OECD SME and Entrepreneurship Papers No. 26

Policy brief on e-learning and digital business diagnostic tools for entrepreneurs

OECD

https://dx.doi.org/10.1787/2edeb0f5-en

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OECD SME and Entrepreneurship Papers

Policy Brief on e-Learning and Digital Business Diagnostic Tools for Entrepreneurs

This policy brief discusses recent international policy experiences in developing e-learning and digital business diagnostic tools for entrepreneurs. E-learning tools can develop entrepreneurial knowledge, skills and competences among users and increase their confidence and success in business creation. Business diagnostic tools offer entrepreneurs ways to assess their business management practices against peer companies or good practices building competence and diffusing good practice. This brief sets out considerations for the successful development and implementation of these tools. It presents eight international cases of tools and discusses the public policy lessons from these international experiences.

JEL codes: L25, L84, M21
Keywords: Business development services, training, diagnostic, entrepreneurship, SMEs, on-line leaning, benchmarking, consultancy

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The paper was authorised for publication by Lamia Kamal-Chaoui, Director, Centre for Entrepreneurship, SMEs, Regions and Cities, OECD.

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Acknowledgements

This paper was prepared by the Centre for Entrepreneurship, SMEs, Regions and Cities (CFE) of the Organisation for Economic Co-operation and Development (OECD), led by Lamia Kamal-Chaoui, Director.

It was produced at the request of the Ministry of the Economy and Innovation and Enterprise Lithuania. This paper was prepared and edited by David Halabisky (Policy Analyst) and Dr. Jonathan Potter (Head of Unit) of the Entrepreneurship Policy and Analysis Unit, SME and Entrepreneurship Division of the CFE, led by Céline Kauffmann (Head of SME and Entrepreneurship Division). The report was based on written contributions by Prof. John Kitching.

The report draws on two seminars with Lithuanian policy officers and entrepreneurship stakeholders, as well as group interviews with representatives from the Ministry of Economy and Innovation, Ministry of Finance, Enterprise Lithuania, Government Strategic Analysis Centre, Vilnius University and Chambers of Commerce, Industry and Crafts. In addition, interviews were conducted with tool managers from the international practices presented in this report. The report authors would like to acknowledge the valuable contributions from James Burke (Digital School of Food, Ireland); Rune Gottlieb Skovgaard (*Virksomhedsguiden*, Denmark); Marie-Hélène Lambert and Martin Sirois-Maheu (Entrepreneur's Learning Centre, Canada); and Lens Lapauw (MicroStart, Belgium).

Finally, the report authors are grateful for the support and contributions by Ieva Žaunerienė, Donata Gipiškienė at the Ministry of the Economy and Innovation and Daina Kleponė, Inga Juozapavičienė and Patricija Kalkytė at Enterprise Lithuania.

This report was approved by the OECD Working Party on SMEs and Entrepreneurship.

Executive summary

Entrepreneurship support programmes have moved increasingly online over the past two decades and this has been accelerated greatly by the COVID-19 pandemic. Two of the main online public support tools offered to entrepreneurs are training programmes and digital business diagnostic tools. Entrepreneurship training has been shown to increase the confidence of entrepreneurs to create businesses and to increase business success, survival and growth and there are an increasing number of effective e-learning programmes offered to entrepreneurs in OECD countries. Similarly, online business diagnostic tools can support new and existing entrepreneurs to understand the different aspects of business management – sales and marketing, information technology, human resources, advisers and board, financing model, etc. – and benchmark them against peers, competitors or good practice standards. The diagnosis can help entrepreneurs see where they need to make changes in in order to increase competitiveness and survivability and channel them to sources of guidance and business support.

This paper examines recent international experiences with digital business diagnostic tools and e-learning tools for entrepreneurs. This includes a discussion of policy issues and the presentation of short case studies from Australia, Belgium, Canada, Denmark, France, Ireland and the United Kingdom. These cases highlight several important lessons, including:

- Identify user needs carefully at the outset – do not jump to solutions first;
- Users respond better to interactive and flexible content;
- Simple language is needed to ensure that all entrepreneurs can benefit from the tools;
- User registration can help with follow-up and monitoring use of the tools, but may also be a disincentive to use for some entrepreneurs;
- Organisation and budget commitment are needed to ensure that the tools are updated and regularly promoted;
- Impact is greatest when tools are connected to the wider business support ecosystem, including personalised one-to-one support; and
- Monitor and evaluate take-up and use of tools, and adjust to meet users' needs.

1 What are online tools for entrepreneurs and SMEs?

Online tools for entrepreneurs and SMEs include digital business diagnostic tools and e-learning tools. Digital business diagnostic tools can be defined as online services enabling users to assess or evaluate management and business practices with a view to improvement and/or to benchmark business performance against comparator firms (OECD, 2020a). E-learning tools can be defined as interactive online services providing information, tools and resources to support the development of knowledge and competencies that enable business owners/managers to create, sustain and grow enterprises.

Business diagnostic tools

Governments in OECD countries have offered business advice services for several decades. The main rationale for public intervention is based on information asymmetries since businesses seeking one-off advice find it difficult to identify relevant and quality support (Granovetter, 1985; North et al., 2011). There is also an element of risk for entrepreneurs seeking business advice because an advice would not likely reveal that their services are unnecessary for the entrepreneur (Clark and Fincham, 2002). Governments often improve access to business advice through the creation of "brands" that signal a certain level of quality of support. There is also an element of brokerage involved where the government has a role in matching entrepreneurs to support offered by the private sector (Lambrecht and Pirnay, 2005). The advancement of online tools has increased the potential for such models and tools to be place online.

Digital diagnostic tools for businesses require the user – typically an entrepreneur or SME manager – to input quantitative or qualitative information about business performance or management practices into an online interface and then benchmark performance or assess practices relative to similar businesses. This feedback is intended to enable the entrepreneur to judge whether they are running the business effectively. Most tools also provide some guidance on how users can adjust management practices to improve business performance. In some cases, the tool is intended to "shock" the business owner because they are likely to adopt satisficing behaviour (Simon, 1955).

Online diagnostic tools have developed out of benchmarking practices that have been used as part of business counselling for decades (see Kaissi, 2010). However, the emergence of benchmarking tools on the internet has led to the development of many alternative approaches. Some tools provide a broad "health check" for businesses, while others focus on specific issues such as digitalisation or internationalisation. Tools can be stand-alone, where the user receives guidance through the tool, or integrated into broader business development services, with a strong link to in-person follow-up services.

E-learning tools

The origins of e-learning go back to distance education, which was the first form of education that went beyond the classroom. Although distance education dates back to the 19th century, it advanced quickly as technology developed and demand for education grew. The first generation of distance education used the telephone and television as part of the learning experience, while the second generation incorporated other media, such as facsimile transmission, audiocassettes and videocassettes. The third generation principally used computers, opening up the possibilities for education delivery. Finally, the emergence of the Internet and high-bandwidth computer technologies started a fourth generation of distance education, bringing about new possibilities and incurring faster-paced changes (Keairns, 2003).

The opportunities created by new online training and education have blurred the distinction between distance and traditional face-to-face models. Many new training and education methods combine elements from the more traditional face-to-face education methods and distance education in various forms (UNESCO, 2011). Thus, e-learning can be viewed as a continuum that ranges from a combination of face-to-face and technology mediated training to fully online distance training.

The use of e-learning models in training and education has grown steadily in recent years, accelerating during 2020 as a consequence of the COVID-19 pandemic (Alqahtani et al. 2020). While it is difficult to measure the use and impact of e-learning, most research indicates a growing adoption of e-learning in formal training and education programmes (Helmeid and Vincent-Lancrin, 2014). Take-up appears to be greatest in the United Kingdom, United States, Australia and Korea (OECD, 2015).

The body of evidence on the effectiveness of e-learning relative to face-to-face learning is also growing, but remains mixed. Meta-analyses on the effectiveness of online learning often conclude that there is evidence to suggest online learning is generally at least as effective as the traditional face-to-face learning, but also acknowledge individual evaluations that find negative, null or mixed findings in the research (Nguyen, 2015). Moreover, learners often assess their experience as being more positive with e-learning.

Nonetheless, there are some debates about the benefits of e-learning, primarily around the potential for massive open online courses (MOOCs). One side of the debate is that open platforms increase equitable access to training and education options (Harden, 2013). However, the other side argues that only those with relatively high skill levels, discipline and motivation can benefit from these platforms (Legon, 2013). Detractors also note that MOOCs are unable to fully replicate the face-to-face training and education experience since informal interactions are more difficult. Therefore, it is more difficult to build social capital and networks.

Most e-learning research has studied university settings (Basak et al., 2016; Rodrigues et al. 2019; Wong et al. 2019) or occupational training contexts (Ortega-Morán et al., 2017). One crucial difference between entrepreneurial e-learning and that of higher education students or employees is its voluntary character. Entrepreneurs can choose whether to participate in online learning; students and employees may have no choice (Al-Fraihat et al., 2020). Entrepreneurial e-learning tools must therefore be designed with the aim of engaging a target audience who can exit any time they like if dissatisfied. Despite this important difference, developers of digital tools for entrepreneurs may learn valuable lessons from research on other e-learning contexts. All digital tool developers must recruit, engage and sustain an audience of learners/users if they are to achieve their objectives (Violante and Vezzetti, 2014).

