# *Chapter 8*

# Government, Policy and Systemic Innovation in VET

*This chapter looks at the governance, policy, and development and support of strategies for systemic innovation in VET. The governance of VET is distinct from that of other education sectors due to the complexity in the role of stakeholders, the connections to the private sector and the labour market, and the networks of public and private providers. This distinct governance plays a role in enabling, driving, and (at times) hindering systemic innovation. Key tools that can be used to promote and support systemic innovation are: building trust and bridges between stakeholders, encouraging local initiatives and mechanisms to allow innovations to percolate up from the field, capacity building of key stakeholders, gathering of appropriate evidence, and a focus on knowledge transfer. Despite the importance of strategies for systemic innovation in VET as useful and powerful tool for improving the system, very few countries/regions have actually developed a clearly elucidated approach. Without such strategies VET systems risk moving from one short-term response to another, never developing a proactive vision for longer-term development.*

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This chapter focuses on the role of government in encouraging and aiding innovation in education and VET. The focus is on policy priorities and policy making as well as the ways in which government can, by creating the appropriate climate, influence the planning, implementation and sustainability of systemic innovation in VET and education more broadly. In this and subsequent chapters we move from our empirical and comparative work based on case studies to more general recommendations and a look at the pending agenda.

## Introduction

As a starting point it should be noted that the term Government is not a unitary concept and can refer to many different entities and mandates. In the highly decentralised world of education and VET in particular, government can refer to international bodies (the EU), national systems, federal level governance, state/provincial systems, and local school authorities and school boards. Depending on the country and the sector, it can also refer to traditional departments of education, social affairs, and (especially in the case of VET) departments of labour and employment.

In the study of systemic innovation the system and the functioning of the system is the level of analysis. In this sense the system is a group of stakeholders and their relationships organised in a coherent and unitary level of governance, with Government only one of the key players that play a role in governing the system. In education, other key players are practitioners (teachers, school leaders and principals) and teacher unions, parents, students, and the communities in which they live. They must all be considered when analysing the system and system dynamics.

There are several particularities about VET that make its governance distinct from other sectors of education. Although VET also generally comes under the mandate of ministries of education in most OECD countries, there is a closer connection to employers and the labour market. Members of the private sector (employers, firms, business representatives) thus play a key stakeholder role in VET policy and practice that they do not usually play in other types of education. This has consequences on the level and kinds of funding available for programmes and additionally influences the design and development of curricula, training and selection of teachers and trainers, evaluation of accreditation and outcome measures, and requirements

for students. It also and most obviously has a role in the numbers and kinds of students that are able to find placements and apprenticeships during their schooling, as well as the number and types of graduates that are employed in the particular field for which they trained.

Similarly, while the traditional educative space of schools is still central to VET, much of the training takes place in other environments, both on the job and in specialised training institutions for particular skills. The networks of public and private providers of VET training are multiple and varied throughout the systems. Trainers in VET systems are thus not necessarily teachers, nor have they necessarily gone through the same kind of teacher education that is required in other sectors of education. This is not a judgement but a reality, and often a strength, as VET educators are experts in the practical skills that they are teaching. They are thus tied in to the evolution of the work place and, if they are still active, the emerging skills, technologies, and instruments of their profession. In addition the students in VET systems are also much more diverse than those in other areas of education, even if the analysis is restricted to initial VET programmes. In the study of systemic innovation in VET then, these key differences mean that the governance and regulation of VET systems is thus a highly complex and fluid process.

## Government and innovation

The role of the government in planning, implementing and encouraging innovation can be seen through the lens of the "political economy of reform", that is, the role of the government in setting the innovation agenda through policy and an analysis of the challenges of implementation on the level of policy and practice. However this term actually contains two discrete roles: first, the role of government as part of a larger system that contains other key actors (*e.g.* private sector, individual stakeholders) and the key role the government can play in terms of enabling a supportive systemic innovation climate. Secondly, there is also the role of government as the leader of innovation, in terms of setting innovation policy agendas and using legislative and funding mechanisms to support systemic innovation. In the terms of Chapter 4 (drivers and barriers), this is the distinction between government as an enabler of innovation versus a driver of innovation. This is a partially artificial distinction as the two generally act in concert and, except in very authoritarian systems, the strongest political driver of innovation will not work without the appropriate enabling conditions for implementation. However it is worth making this distinction as the mechanisms used in each process are different. The following section will look at each of these in turn.

