

Vocational Education and Workforce Readiness in Switzerland

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Abstract

Vocational education and training has emerged as the cornerstone of Switzerland's workforce readiness strategy, with the country maintaining one of the lowest youth unemployment rates globally through a distinctive dual-track system that integrates workplace practice with classroom instruction. This study examines the mechanisms, outcomes, and challenges of Switzerland's vocational education and training system, drawing upon national policy frameworks, institutional case studies, and empirical evidence from employer surveys and graduate outcome data. Switzerland's approach is distinguished by the collective governance model involving the Confederation, cantons, and professional organisations; the predominance of dual-track apprenticeships engaging approximately 90% of upper-secondary VET students; the systematic alignment of training content with actual labour market demand across approximately 250 recognised occupations; and the high degree of permeability enabling vertical and horizontal progression between vocational and academic pathways. The research identifies four critical success factors: strong public-private partnerships with employer ownership of training content, nationally standardised yet locally adaptable competency-based curricula, the integration of general education within vocational programmes, and comprehensive support systems for at-risk learners including two-year programmes and case management. Findings indicate that Swiss VET generates positive cost-benefit ratios for training companies, produces graduates with qualifications that are nationally recognised and internationally comparable through the National Qualifications Framework, and maintains strong social prestige comparable to academic pathways. However, persistent challenges include regional variation in programme prevalence, the need for continuous curriculum updating to reflect technological change, emerging prestige differentials favouring academic education, and the gendered nature of apprenticeship placements. The study concludes that Switzerland's VET model offers a replicable framework for workforce readiness that other nations can adapt, while highlighting the necessity of employer engagement, governance coherence, and sustained investment in maintaining the currency and prestige of vocational qualifications.

Keywords

Vocational Education And Training, Dual System, Apprenticeship, Workforce Readiness, Switzerland, Competency-Based Curriculum, Labour Market Alignment, Permeability, Collective Governance, Professional Education



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INTRODUCTION

The relationship between vocational education and workforce readiness has become increasingly salient in global policy discourse as nations grapple with youth unemployment, skills mismatches, and the accelerating pace of technological change. Switzerland stands as one of the most instructive cases in this discourse, having developed a vocational education and training system that is widely regarded as a global benchmark for aligning education with labour market needs while maintaining high social prestige and extensive progression opportunities. With approximately two-thirds of young people enrolling in vocational programmes after compulsory schooling and youth unemployment rates consistently among the lowest in the world, Switzerland demonstrates that vocational education can be a first-choice pathway rather than a second-best alternative to academic education. This introduction provides a narrative overview of the theoretical foundations, historical development, and contemporary specificities that inform the study of vocational education and workforce readiness in Switzerland.

The theoretical foundations of vocational education draw upon human capital theory, which posits that education and training represent investments that enhance individual productivity and economic returns, and upon signalling theory, which suggests that qualifications serve as credentials that communicate competence to employers. In the Swiss context, these theoretical perspectives are complemented by the concept of collective skill formation, which emphasises the role of employer associations, trade unions, and state actors in collaboratively designing and governing vocational training systems that serve both individual and collective interests (Busemeyer & Trampusch, 2012). The Swiss model exemplifies what Thelen (2004) terms "coordinated capitalism," wherein economic coordination occurs through non-market institutions such as employer associations and professional organisations that possess the capacity and incentive to invest in workforce skills.

Switzerland's vocational education system has deep historical roots, tracing its origins to the medieval guild system wherein craftsmanship was transmitted through structured apprenticeships. The modern dual system was codified in 1933, building upon the pioneering work of institutions such as the Watchmaking School in Geneva, established in 1924 as the first vocational school to systematically combine theoretical instruction with practical training. Since then, the tripartite partnership between the Confederation, the cantons, and professional organisations has evolved

into a sophisticated governance structure that ensures national consistency while preserving local adaptability. The Federal Vocational and Professional Education and Training Act (VPETA) and its accompanying Ordinance (VPETO) provide the legal framework, while approximately 250 federal training ordinances govern individual occupations, each developed in consultation with the professional organisations that represent employers and workers in the respective fields.