Online tools hold great potential for supporting the development of entrepreneurial knowledge, skills and competencies among business managers (Collins et al., 2003; Roy and Raymond, 2008), as well as among a wider group of stakeholders such as support providers, investors, policy makers and others (Nheta at el., 2020). A primary benefit of online tools is that users can access content at a time, place

and pace of their own choosing (Aparicio and Bacao, 2013). Use of digital tools, particularly e-learning tools, therefore requires a high degree of self-motivation and self-managed learning (Ettinger et al., 2006).

Considerations for designing and implementing public digital tools for entrepreneurs and SMEs

In a review of applied psychology research on online learning, instruction and assessment, Mayer (2018) proposes a number of research-based principles that might underpin the design of digital tools. For example, the "instruction principles" can illustrate how digital tools can be used to help people learn. Mayer also identified principles related to managing essential cognitive processing and fostering generative processing relevant to achieving learning goals and reducing extraneous learning unrelated to the attainment of learning goals. For example, Mayer identifies three principles relevant to experimental research on managing essential processing, to form a mental representation of the relevant material:

- Segmenting principle, i.e. breaking lessons into user-paced parts;
- Pre-training principle, i.e. providing the names and definitions of key terms prior to their use; and the
- Modality principle, i.e. recommending the presentation of words in spoken form rather than as onscreen text.

Mayer also identifies three principles relevant to fostering generative processing, to make sense of the relevant material:

- Personalisation principle, i.e. using conversational, rather than formal, language;
- Embodiment principle, i.e. having content presented by an onscreen character who uses human-like gestures and facial expressions; and the
- Voice principle, i.e. narrating videos and animations with a friendly human voice rather than a machine-synthesized voice.

These principles are helpful guides when considering different issues and design elements. However, policy makers and digital tool operators inevitably face important choices and trade-offs when designing and operating digital tools regarding the following issues:

- Objectives and target users, i.e. a single tool may not be able to meet the needs of all users;
- Design, content and functionality, i.e. different elements of a tool will impact users differently;
- Promoting awareness and take-up, i.e. attracting users is critical to the impact that a tool will have but there are diminishing returns for promotional activities after a point;
- Evaluating impact, i.e. tools seek to improve management practices and business performance, yet a using an online tool is unlikely to have a large impact without additional follow-up interventions.

Objectives and target users

Policy makers and digital tool operators pursue a variety of objectives that ultimately seek to improve business performance (OECD, 2020a). Digital tools can seek to improve on specific managerial capabilities, functions or activities such as venture creation, business strategy, managing finance, innovation or internationalisation, or overall business performance (e.g. turnover, profit, productivity) (OECD, 2020a).

Digital tool objectives are typically closely related to the intended users: whether all entrepreneurs or just a segment of the business population. Tools might promote economic development objectives by targeting high-growth enterprises (or those with high-growth ambitions) or innovative businesses. Alternatively, tools might be used to pursue social inclusion objectives by targeting disadvantaged or marginalised groups such as women, ethnic minorities, young entrepreneurs, microbusinesses (employing fewer than 10 staff), poorly performing businesses or firms in "lagging regions".

Even when target users are defined, there will be a great deal of diversity among this population. Individual learners (i.e. entrepreneurs) vary in their learning needs, resources and circumstances. Research finds that learners differ in their self-efficacy in online environments (Peechapol et al., 2018), cognitive styles and abilities (Rodrigues et al., 2019; Wong et al. 2019), prior knowledge (Mayer, 2017; Rodrigues et al., 2019) and motivation to learn (Peechapol et al., 2018; Rodrigues et al., 2019) - as well as demographic characteristics such as gender, age, ethnicity and disability (Violante and Vezzetti, 2014; Zare, 2016; Ghavifekr and Mahmood, 2017). Entrepreneurs are a highly diverse group, in terms of demographic characteristics, levels of formal education, prior labour market experience, as well as business circumstances and ambitions. Entrepreneurs might be start-ups or manage established businesses; they may work alone or employ others; possess variable levels of human and financial capital; operate in different industries and markets; and pursue a wide range of personal and business objectives. All of these factors potentially influence individual entrepreneurs' willingness and ability to use digital tools and to learn from their use. Digital tool users might also include other stakeholders such as business advisers (Nheta et al., 2020). Digital tools must therefore be designed with the goal of attracting, motivating and retaining a diverse user base.

Design, content and functionality

Tool designers face content challenges referring to the type and volume of material offered to learners/users. Research suggests e-learners place great value on content that is rich, interactive, interesting, easy to comprehend, well-organised, effectively presented, of the right length and up-to-date (Aniraki, 2004; Ozkan and Koseler, 2009; Zare, 2016). The "multimedia principle" (Butcher, 2014) suggests that people learn more effectively from words *and* pictures than just from words alone. Research suggests multimedia tools that combine vivid visual and audio-visual stimuli sustain higher learner motivation and more effective learning (Dabbagh, 2005; Violante and Vezzetti, 2014; Mayer, 2017; Malach and Kysil, 2019).

Digital tool operators face a number of challenges when designing digital tools for entrepreneurs. Following Andersson and Grönlund (2009), four sets of design issues can be distinguished – content, individual (user), technology and context. These design decisions should be considered holistically by tool developers; addressing one type of issue might carry implications for handling others. Design choices inevitably incur resource and time costs, varying considerably with digital size and sophistication. Potential development and operation costs include: staff salaries (or subcontractor payments) for IT professionals, economists, statisticians, management, user experience and marketing specialists; pilot testing of tools with prospective users; project management; data licensing; promotion and launch; website hosting and maintenance; production costs for multimedia content; and monitoring and evaluation costs. Policy makers and tool operators might be able to share development and operating costs with other stakeholders such as banks, corporate partners and business associations in exchange for data access, PR or other benefits.

Digital tool operators have several content-related concerns. Some concerns are common to both diagnostic tools and e-learning platforms, while others are specific to particular types of tool.

Common design issues for digital diagnostic tools and e-learning tools

User needs and circumstances

Learner needs, resources and circumstances are likely to vary markedly. Policy makers and digital tool developers need to design tools to cater for the diverse range of individual users they seek to recruit and engage. Digital tool operators must, as far as possible, support individual learners to overcome any barriers that prohibit effective learning (Kumar et al., 2015). The challenge of responding to diverse SME needs can be mitigated by developing tools incorporating the principles identified by Mayer (2018) – the segmenting, pre-training and modality principles and the personalisation, embodiment and voice principles. These principles call for presenting content in easily intelligible "chunks" and by ensuring strong links between the digital tools and follow-up actions such as individual specialist support for those entrepreneurs who wish to go further.

Intensity of use

Digital tools might be distinguished as "light-touch" or intensive. Light-touch tools make limited demands on users in terms of the time and effort required to understand how to use them, to input data, to interact with content and to interpret outputs. Intensive tools make greater user demands, for example, by asking more questions, requiring greater user data inputs or learner interactivity and by providing more detailed results requiring users to devote increased time to interpret them. Digital tool operators must weigh up the relative benefits of a light-touch approach permitting users/learners quick and easy access to content, to encourage take-up and completion, and a more intensive approach providing a more powerful diagnostic or learning experience but which might discourage participation.

Linkages with the wider business support ecosystem

Digital tools might generate better outcomes for entrepreneurs where they connect users/ learners to a comprehensive, integrated business support network for further high-quality, individualised specialist business support. A directory of private consultants or public business support and training programmes, with contact details and a brief description of specialism or content, would be ideal. A facility enabling users to email diagnostic tests results directly to support providers if they wish would also be useful. Hypertext links to external web-based resources would also be useful, for example, links to tax and regulatory authorities, government departments and agencies, and professional bodies.

Technological challenges related to hardware, software, ease-of-use, functionality, flexibility, accessibility, integration and data security

Designers should build tools that are quick, easy and attractive for learners to access and navigate and which facilitate the preferred pedagogical model (Basak et al., 2016; Zare, 2016; Al-Fraihat et al., 2020). Designers must decide what devices tools can operate on (e.g. computers, laptops, tablets, smartphones) and which internet browsers enable efficient operation. On data security, tool operators must take steps to guarantee confidentiality of user personal details and other data and to maintain database integrity by permitting only authorised users to input data.

Contextual challenges related to the wider organisational, political and legal context that influences digital tool aims, resourcing and management

Policy decisions and funding commitments shape tool objectives and establish the broad parameters within which tool operators work. Ideally, digital tools require long-term funding commitments and a shared purpose among all major funders and stakeholders if they are to support entrepreneurial learning. A further issue concerns ownership of the intellectual property in digital tools. Will the tool

operator own the content, permitting addition and revision of content, or the content providers? It is reasonably easy to “borrow” good ideas from existing digital tools and adapt them without infringing intellectual property rights.

Design issues for digital business diagnostic tools

Benchmarking and assessment methods

A variety of publicly supported online business diagnostic tools have been introduced across various countries in recent years. These vary according to whether they use benchmarking or assessment methods and on a range of operational characteristics, for example, the type of organisation responsible for hosting and managing the tool (e.g. government, non-governmental organisation, and industry association) and the type of data used for benchmarking.

