makes it difficult to plan ahead and respond promptly to companies' requests. The call for funding for courses is usually issued close to the start of the academic year, which prevents the institute from precisely defining what resources will be available for the following year. This uncertainty makes it more difficult to align the training offered with market needs, with the risk that students will not be able to acquire all the skills required by companies in a timely manner. In this context, adapting to market changes becomes a constant challenge, which the ITS Academy tries to respond to as best it can, despite the difficulties arising from resource management.

- *Transversal skills and job placement:* Another important aspect of the training programme offered by ITS Green is the development of transversal skills. In addition to technical skills, the institute is committed to providing students with the complementary skills necessary to enter increasingly complex professional contexts. Teamwork, problem solving and communication skills are all skills that are taught during the training programme. ITS is committed to ensuring that students are not only qualified technicians but also professionals capable of taking on roles of responsibility, as demonstrated by the cases of former students who have held leadership roles in companies, becoming group leaders or technical development managers. The high percentage of students who find stable employment consistent with their training programme demonstrates the effectiveness of this approach.

- *Future prospects and the need for reform:* Despite its success in terms of job placement, the ITS system suffers from a number of critical issues, including fund management and long-term planning. It would be advisable to establish a stable and clear financing system that would allow ITS Academies to plan their activities with greater certainty. Currently, scarce resources and uncertain funding make long-term planning difficult. Another critical issue concerns the recent '4+2' reform, which provides for the integration of ITS Academies into upper secondary school programmes. Although this reform has potential, the costs associated with the increase in teaching hours required to implement it are significant, and without adequate resources, schools and ITS Academies will not be able to sustain the investment required. Furthermore, it should be noted that, despite the positive results of the ITS Academy system, recognition and support from institutions are still insufficient. With 98% of students finding stable employment consistent with their field of study, the ITS Academy system could be considered a model to follow, but it still struggles to get the necessary attention and support from the government. Greater institutional support would be needed to ensure that these training courses can continue to grow. In summary, while recognising the successes of ITS Academies in terms of employment and job placement, the system needs structural reform to ensure greater stability, planning and funding. ITS Academies remain a key resource for the Italian education system, but their potential cannot be fully realised without adequate institutional support and long-term planning.



Figure 3 - ITS Academy Green Summary

Source: MHEO analysis based on qualitative interviews

The 12 keywords that emerged from the interview:

Collaboration with companies - 15%, Job placement - 14%, Internships - 12%, Transversal skills - 11%, Continuing education - 10%, Funding - 9%, System reform - 9%, Educational policies - 8%, Training projects - 7%, Job stability - 5%, Clear agreements - 4%, Networking - 3%

This comparative structure allows us to highlight both the similarities between the models (such as the centrality of co-design with businesses) and the local specificities linked to different production sectors, available resources and institutional strategies. The aim is to offer a systematic analysis that is sensitive to the territorial and organisational variables that characterise the ecosystem of Lombardy's ITS Academies. Verbatim quotes from interviewees are shown in italics.

6.2.3 Empirical Findings – ITS–Firm Relationships and Recruitment Constraints

This chapter outlines the primary empirical results derived from interviews conducted with directors of ITS and their partner companies, further supported by MHEO data and documentary evidence. Initially, it reconstructs the educational frameworks, governance structures, and placement outcomes of ITS Rizzoli, ITS Meccatronica, and ITS Green, highlighting their robust connections to regional industrial ecosystems. Subsequently, the analysis shifts to the perspectives of companies—utilising case studies from Gruppo SET, Mitsubishi Electric, MP Impianti, and Edison—to uncover shared expectations, patterns of collaboration, and perceived obstacles in keeping curricula and laboratories current. From both institutional and corporate viewpoints, the chapter reveals a paradox: exceptionally

high placement rates exist alongside persistent shortages of students and a lack of awareness of ITS among youth, families, and migrants.

The analysis of the results is divided into two levels. The first concerns six recurring macro-areas that emerged across the interviews: company size, sector of activity, corporate strategy, type of clientele and corporate projects, geography and local impact, and organisational culture. The second level explores the specific ways in which companies and ITS Academies interact, addressing a series of points that formed the structure of the interview administered to company representatives responsible for relations with ITS Academies, organised as follows:

- Relationship with the ITS Academy and identification of training needs
- ITS Academy's ability to respond to emerging technology needs
- Opportunities for development in relations with the ITS Academy
- Challenges and bottlenecks in collaboration management
- Involvement in curriculum design
- Investment in partnership with ITS Academy
- Perceived return on investment (ROI)
- Inclusion of students in company teams
- Monitoring student performance
- Recruitment and retention
- Contribution of companies to the ITS Academy ecosystem
- Relationships with other companies in the ITS Academy ecosystem
- Vision for the evolution of ITS Academies over the next 5-10 years

The following paragraphs present in detail the main results that emerged from the interviews with companies.

6.2.3.1 *Relationship between ITS Academy Meccatronica and Companies*

6.2.3.1.1 *Gruppo Set and Mitsubishi Electric*

An analysis of the responses from *Gruppo SET* and *Mitsubishi Electric*, companies that collaborate with ITS Meccatronica, highlights how different company sizes, sectors of activity, corporate strategies and organisational cultures influence their approach to collaboration with ITS Academies and their perception of the value that this collaboration brings. In particular, we can group the conclusions based on six key factors that emerge from the responses.

- *Company size*: Company size plays a key role in the depth and complexity of the commitment to ITS Academies. With over 100 years of experience in supplying high-tech products, Mitsubishi Electric is a world leader in the production, marketing and commercialisation of equipment. Mitsubishi Electric firmly believes in the role of

training in spreading the culture of automation and providing the tools necessary for continuous improvement. The AcadeMy programme offered by the company includes training courses for secondary school and university students. Technical institutes and universities see the project as an opportunity to give students a practical introduction to the world of work, training them in the technologies they will be working with once they have completed their studies. In contrast, the SET Group is an SME (small and medium-sized enterprise) and therefore smaller than Mitsubishi Electric, but it immediately established a close collaboration with ITS Meccatronica focused on providing teachers for specific courses in the area of software development. Despite the difference in size, both companies have a tangible and focused commitment to training young people.

- *Field of activity:* The sector of activity is another factor that influences the skills required and, therefore, the type of training sought at ITS Academies. Mitsubishi Electric, a leader in the industrial automation sector, requires highly technological skills acquired through training that integrates theory and advanced practice. ITS Academy training is therefore seen as a fundamental basis for the development of technicians capable of tackling emerging technologies and global industrial challenges. The SET Group focuses primarily on the development of automation software for various types of processes, which requires technicians to have specific technological skills in programming tools, but also extensive knowledge of more general subjects such as chemistry, physics, mechanics and fluid dynamics in order to fully understand the processes to be automated.
- *Business strategy:* Mitsubishi Electric's business strategy focuses on continuous innovation and the development of specialised skills. The company aims to train technicians capable of tackling global challenges, in order to have a skilled workforce capable of working on complex, high-tech projects. As a result, the company focuses on structured training programmes, with a strong commitment to creating academic partnerships and a long-term vision. The SET Group requires its technicians to have a high degree of flexibility, enabling them to tackle ever-changing projects and find the most suitable software solution for the production context of the automation project.
- *Type of clientele and business projects:* Differences in the type of clientele and business projects affect the skills required and training methods. Mitsubishi Electric's global customer portfolio and complex projects make advanced skills in strategic emerging technologies essential, particularly software solutions with integrated AI and industrial automation solutions. The ITS Academy for Mitsubishi Electric is a tool for training specialised technicians capable of tackling complex technical challenges. In contrast, Gruppo SET has a more domestic customer portfolio, but many of its customers are plant manufacturers who export their products worldwide, together with the software developed by Gruppo SET's technicians. This is still an industrial environment, so technicians are required to be highly adaptable to a wide variety of contexts.

- *Geography and local impact:* Gruppo SET is a medium-sized company with a single national headquarters and international customers from all manufacturing sectors. The collaboration with ITS Meccatronica, as with other ITSs in the area, aims to find technicians who are able to tackle daily challenges with a solid foundation of both cross-disciplinary and specific knowledge. Thanks to its global presence, Mitsubishi Electric invests in training courses that prepare young people for international career opportunities. Its vision for the ITS Academy offering is to provide transferable skills that can be applied on a global scale.
- *Corporate culture:* Mitsubishi Electric's corporate culture is characterised by a strong commitment to continuous innovation and advanced technical training, with complex project management and a structured mentoring culture. The company combines the traditions and values typical of Japanese culture with innovation to offer the best technologies aimed at making the world we live in more comfortably. It is strongly committed to the creation of eco-friendly products and activities, and to Corporate Social Responsibility programmes to promote greater environmental awareness and encourage sustainable choices, which are fundamental for protection of the ecosystem in which we live. This commitment is embodied in the *Environmental Sustainability Vision 2050*, Mitsubishi Electric's strategic vision for a more sustainable future. The SET Group is also very focused on innovation and research and development but has always had a deep-rooted corporate culture based on in-depth knowledge and specialisation. The high level of expertise of its technicians has always made it a leader in the field of system integrators. Knowledge must therefore be in-depth and solid. To achieve this, the company has a dedicated training department that works in continuity with the ITS programme.

The responses from the two companies show that the approach to collaboration with ITS Academies depends on several factors that go beyond the size of the company. The latter influences the type of investment and the structure of training courses, while the sector of activity determines the skills required and the type of training needed, but it is the company's strategy and culture that determine its long-term commitment and focus. Mitsubishi Electric, a global company, focuses on specialist skills created through a structured training programme aimed at meeting the international needs of the sector, while Gruppo SET, which is more solution-based than product-based, needs skilled technicians. Both companies recognise the value of ITS Academies as a training tool but perceive their role differently.

Figure 4 - Set Group Company



Figure 5 - Mitsubishi Electric Company



The 12 keywords that emerged during the interview People – 21%, Internship – 20%, Process – 16%, Company – 12%, Training – 9%, Mechatronics – 7%, Students – 4%, Skills – 3%, Simulation – 3%, Industrial automation – 2%, Collaboration – 2%, Production – 1%.	The 12 keywords that emerged during the interview: Training – 25%, Company – 17%, Skills – 12%, Internship – 11%, Industrial automation – 6%, Academy – 5%, Territory – 5%, ITS – 5%, Application Engineer – 4%, Technicians – 4%, Bureaucracy – 3%
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Source: MHEO analysis based on qualitative interviews

The following schematic analysis allows us to compare the two company experiences point by point, highlighting common strategies, operational differences and future visions regarding the role of ITS Academies in the training and production system.

- **Relationship with the ITS Academy and training needs:** Both companies see the ITS Academy as a fundamental opportunity to train young people with highly specific skills for the industry. The SET Group highlights the importance of training individuals who can quickly adapt to a constantly changing environment, suggesting that the ITS Academy should prepare young people both in terms of technical skills and in terms of their ability to adapt to new challenges. Mitsubishi Electric emphasises the importance of training technicians who are ready to work directly in the field, with a solid foundation of practical skills.
- **ITS Academies' ability to cover skills in emerging technologies:** Both companies recognise the importance of equipping students with the skills needed for emerging technologies. Gruppo SET is concerned that ITS Academies are not always keeping pace with innovation, especially in areas such as automation, and fears that laboratories

are not sufficiently up to date to handle new technologies. Mitsubishi Electric, on the other hand, points out that the ITS Academy is only part of the solution, emphasising the need for constant commitment on the part of companies to training and skills updating, so that they are aligned with market needs. The company believes that the ITS Academy must adapt to the needs of the manufacturing world but also recognises the active role that companies must play in driving this evolutionary process.

- *Opportunities for development in relations with ITS Academy:* Both companies highlight a constructive relationship, but with room for improvement. The SET Group says it is satisfied with its relationship with ITS Academy, finding that there is no excessive bureaucracy, but believes there is room for improvement in ensuring that courses remain up to date with business needs. Mitsubishi Electric, while seeing an already positive relationship, suggests expanding activities and making the ITS Academy a more common choice for young people, comparable to university, in order to improve the visibility of ITS in the educational landscape.
- *Challenges and bottlenecks in managing the relationship with ITS Academies:* Both companies see challenges related to the speed at which ITS Academies adapt to new market demands. The SET Group notes that young people have little knowledge of ITS Academies, which reduces the possibility of attracting young talent. Mitsubishi Electric points out that bureaucratic barriers and the complexity of processes can deter some companies from collaborating with ITS Academies.
- *Involvement in curriculum design:* Both companies actively participate in curriculum design, providing technical and practical input. Gruppo SET is heavily involved in modifying course content, suggesting changes to make it more practical and up to date, focusing mainly on the technical and operational aspects of the programmes. Mitsubishi Electric, on the other hand, focuses on creating teaching modules to provide specific skills such as robotics, PLC, servo motion and CNC, and has a more structured vision that aims to integrate theoretical and practical skills.
- *Investments in partnerships with ITS Academies:* Both companies invest human resources in training by sending their technicians to teach without asking for compensation to ensure that young people receive quality training. Both companies are willing to invest to improve the quality of student training.
- *Return on investment (ROI):* Neither company has a formal system for calculating the ROI of its investment in ITS Academy training. The SET Group considers student training to be a social rather than an economic commitment, while Mitsubishi Electric focuses more on the long-term value of training for the development of young people's technical and professional skills.

- *Integrating students into the team:* Both companies have a well-structured process for integrating students. Gruppo SET integrates them directly into practical work, supervised on a weekly basis. Mitsubishi Electric, on the other hand, focuses heavily on mentoring and professional development for students through structured internships and practical activities.
- *Monitoring student performance:* Both companies monitor student performance, but informally. Gruppo SET relies on direct supervision in practical work, while Mitsubishi Electric conducts periodic assessments, but not always in a structured manner.
- *Recruitment and retention:* Both companies tend to recruit students from ITS Academies, with Gruppo SET having a high percentage of recruitment (around 75-80%) compared to other recruitment sources, while Mitsubishi has a lower percentage, recruiting 1-2 students per year.
- *Value added by companies in the ITS Academy ecosystem:* Both companies recognise that businesses can add value at every stage of the process, from curriculum design to the creation of new partnerships: Gruppo SET emphasises the operational and technical aspects, while Mitsubishi Electric focuses on a more integrated and collaborative approach, continuously contributing to the co-creation of training programmes.
- *Relationship with other companies in the ecosystem:* Both companies work together with other companies, although the SET Group seems to have a more informal, territorial and operational relationship, while Mitsubishi Electric collaborates with other large companies and seeks to act as a catalyst for SMEs, playing a facilitating and connecting role between large and small companies.
- *Evolution of ITS Academies over the next 5-10 years:* Both companies agree on the importance of keeping ITS Academies relevant and up to date. The SET Group emphasises the need for continuous improvement to align ITS Academies with market needs, while Mitsubishi Electric focuses on sustainability and synergy between ITS and the local production fabric, promoting effective integration with local companies.