The structure of Swiss upper-secondary vocational education is distinctive in its dual-track design. Approximately 90% of VET students pursue dual-track apprenticeship programmes, combining three to four days per week of workplace training at a host company with one to two days per week of theoretical instruction at a vocational school, supplemented by inter-company courses at branch training centres. The remaining 10% pursue full-time school-based programmes, with prevalence varying regionally—the French- and Italian-speaking cantons relying more heavily on school-based routes than the German-speaking cantons. Both pathways lead to the same federally recognised qualifications: the Federal VET Diploma (Eidgenössisches Fähigkeitszeugnis, EFZ) after three or four years, or the Federal VET Certificate (Eidgenössisches Berufsattest, EBA) after two years. This structural duality ensures that learners acquire both occupation-specific practical skills and the general education foundation necessary for lifelong learning and civic participation.

The governance of Swiss VET represents a model of collective responsibility that distributes roles across multiple stakeholders while ensuring coherence. The Confederation plays a strategic role, enacting training ordinances, approving examination regulations, and providing performance-based subsidies to cantons. The 26 cantons are responsible for implementation, supervising apprenticeships, operating vocational schools, and providing career guidance services. Professional organisations—including employer associations, trade unions, and sectoral bodies—are deeply involved in defining training content, developing education plans, organising inter-company courses, and administering qualification procedures. This tripartite governance ensures that training content remains aligned with labour market needs, as employers have direct input into curriculum design and a vested interest in the quality of graduates. As one Swiss official noted, the system is "the shared understanding between the private sector and the government," leading to "greater ownership of stakeholders due to consensus-based decisions and shared responsibilities."

The international context reveals that Switzerland's VET model has generated substantial interest as a potential template for other nations. The Swiss Agency for Development and Cooperation (SDC) has supported VET reform projects in countries including North Macedonia, Serbia, and Vietnam, adapting dual VET principles to local contexts rather than replicating the Swiss model wholesale. The European Training Foundation and the OECD have documented the Swiss system extensively, identifying its cost-effectiveness, strong labour market outcomes, and high social prestige as distinctive strengths. However, experts caution that the Swiss model cannot be simply transplanted; its success depends upon specific institutional preconditions including strong employer associations, a tradition of social partnership, and public investment in vocational schooling that may not exist in other contexts.

Despite its strengths, the Swiss VET system faces emerging challenges that threaten its equilibrium. Demographic shifts, including declining youth cohorts, have created competition for apprenticeships in some sectors while leaving shortages in others. Technological change, particularly digitalisation and automation, requires continuous updating of training content across all occupations, with ordinances typically revised every five years to reflect economic and technological developments. The COVID-19 pandemic disrupted apprenticeship placements and forced rapid adaptation to remote learning, testing the resilience of the dual system's workplace-dependent model. Perhaps most significantly, subtle shifts in social prestige have emerged, with some families increasingly favouring academic pathways despite the excellent employment outcomes of VET graduates. As one Swiss expert acknowledged, "we are not immune to creeping trends in society which tend to attribute a higher prestige to general and academic education."

The concept of workforce readiness in the Swiss context extends beyond immediate job placement to encompass lifelong learning capacity, career adaptability, and the foundation for further education. The Swiss VPET system is designed with high permeability, enabling learners to pursue advanced qualifications, switch between vocational and academic pathways, and reorient their careers throughout their working lives. Graduates of three- or four-year VET programmes can obtain the Federal Vocational Baccalaureate, which grants access to Universities of Applied Sciences without entrance examination, or sit the University Aptitude Test to enter traditional academic universities. Alternatively, they may pursue tertiary-level professional education through federal examinations or professional colleges, preparing for technical and managerial roles. This permeability

ensures that vocational education is not a dead-end but a foundation for continuous advancement.

In conclusion, Switzerland's vocational education and training system represents a historically evolved, institutionally embedded, and continuously adapting model that has achieved remarkable success in preparing young people for workforce participation. This study examines the mechanisms through which the Swiss VET system maintains its effectiveness, the outcomes it produces for students, employers, and the broader economy, and the challenges it faces in an era of rapid technological and social change.

METHODS

This study employed a qualitative multiple case study design to investigate vocational education and workforce readiness in Switzerland, drawing upon policy documents, institutional data, and stakeholder perspectives to develop a comprehensive understanding of how the Swiss VET system prepares young people for labour market participation. The methodological approach was informed by Yin's (2018) case study methodology, which is particularly suited to examining complex phenomena within their real-life contexts when the boundaries between phenomenon and context are not clearly evident. Given the multi-stakeholder nature of Swiss VET—encompassing federal and cantonal authorities, professional organisations, training companies, vocational schools, and learners—a case study approach was deemed most appropriate for capturing the governance dynamics and implementation variations across the system.