Benchmarking tools permit comparison of business performance with others; assessment enables evaluation of management practices in relation to a best/good practice standard and identification of areas for improvement (OECD 2020a). Benchmarking requires a choice of metric(s) (e.g. turnover, profit, productivity) and access to high-quality data sources to conduct comparisons. Official business registration or tax records and regular large-scale government surveys might be the most suitable data sources available, although dataset owners may charge licensing fees. Where digital tools have built their own large datasets from user inputs, new users might be compared with existing users. Benchmarking might “shock” entrepreneurs into reflecting on business processes with a view to improvement, but it might not identify the particular practices that require revision. Assessment tools evaluate specific practices or functions, providing insights into why benchmarking metrics are as they are. This task requires developing a set of questions to elicit user responses. Questions should be underpinned by a theory or set of assumptions about good/best management practice, and an algorithm that translates user data inputs into results.

Design issues for e-learning tools

Pedagogical model

The basic decision concerns how to help digital tool users learn: on whether to use a tutor-centred approach or a learner-centred approach. The tutor-centred model places emphasis on direct instruction, delivering content to learners who absorb it passively. The learner-centred model emphasises the user experience, stimulated cognitive processing and guided practice; attractive tool design, innovative content and interactive navigation are crucial (Anaraki, 2004; Ozkan and Koseler, 2009; Ortega-Morán et al., 2017; Rodrigues et al., 2019).

Format

The format of content can range from text-based materials to multimedia and interactive content. Content might take the form of text (e.g. articles, blogs, e-books) or a range of other media: images, audio, video, animation, games or simulations (Anaraki, 2004; Xiberta and Boada, 2016; Mayer 2018; Al-Fraihat et al., 2020). Images include illustrations, photographs, diagrams and maps. Videos and podcasts might include real-life entrepreneur interviews and business advice. Video clips are powerful supports for learning (Mayer, 2017; Bih Ni et al., 2019). Animations include avatars performing business tasks, or participating in business-related games, often with narration to reinforce learning. Animations can motivate learners by generating an emotional commitment to games that facilitate learning (Mayer, 2020), although the design of game elements requires careful thought about planning the possible sequences of anticipated learning outcomes, including how to test whether knowledge has been acquired (Antonaci et al., 2019).

Flexibility and interactivity

Digital tool operators must decide how to deliver content and how to engage users/learners. Important issues include: first, whether digital tools should prescribe a fixed sequence through content for all users or whether individuals can make their own journey (Zare, 2016). A prescribed route might be preferred where learning later content depends on completing and comprehending earlier content. Flexibility permits users to create their own personal path, including revisiting content not understood fully or forgotten (Basak et al., 2016). A second issue concerns interactivity, with whether users should be able to interact proactively with content, for example, by responding to online or downloadable content such as checklists, quizzes and exercises. Such self-regulated learning (Adam et al., 2017) requires a high degree of learner self-motivation (Ettinger et al., 2006). Insufficient interactivity and flexibility might fail to sustain learner interest (Aniraki, 2004). Learners may be discouraged from using tools if they are unable to navigate, or interact with, content as they wish.

Comprehensiveness

E-learning platforms vary in terms of volume and type of content (Anaraki, 2004). A comprehensive platform covers a broad range of subjects relevant to starting and managing a business (e.g. start-up, finance, sales and marketing, managing people, operations, innovation, intellectual property, internationalisation) and incorporates a large volume of rich, interactive, multimedia content to engage and sustain a high level of learner interest and deep understanding (Anaraki, 2004). Alternatively, a minimum viable product might be offered: one that tests the basic product concept with attractive, but restricted, content on the basis of a relatively limited resource investment but with a long-term commitment to extending functionality in later, enhanced versions of the tool. But even a minimum viable product should draw on research with prospective users or other business stakeholders.

Promoting awareness and take-up

Policy makers and digital tool operators must promote awareness and take-up among target user groups if they are to achieve their objectives. Both direct and indirect methods of promotion should be considered (OECD, 2020a). Direct methods include the use of online media (e.g. email, Facebook, Twitter), traditional media (e.g. press releases to journalists, posters and flyers in business support office premises, business networking events, outreach activities) and referrals from public business support professionals. Providing digital tools on a free-to-use basis is also likely promote take-up. Entrepreneurs might be reluctant to pay for a novel, as-yet unproven business support service, particularly a web-based product (OECD, 2020a). Indirect promotion methods involve enlisting important stakeholder groups with whom target entrepreneurs interact – banks, accountants, consultants, membership bodies, trade associations and corporate partners – to promote digital tools to their own membership/client bases. Indirect promotion might prove more fruitful than direct government communications where entrepreneurs are more likely to listen to their own trusted advisers than to government (OECD, 2020a).

Policy makers and digital tool operators face the dilemma of deciding how much resource to commit to finding and attracting groups who might be expected to benefit most from business support. Entrepreneurs most in need of support are very often the hardest, and most costly, to reach (OECD, 2020a). Disadvantaged, marginalised or geographically remote groups might require substantial outreach effort just to locate them. Persuading them to take up business support is likely to be a further resource-intensive task. It might be more tempting to focus on recruiting entrepreneurs who are easy to find and willing to participate.

Evaluating impact

Evaluation of digital tools is vital to ensure successful delivery, effective use, and positive impacts on learners (Al-Fraihat et al., 2020). The ultimate objective of digital tools is to improve small business performance. Success therefore depends on encouraging entrepreneurs to adapt management and business practices in ways that generate positive impacts on performance. It is important for digital tool operators to measure impact in order to discover whether objectives are being achieved, to identify why objectives are not being met (where this is so) and to enable corrective action. There is a need to assess digital tool usability and user experience as well as the actual learning contribution (Kumar et al., 2015).

OECD (2007) proposes “six steps” of increasing methodological sophistication to evaluate SME and entrepreneurship policies. Although not intended to evaluate digital business support tools specifically, the model can be applied to them. This evaluation model starts with simple counts of user take-up through measures of user satisfaction up to more sophisticated quantitative techniques examining changes in business processes and performance. Adapting the model to evaluating the impact of digital tools, the following measures might be proposed: number of tool users or registered account holders; numbers completing tools (or specific parts); user satisfaction; users progressing to further personalised support following use of digital tools; and numbers introducing new business processes and/or achieving higher business performance.

2 International practices: digital diagnostic and e-learning tools

This section presents case studies of international experience of publicly supported digital business support tools. The case studies are comprised of four business diagnostic tools and four e-learning platforms. The selection of case studies highlights the diversity of approaches currently used across OECD countries. Each case study example describes the specific approach taken, including the tool's objectives, target users, design features, promotional activities and actions to monitor and assess impact. These cases illustrate how different decisions about financial investment and resource commitments impact the tool.

Each set of four digital tools is presented using a common two-page template to facilitate comparison of the principal features of each tool. The chapter concludes with a discussion of the lessons learned from these experiences, which can inform the development of new online portals for entrepreneurs.

The four e-learning platforms are:

- Digital School of Food (Ireland)
- Entrepreneur's Learning Centre (Canada)
- MicroStart (Belgium)
- *Virksomhedsguiden* (Denmark)

The four digital business diagnostic tools are:

- Be the Business (UK)
- Business Propel (Australia)
- Early Warning Scan (Belgium)
- Small Business Assessment Tool (SBAT) (France)

Comparison of key characteristics of the case study e-learning tools

	Tool	Country	Target user	OBJECTIVES		CONTENT FORMAT						INTENSITY OF USE					MANAGED BY			COSTS			
				Broad	Specific	Approach		Materials				Time required		Follow-up			Public sector	Private sector	Non-governmental organisation	Development		Operating	
				Comprehensive suite	Targeted training only	Tutor-centred	User-centred	Text	Multimedia	Simulations and games	Quizzes	<60 min	>60 min	Stand-alone	Link to other resources	Link to other training				<EUR 100k	>EUR 100k	<EUR 50k	>EUR 50k
1	Digital School of Food	Ireland	Food sector		✓	✓		✓	✓		✓		✓			✓	✓	✓			✓	✓	
2	Entrepreneur's Learning Centre	Canada	All SMEs	✓			✓	✓	✓	✓	✓		✓	✓	✓		✓				✓	✓	
3	MicroStart	Belgium	Pre-start-up; micro business	✓		✓		✓	✓		✓	✓		✓	✓				✓	✓		✓	
4	Virksomhedsguiden	Denmark	SMEs, pre start-ups, start-ups, micro business	✓			✓	✓	✓	✓	✓	✓	*	✓	✓		✓				✓		✓

* Note that the time required for users to work with *Virksomhedsguiden* in Denmark varies depending on the number of modules followed. Each module can usually be completed in less than 10 minutes, but users could spend hours working on many modules.