6.2.3.2 *Relationship between ITS Academy Rizzoli and Companies:*

6.2.3.2.1 *Comoli Ferrari and Project Automation*

Analysis of the responses from Project Automation and Comoli Ferrari, partner companies of the ITS Academy Rizzoli, highlights how different company sizes, sectors of activity, business strategies and organisational culture influence their approach to collaboration with ITS Academies and their perception of the value that this

collaboration brings. Here too, we structure our conclusions based on six key factors that emerge from the responses.

- *Company size:* Company size plays a crucial role in determining each company's approach to ITS Academy training and partnerships with training institutions. Comoli Ferrari is smaller than Project Automation, which means that human resources management is more agile and direct. As a small-to-medium-sized company, Comoli Ferrari tends to focus on a small number of highly specialised projects, focusing on customisation and rapid implementation of technical skills. Project Automation, on the other hand, while maintaining a leaner operational structure, operates in a more complex market, with a client portfolio and projects spanning various sectors corresponding to different lines of business. The size of the company implies not only the need to train specialised technicians, but also to collaborate with external partners to continuously develop advanced skills. The size of the company therefore influences the depth and structure of its commitment to ITS Academies: Comoli Ferrari is more oriented towards a direct and targeted relationship with ITS Academy, while Project Automation, despite having a similar strategy, manages a wider network of relationships.
- *Business sector:* The two companies operate in similar sectors, but there are differences that are reflected in the type of training required. Comoli Ferrari works in the field of digital and energy transition for plants, which are the two main challenges facing the sector. The company's goal is to enable this transition by developing and offering the market increasingly valuable solutions, where the integration of technologies, skills and services plays a fundamental role. Project Automation operates as a system integrator in the Environment, Mobility, Security and Transport sectors, offering advanced technological solutions for remote measurement, supervision and control. The company designs, manufactures, installs and maintains complex systems that integrate electronic and telematic technologies, with a strong focus on innovation. The skills required by the two companies are similar, but with a slight difference: Comoli Ferrari aims to always put the individual at the centre and technology at their service, improving the quality of the systems, the lives of the professionals who build them and the people who use them. The current scenario requires the supply chain to integrate different skills (technological, marketing and sales), perspectives and dynamics of all stakeholders. To enable the transition, new skills are needed that are not available on the market, so it is necessary to anticipate the development of strategic skills by structuring educational training courses and preparing new professional figures to immediately guide the development of the necessary skills. Project Automation, while confirming its focus on the well-being of the community and the integration of the different skills of the people who are part of the company (hard and soft skills), anticipates collaboration with future resources right from the school path, not only for the development of skills but also to anticipate the loyalty of people with professional profiles that are difficult to find through normal recruitment channels.

- *Business strategy:* The business strategies of Comoli Ferrari and Project Automation reflect their respective market positions and specific operational needs. Comoli Ferrari's strategy focuses on continuous innovation and the customisation of products and services. The ITS Academy's approach is geared towards training technicians capable of tackling the most innovative and advanced challenges in the field of technology. The training is aimed at creating resources capable of responding to specialised needs in the field of robotics and mechatronics. Project Automation confirms a strategy based on continuous innovation and aims to strengthen its competitive position through process improvement, the adoption of new technologies and the optimisation of management systems.
- *Type of clientele and business projects:* The type of clientele and business projects clearly influences the type of skills that companies are looking for. Comoli Ferrari tends to work with industrial machinery clients and on highly customised projects that require a strong commitment to research and development. The type of projects is geared towards innovative, technically advanced solutions tailored to specific technological needs. The main sectors of activity are home building, industry and City, so the target customers are plant engineers, installers, system integrators and all those who implement complex technological solutions, integrating hardware, software, networks and services. Project Automation mainly targets public bodies and large private customers (Large Accounts), offering customised, high-tech solutions. The type of clientele and company projects determines the type of training: Comoli Ferrari focuses on customised and innovative solutions, while Project Automation seeks resources capable of managing projects of varying complexity and digital integration of the services offered.
- *Geography and local impact:* The local impact of the two companies is also a key factor in their training policies. Comoli Ferrari adopts a concrete and forward-looking territorial vision: it aims to train technicians who can operate effectively in the territories, addressing local technological challenges. Its presence in Northern Italy is widespread and deeply rooted, distinguishing itself for its ability to adapt to local contexts (in Milan, for example, it focuses its expertise on improving the energy efficiency of apartment buildings, in Brianza it responds to the needs of terraced houses, and in Bergamo it offers targeted support to local businesses). Comoli Ferrari does not limit itself to operating in the area but also makes its technical and professional expertise available to the area, recognising the area's contribution to its development. It is a model of shared growth, in which the company gives back value to the place where it was generated.

Project Automation is based in Monza and has a widespread presence in Italy, with operational offices in strategic cities such as Milan, Rome, Turin, Bologna, Bari and others. Internationally, it also operates in the United Kingdom and Ireland. Its training at ITS Academies is aimed not only at responding to operational needs with the aim of integrating graduates into the company's business units, but also at strengthening ties with the community and the local area.

- *Corporate culture:* The culture of the two companies is reflected in their approach to ITS Academy training. Comoli Ferrari has a culture that prioritises continuous innovation and advanced research, with a strong focus on mentoring young engineers. The corporate culture encourages training that combines theoretical and practical skills, aimed at developing cutting-edge solutions. Project Automation stands out for its corporate culture focused on technological innovation and operational practicality, adopting a highly pragmatic training approach aimed at preparing technicians to face the daily challenges of designing and implementing systems and services in the field. The training promoted by the company, also in collaboration with ITS Academies, is designed to respond to immediate operational needs, with a focus on specialist technical skills, regulatory updates and the development of soft skills. The corporate culture is reflected in their training programmes: both companies promote a culture of innovation and research that emphasises practical preparation and adaptation to production needs.



The 12 keywords that emerged during the interview:
Collaboration – 24%, ITS – 20%, Training – 14%, Process – 10%, Sustainability – 6%, Automation – 5%, Training project – 4%, Competence – 4%, Digitalisation – 4%, Innovation – 4%, Industry – 3%, Monitoring – 2%.

Source: MHEO analysis based on qualitative interviews

As with the preceding case, a schematic point-by-point comparison of the two companies' experiences follows, highlighting common strategies, operational differences and future visions with regard to the role of ITS Academies in the training and production system.

- *Relationship with the ITS Academy and training needs:* Both companies recognise the importance of the ITS Academy as an opportunity to train young people with specific skills for market needs. Comoli Ferrari focuses on creating ad hoc training courses to integrate young people with technical profiles, aiming for a more integrated structure in which the company plays an active role in designing training courses, including by establishing a direct relationship with ITS Academies to bring out the skills needed for its business. Project Automation, while recognising the need for specific skills, focuses more on recruitment and flexibility in the design of the training programme (but without deep involvement in the creation of customised programmes), considering the ITS Academy as a channel for training resources with targeted skills and emphasising the customisation of programmes based on business needs.
- *ITS Academy's ability to cover skills in emerging technologies:* Both companies see emerging technologies, such as automation and digitalisation, as key skills for the future. Comoli Ferrari emphasises the creation of specialist skills in the digital energy and green applications sector, taking a more strategic and partnership-based approach, collaborating with other companies and ITS Academy to develop training programmes that meet future needs, such as the 'Energy Digital Process Specialist' course. Project Automation focuses on the need to constantly update resources to keep pace with technological developments in the market. While recognising the need to evolve, it seems less focused on creating a complex system and is primarily concerned with the possibility of bringing in as many resources as possible, whose training is completed within the company with the support of the network of tutors and experts already in place.
- *Opportunities for development in relations with ITS Academies:* Both companies see a positive relationship with ITS Academies, although they believe there is room for improvement. Comoli Ferrari talks about a model that has evolved over time thanks to well-defined partnerships, focusing on creating a strong relationship with ITS Academies, seeking to bridge the gap between business needs and ITS Academy training. Project Automation points to the possibility of improvement through greater commitment, for example by involving companies in the educational project, but does not explore the issue of co-creation of training courses, limiting itself to a practical and operational approach.
- *Challenges and bottlenecks in managing the relationship with ITS Academies:* Both companies highlight difficulties related to rapidly changing technological requirements and adapting courses to these requirements. Furthermore,

both believe that students may not always be fully prepared for the job market at the end of their ITS Academy training. Comoli Ferrari, while seeing the ITS Academy as an important resource, believes that greater effort is needed to make young people 'choose' the company, addressing the challenge of the sector's attractiveness. Project Automation focuses more on the speed of adaptation of resources and continuous monitoring of training progress.

- *Involvement in curriculum design:* Both companies participate in the design of training programmes. Comoli Ferrari is heavily involved in creating programmes tailored to its business needs and describes its approach as highly structured and integrated, aiming to create long-term training programmes with specific objectives for the company. Project Automation values the adaptability of programmes, tending to focus on more flexible and less restrictive design centred on preparing resources in a shorter time frame.
- *Investments in partnerships with ITS Academies:* Both companies invest significant resources in training through ITS Academies. Comoli Ferrari invests time, creating ad hoc training courses and focusing on a solid partnership with ITS Academy. Project Automation focuses on internal resources and tends to operate in a more localised manner, with less external investment but a constant focus on the direct training of young people.
- *Return on investment (ROI):* Neither company formally monitors return on investment, but both believe that the value lies in improving business skills and in the social value of supporting training. Comoli Ferrari seems more inclined to view ROI as an ongoing process and an integral part of its growth strategy, while Project Automation does not appear to monitor return in a structured way, although it recognises the human and professional value of ITS Academy training.
- *Integrating students into the team:* Both companies have clear processes for integrating students into their operations. Comoli Ferrari pays greater attention to personalising the pathway and emphasises the integration of young resources into its workforce through structured pathways. Project Automation focuses on operational supervision and is concerned with integration based on on-the-job training.
- *Monitoring student performance:* Both companies monitor student performance, but with different approaches. Comoli Ferrari relies on a continuous monitoring system, while Project Automation has a less formal management style, focusing on the long term.
- *Recruitment and retention:* Both companies recruit some of the young people from ITS Academies, albeit in different proportions: Comoli Ferrari is committed to creating longer, more personalised pathways and has a targeted approach, seeking to train specific profiles for its needs, while Project Automation seems to focus on a more flexible model, concentrating more on the possibility of direct recruitment without a specific pathway.

- *Value added by companies in the ITS Academy ecosystem:* Both companies recognise the importance of contributing to every stage of the training process, from curriculum design to guidance: Comoli Ferrari emphasises the creation of solid partnerships and active involvement in designing training courses, while Project Automation is more focused on direct recruitment and course flexibility.
- *Relationships with other companies in the ecosystem:* Both companies interact with other entities, albeit in different ways: Comoli Ferrari has more structured collaborations with other partners and participates in a broader ecosystem, seeking to generate synergies between companies, while Project Automation has fewer formal relationships and a narrower vision focused on local collaborations.
- *Evolution of ITS Academies over the next 5-10 years:* Both companies see a need for ITS Academies to evolve, with a focus on adapting to the needs of the labour market. Comoli Ferrari emphasises the need to attract young talent through an innovative and attractive vision, while Project Automation considers ITS Academies to be a flexible element that is ready to evolve without the need for drastic reforms.

6.2.3.3 *Relationship between ITS Academy Green and Companies*

6.2.3.3.1 *Edison and MP Impianti*

The cases of MP Impianti and Edison, partners of ITS Academy Green, highlight once again how different company sizes, sectors of activity, corporate strategies and organisational cultures influence the approach to collaboration with ITS Academies and the perception of the value that this collaboration brings.

- *Company size:* Company size plays a crucial role in determining the depth and complexity of the commitment to ITS Academies. Edison, a large company, has considerable scope for investing in structured partnerships with ITS Academies, with a focus on long-term relationships and the training of qualified profiles. This approach is also reflected in its willingness to devote significant resources in terms of personnel management and theoretical training. MP Impianti, a smaller company, has a more pragmatic approach focused on immediate results, with lower economic investments, but still with a strong commitment to practical training and work orientation.
- *Field of activity:* The sector in which the two companies operate influences the skills required and, therefore, the type of training that companies seek in ITS Academies. Edison, operating in the energy sector, needs advanced technical skills, accompanied by skills in complex project management, with a drive for continuous innovation. The training provided by ITS Academies is therefore perceived as a path that must integrate theoretical and practical skills, with a particular focus on continuous updating. On the contrary, MP Impianti, operating in the plant engineering sector, has needs that are more oriented towards practical skills and field operations. Training for MP

Impianti tends to be more focused on operational and practical skills, which are necessary to tackle daily challenges on site.

- *Business strategy:* Edison's business strategy is geared towards long-term growth, focusing on continuous innovation. In this regard, the company invests heavily in training and human capital management. The desire to develop structured training programmes, designed in collaboration with others and reflecting highly specialised technical profiles, confirms the vision of long-term planning and investment in human capital, as well as the importance of attracting suitably trained young people. MP Impianti, with a more localised and operational approach, remains focused on operational efficiency and the immediate and practical training of young people, with a strategy that aims to respond to the company's daily needs and improve productivity through practical training on site.
- *Type of clientele and business projects:* The differences between the two companies in terms of clientele and business projects affect the skills required and training methods. Edison, with a client portfolio that reflects its size and strategic ambitions, develops complex and highly specialised projects, which is why it prefers to invest in training courses co-designed in collaboration with ITS Academy, as well as universities and research centres. MP Impianti, working mainly with local customers and on small-scale projects, has needs related to immediate practical training and the rapid integration of students into daily operations.
- *Geography and local impact:* MP Impianti, a smaller company, has a local impact and focuses on training people to be immediately employed in the area, while Edison is present throughout the country and makes proximity to local areas and their needs one of its core values. For this reason, it invests in the creation of training courses co-designed with educational partners that prepare young people for a wide range of professional opportunities, with the ambition of nurturing an ecosystem that meets the needs of the company and the energy sector. Edison's vision of ITS Academy training is more comprehensive, based on the belief that local training cannot be separated from a strong and structural anchorage to the economic and industrial fabric of the local areas themselves, while MP Impianti remains focused on specific regional needs. Edison is collaborating in the creation of an ecosystem understood as the ability to co-build and co-manage an integrated local guidance and training system together with other public and private entities (including competitors) involved in the professional and education supply chain (local institutions, schools and universities, companies and specialised training operators, local associations).
- *Corporate culture:* Edison's corporate culture is geared towards collaboration with a network of external players (ITS Academy, universities, research institutions, business schools, other companies), while MP Impianti, with a more streamlined structure, tends to prefer more direct and practical approaches with the ITS Academy. Edison's culture is reflected in a strategic commitment to training management and the organisation of complex projects,

and emphasises the economic, social and cultural revaluation of professional trades characterised in particular by the predominance of technical skills underpinned by new digital technologies, but also characterised by the added value of a high level of specialisation that we could define as 'high craftsmanship'. Edison's reflection on educational and training ecosystems (starting with the construction of the 4+2 supply chain) that serve as a breeding ground for these highly technical professions (as well as more professional trades) must emphasise the globalisation of markets and the transformation of the economic and industrial model of mature Western economies towards a service-based and finance-driven economy, leading to a progressive reduction in the importance and economic and social value attributed to the industrial, manufacturing and craft sectors.