### *Government as enabler of systemic innovation*

Government (at whatever level of the system) can enable a climate of systemic innovation in VET, which involves the creation or promotion of a climate or culture supportive of systemic innovation. Political leadership and capacity to steer and manage the innovation system, the availability of resources, the promotion of systemic innovation and/or the existence of regulatory mechanisms supporting the process are crucial elements required for this enabling environment. By a focus on the various enabling factors specific to the country or regional context, government can actively work to promote and sustain a culture of systemic innovation that can be thought of as a knowledge-based systemic innovation ecosystem. This last bit, sustainability, is a key aspect of an effective and functioning system that is often overlooked. Too often innovations are perceived as discrete initiatives which are then replaced by another discrete initiative with little thought given to the links between them and the dynamics of the system. As discussed in Chapter 4, this is not only a costly option that risks losing knowledge and opportunity, it also brings with it the risk of innovation fatigue among the stakeholders. It is the very nature of a learning and evolving ecosystem that it builds on previous cycles and uses the momentum generated to continue to grow and learn.

In VET, a key element of creating this enabling ecosystem is the transformation of the relatively unconnected communities of VET practice, institutions of education and training, research, and local agents of innovation into a coherent and dynamic learning ecology. This has as a challenge the task of changing the current culture and ways of functioning, and of bringing together diverse social partners and bridging the public and private sectors. More specifically, it requires:

- creating trust and building bridges among and between sectors (public and private) and key stakeholders (public, private, parent, teacher, student representatives) through transparency and open dialogue. This requires juggling the different expectations and needs of the key actors and sectors and, as in any similarly complicated process, it is impossible to please all of the people all of the time. Still, a commitment to sharing information and responsiveness to the concerns of the various stakeholders allows for greater trust;
- encouraging local innovation and supporting mechanisms that permit bottom-up innovations to percolate up from the field;
- designing accountability systems that do not unduly punish for the risk involved in innovation or possible failure – this also implies that knowledge gained from failure is used appropriately to inform the development and design of subsequent initiatives;

- encouraging uptake of systemic innovations through capacity building of key stakeholders (in the case of VET, teachers, students, and employer representatives, this could entail training and professional development opportunities, exposure to research or helps with understanding research results and applying them to the local environment);
- supporting the gathering of knowledge and evidence and highlighting the need for a good quality, reliable research base on VET and the country/regional context through the establishment of a dedicated centre for VET research and statistics (*e.g.* NCVER [Australia]).
- enabling knowledge transfer of innovative practice and systemic innovations across stakeholders and across mandates through brokerage agencies or communication services (*e.g.* from school to school, region to region, or from country to country in an international setting).
- In addition, as a relatively traditional public institution, governments and ministries have often been criticised for talking the talk but not walking the walk. The factors listed above could be modified to apply to these institutions and ministries can challenge themselves to support systemic innovation in their own service, as such:
- creating trust and building bridges among and between departments (education, labour, justice) and key stakeholders (civil servants, local staff, and representatives of other services in the vertical hierarchy of local/regional/national);
- encouraging and supporting mechanisms that permit bottom-up innovations to percolate up from junior staff. This includes both mechanisms to make sure the suggestions for innovation have a channel to reach senior staff and decision makers, and the requirement that the junior staff be challenged and recognised for this sort of contribution;
- designing accountability systems that allow for the possibility of failure in innovative projects. Although this needs to be tightly controlled for both political and financial purposes, the accountability regime should not be so tight as to strangle innovative capacity. These systems should also have a mechanism to learn from failure (honest reporting and assessment of outcomes, and knowledge gained used appropriately to inform the development and design of subsequent initiatives);
- encouraging uptake of systemic innovations through capacity building of key staff (in this case, having appropriate training for both senior staff and junior staff to make the above bullet point possible);
- supporting the gathering of knowledge and evidence and highlighting the need for a good quality, reliable research base in public policy making. This includes having the rigour to sit down and address thorny

questions such as: what counts as evidence? What is the acceptable level of certainty/risk in the kinds of evidence that will be considered? And how can formal research knowledge be augmented by the expertise and practical experience in the field?