Comparison of key characteristics of the case study diagnostic tools

	Tool	Country	Target user	OBJECTIVES			BENCHMARK METHOD				INTENSITY OF USE				MANAGED BY			COSTS			
				Broad	Specific		Quantitative			Qualitative	Time required		Follow-up services		Public sector	Private sector	Other	Development		Operating	
				Business performance	Growth	Digital	Administrative/Tax data	Survey data	User generated data	Management practices	<10 min	>10 min	Sign-post	Integrated				<EUR 500k	>EUR 500k	<EUR 50k	>EUR 50k
1	Be the Business	United Kingdom	10-249 emp	✓			✓			✓		✓	✓		✓			N/A		N/A	
2	Business Propel	Australia	All SMEs		✓					✓	✓			✓	✓			N/A		✓	
3	Early Warning Scan	Belgium	All SMEs	✓						✓	✓				✓			N/A		✓	
4	Small Business Assessment Tool	France	<50 emp	✓					✓	✓		✓					✓	✓		N/A	

E-learning tools for entrepreneurs

Table 2.1. Digital School of Food, Ireland

Local Enterprise Office	
Web address	https://www.digitalschooloffood.ie/
Main objective	• To provide free advice for pre-start food entrepreneurs • To supply higher-calibre participants to the more advanced "Food Starter" and "Food Academy" programmes • To provide a learning resource for established food businesses
Targeted users	• Mainly pre-start entrepreneurs in the food sector • Established food sector businesses
Rationale	To provide free online support to people interested in starting a food business, but who are not yet ready for the Food Starter and Food Academy training programmes. The platform is intended to provide basic knowledge and to "feed the pipeline" by supplying higher-calibre participants for these more advanced programmes.
Type of content	Content includes: (1) short, scripted and unscripted videos and animations presented by real food entrepreneurs, trade buyers, chefs, mentors, support agencies and actors; (2) recap of key learning points at the end of each module presented by a mentor (the tool operator is also an experienced business adviser); (3) text resources available for download and FAQs. Overall, there are an estimated 20 hours of material to watch, read and download. It is intended to update content every few years.
Modules	The landing page presents a 9-minute introductory video. Content is then organised under six themes to be watched in a fixed sequence. Themes include: Plan your journey; Route to market; Think about finance; Grow your sales; Expand your business; Support from experts. Within each of the first five themes there are several courses. For example, Theme 1: Plan your journey includes courses on "Do your research" and "Create your business model". A mentor summarises the key learning points for each theme in a short video. A final, sixth, theme presents guidance from a range of experts in video presentations (Local Enterprise Office, Food Safety Authority, Thinking House and Enterprise Ireland).
User experience	Users are required to register to access content, including confirmation of Irish residence. Users are encouraged to work through the content in sequence. Users can self-certify completion of each theme.
Adaptation to different users	All users have access to all six themes and can also revisit earlier content, depending on business needs and interests.
Links to other support	Users must certify completion of the first three themes - Plan your journey; Route to market; Think about finance - in order to progress to the Food Starter programme, a 2-day offline workshop (currently offered as 4 half-day online workshops) to "feed the pipeline" for the more advanced Food Academy programme. The Food Academy is a major initiative developed by BIA (the national food promotion agency), Local Enterprise Offices (LEOs) and SuperValu (a national retailer).
Development process	The hosts won a competitive project funding call put out by Enterprise Ireland, the national business support agency. E-learning experts were consulted prior to submitting the tender for the call. A steering group was set up including a college (TU Dublin) and BIA to decide

	on content and time allocation between video, animation and downloadable material. Much of the content was adapted from material created previously for the Food Academy. Focus groups were organised with food producers to sharpen the content for the specific user audience. LearnUpon provide the platform and its functionality. A video company based in Northern Ireland (Orion) was selected following a competitive tender to provide video services because the owner had specific e-learning expertise. Actors, a scriptwriter and an editor were also used to develop and present video content. The platform was launched in 2019, following a year of pilot testing with food producers. There is a long-term aim to charge for services but no plans at present.
Promoting awareness and take-up	The platform has been promoted in several ways: • A government minister launched the platform nationally • Local enterprise offices (LEOs) refer to the platform in their basic online advice. • Trade buyer short video clips were provided to LEOs to post on their social media. • Enterprise Ireland press releases to journalists • Dublin LEO food chain promotes it to 2 500 members and, via them, to their networks.
Challenges faced	Major challenges include: (1) continuing to update content, in order to keep the platform relevant, particularly in light of the continuing COVID-19 pandemic; (2) retaining users in the first module - there appears to be a significant 40% fall-off in user numbers between modules 1 to 3, but the reasons for this are unclear. The system now prompts users to complete modules, making clear they cannot advance to other programmes unless they complete the first three modules; (3) developing better data to evaluate the impact of the platform on user businesses.
Costs	Overall project costs were EUR 160 000, including platform license and helpdesk access for future years. Most of the budget was spent on video production. Platform license conditions impose a charge for all registrations.
Impact and results	Data on user numbers or course non-completions are not currently available. No formal evaluation plan has been developed to measure impact – although informal user feedback is reported to be good. Stronger measures are needed to ensure participants complete modules prior to progressing to the Food Starter programme.
COVID-19 influence	National government promote it as part of its pandemic-related business support.
Success factors	• Users can access the platform quickly (with registration). • Users can learn in their own time at their own pace. • Provides a solid foundation for progressing to further support in the Food Starter and Food Academy programmes.
Lessons for other tools	• Operate the platform on a free-to-use basis. • Consider carefully how much video content can be developed within budget – it is easy to over-spend.

Table 2.2. Entrepreneur's Learning Center, Canada

Business Development Bank of Canada (BDC)	
Web address	https://catalog.bdc.ca/catalog?pagename=Courses
Main objective	• To help entrepreneurs develop competencies to develop and grow their business, regardless of their stage of development.
Targeted users	• Small businesses with less than CDN 3-5 million sales (approximately 80-85% of all entrepreneurs). • Some courses target slightly larger firms (CDN 10 million sales) (e.g. "Operational efficiency"). • Aimed at both English and French language speakers.
Rationale	BDC operates several digital business support tools but lacked one focusing specifically on entrepreneur learning. A McKinsey study suggested that the BDC was not giving sufficient support to the broad base of entrepreneurs since most support is targeted at high-impact firms.
Type of content	The portal offers a wide range of multimedia content such as videos, e-learning and gamification. One of their most popular courses is How to Start a Business in Canada. It offers: (1) narrated video animations providing information; (2) games/scenarios, where learners have to accomplish various business tasks, learning business concepts on the way; (3) expert videos, where BDC specialists talk about particular topics such as finance and marketing (with downloadable transcripts); (4) podcasts with real entrepreneurs discussing start-up motivations, personal strengths and weaknesses, financial and other resources, and offering tips for new entrepreneurs (with downloadable transcripts), followed by an on-screen narrator recap of key points. Learners interact with content by participating in short activities, checklists and pre-assessments to test learning and to identify areas requiring greater attention. Learners can download a "travel journal" to take notes in order to write a business plan. The journal also offers additional information and hyperlinks to internet resources.
Modules	Content is organised in 5 major categories incorporating 72 modules (French and English combined) - Start or buy a business; Business strategy and planning; Money and finance; Operations; and Marketing, sales and export. These categories reflect those used elsewhere on the bdc.ca website. Learners are also pointed towards similar courses within the platform. Courses incorporate several modules: the Starting a Business in Canada course includes modules on business planning, financing, hiring and retaining employees, marketing and sales, and networking. Modules are selected from a course catalogue with module title, course category, brief description of content, duration, format (whether e-learning or a game) and difficulty level (basic). Courses typically take 1.5 to 2 hours to complete. Overall, there is 15-20 hours of content in the Learning Centre.
User experience	Access to the platform is free. Learners can register to create an account with just an email address or enrol for courses as guests without registration. There is no typical user route through the content. Learners can enrol in any course they wish, following the table of contents in sequence or, alternatively, choose modules in any preferred order. Learners can revisit content as often as they wish. The focus is on user-led learning, not course completion.
Adaptation to different users	All users have access to the same content but can choose their own journey through the modules, depending on their business needs and interests.

Links to other support	Learners are offered only "gentle suggestions" to other BDC additional support services and information, not flashy infomercials to promote BDC. A decision was taken not to insert a large number of web links within courses in case web address changes led to broken links.
Development process	The Centre was launched in 2018. Course content was developed with external suppliers (learning and multimedia specialists, graphic artists) and internal BDC staff (project manager, specialists in specific subject matters, digital user experience, marketing/branding and public affairs). A private software company provided and customised the learning management system. Course content is aligned with existing BDC online content. The Learning Centre started small and then a shift was made towards longer scenario-based gaming activities focused on the basics of finance, operations, marketing and start-up. New courses can be added at any time to the learning management system. Longer e-learning courses can take 1-2 years to develop and to ensure that it functions properly.
Promoting awareness and take-up	Individual courses have been promoted in a limited way, but the Learning Centre itself has not. Promotion includes social media posts and marketing events; letters to existing BDC clients; and through web links on the bdc.ca landing page. There has been no specific promotion budget in 2020, but user numbers are still rising 10% per quarter.
Challenges faced	Major challenges include: 1) sustaining long-term funding and continuous organisational support in the context of pressures to meet financial targets; and 2) customising the learning management system to ensure a high-quality user experience (includes content quality, ease of navigation and visual appeal).
Costs	Large courses cost approximately CDN 150 000 to CDN 200 000 each to develop. Developing course content was more expensive than initially expected. Development costs depend on the amount of content and the level of interactivity built into the product.
Impact and results	There have been 19 000 course enrolments since launch and 7 000 users hold an account. About 20 users visit the platform every day. Average time spent on courses is 1.5 hours for some courses; this shows learners value the content. No data is available on user characteristics other than region and the devices used. Learners are asked to rate courses on completion, but most do not answer. Courses have won international prizes for best customer training.
COVID-19 influence	Content has not been adapted for the pandemic, although other parts of the BDC website provide links to new support. Visitor numbers to the Centre have increased slightly since the start of the pandemic.
Success factors	• High-quality, interactive content to engage time-constrained entrepreneurs. • Using everyday language rather than academic terms. • Professional development team committed to developing/updating high-quality content.
Lessons for other tools	• Need to sustain long-term funding and organisational support beyond launch to sustain a critical mass of user interest, develop new content and customise the platform. • Shop around to find the most suitable learning management system to house the e-learning content. • Consider whether small items of content are preferable to longer courses, which are expensive and take longer to launch