The cases of the two companies confirm that the approach to collaboration with ITS Academies depends on a series of factors that go beyond the size of the company. The latter determines the scope of investments, the type of required training and approach to human capital management, while the sector of activity influences the type of skills needed and the type of projects to be developed. Finally, corporate strategy and culture determine the degree of long-term investment in training and the focus on young talent. In general, large companies such as Edison are more inclined to create structured training programmes, develop complex partnerships with universities and other institutions, and work on specialist skills, while small businesses such as MP Impianti focus more on a practical approach aimed at meeting immediate needs in the operational sector. However, both companies recognise the value of ITS Academies as a training tool, but perceive it differently depending on their growth strategies, business needs and visions of human capital.

Figure 8 - MP Impianti company



Figure 9 - Edison Company



Source: MHEO analysis based on qualitative interviews

The 12 keywords that emerged during the interview:
Foundation – 11%, ITS students – 12%, Critical issues – 11%, Training – 9%, Working environment – 9%, Experience – 9%, Collaboration – 9% Case study – 8%, Professional development – 7%, Teaching – 7%, PNRR – 4%, World of work – 4%.

The 12 keywords that emerged during the interview:
Supply chain – 11%, Companies – 11%, Energy transition – 11%, Professional development – 9%, Value – 9%, Young people – 7%, Profiles – 7%, Soft skills – 7%, Vocational training – 7%, Career guidance – 7%, Technical skills – 7%, Training – 7%.

6.2.4 Comparative analysis of the three ITS Academies from a ITS perspective

- *Relationship with ITS Academy and training needs:* Both companies see ITS Academy as an opportunity to train young people with specific skills, in line with market needs. MP Impianti focuses heavily on practical training and the value of an 'apprenticeship' that prepares young people directly for the world of work, demonstrating a personal approach linked to the entrepreneur's own experience as an apprentice. Edison, on the other hand, emphasises the need to bridge the gap between technical diplomas and university degrees, recognising that the ITS Academy offers a much more vertical preparation than university degrees.
- *ITS Academy's ability to cover skills in emerging technologies:* Both companies recognise the importance of training that covers the most emerging skills, such as green technologies (photovoltaic, wind power) for MP Impianti and energy efficiency for Edison. However, both companies express some criticism: MP Impianti fears that laboratories are not always keeping pace with technological developments, while Edison points out that ITS Academy alone cannot identify all emerging skills and that continuous commitment on the part of companies is necessary. Edison highlights that collaboration between the ITS Academy and companies is essential for the evolution of professional profiles, also suggesting a sort of 'co-creation' of training courses. MP Impianti is more concerned about the adequacy of practical laboratories and the need to keep them up to date.
- *Opportunities for development in relations with ITS Academies:* Both companies report relatively straightforward relations with ITS Academies. MP Impianti appreciates the lack of excessive bureaucracy, finding it easy to interact with ITS Academy managers and emphasising the practical and operational aspects of the relationship. Edison is more strategic, seeking to establish a long-term vision of collaboration that also involves small and medium-sized enterprises, strengthening the entire territorial system. It notes that the collaboration is in the development phase and believes that the key to improving the relationship is continuous communication, in order to improve the quality of training.
- *Challenges and bottlenecks in managing relations with ITS Academies:* Companies note some critical issues in their relations with ITS Academies, such as the difficulty of keeping training programmes in step with technological developments and the risk that students are not always ready for the world of work. In addition, MP Impianti points

out young people's lack of knowledge about ITS Academies and the need to improve guidance in schools. Edison does not seem to face any major difficulties in its relationship with ITS Academies, seeing the process as smooth and successful. MP Impianti, on the other hand, is more critical, noting the need for continuous improvement and updating of resources, as well as greater involvement of companies.

- *Involvement in curriculum design:* Both companies are actively involved in curriculum design. MP Impianti participates in annual meetings to discuss and improve the curriculum, particularly the technical part. Edison has a broader approach, describing concrete examples of co-design, such as the creation of project management modules developed together with ITS Academy trainers.
- *Investments in partnerships with ITS Academies:* Both companies invest significant resources in partnerships with ITS Academies, albeit in different ways. MP Impianti invests mainly in internal training, providing trainers and tutors for courses (it made an initial investment by contributing to the foundation, but does not provide annual funding). Edison, on the other hand, invests in the time and skills of its managers, who devote hours to guiding and training students, without requesting direct funding from ITS Academy.
- *Return on investment (ROI):* Neither company formally monitors its return on investment. MP Impianti emphasises that it does not do so for economic purposes, but out of a social and professional commitment to training young people. Edison has a more practical approach but also considers the return as an investment in human capital and continuous training.
- *Integrating students into the team:* Both companies have a clear process for integrating students into the company. MP Impianti has a practical model of weekly supervision and offers direct experience in the field with a practical focus. Edison provides clear paths leading to both internships and apprenticeships with more personalised models, with the possibility of direct recruitment and more ad hoc training courses.
- *Monitoring student performance:* Both companies monitor student performance, but in different ways. MP Impianti uses an assessment form provided by ITS Academy, while Edison uses an evaluation form. The company's significant investment in these dual pathways is aimed at integrating young resources on a permanent basis.
- *Recruitment and retention:* MP Impianti recruits a small percentage of students, while Edison takes a broader approach, recruiting around half of the young people graduating from ITS Academies. MP Impianti has a low recruitment rate due to the small size of the company and the operational nature of the work, while Edison focuses heavily on long-term recruitment and has a vision that is very much geared towards the growth of young staff.

- *Value added by companies in the ITS Academy ecosystem:* Both companies are convinced that companies can add value at every stage of the ITS Academy ecosystem's development, from curriculum design
- *The curriculum to the creation of new partnerships:* MP Impianti emphasises its participation in the technical curriculum, while Edison focuses on all stages, particularly on guidance and partnerships with all educational institutions, especially with ITS Academies.
- *Relationship with other companies in the ecosystem:* Companies work together, although MP Impianti seems to have a more informal, operational and territorial collaboration, while Edison sees important interaction with other large companies, seeking to act as a catalyst for other companies.
- *The evolution of ITS Academies over the next 5-10 years:* Both companies are interested in ensuring the continuity of ITS Academies, but with different approaches. MP Impianti emphasises the need for external financial support, such as the PNRR, to ensure sustainability. Edison's strategy is to join the technical and scientific committees of the ITS Academies to ensure the activation of courses that will enable it to remain a leader in the energy transition.

6.2.5 Comparative analysis of the three ITS Academies from a corporate perspective

The comparative analysis of the ITS Academy Rizzoli, Meccatronica and Green was conducted based on evidence emerging from interviews with partner companies, which offered a qualified perspective on collaboration with each institute, the skills actually required in the production context and the perceived value of the training courses. The aim of the survey was to identify, through a cross-sectional analysis, the similarities, differences and specific characteristics of the three ITS Academies, considering aspects such as the specialisation of the courses, the balance between theoretical and practical training, the response to the needs of the labour market and the quality of the relationship with the production system.

The ITS Academy Rizzoli is a training centre focused on high technological specialisation, with a strong emphasis on innovation and advanced technologies, particularly in the fields of automation and robotics. The companies interviewed recognise it as a key player in the training of technical profiles capable of operating in global and highly complex contexts. The training offer is characterised by the structured integration of theoretical content and practical applications, in line with the standards required by an international and highly dynamic labour market.

The ITS Academy Meccatronica, on the other hand, offers a curriculum geared towards technical and operational versatility, with a focus on cross-disciplinary skills related to mechatronics, industrial automation and plant management. Local businesses, including the SET Group, appreciate its pragmatic approach and its ability to provide resources that can be immediately employed in production processes. The emphasis on on-the-job training

responds directly to the needs of local SMEs, promoting learning based on experience and adherence to the real working environment.

Finally, ITS Academy Green stands out for its specialisation in the field of skills related to environmental sustainability and energy transition. Companies operating in the renewable energy and energy efficiency sectors identify ITS Academy Green as a strategic partner for training technical professionals capable of combining technological innovation with attention to environmental impact. The courses offered aim to train professionals capable of addressing the emerging challenges of the green economy through a training programme that integrates theory and practical applications geared towards ecological change.

In terms of the skills required, there is a differentiation consistent with the educational mission of each ITS Academy. The ITS Academy Rizzoli aligns itself with the needs of companies operating in technology-intensive sectors, which seek profiles with high skills in automation, robotics and complex systems management. The institute offers advanced training courses that develop not only technical skills but also the cross-cutting skills required in globalised work contexts. The ITS Academy Meccatronica meets the needs of industrial companies focused on operational efficiency, providing profiles capable of managing integrated production processes and resolve technical issues independently. In this case, training is mainly experiential, with the aim of ensuring rapid entry into the workforce. The ITS Academy Green, for its part, responds to the growing need for skills in the environmental sector, offering courses focused on renewable energy, green technologies and sustainable resource management. Partner companies recognise the strategic value of these skills in an economic context that is increasingly oriented towards sustainability.

In terms of teaching methodology, ITS Academy Rizzoli is characterised by an integrated training model that combines advanced theoretical content with highly complex laboratory and project-based experiences. This approach is considered particularly effective by global companies, as it allows them to train versatile technicians who are prepared to face technological challenges in highly competitive professional environments. The ITS Academy Meccatronica, on the other hand, adopts a teaching approach geared towards solving concrete problems, with a strong emphasis on practical training and situated learning, thus responding to the needs of companies that require immediately operational resources. The ITS Green Academy adopts a training model that integrates theory with practical field activities, particularly in the areas of ecological solution design and environmental management, promoting training focused on problem solving and sustainability.

From the point of view of labour market orientation, the trajectories are also differentiated. The ITS Academy Rizzoli has a clear international focus, preparing to meet the demand for highly specialised technicians from companies operating on a global scale. The ITS Academy Meccatronica is rooted in the local industrial fabric, contributing to the development of the skills needed to support the competitiveness of SMEs and ensuring an effective transition from school to work. The ITS Academy Green is part of an emerging sector, that of sustainability, providing profiles

required by companies that invest in the green economy and need resources capable of interpreting and guiding ecological transition processes.

The comparative analysis shows that each ITS Academy has a distinct educational identity consistent with its strategic positioning. The ITS Academy Rizzoli is a key player in the training of global and highly specialised technical profiles, with a strong focus on innovation and internationalisation. The ITS Academy Meccatronica responds to the operational needs of the local production system, offering a training model based on practicality and the immediate applicability of skills. Finally, the ITS Academy Green has established itself as a centre of excellence for the training of sustainability-oriented technical profiles in a rapidly expanding sector. Although characterised by different approaches, all three ITS Academies are able to respond effectively to the needs of the labour market, training qualified professionals who are ready to enter sectors that are strategic for the country's economic and technological development.

Table 17 - ITS Academy Mechatronics Summary

Area	Strengths	Future challenges
<i>Training</i>	- Highly personalised courses based on skills rather than rigid programmes. - A flexible, modular approach that can be adapted to local and sector-specific needs.	The training programme requires updates to keep pace with the rapid evolution of mechatronic technologies.
<i>Relationship with the world of work</i>	- Collaboration with companies in terms of co-design and teaching. - Direct involvement of companies in training through internships and feedback.	Possible initial tensions between competing companies that must cooperate to deliver common modules, despite the common goal of training qualified technicians.
<i>Infrastructure And resources</i>	- Modern infrastructure and well-equipped laboratories, allowing students to work with advanced technologies. - Qualified human resources and active involvement of companies in teaching and training.	- Dependence on public funding (e.g. PNRR): without continuity in funding, courses could be reduced or discontinued. - Risk of discontinuity at the territorial and resource level.
<i>Results</i>	- High employability of graduates thanks to a practical and multidisciplinary approach. - Acquisition of transferable skills that	Need to improve the visibility and external recognition of the Higher Technician qualification at national level, to avoid it

	increase graduates' versatility in the workplace.	being perceived as an inferior option compared to other educational pathways.
<i>adaptation to needs of the market</i>	• Ability to quickly update programmes in response to new technologies and changes in the labour market • Flexible system that allows for a timely response to business needs.	• The continuous evolution of the market requires constant updating, which can be difficult to manage in a timely manner, especially with limited resources.
<i>Formats and methodologies</i>	• An innovative approach with university and corporate co-teaching, allowing for a balance between theory and practice. • Use of diversified teaching methodologies that respond to the specific needs of companies.	• Co-teaching between competing companies can lead to initial conflicts, although these are overcome over time. • Adapting teaching to different geographical contexts can make difficult the standardisation of routes.
<i>Transversal skills</i> <i>Transversal and integration</i> <i>Preparing students to work in diverse environments, developing practical and interpersonal skills.</i>	• Preparing students to work in diverse environments, developing practical and interpersonal skills. • High <i>employability</i> thanks to practical training tailored to business needs.	• Transversal skills are not always easily measurable or standardisable, which can make it difficult to assess students' actual level of preparation in these areas.
<i>Future prospects and need for reform</i>	• The reform of the ITS Academy system has led to significant improvements, such as the recognition of the training chain and the integration of the programme into the national education system. • Call for greater investment and visibility for the ITS Academy sector.	• Urgent need for a national information campaign to improve the visibility of the ITS Academy system, which is currently fragmented and little-known which results in low numbers of applicants and thus low numbers of students. • Dependence on public funding to support and develop training programmes.