- enabling knowledge transfer of innovative practice and systemic innovations across departments, ministries, and staff through brokerage agencies or communication services.

The overall goal of creating this rich enabling environment is moving from a system planning culture well suited to an economy with stable occupations to a policy framework which is capable of much faster detection of changing skill and knowledge requirements, particularly in rapidly advancing and converging areas of technology, but also in mature sectors which remain crucial to the economy. This proactive cultivation of innovative capacity would seek to keep systems actively dynamic and more able to detect and map on to emerging skill sets and occupations, crucial for the VET sector.

VET operates within a larger social and cultural context. We have discussed this already in terms of the kinds of expectations systems and stakeholders might have. But there is another element that cannot be forgotten. In general (in all countries participating in the project) we must improve our knowledge of the relationship between the specific innovations and other social systems related to them. We can call this a Contextual Systemic Framework that should be defined specifically in each case. The contextual systemic framework of each innovation can have an international dimension, as clearly observed in the Hungarian cases by the conditional relationship with the EU's programmes framework. In other cases or other contexts it could be less important or simply other international frameworks (the role of Asia for Australia or the North American free trade agreement for Mexico, for example).

### *Government as driving systemic innovation*

In addition to its role in creating a supporting climate to enable systemic innovation in VET, government can also act as a leading actor of systemic innovation. It can do this through setting the innovation policy agenda and establishing priorities for innovation in the system. It can also do this by setting out long term planning and strategies for the sector and creating a roadmap for change. Ideally, it can also actively encourage proactive attempts to embrace emerging trends and issues. In VET, this would mean educational issues and knowledge as well as allowing flexibility in training in order to be able to capture emerging skills needs and occupations.

Yet setting the agenda for systemic innovation in VET is a highly complex, dynamic process. Creating political willingness to support systemic innovation requires agreement between education and labour market priorities

and planning, as well as local, regional, and national priorities and needs (especially in federal systems). The role of a leader, or champion of innovation is an essential component to any systems change and has already been discussed in the drivers section of Chapter 4. Effective leadership requires vision, strategy, and the power to effect change. Two of the innovations proposed as case studies (*The Innovation Circle* [Germany] and the *Globalisation Council* [Denmark]) emerged due to the role of a strong political leader with the influence to by-pass the standard process of agenda setting to make the case for the need for more urgent systemic change.

Yet even extremely powerful leaders need to develop or capitalise on a common sense of urgency from other stakeholders and key actors in the system in order to set the agenda and push for systemic innovation. This sense of urgency is best developed in response to a crisis of some kind – the recent economic crisis is a good example of this – where the underlying message is that VET systems need to be rethought in the light of new and emerging economic and global constraints. In this sense the sense of crisis can be harnessed as a window of opportunity to effect change. In addition, there are a number of other ways that this sense of urgency can emerge during relatively stable economic and political climates. These include:

- the issue is likely to have wide impact (*e.g.* the scope of the innovation and the corresponding need for improvement);
- the issue is fashionable in some way (*e.g.* climate change and the need to develop more environmentally friendly practices in training for natural resource jobs);
- the issue has a human interest aspect which attracts media attention and thus alerts community and parents to the importance for innovation and change (*e.g.* young entrepreneurs who do not fit in the system, an influx of older workers requiring retraining to the VET system and the need to devise new teaching and training methods, etc).