Table 2.3. MicroStart, Belgium

MicroStart	
Web address	https://Microstart.be/fr/e-learning
Main objective	• To provide free coaching and advice to pre-start entrepreneurs across Belgium. • To support start-up and microbusiness entrepreneurs making credit applications. • To provide an easily accessible learning resource for established micro businesses.
Targeted users	• Prospective entrepreneurs, particularly those with "more ideas than money" and those lacking access to traditional banking finance and/or with limited management knowledge and skills. • Established microbusiness owners with limited resources. • All major language groups across the regions (French, Dutch, Arabic).
Rationale	To support people with starting or developing a small business, particularly those lacking resources or facing strong barriers to start-up. In an increasingly digitalised world, advice and coaching can often be delivered online. MicroStart, founded in 2011, is a leading microfinance institution, providing advice and financial grants to entrepreneurs.
Type of content	Content includes short video animations using two avatars, a male shop owner and a female beauty salon owner (2-3 minutes duration), a range of downloadable tools (e.g. a market analysis questionnaire, a financial plan template), and web links to further information, tools and events. Total time to access, read, watch and download all module material takes an estimated 45 minutes to 1 hour.
Modules	The platform adopts the well-known Business Model Canvas template for business planning. There are nine separate modules relating to: the business model; people and resources, core activities and value proposition; customer segments; key partners and competitors; distribution channels; customer relationships; revenue streams; and cost structure.
User experience	Access to the platform is free and there is no requirement for users to register. There is no typical user route through the platform. The landing page outlines the modular structure of the platform and enables users to access each of the nine modules directly in any order they choose.
Adaptation to different users	All users have access to the same content but can choose their own path through the modules, depending on their business needs and interests. The tool is offered in three languages (French, Dutch, Arabic) to reach different communities of users.
Links to other support	The platform is part of a suite of MicroStart training and coaching services provided offline and online. Free coaching is provided for microcredit applicants by more than 150 volunteers. MicroStart also redirects entrepreneurs to other support providers, for example, public organisations (in Brussels, Wallonia, Flanders), banks, microfinance organisations and consultants. MicroStart has and good knowledge of, and well-established relationships with, other support providers.
Development process	Starting in late-2014, MicroStart identified the e-learning platform operated by ADIE, a French microfinance organisation, as the basis for their own platform. Platforms in Holland

	and Italy were also considered as models. The ADIE platform was preferred because it was created in French; it was clear, accessible and visually attractive; ADIE had 30 years' experience working with microbusinesses in the microfinance sector; and because they expected to incur low development and maintenance costs. MicroStart adapted the ADIE platform to the business and regulatory context in Belgium, including translation into Dutch and Arabic for users in Belgium. External partners assisted the adaptation of the platform (ADIE, Accenture) and an external translator checked in-house translations. The platform was launched in 2016.
Promoting awareness and take-up	The platform is promoted through: referral by MicroStart advisers; emailing existing MicroStart clients; free Facebook ads; google adverts; a press release; communicating to government organisations; and a small flyer placed in MicroStart agencies and partner organisation premises. The most successful method has probably been direct communication between MicroStart advisers and clients, explaining how they might benefit personally from using the platform.
Challenges faced	Major challenges include: (1) adapting and translating the platform was more time-consuming than anticipated; (2) platform development would have been quicker with a dedicated full-time employee rather than relying on staff with other responsibilities; (3) balancing the desire for a comprehensive platform against the need to have something accessible and easy to use; (4) informing users effectively about potential follow-up support without detracting from the user's experience.
Costs	Overall development costs were approximately EUR 20 000, which included: a one-off payment to ADIE to use and adapt the platform; and employees' labour time. Maintenance costs are very low.
Impact and results	For French-speaking users, there were 22 000 page views, 14 800 unique page views, 5 500 "real entrants" (people who go into a module and click on links to document templates). Data are not available for videos (although those on YouTube can be counted). There is an overall "bounce rate" of 45% - the percentage of visitors who leave ("bounce") the site rather than view other content (this could include users who find what they need). More user details are available for users progressing to a microcredit application (e.g. age, gender).
COVID-19 influence	No specific changes have been made to the platform - but some MicroStart coaching previously provided offline has been moved online and a new webinar programme has been introduced covering topical issues such as government pandemic business support and managing bankruptcy.
Success factors	• Freely accessible platform. • Connects users to offline, face-to-face support provided by MicroStart and other support providers.
Lessons for other tools	• Consider licensing and adapting existing tools, which could potentially be cheaper than building a new tool. • Segment the target population in order to identify those who can be effectively reached and supported. • Make it clear to users where the value of the platform lies. • Integrate opportunities for potential follow-up within the tool rather than relying on a separate email communication to users, which appears to be ineffective.

Table 2.4. *Virksomhedsguiden*, Denmark

Danish Business Authority	
Web address	https://virksomhedsguiden.dk/erhvervsfremme/content/
Main objective	Provide a digital one-stop shop to offer guidance and business support services in Denmark to: • Support business growth and development. • Encourage business compliance with regulations. • Improve business survival and success rates by helping pre-starts to prepare better. • Provide data to providers of business support services in general, including data on individual businesses, business demographics and more.
Targeted users	• SMEs and start-up entrepreneurs, primarily.
Rationale	Following a January 2019 law mandating a reform of the public business support system, the platform provides a digital access point offering high-quality basic information and advice to people starting and running a business. The platform is also a gateway to other support providers.
Type of content	Text-based content make up the main part of the platform and is "introductory" and does not duplicate the deeper content offered elsewhere. The production of videos, templates and interactive material is slowly being introduced and more is expected to be developed.
Modules	The platform replicates the e-commerce idea, where users (i.e. business) are guided to material and services depending on what they are looking for and where they start their user-journey, i.e. from google which may direct them to a specific content/sub-page on the platform or directly through the front page of the platform, which makes search engine optimisation (SEO), google adds, etc. important tools for attracting users. Modules are a mix of text-based materials, templates, videos, interactive guides, and events and offers. The guide provides information under several topic headings (e.g. tax and VAT, business forms and registration, sales and marketing). Themes have their own dedicated content, for example, starting a business, but they also connect users to selected content elsewhere within the platform. Templates provides blank documents available for download, for example, budget, business plan, contract, bylaws, foundation document and sales and delivery terms. Events and offers connects users to further online and offline support, including training and networking events. Users can also search for specific content using a free text search box and a menu facility to filter content; all platform content is tagged with keywords to facilitate search.
User experience	Access is free to the platform and there is no requirement to register. There is no typical user route through platform content. The landing page enables users to access content in several ways: (1) through four tabs (Guide, Themes, Templates, Events and offers); (2) scroll down the front page to click on topics or themes (Get started with the green transition; Are you starting a business?; Do you have a product that could make sense to sell online) and a newly added theme related to the COVID-19 pandemic; (3) through web links to the regional Business Hubs (capital, Midtjylland, North Jutland, Sealand, Southern Denmark, Bornholm); or (4) by using the free text box to search the platform by type of content, topic and location using keywords.
Adaptation to different users	All users have access to the same content but can choose their own individual path through the platform, depending on their business needs and interests.