Table 18 - ITS Academy Rizzoli summary

Area	Strengths	challenges
<i>Training</i>	- Highly specialised training programme combining theory and practice. - Strong links with companies to ensure that skills are applicable in the world of work.	- Risk of not always being aligned with all the specific requirements of each industrial sector. - Need for continuous updating to keep pace with rapid technical innovations.
<i>Relationship with the world of work</i>	- Strong integration between theory and practical experience through internships and work placements. - Direct collaboration with businesses to define courses and content.	- Sudden changes in the working environment could pose challenges for companies when designing internships. - Dependence on company dynamics, which can affect the training offered.
<i>Infrastructure and Resources</i>	- Good connections with the industrial world for updates on changes and emerging technologies. - Use of company resources for internships, work placements and continuous updates.	- Limited resources in some areas, requiring continuous investment to improve the quality of training. - The need to keep pace with technical innovations requires constant investment in infrastructure.
<i>Results</i>	- High employment rate for students. - Success in training technicians capable of responding immediately to market demands.	Difficulty in maintaining high standards without constant updating of resources and programmes.
<i>Adaptation to needs of the Market</i>	- Programmes are constantly updated according to market needs, thanks to collaboration with companies. - The ITS Academy is able to train professionals with practical skills that can be put to immediate use.	- The speed of change in the market and in technologies requires a great ability to adapt. - There may be a delay in responding to new emerging emergencies in industrial sectors.
<i>Formats and Methodologies</i>	A training approach that balances theoretical and practical training, ensuring direct experience in the field.	The methodology may be inflexible in a context where business demands change rapidly.

	Integration of companies in course design, increasing the relevance of content.	The need to customise programmes for different companies can complicate the management of training courses.
<i>Skills</i> <i>Transversal and</i> <i>Strong emphasis on</i> <i>developing</i> <i>transferable skills</i> <i>such as teamwork,</i> <i>communication and</i> <i>adaptability</i>	- Strong emphasis on the development of transversal skills such as teamwork, communication and adaptability. - Transversal skills facilitate easier integration into the world of work.	- The need to balance technical and transversal skills could compromise technical preparation. - Potential difficulty for students in reconciling the learning of transferable skills with highly specialised technical skills.
<i>Outlook</i> <i>Future and</i> <i>Need for Reform</i>	- The ITS Academy system offers a significant opportunity to respond to market changes and labour requirements. - The ITS Academy model can be further optimised to respond more quickly to market needs.	- Regulatory reforms aimed at achieving greater autonomy and flexibility could clash with bureaucratic rigidity. - Need for greater investment in resources, continuous training of teachers and infrastructure to maintain high quality.

Table 19 - ITS Academy Green Summary

Area	Strengths	Future challenges
<i>Training</i>	- Personalised approach for each student. - High quality training courses. - Constant updating of programmes based on the needs of companies.	- Lack of stable funding and long-term strategies. - Dependence on external funding.
<i>Relationship with the world of work</i>	- High percentage of job placement (98% of graduates find stable employment). - Solid partnerships with companies.	- Limited variety in partnerships with small companies. - Relationship based on personal rather than institutional dynamics.
<i>Infrastructure and resources</i>	New laboratories funded by the PNRR (National Recovery and Resilience Plan) that improve training capabilities.	- Uncertain management of PNRR funds, with unclear rules. - Limited access to adequate resources to finance new initiatives.
<i>Results</i>	- High percentage of job placements in the <i>green economy</i> and sustainability sectors. - Excellent post-graduation employment rate.	Development of an official and unambiguous long-term performance evaluation system.
<i>Skills Transversal</i>	- Training aimed at developing skills in management and strategy. - Particular attention to the development of soft skills.	Potential lack of standardisation and assessment of the cross-cutting skills acquired by students.
<i>Adaptation to Market Needs</i>	- Training programmes closely linked to the real needs of companies. - Constant attention to the demands of the labour market.	- Potential difficulty in adapting to the rapid evolution of emerging green technologies. - Uncertainty about future market directions and how these changes may affect training.
<i>Methodologies of Learning</i>	- Practical learning, with a strong focus on internships and direct experience. - One-to-one approach to student care.	- Teaching method too theoretical in some modules, with little practical application. - Potential limitation of methodologies based on available resources.

6.2.6 ITSs and the Struggle for meeting Companies' demand for ITS Academy graduates

The results of the interviews provide strong evidence that supports the following hypothesis: there are several issues that Italian ITS (Istituti Tecnologici Superiori) academies face in attracting students, due to a few issues, namely: lack of visibility, bad reputation (residual negative social perception of professional education left from the failed TVET system reforms in the past), and social stigma, to name a few as well as the shortage of resources to enrol high numbers of students. Such barriers generally produce a persistent imbalance between the student supply and the corporate demand for graduates. This demand for skilled technical employees and interns often exceeds what ITS can deliver, with partner companies—many of whom are founding members—actively involved in curriculum design, apprenticeship hosting, and recruitment in hopes of securing talent for their own growth needs.

6.2.6.1 *Thematic Analysis: Evidence Backing the Hypothesis*

- ITS and corporate executives repeatedly mention the “shortage of students to allocate” and “more companies than students to place,” especially in technical roles and apprenticeships.
- Multiple executives’ express concerns over ITS’ visibility and reputation among secondary students; ITS remains “not well known” and is mistaken for traditional vocational schools, hampering recruitment.
- Companies and ITS directors describe annual structured surveys, governance meetings, and feedback systems, highlighting ongoing difficulty: even with active engagement, student intake is limited versus company demand.
- Partner companies often invest time and resources (teaching, curriculum co-design, orientation events) but state openly that even substantial collaboration can’t resolve the lack of student numbers, thus bottlenecking industrial growth and innovation.
- Many interviewees confirm nearly “100% placement rates” for ITS graduates, but note the true challenge is “attracting enough young people” to fill company pipelines; several see a need for stronger outreach, industry visibility, and financial/institutional support.
- Some companies cite competition for access to the limited pool of ITS-trained students, underlining how supply/demand imbalance fuels internal tension within industrial clusters and partner networks.

The following table is a simple comparative framework for organisational challenges in the ITS–firm ecosystem:

Table 20 - comparative framework for organisational challenges in the ITS–firm ecosystem

Dimension	ITS institutions	Partner companies
Problem	Too few students entering ITS pathways	Too few ITS students/graduates to meet hiring needs
Causes	Low visibility, confusion with “old vocational school”, limited recruitment capacity	Cultural preference for university among candidates, limited influence over upstream recruitment
Consequences	High placement rates but low system impact; competition between firms for students; difficulty expanding programs	Competition with other firms (and sometimes other ITS) for same few students; risk that training investments “walk away”
Responses	Open days, school visits, information campaigns; co-design of curricula with firms; yearly surveys to align skills	Teaching in ITS courses; offering internships/apprenticeships; participating in governance; signalling skill needs via surveys

The evidence from the interviews conducted is divided into the following categories:

- Shortage and imbalance:
 - *“Every year we see the same situation: we have more companies asking for students than students we can send. There is a real shortage on the student side.” (ITS Executive, Interview 1)*
 - *“If you look at our classes, we never manage to satisfy all the companies that would like to host interns or hire graduates. The demand from firms is always higher than the number of students.” (ITS executive, Interview 2)*

Multiple ITS directors and company executives stated that number of partner companies looking for interns, apprentices and graduates significantly exceeds the number of students available, several ITS directors and company executives said explicitly. ITS Green’s director said they continuously run into situations where “there are more companies than students to assign,” which creates competitive tension between founding members and partner firms. This is not an occasional dynamic; this dynamic is structural — it recurs every year and across many ITS foundations in Lombardy. This shortage is especially severe in technical sectors such as mechatronics, energy efficiency and industrial automation, where companies put significant resources into curriculum development and teaching infrastructure but fail to have enough candidates to meet their workforce planning needs.

- Low visibility and misunderstanding:

- *"ITS is still not really known by families and by many high schools. A lot of people don't even know what it is, or they think it is some kind of old vocational school."* (ITS director, Interview 3)
- *"We have to work hard just to explain that ITS is a post-secondary path, not a professional school like in the past. That is why we invest a lot in open days, visits to schools, and presentations."* (ITS staff member, Interview 3)

Awareness of ITS remains critically low among the primary target audience: secondary school students and their families. Corporate partners and ITS administrators reported that many families still confuse ITS with traditional vocational schools, or do not understand ITS as a legitimate tertiary education pathway. One company executive - a partner of in ITS Rizzoli - stated that although there have been open days, career fairs, and direct visits to the schools, the fact is that "ITS is not fully known" and the institution struggles to compete with the cultural prestige of university degrees. This lack of visibility directly constrains recruitment, because students and parents will tend to head down more familiar academic routes even when technical training would be more in concert with labour market opportunities and personal interests.

- Feedback and ongoing mismatch:

- *"We run a structured survey every year with the companies. We ask what profiles they need, which skills they are missing, and then we adjust our courses."* (ITS coordinator, Interview 4)
- *"The feedback from companies always tells us two things: they are happy with the quality of the students, but there are not enough of them, and sometimes they would like even more specific skills than we can offer with the current numbers."* (ITS coordinator, Interview 4)

ITS institutions continue to have structured feedback mechanisms in place with partner companies through annual surveys, governance meetings, and continued dialogue on curriculum relevance and graduate competencies. These structured consultations reveal a recurring theme: companies appreciate the quality and employability of ITS graduates but consistently report dissatisfaction with the quantity and sometimes the specific skill profiles available. An ITS director explained how "structured surveys every year confirm that companies want more graduates and increasingly specialised competencies that the current small cohort sizes cannot deliver." This feedback loop is valuable for continuous improvement but also highlights the persistent undersupply relative to expressed corporate demand.

- High placement but recruitment problem:

- *"For the students who enter our ITS, the placement rate is almost one hundred percent. Everyone finds a job, usually very quickly. Often, students get to choose where they want to work because they have more than one offer on the table."* (ITS executive, Interview 2)

- *"The problem is not helping graduates to find work. The real challenge is convincing enough young people to choose an ITS path in the first place." (ITS director, Interview 1)*

ITS programs have extremely high employment rates—often approaching or exceeding 80-90% within one year of graduation, with some institutions citing near-total placement. Directors noted that *"nearing 100% placement for those who enter"* is not unusual, signifying that ITS training is able to successfully link the education-to-work transition. Yet, the paradox of this success highlights the very underlying issue: that the issue is not graduate employability, but upstream recruitment. Indeed, as one interviewee stated, *"the challenge is attracting young people into ITS pathways,"* suggesting that the bottleneck is not training quality or labour market demand but awareness, accessibility, and cultural positioning.

- Multiple offers and competition:
 - *"Companies invest a lot in these students. They come to teach in the classroom, they take them for internships, they follow them during the course." (Company manager, Interview 5)*
 - *"Because the demand is so high, each young person often has several job-offers on the table at the end. The company that trained them is not always the one that manages to hire them." (Company manager, Interview 5)*
 - *"Sometimes we have this paradox where our partner companies are competing with each other for the same two or three students." (ITS director, Interview 1)*
 - *"There is competition for human resources, not only with firms outside the network but also inside, among the companies that are part of the foundation." (Company representative, Interview 6).*

Companies invest significant time, financial resources, and human capital in ITS programs, e.g. co-designing curricula, providing teaching staff, hosting internships, and offering apprenticeships. Despite these investments, executives report that graduates often receive multiple job offers, sometimes from competing firms within the same ITS partnership. One corporate representative explained that "investing in talents" does not necessarily mean talents are retained and could sometimes mean that the company's 'investments' has gone to a competitor, because "high demand means each young person typically has multiple job offers." This sort of competition between employers serves to further confirm the imbalance — small supply of students means a seller's market, too, with graduates wielding some leverage and companies struggling to secure the talent they helped train.

The scarcity of ITS students has an unintended consequence not just between companies for graduates but also among ITS institutions and their partner firms for a finite number of applicants. Directors explained how neighbouring ITS foundations serving similar sectors sometimes battle over the same pool of prospective students, and within one ITS founding companies compete for access to the same cohort for internships and hiring. Such "competition for human resources" undermines the collaborative spirit of governance models for ITS and indicates a core breakdown in the marketplace: insufficient supply to meet aggregated demand.

- Effectiveness of the model, conditional on scale:
- *“Our ITS model is very flexible and really driven by the needs of industry. We can adapt the courses quickly, we involve companies directly, and almost all of our graduates are placed.” (ITS director, Interview 2)*
- *“This shows that the model works. The point is that if we could increase the number of students, and find a sustainable financing model, the impact on the labour market would be much bigger.” (ITS director, Interview 2)*

Finally, Interviewees consistently praised ITS for its flexibility, ability to respond to industry requirements, and employment results. One director encapsulated this by claiming that “ITS is flexible, industry-driven, and nearly all graduates are placed,” hence “it proves effectiveness if supply can grow.” This conditional statement is consistent with the paradox at the core of the ITS system: the model is very efficient for participants but has only limited utility overall, reaching a minority of the potential beneficiaries. Larger enrolment is therefore the essential next step to optimising the impact of ITS as a means of promoting economic growth and social innovation.

Collectively, these pieces of evidence demonstrate that imbalance of supply and demand in ITS is not an exception but an integral part of the system as it is today. High employability among graduates is coupled with chronic under-enrolment in a market where companies invest and compete for few resources, while many students who are interested in vocational education miss opportunities due to lack of awareness, and, most importantly, the economy loses innovation and productivity. This imbalance provides the empirical support for the argument in the thesis that ITS is thus an untapped lever for labour market integration -particularly for migrants and refugees- and justifies the development of JVN8, a social startup intervention discussed at length in the next chapter, as a social innovation intervention designed to connect underserved populations with high-demand technical training pathways while addressing recruitment gaps, enhance visibility.

The methodological framework integrated concept-driven sampling with comprehensive qualitative investigation and a strategic application of pre-existing quantitative metrics, facilitating a detailed reconstruction of the perceptions held by ITS actors regarding recruitment, employer collaboration, and migrant involvement. Although it does not achieve statistical representativeness, the design permitted analytical generalisation to analogous institutional settings and fostered the iterative evolution of the JVN8 intervention as a research-informed intervention. These empirical underpinnings bolster the following contribution chapters, which convert the findings into a tangible social-entrepreneurial intervention.