The research examined five distinct institutional cases purposively selected to represent diversity in programme type, occupational field, and regional context. The cases comprised a dual-track apprenticeship in polymechanics (manufacturing mechanics) at a medium-sized engineering company in the German-speaking region, representing the dominant technical apprenticeship model; a full-time commercial school (Handelsmittelschule) programme in the French-speaking region, illustrating the school-based VET pathway; a two-year retail sales apprenticeship (EBA programme), representing the inclusive pathway for lower-achieving students; a tertiary-level professional education programme at a University of Applied Sciences, demonstrating progression pathways; and the Swiss Federal University for Vocational Education and Training (SFUVET), representing the institutional infrastructure for VET teacher preparation and research. This selection enabled both within-case analysis, to understand the unique characteristics of each pathway, and cross-case analysis, to identify common patterns and systemic features.

Data collection involved three primary methods: document analysis, semi-structured interviews, and analysis of administrative and survey data. Document analysis examined federal legislation including the Vocational and Professional Education and Training Act (VPETA) and Ordinance (VPETO), training ordinances and education plans for selected occupations, cantonal implementation guidelines, and institutional strategic plans. The OECD's comprehensive review of vocational education and training in Switzerland provided an authoritative external assessment of system performance, while the Swiss Federal University for Vocational Education and Training's cost-benefit studies offered empirical evidence of employer perspectives on apprenticeship training. These documents provided essential context for understanding the formal frameworks within which VET is enacted.

Semi-structured interviews were conducted with 26 participants across the five cases, including federal officials from the State Secretariat for Education, Research and Innovation (SERI), cantonal VET administrators, professional organisation representatives, company training managers, vocational school teachers, in-company trainers, apprentices, and VET graduates who had progressed to tertiary education. The interview protocol was developed following a review of existing literature on dual VET systems and workforce development, and was piloted with two participants prior to full data collection. Interviews explored participants' experiences with VET governance and implementation, perceived strengths and weaknesses of the system, observed impacts on workforce readiness and career progression, and perspectives on emerging challenges such as digitalisation and demographic change. Interviews lasted between 45 and 120 minutes and were conducted in German, French, or English depending on participant preference, with informed consent obtained in all cases.

The analysis of administrative and survey data drew upon the Federal Statistical Office's education statistics, the Swiss Federal University for Vocational Education and Training's cost-benefit surveys of training companies, and PISA data on student transitions and career expectations. The cost-benefit surveys are particularly significant, having been conducted periodically since 2000 to assess whether companies perceive apprenticeship training as economically viable. These data provided quantitative evidence to complement the qualitative insights from interviews and documents, enabling triangulation across multiple sources.

Data analysis followed the thematic analysis procedure outlined by Braun and Clarke (2006), involving familiarisation with data, initial coding, searching for themes, reviewing themes, defining and naming themes, and producing the final

analysis. Two researchers independently coded a subset of the interview transcripts to establish inter-coder reliability, with discrepancies resolved through discussion and refinement of the coding framework. The analysis was guided by the research questions but remained open to emergent themes, including the unexpected finding that employer engagement in VET is motivated not only by economic calculation but also by social responsibility and tradition.

The integration of findings across the multiple data sources followed a convergent approach, wherein document analysis, interview data, and administrative data were analysed separately and then synthesised during the interpretation phase. This integration revealed both convergent patterns—such as the consistent emphasis on competency-based curricula and labour market alignment—and divergent practices, such as variation in the quality of workplace training across companies and the different challenges faced by urban versus rural vocational schools.

Ethical considerations were addressed throughout the research process. Approval was obtained from the institutional ethics committee, and all participants provided written informed consent. Confidentiality was maintained through the use of pseudonyms, and care was taken to protect commercially sensitive information shared by training companies. The research was conducted in accordance with Swiss regulations governing educational research and international guidelines for ethical research.

The limitations of this methodological approach should be acknowledged. The purposive sampling of cases, while enabling depth of analysis, limits the generalisability of findings to the entire Swiss VET system, which encompasses over 200 occupations and significant cantonal variation. The reliance on self-reported data in interviews introduces the possibility of social desirability bias, particularly in a context where the VET system is a source of national pride. Additionally, the cross-sectional design precludes causal claims about the relationship between specific VET features and workforce outcomes. However, the triangulation of multiple data sources, the inclusion of critical perspectives from participants who identified system weaknesses, and the combination of federal, cantonal, and institutional-level data mitigate these limitations to a significant extent.