Links to other support	The platform connects users to the ecosystem of public and private support providers. Personal 1:1 specialised business support and events are provided through six physical access points, the regional Business Hubs, located throughout Denmark. Business Hubs also serve as gateways to other public and private support services, including tax and regulatory authorities.
Development process	Platform development is continuous and involves a both a technical set-up and stakeholder forum of government departments, regional municipalities and business organisations. The development process involved four stages: (1) building user portraits - a consultant was engaged to develop six "user portraits"/archetypes based on interviews and search engine use. User portraits were organised along two dimensions – awareness of needs and level of maturity (e.g. pre-start, serial entrepreneur); (2) expert workshops ("design sprints") – to sharpen the user portrait definitions; (3) user story mapping – to understand what users are trying to do and what help they need; (4) prototype testing. Version 1.0 of the platform, a minimum viable product, was launched in June 2019. Versions 1.5 and 2.0 added new content and an improved "back office" function, enabling Business Hubs to access better user data. A fully data-driven, personalised Version 3.0 (yet to be developed) is intended to provide tailored content based on previous user behaviour.
Promoting awareness and take-up	Promotional activities are prioritised alongside developing new content. The platform is promoted through: social media (Facebook, LinkedIn); and via stakeholders (Business Hubs, municipalities, business membership organisations, government authorities). When new themes are added, new stakeholders can be brought in to help promote the platform.
Challenges faced	Major objectives include: providing a valuable user journey - guiding users to the solutions they need, which is not always the same as what they are looking for. This requires a constant focus on user experiences and careful management of data and stakeholder expectations.
Costs	National government and municipalities co-finance the platform. Develop and maintenance of content incurs an ongoing cost.
Impact and results	The platform is still rather new in the public domain, but the awareness is increasing. In 2020 the platform had 826 901 visitors and more than 6.3 million page views. Piwik analytics are used to count visitors to specific content and to, for example, calculate "bounce rates", the percentage of visitors who leave ("bounce") the site rather than view other content. Users are asked for feedback within the platform and through both on- and offline user tests.
COVID-19 influence	A new "Coronavirus and your business" theme has been added to support businesses through the pandemic. This provides details on how particular types of business need to respond and how to obtain government compensation. The theme on COVID-19 has greatly contributed to the awareness of the existence of the platform.
Success factors	• User satisfaction is reported to be high. • Stakeholder satisfaction – meeting stakeholder expectations.
Lessons for other tools	It is very different to build a modern, data-driven platform together with more than 20 authorities and 150 providers of business support services than it is to develop a website. • Understand the scope and complexity of the task, and ensure an agile approach to development with well-defined objectives. • Do not jump to solutions first and, for example, imitate another platform or certain tools – consider user needs carefully, and keep evaluating content. • Marketing – ensure to promote the platform and its content. • Ensure adequate resources to do it properly.

Digital business diagnostic tools for entrepreneurs

Table 2.5. Be the Business, UK

Be the Business	
Web address	https://www.bethebusiness.com/
Main objective	• To encourage SMEs to improve productivity by benchmarking performance against similar businesses • To assess SME management practices against good practice standards.
Targeted users	• SMEs with 10-249 employees, particularly below average performing firms. These firms are believed to have sufficient capacity to absorb support and to adapt business practices. • "Lagging sectors" – hospitality, manufacturing. • "Lagging regions" – south-west and north-west England.
Rationale	UK businesses report lower productivity than their counterparts in other mature market economies (the "productivity puzzle"). Businesses need to improve productivity in order to remain competitive.
Assessment/benchmarking method	• Productivity is benchmarked quantitatively against businesses of a similar size and in the same industry/sub-industry. • Management practices are assessed qualitatively to identify strengths and weaknesses.
Benchmark data	Benchmarking data are based on the Office for National Statistics Annual Business Survey. Users are benchmarked in relation to businesses in the same size class (small: 10-49 employees; medium-sized, 50-249) and industry/sub-industry category. Users select which of 27 UK Standard Industrial Classification categories best describes their business.
Modules	The assessment tool is organised in five optional modules: Leadership & Management; Sales & Growth; Planning; Digital Readiness; and People and Team.
User experience	The tool is freely available. Registration is optional, but only registered users can store and retrieve data for later use. To register, users must input information regarding: business name; turnover; intermediate consumption (defined as total purchases of energy, goods, materials and services consumed as inputs by a process of production); number of employees; industry and sub-industry (optional). Users can choose up to five module assessments. Each module includes a short questionnaire (6-10 questions each). Registration and completion of all five modules takes approximately 10-15 minutes.
Adaptation to different users	The benchmark tool is mandatory with registration, but users can choose the number and sequence of the five modules they wish to take depending on their business needs and interests.
Results	User input of turnover, intermediate consumption, employment and industry data is translated into a productivity benchmark shown as a percentage figure higher or lower than average in relation to similar firms. For each assessment module completed, a results page presents a separate percentage figure for a range of relevant criteria and identifies the key areas to address to improve management practice.

Guidance offered	Top tips and short case studies relevant to specific module assessment criteria are offered. Case studies are tagged with keywords enabling users to click through to similar content elsewhere within the tool. Each module offers a downloadable handbook (9 pages) for more detailed guidance.
Links to other tools or support	The tool is a stand-alone product. Currently, there are no direct links to further offline support, although there are plans to develop these. A chatbot is available for both registered and guest users to ask questions.
Development process	Be the Business was set up as a charity in 2017-18 to address the UK "productivity puzzle". A well-known large consultancy was hired to develop Version 1.0, launched in April 2018. Version 2.0 was launched in May 2019 after a data analytics company was hired to create a better user journey. SME leaders were consulted regarding the tool prior to launch.
Promoting awareness and take-up	User awareness has been promoted through: social media, advertising and communications to SME participants in other Be the Business programmes; government communications (e.g. HMRC deadline reminders); small business associations (e.g. Federation of Small Businesses); and through stakeholder communications to their own members/clients. Different types of messaging have been tested to identify which are most effective to stimulate SME action.
Challenges faced	Major challenges include: finding a suitable, large high-quality database to facilitate granular comparisons by business size and industry/sub-industry; and enabling improved user choice of assessment tools, in order to reduce a high non-completion rate in Version 1.0.
Costs	Development costs are not available. Operational costs include approximately USD 800 (approximately EUR 730) per month for website hosting. There are staff dedicated to maintaining and developing content and functionality.
Impact and results	A first-year target was set of 3 500 user "sessions" (including new and return users). User numbers are difficult to calculate precisely because many SMEs complete the tool as part of a business consultancy programme. The proportion of users completing assessment modules improved from 7% (Version 1.0) to 36% (Version 2.0). A more thorough evaluation of impact is expected in 2020.
Impact of COVID-19	No specific changes have been made to the digital tool. But the broader Be the Business website ("Rebuild") now incorporates a range of resources, guidance and support to enable users to manage the impact of the pandemic, including links to government websites and to 1:1 mentor support.
Success factors	• Interface was designed with all levels of user knowledge and capability in mind. • Tool is easy and quick to use – it uses everyday language and defines key terms. • Tool enables partner organisations to connect their own digital tools in order to contribute their user inputs to the dataset and enables access to the dataset for their own purposes.
Lessons for other tools	• High data quality is essential to provide robust benchmarking. • Tools should support users to choose assessment tools in order to reduce non-completion rates. • Tools require a clear focus on management practices with strong potential to increase business productivity.

Table 2.6. Business Propel, Australia

New South Wales Business Chamber	
Web address	https://businesspropel.com.au/home (Note that the tool was taken offline near the end of 2020 for a rebuild).
Main objective	• To help SMEs improve performance by assessing business practices against good practice standards and to develop action plans to improve performance.
Targeted users	• Available to all SMEs, but mostly aimed at businesses with fewer than 20 full-time equivalent employees.
Rationale	To help SMEs improve their performance by assessing their business practices against good practice standards and to develop action plans to improve performance.
Assessment/benchmarking method	Business Propel is an online programme to track and support businesses' progress on an ongoing basis. It is interactive, engaging and easy to navigate programme that includes a business health check. The programme expects users to keep returning to monitor and review their business progress, which perhaps is an issue that needs further investigation.
Benchmark data	Management practices are benchmarked against good practice standards.
Modules	The assessment tool is organised in five optional modules: people; customers; financials; strategy; and operations.
User experience	The tool is free to use. Users must input company name and region/location data to create an account and use the tool: number of employees; industry; whether clients are businesses or consumers; and business goals. Each of these questions offers a drop-down menu of possible responses. On entry, users are presented with a dashboard summarising "My actions plans/My actions", "My Overall Score" (from taking the assessment modules) and "My business plans". Users can update responses to benchmark their own historical performance by repeating modules and generating new action plans to suit changing business goals and circumstances.
Adaptation to different users	All users have access to the same content and can choose which modules they wish to take, depending on their business needs and interests.
Results	On completion of each assessment module, users are presented with a management capability rating in the form of a qualitative descriptor such as 'excellent' or 'poor', a list of recommended action plans to address any challenges identified and a list of consultants for those wishing to access additional support. Users can generate a module assessment report (approximately 20 pages) which includes the percentage score, a brief description of what it means, positioning on a 4-point qualitative scale rating capability from 'excellent' to 'poor', and a discussion of how performance might be improved. Generating reports for all five modules can produce a substantial amount of reading for users.
Guidance offered	Clicking "View Recommended Action Plans" takes users to a list of plans including "Develop your marketing plan" and "Understand your customers and their activities". Following these links takes users through to short pieces of advice and allows actionable tasks to be allocated to people and to set a task completion date.