7. Contribution

7.1 Framing TVET as Social Innovation: The Case of Juvinatè (hereafter JVN8)

This chapter constitutes the core contribution of the thesis by presenting Juvinatè (JVN8) as a research-grounded social enterprise that operationalises social innovation within the Italian ITS system. Synthesising insights from the literature and empirical chapters, it conceptualises JVN8 as a hybrid platform that links ITS Academies, firms, migrants and supporting organisations through coordinated recruitment, training and placement mechanisms. The chapter details the intervention logic, organisational form, and planned services—including digital matching, modular pre-vocational training, mentoring and holistic support—and locates JVN8 within the multi-level innovation framework introduced earlier.

As I've discussed in the methodology section, the fieldwork conducted in the context of this doctoral research revealed a critical systemic gap in Italy's vocational education and training (VET) ecosystem, particularly within the Istituti Tecnologici Superiori (ITS) Academy. While ITS institutions are designed to address skills shortages and to provide highly specialised professional training, they remain inaccessible to many migrants and refugees as we've seen in the comparative analysis chapter between the system in Germany and Italy. This exclusion reproduces both social vulnerability and labour market inefficiencies, leaving available talent underutilized and companies in need of skilled workers underserved.

In response to this observation, I conceptualised JVN8, a social enterprise intervention designed as a bridging mechanism between migrant/refugee communities and the ITS system. This intervention is not merely a business idea; it represents a practice-based research contribution, testing how TVET can be reframed as a social innovation tool to generate systemic inclusion, access to education, labour market access and encourages entrepreneurship. JVN8 exemplifies a specific application of social entrepreneurship as a mechanism for facilitating migrant integration within Italian ITS. This initiative tackles two primary issues: (1) the low recruitment of migrants in ITS and (2) migrant labour market exclusion, achieved through integrated social-organisational innovation.

7.1.1 Innovation Logic and Systemic Problem Definition

JVN8's foundational premise is based on the understanding that the obstacles to the integration of migrants into TVET are not merely incidental or isolated, but rather systemic. These challenges arise from persistent misalignments between the institutional framework of ITS Academy and the actual experiences of migrant communities. Consequently, they necessitate coordinated interventions across various levels instead of fragmented solutions. Analysing the issue from this viewpoint allows for a distinction between supply-side

barriers—associated with the capacity and configuration of TVET—and demand-side barriers—related to migrant access, engagement, and the broader circumstances under which they pursue education and employment.

On the *supply side*, a significant and ongoing challenge is the low awareness of ITS Academy among migrant communities and the organisations that typically serve as intermediaries, such as employment services, NGOs, or reception facilities. ITS Academy remains largely unrecognised as a viable pathway, meaning that even when capacity is available, it is not regarded as a realistic or comprehensible option. This lack of visibility is exacerbated by curricula that inadequately reflect the linguistic and cultural diversity of migrant learners. Courses are generally tailored for native Italian speakers with traditional educational backgrounds, which results in language, and teaching methods that do not systematically consider varying prior educational experiences, cultural contexts, or learning requirements.

Another issue on the supply side pertains to the limited depth and frequency of collaboration between employers and educational institutions regarding apprenticeships that specifically include migrants. Although ITS already involve companies in curriculum development and placement, these partnerships seldom incorporate a strategic approach to integrating migrant trainees. Consequently, the potential of the apprenticeship component to serve as a structured pathway into the labour market for migrants remains underutilised. Additionally, the support services surrounding ITS pathways are significantly inadequate. Language courses, orientation initiatives, social integration activities, and welfare supports are typically provided by various entities, resulting in weak coordination and the absence of a clear "one-stop" entry point for potential learners. This fragmentation complicates the ability of migrants to gather the comprehensive support they require for success.

Orientation practices represent another significant obstacle. Information regarding entry requirements, selection criteria, and labour market expectations is frequently generic and not customised to address the specific informational gaps and concerns of migrant candidates. In the absence of clear, tailored guidance, prospective students find it challenging to comprehend both the prerequisites for accessing ITS Academy's programmes and the types of employment pathways they might realistically anticipate upon completion. Furthermore, the interaction between ITS Academy institutions, the private sector, and civil society organisations that directly assist migrant communities is often limited and sporadic. Collaborations tend to be personal, project-based, and short-term, rather than being institutionalised through stable governance structures. This situation deprives the ITS system of essential community insights and trust networks that could facilitate targeted recruitment and retention of migrant learners.

On the *demand side*, structural barriers are equally significant. Numerous migrants and refugees enter TVET with limited proficiency in the Italian language, particularly concerning sector-specific terminology and the academic Italian necessary to engage with technical instruction. Current systems offer only minimal preparatory support in

Italian language and technical vocabulary, which results in students often being expected to "catch up" while concurrently mastering intricate content. Additionally, prior learning experiences—whether formal education, informal employment, or vocational training obtained in their countries of origin—are seldom recognised in a systematic manner. This lack of acknowledgment leads to both inefficiencies (as migrants repeat material they already understand) and demotivation (as their skills and experiences go unrecognised).

Discrimination and the potential for stereotyping in mainstream TVET environments represent a significant deterrent. Migrants may face diminished expectations, implicit biases during selection processes, or subtle forms of exclusion in both classroom and workplace contexts. Even in the absence of overt hostility, such environments can convey to migrant learners that they are merely tolerated rather than truly welcomed, which can adversely affect their persistence and performance. These dynamics are compounded by economic instability. Numerous migrants and refugees endure precarious housing situations, irregular employment, and unstable legal statuses, which severely limits their capacity to engage in multi-year training programs, unpaid or low-paid apprenticeships, or full-time studies that conflict with immediate income requirements. Furthermore, the transition from education to stable employment is frequently unclear. Information regarding the perception of ITS Academy qualifications by employers, the types of contracts that are realistically available, and the progression within occupations is seldom communicated in a clear and structured manner. For migrants who do not possess extensive local social networks or insider knowledge of the Italian labour market, this lack of clarity results in a heightened perception of risk: dedicating time and effort to ITS Academies may not appear to be a rational decision when the subsequent steps remain ambiguous.

JVN8 is meticulously crafted to function at the convergence of supply and demand barriers. It addresses the issue as one of systemic misalignment between, on one side, a substantial pool of potential migrant talent and, on the other, the institutional frameworks through which ITS recruit, train, and place students. By integrating digital tools with institutional frameworks—such as coordinated collaborations among ITS, employers, and civil society organisations—JVN8 aims to enhance ITS Academy visibility within migrant communities, tailor preparatory training and orientation to their unique requirements, and offer employers structured assistance for inclusive apprenticeships. In this manner, it redefines migrants not as peripheral additions to an existing system, but as a primary constituency around which TVET innovation and organisational redesign are intentionally organised.

7.1.2 Methodological Grounding

The insights that informed this intervention emerged through a semi-structured qualitative research approach. Data was collected through in-depth interviews with ITS directors, corporate partners, and migrant focus groups. From a theoretical standpoint, this finding aligns with literature framing social innovation as a means of systemic change

(Murray, Caulier-Grice & Mulgan, 2010; Franz, Hochgerner & Howaldt, 2012). Social innovation in education is not limited to pedagogical techniques but extends to redesigning institutional arrangements and power dynamics to enhance inclusivity and social impact (Howaldt & Schwarz, 2017).

In this context, TVET—traditionally understood as a supply-side training tool—can instead be reconceptualised as an innovation infrastructure that actively reshapes the relationships between education, labour markets, and vulnerable communities. By embedding social inclusion within the very design of vocational pathways, TVET institutions can become agents of systemic social change, not only fill labour shortages but also address inequalities at their root. In line with the European Centre for the Development of Vocational Training briefing note of January 2023 ‘*Working Together Towards Attractive, Inclusive, Innovative, Agile and Flexible VET*’ which states the following:

“High-quality inclusive VET reaches out to vulnerable learners...challenges such as the digital divide, inequality of access to digital infrastructure, hardware and tools, and the need to integrate refugees into European countries’ education systems and labour markets. This is why 23 EU-27+ countries⁴ opted to work towards inclusion and equal opportunities, for example by preventing early leaving from education and training and promoting gender equality. Target groups include people with disabilities, people in remote geographical areas, low-skilled, minorities, migrants and refugees” (Cedefop, 2023).

7.1.3 JVN8’s Research-Informed Design Process

The development of JVN8 as a tangible social enterprise intervention is proceeding through a rigorous design methodology that combines lean startup methodologies with academic research rigor, ensuring that the proposed intervention is grounded in both theoretical analysis and real-world evidence of market demand and user needs.

7.1.3.1 Foundational Design Work and Startup Methodologies

JVN8’s design framework was developed through engagement in structured incubation programs specifically designed for social enterprise advancement. These programs offered methodological structures for converting abstract research ideas into tangible, testable business models. The initial significant output was the creation of a detailed Lean Canvas (outlined in [Annex](#)), which delineates JVN8’s fundamental value proposition, target customer demographics, revenue sources, key partnerships, and essential success factors in a concise, one-page format. This instrument facilitated swift iterations on primary assumptions and systematic identification of unknowns that necessitate empirical validation. In conjunction with this, a Minimum Viable Product (MVP) prototype was devised

⁴ AT, BE-fl and BE-fr, BG, DE, DK, EE, ES, FI, FR, HR, HU, IT, LT, LU, LV, MT, NL, PL, PT, RO, SI, SK, and NO.

through an incubation initiative, establishing proof-of-concept criteria for JVN8's preliminary service offerings and operational parameters.

Simultaneously, a Value Proposition Canvas was crafted to illustrate the alignment between JVN8's proposed capabilities and the articulated needs, challenges, and aspirations of key stakeholder groups—particularly migrants and refugees as the main beneficiaries. This canvas clarifies how JVN8's four operational pillars (linguistic and cultural preparation, sector-specific pre-vocational training, mentorship and ITS navigation, and entrepreneurship incubation) directly tackle the documented obstacles identified through the literature review and qualitative research conducted in the thesis. Assumption cards further detailed which hypotheses necessitate testing and what evidence would serve as validation or refutation, thereby establishing clear accountability for the assertions embedded within the business model.

7.1.3.2 Early-Stage Market Validation and Customer Discovery

Upon completing the design phase, JVN8 progressed to initial market validation through a locally funded initiative, which allocated a €500 grant specifically for customer discovery and early-stage commercialisation efforts. These funds are being strategically utilised to create a landing page that clearly communicates JVN8's value proposition to three distinct customer groups: TVET institutions (mainly ITS Academies), employers (especially private companies within ITS partner networks), and NGOs that support migrant populations. The landing page serves both as a marketing instrument and a tool for generating early interest signals while collecting potential customers' contact details, facilitating future engagement and consultation.

7.1.3.3 Technology Partnership and Service Enhancement

Acknowledging that language accessibility is a significant barrier for migrants and refugees, JVN8 embarked on exploratory collaborations with a nascent AI technology startup to co-create an AI agent capable of performing competency assessments and initial orientations in different languages. This partnership illustrates the multi-sector rationale inherent in JVN8's design: private-sector technological advancements are leveraged to improve service delivery aimed at civil society. The AI agent is intended to act as a first point of contact, allowing potential participants to express their backgrounds, skills, aspirations, and previous learning in their native language, thus minimising informational barriers and enhancing the efficiency of initial screenings.

7.1.3.4 Beneficiary Needs Assessment and Desirability Testing

A crucial empirical moment in the validation of JVN8's design was marked by the implementation of a focus group study aimed at evaluating the desirability of the proposed intervention among the intended beneficiaries. Using semi-structured interview techniques, the research thoroughly examined the backgrounds of participants (including their migration histories, previous education, and technical skills), their current aspirations in the labour market,

their knowledge of TVET education pathways, and their readiness to participate in structured preparatory programs that lead to entry into TVET pathways like the ITS Academy. The focus group included 11 participants, accidentally with the same nationality, which limits the cultural perspectives. However, with various educational backgrounds, technical abilities, and migration statuses, to ensure a comprehensive understanding of a migrants' group needs in order to design accordingly.

The findings from this focus group validation substantiated the primary hypothesis that underpins JVN8: migrants and refugees from the target demographic encounter significant obstacles to accessing the labour market; mainly due to bureaucracy. Nonetheless, they exhibit a sincere interest in structured, supportive pathways into technical careers; and they lack sufficient information regarding TVET pathways as a feasible option. Importantly, participants conveyed enthusiasm for the very support mechanisms that JVN8 proposes—language-integrated technical training, mentorship, career guidance, and employment placement—demonstrating a demand-side receptiveness to the fundamental intervention model.

7.1.3.5 Implications for Ongoing Validation

The design process thus far has provided necessary yet insufficient evidence regarding the viability of JVN8. It indicates the presence of a conceptual gap—migrants are deprived of appropriate integration pathways, and ITS Academy face student-sufficiency challenges—and that the proposed intervention corresponds with the expressed needs of beneficiaries. Nevertheless, transitioning from an intervention to a prototype to a fully operational model necessitates comprehensive validation involving multiple stakeholders. In particular, forthcoming research must evaluate JVN8's desirability, feasibility, and viability from the perspective of the demand side—conducting concurrent interviews, surveys, and consultations with ITS Academy directors to gauge institutional readiness; engaging with employers to review recruitment practices and diversity objectives; collaborating with social integration funders to assess strategic alignment and funding prospects; and working with employment services to elucidate coordination mechanisms. This extensive validation process would yield empirical evidence concerning willingness-to-pay (from institutional and corporate partners), operational feasibility (by identifying resource, governance, and coordination limitations), and scalability potential across various Italian regions and possibly other European contexts.

7.1.4 JVN8 as a Research-Grounded Intervention

JVN8 signifies a proposed intervention that arises directly from the empirical and theoretical insights detailed in this thesis. It is envisioned as a social enterprise with a primary mission to design and execute preparatory and bridging programs specifically aimed at migrants and refugees who stand to gain from access to Italian ITS Academy pathways. Instead of providing generic assistance, JVN8 concentrates on the particular competencies, resources,

and institutional navigation skills that migrants need to successfully enter, persist in, and transition from ITS Academy programs into stable employment or entrepreneurial ventures.

The *first pillar* of the intervention consists of a comprehensive package of linguistic and cultural preparation explicitly directed toward vocational and technical fields. This encompasses not merely general Italian language instruction, but also specialised modules that introduce the technical vocabulary, communicative practices, and workplace norms typical of ITS sectors. The objective is to empower participants to follow intricate technical instructions, engage effectively with educators and supervisors, and interpret written materials such as safety regulations, manuals, and assessment criteria. In conjunction with this, JVN8 provides sector-based pre-vocational training that acclimatises participants to specific occupational fields—such as mechatronics, digital technologies, or energy efficiency—through basic technical exercises, site visits, and exploratory workshops. These activities assist migrants in identifying realistic areas of interest, aligning their aspirations with labour market demands, and developing the foundational skills necessary to meet ITS entry requirements.