FINDINGS AND DISCUSSION

The findings of this study reveal a sophisticated and multi-layered picture of vocational education and workforce readiness in Switzerland, characterised by strong systemic coherence, positive outcomes for multiple stakeholders, and

emerging challenges that demand adaptive responses. Across the five institutional cases examined, several convergent themes emerged regarding the mechanisms that enable workforce readiness, the benefits and costs distributed across stakeholders, and the factors that sustain or threaten the system's effectiveness, while significant divergence was evident in implementation quality, regional variation, and the experiences of different learner populations.

The dual-track apprenticeship model, which engages approximately 90% of upper-secondary VET students, represents the dominant mechanism through which Switzerland prepares young people for workforce participation. In the polymechanics apprenticeship case, the four-year programme exemplified how the dual system integrates three learning locations—the training company, the vocational school, and inter-company courses—into a coherent competency-based curriculum. Apprentices spend three to four days per week in the workplace developing practical skills such as operating lathes, milling machines, and CNC programming, while attending vocational school one to two days per week for theoretical instruction in materials science, engineering mathematics, and technical drawing, supplemented by mandatory inter-company courses at branch training centres that teach standardised foundational skills such as soldering and quality control. The training ordinance governing this occupation defines detailed competency domains across production technology, assembly, maintenance, planning, and quality control, with the education plan specifying which skills are learned at which location, ensuring national consistency while allowing company-specific adaptation. Assessment is continuous and culminates in a final qualification procedure comprising an individual practical project, a written theory examination, and a general education exam, with experience grades from school and workplace contributing significantly to the final result. This structure ensures that graduates possess both the occupation-specific technical competencies and the general cognitive foundations necessary for autonomous professional practice and further learning.

The cost-benefit analysis of company participation in apprenticeship training revealed that most Swiss training companies generate a net benefit from their involvement, as the productive output of apprentices during the training period surpasses the training costs. This economic viability is critical to the sustainability of the dual system, as company participation is entirely voluntary. Companies are motivated by multiple factors: direct economic returns from apprentice productivity, recruitment advantages from early access to skilled labour, the capacity to shape

training content to company-specific needs, and social responsibility toward workforce development. The Swiss Federal University for Vocational Education and Training's periodic cost-benefit surveys have consistently shown positive returns, though these vary by occupation and company size, with larger companies and technical occupations generally achieving higher net benefits. This finding has important implications for workforce readiness: because training is economically rational for employers, the supply of apprenticeship places tends to align with actual labour market demand, preventing the skills mismatches that plague many other vocational education systems where training capacity is determined by educational institutions rather than employer demand.

The full-time commercial school case in the French-speaking region illustrated the school-based VET pathway that serves approximately 10% of upper-secondary VET students, with higher prevalence in the French- and Italian-speaking cantons. The "3+1" Handelsmittelschule model combines three years of full-time vocational schooling with a fourth year integrating internship experience and preparation for the Federal Vocational Baccalaureate, leading simultaneously to the Federal VET Diploma in Commerce and the baccalaureate qualification. This pathway serves students with strong academic performance who prefer a school-based environment while still acquiring practical competencies through internships and simulated workplace exercises. The programme includes an "Espace Entreprise"—a simulated company environment where students perform realistic commercial work assignments—and shorter internships in actual companies, ensuring that even school-based students gain workplace experience. Graduates of this pathway have access to Universities of Applied Sciences without entrance examination, and with an additional University Aptitude Test, can enter traditional academic universities. This case demonstrates that the Swiss VET system accommodates diverse learner preferences while maintaining labour market relevance and progression opportunities, contributing to workforce readiness by ensuring that students can choose the learning environment that best suits their needs without sacrificing future options.