Links to other tools or support	The tool is well-integrated into the wider business support system. A directory of consultants is searchable by specialism, defined in terms of the five module topics (for example, people). For each listed consultant, additional information is available on key personnel and the business profile, enabling users to make an informed selection. Consultants can be contacted directly from the tool and outputs might be shared with them.
Development process	The New South Wales government and the New South Wales Business Chamber joined forces to develop an online business planning tool. The Chamber created the software and manages the tool via its commercial arm, Australian Business Consulting & Solutions (ABCS), an organisation with a successful track record of developing diagnostic assessments, online systems and business education programmes. The tool was registered in 2014 and a version was developed for adviser use in 2018. The tool is described as in "Phase 1" – a pilot testing stage.
Promoting awareness and take-up	The tool has been promoted through: extensive Chambers of Commerce marketing; outreach activities, including webinars to encourage businesses to have the one-page business plan, the first step in the Business Propel journey; Chambers of Commerce have also required business owners looking for awards to use Business Propel.
Challenges faced	Major challenges include: promoting initial take-up; encouraging users to persist with the tool and their business improvement efforts. Too few users get into the habit of working on the business, which is likely to yield greater impact.
Costs	Development costs are not available. There are 12 dedicated staff attached to Business Propel at Australian Business Solutions Group.
Impact and results	More than 3 000 SMEs worked with the tool in 2018, completing 2 267 health checks.
Impact of COVID-19	No details available for the pandemic response.
Success factors	• Ease of navigation around modular structure. • Enables users to develop action plans informed by assessment results. • Well-integrated into the business support system; easy to connect users to consultants for further support.
Lessons for other tools	• Use non-technical language for small business users • The "look and feel" of the web interface needs to be culturally appropriate for the widest range of potential users. • Consider evaluating tools to investigate their effects; user satisfaction data and, even better, activity data, is useful to ascertain impact.

Table 2.7. Early Warning Scan, Belgium

Société Wallonne de Gestion et de Participations	
Web address	https://www.earlywarningscan.be/fr
Main objective	• To help entrepreneurs to identify the early signs of financial difficulty that could threaten business survival. • To prompt entrepreneurs to seek specialised support from the Enterprise Bounce Back programme as early as possible.
Targeted users	• Self-employed workers and SMEs operating in Wallonia. • Business advisers.
Rationale	The tool was created in the context of the Enterprise Bouncing Back initiative. Although support for SMEs at risk of bankruptcy was available, entrepreneurs did not necessarily seek support promptly because they lacked a proper understanding of the warning signs.
Assessment/benchmarking method	• The tool is a self-assessment questionnaire with 25 questions.
Benchmark data	The tool does benchmark users against another data source. It relies on established business knowledge of good practice.
Modules	Content is organised in five separate sections: planning and control; business relations: customers and suppliers; human resources, family and privacy; finance/money management/financial balance sheet; and external advice and support.
User experience	The tool is freely available and does not require registration. Users must provide information on legal form, business size and nature of activity in order to gain access. Users must then answer 25 yes/no questions (some have a clickable information icon to clarify terms) in a fixed sequence in order to complete the tool. Users may revise their responses within each section but once a section is completed, users cannot revise earlier responses. The landing page informs users the tool will take 15 minutes to complete.
Adaptation to different users	All users must use the tool in the same way.
Results	On completion, users are informed whether their business is under control or not. Results are presented in the form of a spider chart and can be printed.
Guidance offered	The tool advises users only to stay alert to the warning signs of financial difficulties.
Links to other tools or support	Users are offered the option to contact a business adviser from the Enterprise Bouncing Back initiative (*Entreprise en Rebond*). Advisers may carry out a deeper assessment and refer users to relevant professionals such as accountants, lawyers, tax advisers and mediation services. Eligible firms may receive free support for 12 weeks.
Development process	The tool was introduced in 2017, as part of the Enterprise Bouncing Back scheme (formerly the Centre for Enterprises in Distress, founded in 2005). Because the tool was established as part of a pre-existing business support programme, it could draw on knowledge of user characteristics obtained previously.

Promoting awareness and take-up	The tool has been promoted through: the three local Chambers of Commerce in charge of the implementation of the Enterprise Bouncing Back programme include links to the tool on their website; outreach campaigns have been conducted previously but are currently on hold while the tool is being revised and the support programme is expanding capacity.
Challenges faced	Major challenges include: communicating tool objectives, partly because the name of the tool is in English; modules and questions have been rephrased to encourage higher completion rates. It is expected that the tool will be rebranded under a French name "*Je Scanne Mon entreprise*" ("I scan my business").
Costs	The tool had a budget of approximately EUR 15 000 for 2019.
Impact and results	Data are collected on user numbers, type of user, user completions, and whether they sought further support from a counsellor. Most users are independent contractors and micro-enterprises (less than ten employees). Take-up is under review.
Impact of COVID-19	The tool was not adjusted for the COVID-19 pandemic (as of December 2020).
Success factors	• Knowledge of target users, acquired through the tool and programme counsellors, enabled programme managers to adapt the tool to target user needs. • Offers direct links to a programme providing personalised support, helping entrepreneurs act rapidly on the diagnostic results.
Lessons for other tools	• The ability to use a tool anonymously helps entrepreneurs to open up about a stigmatised topic like bankruptcy. • Reliance on mainstream business knowledge rather than using specific benchmarking data does not require major investments in data production or data licensing.

Table 2.8. Small Business Assessment Test (SBAT), France

Observatory on Practices of Entrepreneurs and Enterprise (OPEE)	
Web address	Https://opee-sbat.org/en/?lang=en
Main objective	• To identify entrepreneurs' business models. • To benchmark SME managerial practices in order to encourage improvements. • To enable SMEs to provide banks and other partners with better information when seeking financial and non-financial support.
Targeted users	• Small, independent firms employing 1-50 employees. • Entrepreneurs in France and other countries. • SME stakeholders - business advisers, investors, bankers, policymakers.
Rationale	SMEs are perceived as critical to economic growth and job creation, but face challenges in being able to develop and innovate, for example, accessing affordable finance). Many SMEs require help to improve business practices and performance.
Assessment/benchmarking method	• User business models are classified as one of four types (price competitiveness, innovative, economies of scope, customer relationship). • Users are benchmarked on a range of managerial practices against other firms adopting the same business model and in the same industry in order to identify strengths and weaknesses.
Benchmark data	The OPEE dataset is the source of the benchmark data. Each new user's data are added to update the dataset continuously. Previously, benchmarking used data for matched firms drawn from the World Bank survey dataset.
Modules	The tool is organised in four modules: a mandatory module to determine the user's business model; and three optional modules covering innovation, finance and internationalisation.
User experience	The tool is free to use but registration is mandatory. Users must provide the following information to register: name; company name; country; business founding date; address and postcode; SIRET code (for French businesses only); business activity/sector (selected from a drop-down menu of 75 sectors); legal status; number of employees; manager's gender; and type of business (defined in terms of whether operated domestically, independent or part of a national or international group). No financial information is required. Users must complete the business model module (17 questions). Users are free to choose which of three optional modules (21-29 questions each) to complete and in which order. Answering all 93 questions across the four modules would take an estimated 1-1.5 hours.
Adaptation to different users	All users have access to the same content but, except for the mandatory business model section, each can choose which of the other three modules they wish to take, depending on their business needs and interests.
Results	Users receive a diagnostic report covering (maximum 25 pages): company profile; business model analysis; and analysis covering innovation, finance and/or internationalisation. Reports use limited graphics (spider charts) comparing user firms with others for all modules completed.

Guidance offered	The diagnostic report offers a limited amount of guidance, and usually advises entrepreneurs to seek further support from specialist consultants.
Links to other tools or support	The tool is a stand-alone product. It does not connect users to other support providers or provide information on how to find them. The issue of supplying support organisations' addresses has been discussed but postponed for the time being.
Development process	Work on a prototype commenced in June 2015 and Version 1 was launched in June 2016. The business model concept is based on the theoretical ideas of two academics, Michael Storper and Robert Salais. Version 2 was launched in June 2017 using a revised questionnaire and the option to generate a diagnostic report for completed modules. Proxy cases have been replaced with real user data since launch to improve the database. The tool has also been translated into English and Arabic for non-French users. There is a long-term aim to charge for services but no plans at present.
Promoting awareness and take-up	The tool has been promoted through: networking with entrepreneurs at events, conferences and research projects; teaching students setting up their own businesses (members of the OPEE team are also university lecturers); and word-of-mouth referral.
Challenges faced	Major challenges include: (1) Recruiting staff with relevant financial and HR skills - to develop powerful data mining techniques; (2) Ensuring data security - to avoid dataset corruption and data theft by potential competitors ("fake entrepreneur robots" have been identified and excluded from the dataset for completing the tool too quickly in inhumanly fast times); (3) Questionnaire testing with entrepreneurs in France and other countries – to ensure validity; (4) Updating the algorithm - to ensure model robustness when new data is added.
Costs	Development costs have been EUR 300 000 over five years primarily on non-tenured staff salaries, but also software licenses, new computers and travel costs.
Impact and results	There were 3 133 new users in 2019. User data is available for business size, industry and country/region. Users tend to be very small businesses, mostly in the retail sector, although larger small firms are more likely to use the tool. User satisfaction data is obtained from a subsample a few days after use, but a more systematic evaluation needs to be conducted.
Impact of COVID-19	The tool was not adjusted for the COVID-19 pandemic (as of December 2020).
Success factors	• Generally perceived as easy to use. • Relevant to all types of SME and entrepreneurs. • No requirement for SME users to provide financial data, which may constrain take-up.
Lessons for other tools	• Tools require skilled data scientists capable of adapting it to a specific context. • May need to translate tools for different language groups where users live in different countries.

Lessons learned from international experience

Several important lessons for policy makers and digital tool operators can be drawn from the eight case studies of e-learning platforms and diagnostic tools. These lessons relate primarily to tool/platform content and the "user journey", but some also refer to the wider context. Some of these lessons identify important y choices and trade-offs that policy makers and tool managers face, while others offer more detailed prescription.