Strong leaders can use this sense of urgency to help them build bridges and shape the innovation in their VET system. However there is always a risk that the sense of urgency will result in swift (and sometimes superficial) actions at the expense of the longer-term development of a vision and the use of research knowledge to build, pilot, monitor, and evaluate the system. The tension between the perceived need to act and timeline for policy reform and the requirements of using evidence to guide and develop the system are always evident (and discussed more thoroughly in Chapter 6).

## Policy mechanisms for governments for supporting innovation in VET

There are a number of different levers that can be used by policy makers to achieve their policy goals and implement their innovation agendas. These traditionally fall under the headings of a) legislation and b) resources. Depending on the level and location of the system, funding and resources come from a variety of different sources, including international, European, national, and regional allocations.

Drawing on our limited evidence from the case studies, it seems clear that there are different policy approaches to SI in VET. Some of the countries in this study (*e.g.* Switzerland, Australia) have a specifically elaborated strategy for innovation in VET. Others (Mexico) appear to be completely missing this aspect. Still others (*e.g.* Denmark) are focussing more on creating the right climate rather than the development of a specific strategy. This then begs the question: What are the respective values and shortcomings of innovation policies in VET? Is it necessary to have an elaborated strategy for innovation in VET? If so, what is the most appropriate and efficient strategy to develop?

In answering these questions we are limited by a lack of research. Even among the countries that participated in this project there were no explicit strategies guiding systemic innovation of the VET system at either regional or national level, with the exception of Switzerland. Australia is also proposing to reward states that have been deemed to create a culture of innovation in their VET systems, an interesting initiative that will be important to observe as it develops. Due to the lack of explicit examples, we cannot at this point compare approaches and glean lessons from country experience. One clear answer, then, is that in many countries a clear shortcoming is the lack of explicit policy discussion and direction on this topic. Without such strategies VET systems risk moving from one short-term response to another, never developing a proactive vision for longer-term development.

In this work we have argued that the development and elucidation of a specific strategy for systemic innovation in VET is both a useful and powerful tool for improving the system. The main benefit of a systemic innovation strategy is that it can help governments and other stakeholders to have a comprehensive vision, strategy, and capacity building plan over the long-term. From a policy perspective it makes transparent what information gaps exist, and particularly where, in the lifecycle of the development of policy in the sector, a good evidence base might be more useful. It also could help reduce innovation fatigue and implementation gaps by creating a continuously renewing process that builds on itself rather than introducing discrete changes that may or may not capitalise on the innovation and reform that has preceded it. As the discussion of innovation fatigue makes clear, there are

diminishing returns to continuous innovation that does not build on previous change. Excessive or contradictory innovation has unintended consequences that can outweigh the intended benefits. As part of the process of systemic innovation is the capacity for self-regulation, that is, a monitoring of the system such that the costs of innovation (in both financial and time terms) are weighed carefully with the expected benefits.

In this respect it is important to consider also the possibility of strategic complementarities between various types of changes and transformations. Mutually complementary innovations can be introduced deliberately to add value by adopting them together. When properly managed, such strategic complementarities among innovations can account for the emergence of a persistent pattern of change and feedback into the ecosystem, thus strengthening the cycle of sustainability of the process. In short, a well-elucidated strategy for systemic innovation contributes to the sustainability and functioning of the innovation system and to the identification of policies that are capable of leveraging the innovative potential of the VET system.

There is thus a need for governments to improve their overall system management and capacity for systemic innovation in VET. This requires the tools and skills to measure inputs, track outputs and outcomes, and measure the costs and benefits of the various policy choices and initiatives that have been taken. As this is a systemic process, this includes analysis on the level of the individual (training, outcomes and transition measures, longer-term career progression) as well as the networks and organisations (type of training and outcomes, inputs of firms and employer representatives, etc). It is only through a careful process of monitoring and evaluation can the real impacts of innovations be understood and assessed for the various user groups involved. This is necessary to promote the incentives for systemic innovation, and necessary for the development of a culture of innovation in this sector.