The two-year retail sales apprenticeship (EBA programme) represented the inclusive pathway designed for lower-achieving or vulnerable youth who might struggle with the demands of the three- or four-year Federal VET Diploma. Introduced in 2004, the EBA programme focuses on practical skills for occupations with less demanding requirements, providing a recognised qualification that enables quicker labour market integration. Learners in two-year programmes have access to

remedial courses and a statutory right to individualised mentoring support to help them meet training requirements. This case highlighted Switzerland's commitment to ensuring that vocational education serves all young people, not only the academically successful. The VET Case Management system provides coordinated support for at-risk youth, with case managers bringing together schools, career guidance services, social services, and employers to provide tailored interventions that prevent dropout and guide students toward qualification completion. Bridge-year courses (Brückenangebote) serve as interim solutions for young people who do not immediately find an apprenticeship placement, helping them improve academic or language skills, explore careers, and address gaps before entering VET. These support mechanisms are critical for workforce readiness because they ensure that youth who might otherwise become disconnected from education and employment are retained within the system and supported toward productive labour market participation.

The tertiary-level professional education case at a University of Applied Sciences demonstrated the progression pathways that distinguish the Swiss VPET system from vocational models that terminate at upper-secondary level. The Federal Vocational Baccalaureate, obtainable either concurrently with apprenticeship or in a subsequent one-year full-time or two-year part-time programme, grants access to Universities of Applied Sciences, where students can earn Bachelor's and Master's degrees in fields including engineering, information technology, health care, social work, business, and design. Alternatively, VET graduates may pursue federal professional examinations—competency-based assessments that can be prepared for while working—leading to Federal Professional Education and Training (PET) Diplomas or Advanced Federal PET Diplomas for management positions. These examinations are pursued primarily by experienced workers, with approximately 25,000 workers achieving PET degrees annually, roughly half via the examination route and half through professional colleges. The permeability between vocational and academic pathways ensures that workforce readiness is not a static condition achieved at age 18 or 19 but a dynamic capacity that can be continuously developed throughout the career lifespan. This permeability also enhances the attractiveness of VET for young people and their families, as initial vocational training does not foreclose future academic opportunities.

The Swiss Federal University for Vocational Education and Training (SFUVET) case illuminated the institutional infrastructure that sustains VET quality and workforce relevance. SFUVET provides pedagogy training for vocational

schoolteachers, in-company trainers, and inter-company course instructors, ensuring that VET professionals possess both technical expertise and pedagogical competence. Vocational schoolteachers complete specialised initial teacher education, general education teachers undertake VET-specific bridging courses, and vocational subject teachers are recruited from industry experts who complete part-time vocational pedagogy training while teaching. This investment in VET professional development is critical for workforce readiness because it ensures that the individuals responsible for preparing young workers are themselves equipped with current knowledge and effective teaching methods. SFUVET also conducts research on VET effectiveness, including the periodic cost-benefit surveys that provide empirical evidence for policy development and employer engagement.

Despite these strengths, the findings also reveal persistent challenges and emerging tensions within the Swiss VET system. Regional variation in programme prevalence creates inequities, with students in the French- and Italian-speaking cantons having less access to dual-track apprenticeships and greater reliance on school-based programmes. While both pathways lead to the same qualifications, the school-based route may offer less intensive workplace experience, potentially affecting workforce readiness for occupations where practical skills are paramount. The gendered nature of apprenticeship placements emerged as a concern, with female students facing particular difficulties in securing placements in male-dominated technical occupations, even in Switzerland where gender equality is generally advanced. As one expert noted, "imagine a girl who dreams about becoming a professional mason. She'll have a hard time finding a company that offers her an apprenticeship place, even in Switzerland." This gender segregation limits workforce readiness by constraining the career options available to young women and perpetuating occupational segregation.

The continuous updating of curricula to reflect technological change represents an ongoing challenge that the Swiss system addresses through regular ordinance revisions, typically every five years. Professional organisations play a central role in this process, identifying competency changes, developing updated training guides and assessments, and ensuring that training content reflects current industry practices. The involvement of SwissMEM (the engineering and manufacturing association) in revising the polymechanics ordinance exemplified this process: the association identified emerging competencies in digital manufacturing, automation, and sustainable production, and worked with SERI to integrate these into the revised training framework coming into force in 2026. However, the pace of technological

change may outstrip the capacity of formal revision processes, creating temporary gaps between training content and workplace requirements. The COVID-19 pandemic accelerated certain digital competencies while disrupting the workplace-dependent model of the dual system, forcing rapid adaptation to remote learning and simulated workplace environments that may not have fully replicated the experiential learning that apprenticeships typically provide.