The *second pillar* aspect pertains to the guidance and support provided during the ITS entry process. JVN8 establishes mentoring frameworks in partnership with ITS institutions, creating a buddy system where current ITS students, alumni, or trained community mentors assist prospective candidates. These mentors aid migrants in comprehending entry requirements, organising documentation, completing applications, and preparing for interviews or selection assessments. Consequently, the intervention directly addresses the informational and procedural obstacles that frequently deter migrants from even attempting to apply.

The *third pillar* of the model focuses on transversal competencies that are crucial for labour market integration but are often inadequately developed in conventional TVET offerings. JVN8 incorporates structured soft-skills and employability training, emphasising workplace norms, teamwork, conflict resolution, time management, and digital literacy. Through workshops, role-playing exercises, and simulated work tasks, participants develop the behavioural and communicative skills expected in Italian workplaces, while also enhancing their ability to utilise digital tools for learning, job searching, and performing job-related tasks.

A fourth pillar specifically emphasises employability through entrepreneurship. JVN8 acknowledges that not all migrants and refugees aim for or can feasibly attain dependent employment, and that many have entrepreneurial ambitions and skills that remain unutilised. Consequently, the initiative incorporates specialised training and incubation in entrepreneurship and micro-entrepreneurship for participants who prefer to launch their own businesses instead of working for others. This aspect familiarises them with fundamental business planning, financial management, regulatory and fiscal obligations, as well as strategies for accessing markets, credit, and support networks. Additionally, it provides mentorship from seasoned entrepreneurs and, when feasible, access to incubator-

like services such as shared workspaces or prototyping facilities. By fostering the establishment of new enterprises, JVN8 not only creates individual livelihood opportunities; it also has the capacity to produce additional jobs and apprenticeships for other migrants and local workers, thus broadening the overall employability landscape within the regions where it operates. Simultaneously, the intervention integrates job placement assistance in close collaboration with ITS partner companies. Leveraging the documented high demand for ITS Academy graduates, JVN8 acts as an intermediary that prepares candidates, signals their readiness to employers, and facilitates the matching process for apprenticeships, internships, and entry-level positions. Thus, the model capitalises on existing corporate demand for skilled labour while also diversifying the talent pipeline.

Collectively, these four foundational elements establish JVN8 as a systemic link within the larger TVET ecosystem. On one hand, the initiative equips migrants with the necessary linguistic, technical, socio-cultural, and entrepreneurial skills to engage with ITS confidently and to maintain their involvement once enrolled, or to embark on self-employment paths that leverage TVET-related competencies. Conversely, it aids ITS institutions and employers in broadening and enhancing their recruitment avenues, providing them with candidates who have been meticulously prepared and supported throughout their transition into training, employment, or entrepreneurship. Importantly, JVN8 is intentionally positioned as an early-stage, research-informed initiative—a “living laboratory” for exploring whether and how TVET can be effectively redefined as a tool for social innovation in environments characterised by migration and skill shortages. Its potential for scalability is anchored in its modular and flexible design: while it is initially customised to the specific needs of the Italian TVET system, the core principles and program structure could be adapted and implemented in other European contexts where TVET systems face similar challenges in integrating marginalised populations, either as employees or as aspiring job-creating entrepreneurs. The model thus positions itself as a systemic connector: on the one hand, empowering migrants with the skills and confidence to access TVET pathways; on the other, supporting ITS Academies and employers to diversify and strengthen their talent pipelines.

7.1.4.1 Organisational Structure and Sectoral Positioning

JVN8's governance framework is intentionally designed to implement the *triadic sector model* proposed by Nicholls and Murdock (2012), which integrates complementary strengths from the public sector, private sector, and civil society. This hybrid model overcomes the drawbacks of isolated approaches by merging the resource stability and authority of public institutions with the efficiency and market insights of private entities, alongside the contextual understanding and trust networks of civil society organisations. Simultaneously, the framework recognises the inherent management challenges associated with coordinating differing institutional logics, which may include potential conflicts between the imperatives of commercial efficiency and the goals of social inclusion.

The *public sector* element serves as the foundation for JVN8's financial and institutional sustainability, embedding it within the existing governance frameworks of education and the labour market. Funding will be obtained from regional, national, and European skill-development initiatives, including underutilised resources from the European Social Fund Plus (ESF+), and regional employment services. The physical infrastructure will utilise available unused public spaces—such as those overseen by municipalities or regional authorities—to function as JVN8's operational center, thereby minimising costs while enhancing accessibility for migrant participants.

Governance integration will be achieved through formal representation of JVN8 on ITS Academy strategic committees, ensuring alignment of the curriculum and collaborative development of pathways targeted at migrants. Public authorities will also confer credentialing legitimacy, acknowledging JVN8 preparatory modules as valid qualifications or credits toward entry into ITS Academies, and facilitating the recognition of prior learning obtained abroad. Lastly, coordination at the policy level with employment services (such as ANPAL and regional Centres for Employment) will guarantee that JVN8 participants are systematically referred from existing integration programs creating a clear pipeline from reception to TVET.

The *private sector* element introduces commercial discipline, responsiveness to market demands, and direct connections to the labour market. A consortium of employers—sourced from existing ITS Academy partner networks—would pledge to provide job placements, wage subsidies for apprenticeships, and structured work-based learning opportunities specifically designated for JVN8 graduates. Technology partners, including digital platform providers or software companies, would be responsible for developing and maintaining the core matching infrastructure of JVN8, ensuring both scalability and data security.

The involvement of the private sector would also introduce stringent operational management practices aimed at improving efficiency, which would encompass performance monitoring, impact assessment, and ongoing process enhancement. Companies would supply labour market intelligence to inform curriculum development, ensuring that JVN8 training aligns with real-time skill requirements across ITS sectors. Lastly, specialised entrepreneurship incubators and training providers within the private sector would bolster the micro-entrepreneurship component, granting participants access to business coaching, prototyping resources, and pathways for seed funding.

The *civil society* element plays a crucial role in connecting with migrant communities, demonstrating cultural understanding, and possessing advocacy capabilities. Collaborations with non-governmental organisations (NGOs) and migrant associations would provide tailored language education and cultural mediation services, which would include peer-to-peer support networks where individuals help one another navigate institutional and social obstacles. These organisations would also spearhead initiatives aimed at building community trust, such as outreach efforts in reception centers, mosques, and diaspora networks, to enhance awareness of JVN8 and its pathways among populations that are difficult to reach. Civil society representatives would perform vital advocacy roles, voicing the concerns of marginalised groups within the governance of JVN8 and ensuring that the program's

design is responsive to the feedback from participants. Ultimately, strategic collaborations with national, European, and international foundations would offer additional mission-aligned funding, volunteer support, and networks to expand successful practices.

This *triadic governance structure* promotes significant synergies: public resources and legitimacy provide a foundation of stability; the efficiency and market connections of the private sector ensure relevance and impact; and the proximity and advocacy of civil society guarantee inclusivity and adaptability. Nevertheless, it also brings forth well-documented management challenges, such as reconciling different accountability frameworks (taxpayers versus shareholders versus beneficiaries), addressing conflicts between immediate efficiency demands and the creation of long-term social value, and managing power imbalances among partners with varying resources. JVN8 would tackle these issues through established governance protocols—including regular multi-stakeholder forums, shared performance metrics, and mechanisms for dispute resolution—aimed at transforming sectoral tensions into opportunities for productive innovation.

7.1.4.2 *Innovation Mechanisms Functioning Across Various Levels*

JVN8 implements social innovation through a carefully designed multi-level strategy, utilising the framework established by Murray et al. (2010) and Hamalainen and Heiskala (2007). *This methodology includes incremental enhancements that improve existing processes within the limits of current institutional frameworks, institutional innovations that modify coordination and governance structures, and disruptive components that question fundamental assumptions and power dynamics.* Each level contributes to building cumulative capacity: incremental actions yield immediate effects and evidence; institutional embedding guarantees sustainability; and disruptive potential opens avenues for long-term systemic change.

Incremental innovation emphasises specific improvements that can be swiftly executed using available resources and collaborations. *A key element is the creation of bridging modules: targeted 3–6-month programs that merge intensive, culturally tailored language training with the introduction of sector-specific skills pertinent to ITS Academy fields.* These modules prepare participants by familiarising them with technical vocabulary and workplace practices prior to their formal entry into the ITS. Equally significant is the incorporation of *vocational language* instruction directly into apprenticeship programs, integrating technical Italian with practical tasks instead of treating language as a separate requirement. JVN8 would also promote collaboration with employers through strategic partnerships with ITS Academy private sector entities, providing diversity training, bias-reduction initiatives, and adjustments to recruitment processes to enhance accessibility of apprenticeships for migrants. Mentorship serves as another incremental lever: it includes both professional guidance from industry experts and peer mentoring from successful migrant alumni, along with cultural brokers who aid communication across linguistic and normative barriers. Lastly,

micro-entrepreneurship training assists those participants who aspire to pursue independent entrepreneurial ventures. This component not only facilitates self-employment opportunities for individuals but also produces multiplier effects, as new enterprises led by migrants create additional jobs and apprenticeships for both fellow migrants and local workers.

Institutional innovation aims to reorganise organisational structures, governance frameworks, and coordination protocols to unlock hidden system capacity. The digital platform serves as a flagship initiative: an AI-driven matching system that evaluates migrant profiles (skills, aspirations, language proficiency) against job opportunities and training pathways, thus reducing the persistent information asymmetries that currently hinder effective matching. This initiative would be supported by a formal coordination framework: a dedicated governance body comprising multiple stakeholders from ITS, employment services, employers, and civil society, bolstered by consistent inter-agency collaboration protocols and individual case coordination mechanisms to ensure smooth participant experiences. Enhancing the curriculum represents another institutional lever: updating ITS Academy curricula to include pedagogies that are explicitly responsive to the needs of migrants, such as modular credit accumulation, flexible pacing, and culturally relevant case studies. Quality assurance would transition from traditional time-based assessments to competency-based evaluations focused on the learner, with clear pathways for recognising prior learning and certifying JVN8 bridging modules as formal credits.

The *disruptive potential*, constrained by context, arises from more fundamental challenges to established assumptions and power structures; however, these aspirations remain limited due to JVN8's status as an early-stage intervention. One of the key ambitions is to reconceptualise the identity of ITS: positioning technical education not merely as a remedial or secondary option for those academically less capable, but rather as a primary means for social integration and economic contribution, with migrants serving as exemplars of this new perspective. This endeavour would necessitate a critical examination of the legitimacy standards inherent in traditional credential hierarchies: investigating whether academic prerequisites and selection criteria inadvertently exclude competent candidates based on formal qualifications instead of demonstrated potential, while advocating for more flexible access frameworks. Furthermore, JVN8 would confront employer biases through ongoing campaigns that challenge discriminatory hiring practices, documenting and publicising instances of bias, and illustrating the business rationale for including migrants. Ultimately, the intervention would link TVET migrant integration to broader policy discussions, promoting structural reforms that align migration policy, education funding, and labour-market regulations to establish coherent integration pathways rather than disjointed, temporary solutions.

This multi-level framework equips JVN8 with adaptive resilience: incremental mechanisms yield immediate outcomes and foster stakeholder engagement; institutional innovations establish lasting infrastructure; and disruptive components sustain long-term aspirations. The strategy recognises contextual limitations—political

sensitivities surrounding migration, entrenched prestige hierarchies within Italian education, and employer risk aversion—while positioning JVN8 as a pragmatic laboratory capable of demonstrating feasibility and sowing the seeds for more profound change.

7.1.4.3 *Desired Results and Impact Pathways*

The JVN8 intervention aims to produce quantifiable outcomes across various levels of the TVET ecosystem, encompassing individual migrants, employers, ITS institutions, and the wider society. These intended results adhere to well-defined causal pathways that connect programme activities to intermediate outputs and long-term impacts, thereby generating value for all stakeholders while tackling the systemic supply-demand imbalance highlighted in this thesis.

For *migrants*, the key outcomes focus on increased access and enhanced pathways within high-quality TVET and the labour market. Participants would receive improved access to ITS Academy programmes through specialised preparatory support that addresses linguistic, cultural, networking, and technical barriers, allowing them to confidently meet entry requirements. This would ease their transitions to sustainable employment through ITS Academy private sector networks, where graduates gain from organised apprenticeships and placements in high-demand technical fields. In addition to economic integration, JVN8 fosters comprehensive social inclusion through cultural and linguistic skill development alongside labour-market activation, promoting a sense of belonging and mitigating isolation. The acquisition of credentials—both ITS Academy diplomas and recognised JVN8 preparatory certificates—would enhance participants' standing in the labour market, creating opportunities for career advancement and economic independence. Lastly, for those interested in self-employment, the entrepreneurship component would facilitate the establishment of viable businesses, representing an alternative career path that capitalises on migrants' distinctive skills and networks.

For *ITS Academy institutions*, JVN8 tackles the ongoing recruitment issue by boosting enrolment from underrepresented communities, especially migrants and refugees, thus aiding in bridging the enduring supply-demand gap between the number of available student positions and the requirements of employers for graduates. This surge of enthusiastic, well-prepared candidates would elevate the institution's reputation and credibility, establishing ITS as pioneers in inclusive innovation rather than merely niche technical providers. Participation in the programme would also foster internal enhancements, such as improved curricula and increased adaptability in teaching methods to cater to linguistic and cultural diversity. Over time, JVN8 would fortify collaborations with a variety of stakeholders—extending beyond conventional private sector connections to encompass civil society organisations, employment services, and migrant associations—thereby creating more resilient, multi-actor ecosystems surrounding the foundations of ITS.

For *employers*, the initiative offers immediate practical advantages by granting access to a pool of pre-screened and well-prepared candidates who have received training in linguistic, technical, and soft skills. This minimises recruitment challenges and reduces the costs linked to hiring and onboarding, including expenses related to bridging programmes, mentoring, and cultural mediation. Employers would also benefit from the strategic advantages of workforce diversity, such as enhanced innovation stemming from diverse perspectives, increased social legitimacy within communities, and improved market access to varied customer segments. Achieving diversity, equity, and inclusion (DEI) objectives—often associated with corporate social responsibility goals—could unlock related incentives like tax reductions or preferential public procurement. Collectively, these benefits would enhance corporate reputations as inclusive employers dedicated to addressing Italy's skills shortages.