## Context influencing policy mechanisms

As policy making is generally a serial process requiring the agreement of the various stakeholders (except in rare case where reform is imposed unilaterally), the speed of change and the kind and type of innovation proposed depends on the context in which it is embedded. The type of VET system (dual with a long tradition, newer with less historical base and possibly status issues) and the type of governance (federal system or national governance, the level and type of autonomy in the system, the role of private sector), and country traditions (consensual process versus not) all play a role in the types of levers and mechanisms government can use. The kinds of options available for change are thus directly influenced by the context of the system, just as

kinds of responses to barriers are heavily dependent on context and traditions. The various types of systems and options for innovation that emerge from the analysis of systemic innovation in VET include:

1. In highly stable systems with long traditions, there will tend to be incremental adjustments to existing policies rather than radical changes (see, for example, the role of consensus building in Denmark and Germany and the resulting nature of systemic innovation – it is no accident that it was in these countries that bodies were established specifically to step away from the standard pattern and to allow for a fresh perspective and more radical rethinking of the nature of national VET systems). The levers available to government in these contexts are thus generally incremental and consensual in nature;
2. In systems in transition, or at times of change in government (recent elections), there is an opportunity for more radical systems change. This opportunity must be carefully nurtured and used as there is a risk of disenchantment with the changes made by incoming government. The perception can be that they are pursuing their agenda of innovation for innovation's sake, rather than through a long-term strategy for the development of the sector. However in this context the government has more room to use levers of change that are more radical and less consensual.
3. Regardless of the kind of system, when there is a high amount of conflict regarding the proposed innovation the changes made will be less radical (for example, improving an apprenticeship programme (low conflict and general stakeholder agreement) as opposed to imposing tuition fees or restructuring qualifications for teachers and trainers (higher conflict and less stakeholder agreement). The levers available to government thus depend also on the type of innovation proposed and the amount of perceived resistance;
4. Of course, when there is a high amount of conflict regarding the proposed innovation the changes are more likely to fail in implementation if pushed through without stakeholder agreement. This is generally true though it must be noted that this variable interacts with the variable in (ii) above, with more leeway given to systems in transition or following a change in government.
5. Again, regardless of the kind of system, when there is general agreement on the proposed innovation there is more room for sweeping changes and the levers available to government reflect this (broader opportunities for legislative and funding shifts).
6. In all systems and for all kinds of innovations, the stronger the argument for the innovation the more leeway available. Clear data on

declining employment and increasing drop-outs and other systems measures make a more compelling case for the need to innovate than general arguments or politically motivated decisions. Part of the strength of this argument lies in the capacity of the system and stakeholders to absorb this evidence, and the expectations regarding the use of evidence in policy making. In contexts in which policy making is not generally dependent on formal academic evidence and there is little expectation or literacy among the stakeholders (including the media) for the use of evidence, there is much more leeway to introduce levers or policy without strong corroborating research. In countries with a culture of evidence-informed policy making, the inverse is true.

Setting the policy agenda can thus be thought of as an interaction between the kinds of systems and the level of stability in the systems, the type of innovation proposed (radical/incremental), the knowledge base upon which the arguments for change are based, and the culture of using knowledge and evidence in policy making in the system. In using evidence to inform policy making, the strength and availability of relevant research has an impact on the kinds of evidence available. In many cases (and most of the case studies in our work), the best available evidence was far removed from a rigorous academic standard.

This discussion has up until this point assumed a rather logical and linear process of policy making, and the various nuances introduced do not quite capture the dynamic involved. It is self-evident that policy makers adjust to one another through bargaining and compromise and must think seriously about the costs and possible resistance to various courses of action. In planning systemic innovation agendas and implementing them, the agenda set may not necessarily be the best policy option but rather the option upon which most people can agree. As part of this process, an honest assessment must be made to identify who (within the government and within the broader group of stakeholders) is going to gain or lose from particular systemic innovations. These assessments can then be used to incentivise participation and, in the case of clear losses, help consider whether and to what extent compensation might be reasonable.