The social prestige of VET, while historically strong in Switzerland, faces subtle erosion from trends favouring academic education. Despite excellent employment and wage outcomes for VET graduates, and despite the permeability that enables progression to tertiary education, some families increasingly view academic pathways as more prestigious. This perception is reinforced by international university rankings and the global visibility of academic research, which may overshadow the equally important contributions of skilled technical professionals to Swiss economic success. The ratio of young people choosing apprenticeships has remained stable at around two-thirds, but maintaining this equilibrium requires continuous effort by stakeholders to promote the benefits and relevance of VET. The system's success in producing Swiss Presidents, CEOs, and industry leaders who began as apprentices provides powerful counter-narratives, but these must be actively communicated to sustain public confidence.

The integration of general education within vocational programmes emerged as a distinctive strength of the Swiss model that enhances workforce readiness beyond narrow job-specific skills. All VET curricula include general education components—language, mathematics, civics, economics—typically comprising 20-30% of total instruction time. This integration ensures that VET graduates possess not only technical competencies but also the communication skills, quantitative reasoning, and civic knowledge necessary for full participation in society and adaptability in changing labour markets. The general education component is assessed in final qualification procedures, ensuring that it is taken seriously rather than treated as peripheral to vocational training. This holistic approach distinguishes Swiss VET from narrower competency models that risk producing technically proficient but intellectually limited workers.

The international transferability of the Swiss model emerged as a significant theme, with Swiss development cooperation supporting VET reform in multiple countries. The SDC's approach emphasises adaptation rather than replication, recognising that the Swiss model depends upon specific institutional preconditions including strong employer associations, social partnership traditions, and public

investment in vocational schooling. In North Macedonia, for example, the E4E@mk project has supported pilot dual VET programmes in seven schools and sixteen companies, but legal amendments are still needed to create favourable conditions for dual VET implementation. The Swiss experience suggests that successful transfer requires attention to governance structures, employer incentives, and the gradual development of institutional capacity, rather than the importation of specific programme structures. For workforce readiness, this implies that the principles of labour market alignment, competency-based assessment, and stakeholder governance may be more transferable than the specific dual-track format.

In synthesising these findings, several key implications emerge for theory, policy, and practice. Theoretically, the Swiss case supports a conceptualisation of workforce readiness as a systemic outcome that emerges from the interaction of governance structures, employer engagement, educational design, and individual learner agency, rather than from any single component. For policy, the findings affirm the value of collective governance, employer ownership of training content, and permeable pathways that prevent dead-ends, while highlighting the need for continuous attention to equity, gender inclusion, and the social prestige of vocational pathways. For practice, the emphasis on competency-based curricula, the integration of general education, the economic viability of employer participation, and the comprehensive support for at-risk learners offer a replicable framework for workforce readiness that other nations can adapt to their contexts. The persistent challenges of regional variation, gender equity, technological updating, and prestige maintenance highlight that even the most successful VET systems require sustained investment and adaptive management to maintain their effectiveness.

CONCLUSION

This study has examined the mechanisms, outcomes, and challenges of vocational education and workforce readiness in Switzerland, revealing a system that has achieved remarkable success in preparing young people for labour market participation through a distinctive combination of dual-track workplace learning, collective governance, competency-based curricula, and permeable progression pathways. The Swiss VET system demonstrates that vocational education can be a first-choice pathway with social prestige comparable to academic education, producing graduates who are not only technically proficient but also equipped with general cognitive foundations and lifelong learning capacities. The positive cost-benefit ratios for training companies, the low youth unemployment rates, and the extensive progression opportunities to tertiary education all attest to the system's

effectiveness. However, the findings also identify significant challenges that demand continued attention: regional variation in programme access, the gendered nature of apprenticeship placements, the need for continuous curriculum updating to reflect technological change, and subtle erosion of VET prestige in the face of academic pathway preferences. The Swiss experience demonstrates that workforce readiness is not merely a matter of technical skill acquisition but requires systemic coherence among governance structures, employer engagement, educational design, and social recognition. For international policymakers and educators, Switzerland offers a model that emphasises labour market alignment through employer ownership of training content, economic sustainability through cost-benefit positive apprenticeship models, and social equity through comprehensive support for at-risk learners and permeable pathways that prevent dead-ends. As technological change accelerates and labour markets become increasingly dynamic, the principles of collective governance, competency-based progression, and the integration of general education with vocational training that underpin the Swiss model will become ever more essential for preparing adaptable, resilient workforces capable of navigating complexity with competence and confidence.

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