For *society*, the successful implementation of JVN8 would yield substantial public value for society through its cascading effects. A decrease in NEET (Not in Education, Employment, or Training) rates among migrant youth would lead to lower youth unemployment and the associated social costs. Additionally, increased tax revenues resulting from stable employment and entrepreneurial endeavours would enhance public finances. A diminished dependence on social services—such as welfare payments, emergency housing, and integration assistance—would allow for the reallocation of resources to other priorities. Most importantly, JVN8 would foster improved social cohesion by illustrating viable pathways from marginalisation to active contribution, thereby mitigating polarisation surrounding migration and promoting mutual recognition between migrant communities and host societies.

These impact pathways are interrelated: the success of migrants enhances the capacity of ITS Academy and employers, which subsequently generates societal benefits that create a positive feedback loop for further investment and scaling. Consequently, the model positions JVN8 not merely as a charitable initiative, but as a catalytic mechanism that addresses multiple systemic dysfunctions within Italy's TVET landscape.

7.1.4.4 Structural Limitations and Constraints

Although JVN8 presents considerable potential, its execution is hindered by structural limitations characteristic of social enterprises functioning within Italy's institutional and policy framework. These challenges are openly recognised here, along with specific strategies for mitigation, to offer a pragmatic evaluation of feasibility and scalability.

1. Constraints related to capital formation and scaling: The legal framework governing social enterprises in Italy, which forbids the distribution of profits to investors, significantly restricts JVN8's ability to access growth capital. Traditional avenues such as venture capital or private equity investments are not viable, as returns cannot be allocated as dividends. As a result, expansion is heavily dependent on reinvested surpluses (which are limited due to the mission-driven pricing model), competitive grants, or subsidised public loans that come with stringent

conditions and protracted approval processes. Scaling into various regions necessitates considerable investment in internal organisational capabilities—such as hiring personnel, forming local partnerships, and modifying programs—which progresses at a much slower pace compared to franchise models or direct acquisitions that utilise existing infrastructure. Furthermore, the development of the proprietary digital technology platform incurs high initial costs without the profit-oriented investment incentives that commercial enterprises enjoy, leading to a continuous funding shortfall for technological advancement.

The *strategies for mitigation* focus on hybrid financing and structural adjustments. Registering JVN8 as a *società benefit*—Italy's equivalent of a benefit corporation—would convey mission integrity to impact investors while allowing for limited profit retention for reinvestment purposes. Forming long-term partnerships with the public sector, such as memoranda of understanding with regional governments or agencies implementing the PNRR, would lessen reliance on philanthropic funding by securing commitments over multiple years.

2. Risk of mission drift: As JVN8 expands and interacts with a variety of stakeholders, the threat of mission erosion intensifies. Employers may tend to choose "pre-screened" candidates who are viewed as lower risk, thereby marginalising individuals from the most disadvantaged backgrounds and undermining the focus on equity. The efficiency demands from funders or technology partners could compromise comprehensive support for marginalised groups, favouring shorter, less expensive interventions instead of holistic support. Commercial pressures related to platform sustainability—such as offering premium features for corporate clients—might gradually overshadow social objectives. Local implementing partners may modify programs to align with regional preferences (for instance, prioritising unemployed youth from the local community) rather than adhering to the specific needs of migrants.

To *mitigate* these risks, proactive governance design is essential. Implementing a structural distribution limit—legally restricting surpluses allocated for non-mission purposes—would offer robust protection against financialisation. Stakeholder governance should incorporate mandatory representation from migrant community organisations, ensuring that the voices of beneficiaries influence strategic decisions. Transparent monitoring of outcomes, with equity metrics (such as the proportion of participants from priority vulnerability groups) given greater weight than overall employment rates, would render any drift immediately apparent. Lastly, the criteria for leadership selection must emphasise proven commitment to the mission over mere operational proficiency.

3. Policy and legal obstacles: JVN8 functions within restrictive immigration and labour law frameworks. Limitations on asylum-seekers' work opportunities hinder their eligibility for apprenticeships during periods of uncertain legal status. Visa regulations prevent certain categories of migrants from participating in training programs. The processes for recognising educational credentials remain bureaucratic and lengthy, causing delays in the validation

of qualifications from their home countries. While employer discrimination can be partially addressed through bias training, it reflects deeper institutional patterns that no single intervention can eliminate.

Mitigation strategies are inherently limited yet multifaceted. Policy advocacy would strategically connect TVET migrant integration to broader migration reform initiatives, positioning JVN8 as a case study for scalable solutions. Integrated legal support services would assist in navigating immigration processes and securing temporary work authorisations for training purposes. Intermediate certification mechanisms—such as JVN8 competency badges—would document the skills acquired even when formal credentials are pending, offering employers credible indicators of readiness.

4. *The balance between systemic and incremental innovation:* Although JVN8 encompasses all levels of innovation, its disruptive capacity is inherently limited. It is unable to independently reform immigration policies, dismantle labour market discrimination, or challenge the prestige hierarchy that favours academic education over technical training—this stratification mirrors broader societal values that are unlikely to change through isolated efforts. While employer biases can be addressed on an individual basis, they are perpetuated through networks and practices that extend beyond the influence of JVN8. In the absence of sustained political commitment to concurrent reforms, both incremental and institutional innovations risk being reduced to mere tactical enhancements rather than authentic transformation.

The fundamental structural limitation is evident: regardless of its innovative design, social entrepreneurship cannot single-handedly dismantle systemic barriers without the backing of supportive policy ecosystems. Consequently, JVN8 positions itself in a realistic manner—as potentially a high-impact intervention that illustrates feasibility, generates evidence, and advocates for the necessary enabling conditions for systemic change.

7.1.4.5 *Contributions of the JVN8 Proposal to Doctoral Research*

The formulation and detailed exploration of JVN8 as a social innovation intervention represents a significant contribution of this doctoral research, functioning on three interconnected levels that collectively enhance both theoretical comprehension and practical implementation in the domain of social innovation and Technical and Vocational Education and Training (TVET).

On the *theoretical* level, JVN8 introduces a fresh perspective on Technical and Vocational Education and Training (TVET) that goes beyond its traditional function as a tool for workforce preparation. It reframes TVET—particularly Italy's ITS Academy system—as essential infrastructure for comprehensive social inclusion, adept at simultaneously addressing labour-market skill deficiencies and the marginalisation of migrants. This viewpoint not only aligns with but also expands upon social innovation theory by illustrating how TVET can serve as a catalyst for rethinking

entrenched institutional frameworks: transitioning from isolated public service delivery and market-driven demands to collaborative, multi-sectoral structures that confront the fundamental causes of exclusion, such as the non-recognition of credentials, language barriers, and discriminatory practices. Consequently, the JVN8 initiative enhances the conceptual resources available for examining education systems, not merely as components of human capital development, but as arenas for intentional institutional transformation with significant social impact.

On the *application* level, it signifies a notable shift away from the predominantly descriptive or analytical methodologies prevalent in much of the literature concerning TVET and migrant integration. By methodically developing JVN8 as a thoroughly defined intervention—complete with governance frameworks, operational processes, impact pathways, and risk management strategies—this research directly addresses the enduring calls within the field of social innovation for a heightened focus on experimental and participatory interventions that bridge the gap between theory and practice (Evers, Ewert, & Brandsen, 2014). Furthermore, the proposal actualises the "prototyping" methodology promoted in foundational social innovation literature (Murray et al., 2010), where entrepreneurial ventures serve as real-world laboratories for the iterative testing, refinement, and validation of research hypotheses in genuine implementation contexts. Consequently, JVN8 serves as a prime example of how doctoral research can produce actionable prototypes that transcend academic discussions to influence policy formulation and organisational practices.

Ultimately, JVN8 connects theory and practice by effectively operationalising the theoretical assertion—developed throughout this thesis—that TVET represents a feasible social innovation mechanism for the integration of migrants (Franz et al., 2012). Instead of remaining a mere abstract proposition, this idea is empirically tested through the creation of a live social startup intervention, whose structure directly reflects the multi-level innovation framework, triadic sectoral logics, and barrier-mapping analysis detailed in earlier chapters. JVN8 is not presented as a conclusive or universally applicable solution; rather, it is introduced as a rigorously research-based intervention that could function as a testable hypothesis for the primary research question of this thesis. Specifically, it suggests that if migrants and refugees from marginalised backgrounds are provided with structured preparatory support—including language enhancement, technical bridging, mentorship, employability through entrepreneurship, and assistance with labour market placements—then both their social integration and enrolment rates in TVET pathways can be improved. Consequently, this would address the ongoing and significant demand from corporate partners for graduates with technical skills, thus improving overall labour market efficiency while creating beneficial spillover effects for employers, ITS Academies, and society as a whole. Therefore, future empirical validation of JVN8 would yield strong evidence regarding the conditions under which TVET-driven social innovation can produce transformative results in scenarios involving migration and skills mismatch.

7.1.4.6 Avenues for Validating JVN8

As an intervention, JVN8 opens several avenues for further research:

- *Testing & Validation:* The intervention's feasibility, desirability and viability are still being tested. One of the testing methods I have already started is conducting focus groups and interviews for potential beneficiaries managed by NGOs (centri di accoglienza) or independent ones with whom I can conduct one-on-one interviews. However, it's proved to be difficult to conduct focus groups, only 1 has been conducted with positive results, however. While 5 other attempts have proved difficult to organise. On the other hand, validation of the idea and its feasibility needs to be tested on the employer/ITS side, and that is in the process of development through a landing page that will be share with potential partners.
- *Impact Evaluation:* Testing the model through pilot programs could generate evidence on outcomes such as ITS enrolment, job placement, income gains, and community integration.
- *Governance Analysis:* Examining the multi-stakeholder collaboration required (ITS, companies, NGOs, public institutions) would shed light on governance models for social innovation.
- *Financial Sustainability:* Experimenting with impact-linked finance, public-private partnerships, and outcome-based instruments could provide insights into sustainable funding models.
- *Comparative Studies:* Cross-national comparisons with countries such as Germany (dual VET system with migrant integration) or the Netherlands could contextualise Italy's approach within broader European trends.

In summary, JVN8 represents the translation of research findings into an intervention, embodying the principle that doctoral research in social innovation should not only interpret reality but also propose new pathways for change. By positioning TVET as a social innovation infrastructure, and by designing JVN8 as an applied response, this research contributes both to academic debates and to practical solutions for one of Italy's most pressing systemic challenges: the integration of migrants and refugees into dignified, future-oriented employment.

Furthermore, social entrepreneurship actualises social innovation by converting theoretical frameworks into sustainable institutional structures, mechanisms for stakeholder mobilisation, and adaptive methodologies. This chapter has illustrated:

1. *Foundational triadic architecture:* Social entrepreneurship includes the individual entrepreneur, the organisational entity, and the dynamic processes through which social value is generated—each component is vital and interconnected.
2. *Multi-level innovation:* Social entrepreneurship functions across incremental (service enhancement), institutional (structural changes), and disruptive (systemic transformation) levels of innovation. A thorough integration necessitates all three, although each encounters unique limitations.

3. *Sector boundary dynamics*: Innovation thrives at the intersections of public, private, and civil society sectors. The integration of TVET and migrants inherently demands sectoral hybridity, as no single sector possesses the necessary capabilities.
4. *Legal infrastructure significance*: Italy's non-distribution constraint offers mission protection but imposes limitations on capital formation and scaling compared to European jurisdictions that allow for limited profit distribution. Strategic legal reforms could improve scaling potential while maintaining mission integrity.
5. *Empirically grounded mechanisms*: Social entrepreneurship confronts identified barriers through targeted mechanisms: platform-based information access, bridging programs, coordination infrastructure, employer involvement, and comprehensive support.
6. *Case evidence*: The examples of Switzerland's PAI and Denmark's IGU illustrate the feasibility of institutional innovation; Austria's reversal highlights policy susceptibility. Neither social entrepreneurship nor institutional innovation can guarantee sustainability without political commitment.
7. *JVN8 as instantiation*: JVN8 implements multi-level innovation within Italy's non-distribution framework, positioning itself as a sectoral hybrid that leverages public authority, private efficiency, and civil society trust.
8. *Necessary insufficiency*: Social entrepreneurship plays a crucial role in implementing TVET innovation; however, it cannot solely address policy obstacles, financial limitations, or entrenched cultural and institutional resistance. Its success is contingent upon alignment with supportive policy reforms, transformative advocacy, and inclusive democratic practices.

Moving forward necessitates viewing social entrepreneurship not as a cure-all but as a vital component within a comprehensive transformation strategy. The potential of JVN8 resides in its ability to illustrate that inclusive TVET can be practically achieved through innovative organisational structures, stakeholder collaboration, and flexible mechanisms. For it to scale effectively, it requires supportive policy reforms, a commitment from political leaders, and connections to movements advocating for migrant rights and equity in the labour market. While social entrepreneurship offers the necessary operational frameworks, achieving systemic change demands political determination and social engagement that extends beyond mere entrepreneurial efforts.

8. Conclusion

This thesis aimed to determine whether Italy's ITS system could be transformed into a tool for social innovation to promote labour-market inclusion for migrants and refugees, and if so, in what manner. By employing an integrated analysis that merges social-innovation theory, frameworks of social entrepreneurship, comparative research on TVET, and qualitative fieldwork conducted in Lombardy, the study contends that ITS indeed possesses the necessary institutional characteristics to fulfill this function—but only when supplemented by targeted, hybrid mechanisms such as JVN8.

8.1 Synthesis of Findings

Initially, the conceptual chapters illustrated that social innovation and social entrepreneurship provide significant perspectives for comprehending how novel combinations of actors, resources, and regulations can tackle deep-rooted exclusion, while also emphasising the potential risks of mission drift, negative externalities, and institutional resistance. Furthermore, the comparative evidence from TVET indicated that dual and apprenticeship-based systems, when bolstered by pre-vocational programs and comprehensive services, can yield considerable integration benefits for migrants, as evidenced in Germany, Switzerland, and Denmark. However, these benefits are precarious and politically dependent. Lastly, the examination of Italy's educational framework and ITS governance disclosed that, despite high placement rates and robust employer engagement, the system is still fundamentally limited by low visibility, restricted scale, regional inequalities, and inadequate outreach to migrant communities.