## Conclusions and policy implications

Systemic innovation in VET has the capacity to reshape systems to improve learning outcomes, cost efficiency, and labour market alignment. But they can also be costly – financially and politically. In order to act on ideas for systemic innovation in VET, governments need to be convinced of the need for the innovation. As a leading actor in the process, this entails the leadership and strategic vision to guide the sector and the persuasive skills

to create a sense of urgency about what needs to improve. It also entails the political clout to manage resources and develop legislation to guide innovation, the commitment to designing and developing systemic innovation that will address this, and maintaining the momentum from the development and design cycle through the implementation and evaluation phases. It also requires close links to employers, firms, and businesses, which are often major sources of innovative ideas and pressures in the VET sector.

As an enabler of systemic innovation, the government also has a role to play in creating the appropriate context and supporting other actors pushing for systemic innovation. As part of this process, an honest assessment must be made to identify who is going to gain or lose from particular systemic innovations. These assessments can then be used to incentivise participation and, in the case of clear losses, help consider whether and to what extent compensation might be reasonable. In this role the government can also seek to reduce barriers to innovation and seek to build capacity in the system. In order to achieve this it needs to be realistic about capacity constraints and carefully manage the scaling up of projects. This includes planning for capacity building, piloting before scaling up to system levels, and building in sustainability measures to keep the system percolating ideas and innovations from the bottom up as well as from the top-down.

Although the reality of policy making is that it evolves out of a combination of rational choice and design, structural factors and traditions, and policy contexts and stakeholder expectations, there are still elements that can be identified as key to supporting the innovation dynamic. In enabling systemic innovation government can use certain key tools, such as: building trust and bridges between stakeholders, encouraging local initiatives and mechanisms to allow innovations to percolate up from the field, capacity building of key stakeholders, gathering of appropriate evidence, and a focus on knowledge transfer. Knowledge transfer across stakeholders and across mandates can take place through brokerage agencies or communication services (*e.g.* from school to school, region to region, or from country to country in an international setting) and is an oft-overlooked but crucial element of the process. Although relatively rare in VET, there are a number of examples of international education brokerage institutions that could usefully be applied or copied for use in this sector.

In order to enable systemic innovation in VET and transfer knowledge effectively, there must be a solid evidence base upon which to base arguments and assessments of strengths and weaknesses in the system. Although a central argument of much of this publication, it bears repeating here, especially in the context of the role of government in commissioning and supporting research and the use of evidence in policy. Strong research can help make the costs of inaction clear, both for the VET system and for the economy and

labour market. This is also a useful tool in obtaining the backing of relevant stakeholder groups, a necessary requirement for the successful implementation and acceptance of a systemic innovation.

The work from this project is bridging the strong gap that exists between innovation studies and public policy formulation. Most innovation studies in the public sector are not analysing processes, and when they do they tend to replicate (scientific-technological) approaches to identify environments that could be conducive to (in general bottom-up) innovations. However, this project shows that many of the innovations with deep impact, that is, changes aimed at adding value, follow a top-down approach. Standard innovation models seem to fail in explaining this process; in fact, they relate more to the reform policy literature. A key value-added of this analysis is the work to bridge both strands of this literature and propose a model of innovation (see Chapter 3) that can incorporate also elements of policy reform.

### Key messages

The governance of VET is distinct from that of other education sectors due to the complexity in the role of stakeholders, the connections to the private sector and the labour market, and the networks of public and private providers.

Government can both enable and drive systemic innovation. Enabling entails government as part of a larger system that contains other key actors all working together for a supportive innovation climate. Driving innovation places government as the leader in terms of setting innovation policy agendas and using legislative and funding mechanisms to support systemic innovation.

Key tools that can be used to promote and support systemic innovation are: building trust and bridges between stakeholders, encouraging local initiatives and mechanisms to allow innovations to percolate up from the field, capacity building of key stakeholders, gathering of appropriate evidence, and a focus on knowledge transfer.

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