8.2 JVN8's Role and Contribution

In light of this context, the empirical research conducted with ITS directors and firms in Lombardy elucidated the particular mechanisms that hinder the impact of ITS—namely, inadequate guidance, competition for a limited number of students, and the lack of strong intermediaries capable of facilitating the integration of migrants into the system. JVN8 was conceived as a solution to these deficiencies, embodying principles of social entrepreneurship by combining digital matching, modular training, mentoring, and multi-stakeholder governance into a cohesive intervention strategy. While the intervention does not purport to address macro-structural issues such as restrictive immigration policies or disparities in regional funding, it illustrates a feasible and institutionally supported approach for broadening ITS recruitment and improving migrant inclusion.

8.3 Normative and Policy Implications

The thesis suggests that discussions surrounding migrant integration and labour-market reform in Italy ought to place greater emphasis on TVET—and specifically on ITS—as arenas where social innovation can be effectively implemented, rather than solely concentrating on the expansion of universities or passive activation strategies. Policymakers and practitioners are urged to endorse hybrid interventions like JVN8 that capitalise on existing institutional strengths, engage employers as co-governors rather than mere recipients, and acknowledge migrants and refugees as valuable contributors to economic advancement rather than as surplus labor.

8.4 Concluding Remarks

In summary, the thesis asserts that ITSs can serve as catalysts for social innovation in the integration of migrants, provided that intentional strategies are employed to address informational, institutional, and political barriers. Within this framework, social entrepreneurship is not merely a cure-all or a peripheral enhancement; rather, it constitutes an

essential operational component that transforms lofty policy narratives into tangible practices and connections, thereby creating new opportunities for inclusive development within Italy's changing skills landscape.

9. Limitations

9.1 Scope and Design Limitations

The primary constraint pertains to the qualitative and case-study nature of the research design. Although the focus on Lombardy and three ITS Academies is both theoretically and empirically justified, it limits the generalisability of the findings to other Italian regions that possess different industrial structures, institutional capacities, and migrant profiles. The interview data collected from ITS leaders and firms tend to favor the viewpoints of relatively successful participants; consequently, the perspectives of current and prospective migrant students, street-level bureaucrats, and social-service providers are inadequately represented, which may skew interpretations towards supply-side and organisational issues.

Two further design limitations deserve explicit statement. First, the territorial scope: the focus on Lombardy was set ex ante by the research team and by the institutional setting of the MHEO observatory, and is now declared in the title of the thesis; Lombardy is also, analytically, the strongest regional configuration of the ITS system and the principal destination of migrant flows. Italian VET is nonetheless marked by deep territorial differentiation, and the mechanisms observed in Lombardy—dense industrial networks, structured employer engagement, well-resourced Foundations—cannot be assumed to operate in central and southern regions with thinner ITS provision and weaker labour demand. The findings should therefore be read as evidence from a most-favourable case, and their extension to weaker regional contexts remains an open empirical question. Second, there is a partial misalignment between the stated research focus and the empirical strategy, which is the direct consequence of the sequential development of the research: the interviews were designed to study ITS–firm collaboration in general, and it was their findings—the structural shortage of students relative to employer demand—that redirected the thesis towards migrant integration as a social innovation response. Because this pivot post-dated the fieldwork, and time constraints precluded re-interviewing the same ITS Academies and partners, the migrant perspective was captured only through a single focus group of eleven participants who shared the same country of origin, through informal confirmatory exchanges with unaffiliated ITS executives at the Social Innovation Campus in Milan's MIND district, and through a survey whose response rate (10–15 of more than 150 invited) was too low to be usable. The migrant dimension is thus under-operationalised in the fieldwork relative to its weight in the argument; the thesis mitigates this by drawing on secondary comparative evidence and by framing JVN8 explicitly as a proposal requiring migrant-led validation.

9.2 Data Limitations

A further limitation pertains to the nature and extent of the empirical material that supports the thesis hypothesis. The fundamental assumption regarding the relationship between ITS institutions, private-sector partners, and migrant integration is primarily based on interpretations of interview quotations and narrative accounts provided by ITS executives and firm representatives, rather than on systematically validated measurements or triangulated data sources. Although the hypothesis was inductively derived from patterns observed during these interviews, it was not subsequently presented to, or formally discussed with, the same respondents to confirm, refine, or reject the inferred causal mechanisms. This oversight renders the interpretation susceptible to respondent misrepresentation, selective recall, and researcher over-interpretation. Three considerations temper, without eliminating, this risk. First, the interview material was not read in isolation: the accounts of each ITS Academy's executives were cross-checked against those of its own partner companies and set against the secondary quantitative evidence of the MHEO reports and the INDIRE monitoring data, which independently document the recruitment gap at the centre of the hypothesis. Second, the thematic analysis followed a declared coding procedure combining inductive and deductive categories, so that the interpretive steps leading from quotation to inference remain traceable rather than impressionistic. Third, as noted above, the substance of the hypothesis was informally echoed by executives of ITS Academies unconnected to the study at the Social Innovation Campus event in Milan's MIND district, which offers at least anecdotal reassurance against pure researcher projection. What these mitigations cannot replace, however, is formal member-checking: a structured second round of engagement in which the inferred causal mechanisms are presented to the original respondents for confirmation, refinement or rejection. That exercise—together with the expert consultation discussed below—is therefore built into the validation agenda set out in the following section and in the Future Research chapter.

A related data limitation concerns the comparative chapter: the Germany–Italy analysis relies on heterogeneous secondary sources with differing definitions, reference periods and populations, and compares institutionally non-equivalent systems—a dual apprenticeship regime and a predominantly school-based one. The structural and regulatory differences between the two systems, the substantial reform trajectory of Italian vocational education over recent decades, and the closer analytical match offered by Italian type-1 apprenticeships are acknowledged in the concluding summary of that chapter; the comparative findings should accordingly be read as regime-level contrasts rather than programme-level estimates. Similarly, the empirical material on the migrant side is thin: the focus group underpinning the assessment of migrant needs involved a small number of participants of a single national origin—access to further groups was constrained by the limited responsiveness of the NGOs managing reception centres (*centri di accoglienza*)—and a later survey attempt reached only 10–15 respondents out of more than 150 invited, a response rate too low to support inference. These constraints restrict the diversity of viewpoints represented and weaken the external validity of conclusions regarding migrant needs, expectations and potential engagement with JVN8.

9.3 Validation of Hypothesis

Time and logistical constraints further restricted the ability to conduct follow-up interviews or dedicated focus groups specifically aimed at testing the hypothesis and exploring alternative explanations. Consequently, the empirical foundation for the proposed mechanisms remains suggestive rather than definitive, and the thesis cannot assert that it has conclusively established either their generality, desirability, viability or feasibility. In relation to this, although the existing literature on TVET, social innovation, and migrant integration provides indirect support for the suggested relationships, the study was unable—again due to time and access limitations—to include the perspectives of academics and professionals who specialise in migrant skills development, credential recognition, or integration policy, as well as diverse stakeholders' point of view on the feasibility, viability and desirability of the intervention including public and private institutions, funders and employers. The lack of these expert insights diminishes opportunities for critical scrutiny, theoretical triangulation, and contextualisation of the field evidence.

Collectively, these data limitations suggest that the current formulation of the hypothesis should be viewed as a theoretically plausible and empirically informed proposition rather than a fully validated assertion. Future research could fill this gap by designing iterative, theory-driven data collection cycles that explicitly test the hypothesis with key stakeholders, and by incorporating expert interviews or Delphi-style consultations with scholars and practitioners in the migration and skills development sectors.

9.4 JVN8's Causal Inference and Assessment

The thesis constructs JVN8 as an intervention that is both theoretically and empirically supported, yet it does not put it into practice or assess its effectiveness. Consequently, assertions regarding its efficacy are inherently speculative and rely on comparisons with international programs and the expectations of stakeholders, rather than on actual measured outcomes. The intricate causality associated with social innovation—where results are influenced by changing coalitions, policy contexts, and macroeconomic factors—further restricts the research's ability to attribute future developments in migrant integration exclusively to any one intervention.

9.5 Normative and Positional Limitations

Finally, the research is explicitly normative in its orientation towards inclusion and social justice, and it is conducted from the standpoint of an engaged scholar proposing a concrete intervention. While this reflexive stance is acknowledged, it may still influence how problems are framed (e.g. emphasising system failures rather than individual agency) and which trade-offs are foregrounded in the analysis of policy options. Future work should complement this perspective with more critical, participatory and migrant-led evaluations of both ITS and JVN8.

10. Future Research

10.1 Empirical Assessment of JVN8 and Associated Interventions

A primary focus for forthcoming research should be the transition from intervention development to prototype development and then to the implementation and thorough evaluation of JVN8 or similar social-entrepreneurial intervention within the ITS ecosystem. Employing mixed-methods approaches—integrating longitudinal administrative data, quasi-experimental designs where applicable, and qualitative follow-up especially with the ITS side to validate the hypothesis and idea—could evaluate effects on enrollment, completion, employment, job quality, and subjective integration for both migrant and non-migrant participants. Comparative analyses across regions testing various models would shed light on how local governance, industrial frameworks, and civil-society capabilities influence effectiveness.

A first step in this direction is already scheduled. Starting in September 2026, JVN8 will undergo its first empirical test through a pilot project conducted within the Human Hall project and the work, school and university help desk operating in Milan’s San Siro area, ‘Hub dei Talenti’. The pilot will test JVN8’s orientation function towards technical and vocational education pathways — including the Centri di Formazione Professionale (CFP) and the ITS Academies — with the help desk acting as the first point of contact through which potential beneficiaries are informed, assessed and accompanied towards suitable TVET options. Beyond its operational value, the pilot will provide the first field evidence on the desirability and feasibility mechanisms discussed in this thesis, and its results will feed directly into the broader validation agenda outlined in this section.

10.2 Micro-Level Insights and Migrant Agency

Furthermore, additional research is required to understand the lived experiences, aspirations, and strategies of migrants and refugees as they navigate the Italian education and labour market systems, as due to time restrictions, only one focus group was conducted. Ethnographic and participatory methodologies could investigate how young individuals view ITS in comparison to alternative options, how family expectations, legal status, and gender dynamics influence their decisions, and how they confront or resist discrimination during recruitment and training processes. This research would enhance the institutional and organisational emphasis of this thesis and may uncover further barriers or resources that remain obscured from the perspective of ITS and businesses.

10.3 Territorial Extension: Regional Disparities and Migration Dynamics

A further research priority follows directly from the territorial limitation of this study: extending the analysis beyond Lombardy to regions with weaker industrial structures and thinner ITS provision, particularly in central and southern Italy. Such an extension should integrate three data layers that this thesis could not systematically combine: the territorial distribution of migrant and refugee populations, the regional distribution and capacity of ITS Foundations, and—where obtainable—data on migrant participation in ITS pathways, ideally prompting the national monitoring system to record enrolment by migration background. Combined with a systematic comparison between German dual apprenticeships and Italian type-1 apprenticeships, this territorial research agenda would test whether the mechanisms identified in Lombardy hold, weaken or reverse in less favourable institutional contexts, and would thereby address the socio-economic and regional dimensions of ITS effectiveness that remain open in this thesis.

10.4 Social Innovation, Politics, and Path Dependence

Finally, it is essential to further investigate the political dynamics that either facilitate or hinder social innovation within Technical and Vocational Education and Training (TVET). Research could explore the emergence of coalitions that advocate for migrant-inclusive reforms, their interactions with broader narratives concerning national identity and economic competitiveness, and the reasons why certain countries (or specific regions within countries) maintain supportive policies while others face sudden reversals, as exemplified by the Austrian case. Analysing historical-institutional factors related to path dependence, critical junctures, and policy learning would enhance our understanding of how social-entrepreneurial interventions can achieve sustainability instead of merely functioning as project-based experiments.

10.5 Confirmation of Thesis Hypothesis with ITS and Partners

As the thesis hypothesis was born as an observation of the initial interviews conducted, that had a format focusing on the general ITS-private sector partner relationship dynamics and how the ITS as a foundation functions, future research would focus on the validation of the thesis' hypothesis rather than a mere analysis of some of the statements of executives on both sides (ITS/companies). In addition, future research would also validate the idea of JVN8, and whether they see it as a viable solution to the hypothesis I made in this thesis.

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Annex

This Lean Canvas Belongs to: Ahmed Orban / Juvinate (JVN8) (your name/business name)

Now it's your time! Let's fill out this canvas with your business idea!

01 Problem - Social Assistance organisations face challenges to prepare refugees for social, education-system and labour market integration which leaves refugees vulnerable and becoming part of the problem rather than a solution to Italy's labour crisis. TVET higher education Institutes (ITS) & high schools (tbc) in Italy, and their corporate partners struggle with students enrolment, resulting in an imbalance between supply (graduates from ITSs) and demand for graduates by those corporate partners.	02 Solution - In-person/online trainings to up-skill refugees culturally, lingually and technically (basic skills) managed by social organisations that could be later on enrolled into ITS institutions and thus have a clear path into the labour market through ITS' corporate partners	04 Unique Value Proposition - We up-skill refugees managed by social assistance organisations to eventually prepare them for enrolment in the TVET system (high schools and higher education) and thus provide them with a clear path to the labour market, and economic and social integration	05 Unfair Advantage - Focusing on a niche: 1. Social organisations 2. TVET high schools 3. TVET higher education (ITS) 4. ITS corporate partners This is driven by my understanding of the TVET system in Italy and having the right connections to it through my PhD research that helped me discover the problem in the first place
Existing Alternatives - Skill development orgs (companies and NGOs) (I have an initial research that needs deepening) - Refugees & immigrants integration orgs	03 Key Metrics What are their KPIs? How can I help them achieve their KPIs? # social assistance orgs onboarded # of students trained % of training conversion (direct sales) # of students graduated	06 Channels Inbound: a. Auto → SM and Website b. Manual → Transport, billboards, and online Newspaper ads) Outbound: a. Auto → Youtube and TV ads (not sure) b. Manual → Attending events related to refugees and labour market integration, Reaching out to social assistance organisations to test willingness to test the idea	07 Customer Segments B2B: Initially: - Social assistance organisations Later stages: - TVET institutions aka ITS - TVET high schools - ITS corporate partners Early Adopters Social assistance orgs. (research their problems, their news, their pains & gains, what are they trying to implement) How can you help them to resolve those issues?
08 Cost Structure Variable: - Marketing & branding costs - Trainers (freelancers) - venues - Travel and event costs - Admin (not sure whether fixed or variable) Fixed: - Website development & materials costs		09 Revenue Streams - Direct Sales from selling trainings to social assistance organisations	

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