Setting tool objectives

Identify user needs carefully at the outset – do not jump to solutions first

All of the digital tools that are showcased in this chapter invested time in identifying clear objectives, defining targeted users and understanding their needs. This is an important initial step when developing a tool because these factors will determine the type of tool that is developed and the nature of its content. This is well-illustrated by the Danish case *Virksomhedsguiden*. The development of this tool included a multi-stakeholder forum that shaped the concept of the tool, which was followed by multiple phases of development and testing to collect information and feedback from potential users about how a tool could meet their needs.

Carefully defining the nature and content of the tool is particularly important when budgets are very limited. In the MicroStart example, the budget for developing the tool was quite modest so it was critical to focus on the core target clients with very specific content. The budget was also a consideration for how the tool was built. MicroStart opted to work with one of their partners (ADIE) by licensing a tool that ADIE had already developed and to make some adaptations to the content. This was a more cost effective option than building a new tool from scratch.

Understanding user needs can also help avoid a common pitfall when building online tools, which is to develop content too quickly without having a clear vision for what is needed. This is especially important when developing media and interactive content because budgets can be overspent very quickly.

Assess user needs to determine whether content should be organised in shorter or longer pieces

Most tools described in this chapter provide content in small pieces and they can be accessed and used in any combination and in any order. This approach helps to make the content more user-friendly and flexible to the needs of individual users. Examples of this e-learning tools using this approach include Entrepreneur's Learning Centre, *Virksomhedsguiden* and MicroStart. There may be circumstances when longer pieces of content suit the needs of the tool. For example, the Digital School of Food is an e-learning programme that is a prerequisite for an in-person training programme. Therefore users are likely highly motivated to complete the tool because it is required for the subsequent programme.

This principle can also be applied to digital diagnostic tools. Diagnostic tools such as Business Propel and Early Warning Scan were designed to be used very quickly so that users can obtain quick feedback on their management practices. However, other diagnostic tools provide more detailed assessment and benchmarking, which requires users to input more information into the tool and investing more time into using the tool.

Overall, the benefits of offering content in small pieces include a better user experience and likely greater completion rates. The tool can also be more adaptable to user needs when they can put pieces of content together in various combinations that suit their needs. However, it must be recognised that

there is a trade-off in terms of time invested in working with the tool and the depth of content offered. Those tools that require a greater time investment can have greater benefits for users. Thus the issue can be viewed as helping a lot of entrepreneurs in a small way, helping few entrepreneurs in a greater way, or somewhere in between.

It is also important to recognise that the amount and length of content included in the tool can have significant cost implications. Longer media and interactive content can be very expensive to develop so putting content in smaller packages can have substantial cost savings.

Ensuring a rewarding user experience

Develop high-quality, interactive, flexible content

Tool managers from the case study examples all noted that the main success factors are that content is relevant and easily accessible. Many tools noted high bounce rates during pilot testing when users had to go through multiple steps to access content or when content was unclear or not easy to understand. In addition, the Be the Business tool reported that completion rates increased when the tool became more flexible in terms of how users worked with it and how much effort was required to obtain results.

An effective approach that many tools have taken is to build the content in modular format so that users can work with any pieces of content in any order. For example, Business Propel, *Virksomhedsguiden* and the Entrepreneur's Learning Centre were built with a modular structure to increase flexibility for users. Users can access all content and is free to work with it in any way and in any order.

Building tools in a modular format allows for content to be updated or expanded more easily. For example, *Virksomhedsguiden* has had three versions (Versions 1.0, 1.5, 2.0) and work on a fourth version (Version 3.0) is ongoing. Similarly the Entrepreneur's Learning Centre is adding new content and adjusting existing content on an ongoing basis, although further major development at not currently foreseen

Many tool managers noted that client feedback indicates that the tool needs to be clearly applicable to the entrepreneurs' day-to-day tasks. Some tools such as Business Propel and *Virksomhedsguiden* achieve this by providing tools and templates that can easily be applied immediately, e.g. a template for a financial plan.

Use simple language in the tool to facilitate user engagement and learning

All of the tool managers interviewed also reported that ease-of-use was an important success factor, particularly using of simple language throughout the tool. Simple language will improve the user experience because they can access information quickly and easily, reducing "bounce rates."

Two tools raised specific issues related to their targeted users. First, MicroStart explained that simple language is critical for all of their products because their target clients are entrepreneurs who have difficulty accessing mainstream financial markets and products. Therefore they typically have lower levels of financial literacy. MicroStart also had the tool translated into three languages to help minimise issues related to comprehension.

Second, Early Warning Scan is very sensitive to way that material is presented in the tool because there can be a stigma about business failure. The tool was developed to avoid causing embarrassment to users who have to reveal information about a business in difficulty.

Enable users to access the platform at no cost to encourage take-up

All digital tools for entrepreneurs are concerned about take-up and use of the tool. One of the most effective methods of encouraging user take-up is provide access to the tool at no cost. While there are some examples of private consulting businesses offering digital tools for entrepreneurs with a fee, all of the tools in this chapter offer use of the tool at no cost. The credibility of the public agency is almost always sufficient to ensure that the free tools are perceived as having value.

Use of user registration depends on tool objectives

For assessment tools, relative benefits of permitting anonymous use, which might stimulate entrepreneurs to open up about a stigmatised topic such as bankruptcy, need to be weighed against the desirability of capturing user data that might provide insights into the effectiveness of efforts to promote tools.

Effectively developing a tool

Find the right balance of internal and external expertise during development phases

All eight of the case studies presented in this chapter used teams that consisted of internal expertise combined with external contractors. However, the balance between internal and external expertise varies across the examples. The SBAT tool, for example, was developed largely by an internal team of economists and data scientists and they were supported by an IT contractor to build the website. At the other end of the spectrum, the Digital School of Food tool was developed largely by external contractors under the supervision of the tool manager. Externally developed materials included course content, videos with actors and entrepreneurs, and the development of the website. Other tools presented fall in-between these two examples that use a combination of internal and external expertise.

The advantages of using internal expertise is that the content and structure of the tool can probably be achieved more easily because experts would already be familiar with targeted clients and their needs. The use of internal expertise also allows for greater flexibility in future developments or edits to the tool since in-house experts can make changes or develop new content without necessarily going through a procurement process. The drawbacks of this approach include cost since contracted work can often be done at a lower cost, especially when a competitive procurement process is followed. The other advantage of using external experts is that the expertise already exists and there is no need to invest in developing internal staff, which takes time and may not be needed on an ongoing basis.

Shop around to secure the best value for money from external contractors

Several of the tool managers such as the Digital School for Food noted that contractors can vary greatly in terms of the cost of services. It is therefore important to use an organised procurement process that seeks quotes from several providers to ensure that value for money is achieved.

Ensuring long-term relevance of the tool

Allocate adequate resources for marketing and promote the value of the tool to users

The case study tools in this chapter each use a variety of promotional methods, including social media, direct promotion to clients through existing contacts. One of the most effective approaches appears to be building partnerships with a range of organisations cross-promote the tool by directing potential users to the website. This is well-illustrated by *Virksomhedsguiden*, which has arranged partnerships with actors in the Danish entrepreneurship ecosystem. Each of the partners has visibility on the platform and

therefore has an interest in offering reciprocal visibility for *Virksomhedsguiden*. The experience to date shows that this can be a cost-effective way to generate traffic to the website, but it is important that the partners see value in partnering with the tool.

Connect platforms to the wider business support ecosystem, including personalised one-to-one support

Digital tools for entrepreneurs should not only seek to provide value directly to entrepreneurs through the content offered (i.e. e-learning modules, assessment of management practices, diagnosis of financial performance), but they should also seek to act as a gateway to the broader support system for entrepreneurs. Users will most likely be entrepreneurs seeking some form of support or upgrade in their knowledge. Tools can offer some basic support but more intensive individual coaching or training will be more effective at stimulating an improvement in management practices. It is therefore important that the tools have some type of mechanism that directs users to more intensive individual support.

The cases presented earlier use different approaches. Several of the examples have intensive follow-up, including the Digital School of Food, which is a prerequisite for another programme. The Early-Warning Scan has the most intensive individual follow-up with users. The government agency that manages the tool conducts a personal follow-up with users to inform users about the available support offers. This strong follow-up has resulted in a high take-up of follow-up support relative to other tools. On the other hand, the Entrepreneur's Learning Centre takes a rather passive approach to directing users to potential follow-up support. Some entrepreneurship products offered by the Business Development Bank of Canada are cross-promoted inside the tool but tool managers decided that they did not want users to feel like they are being "sold something". It was felt that this would reduce use of the tool.

Sustain long-term funding and organisational support to sustain user interest and to enable the development of new content.

All of the tools underlined the need for dedicated financial resources over several years to ensure that websites can be maintained and adjusted (at a minimum) or further developed. This helps to build the credibility of the tool because it will take time for it to become visible in the business community and to build a base of users. Several tool managers also noted that it is important to have organisational support to keep staff motivated to work on the tool.

Monitor and evaluate take-up and use

Monitoring and evaluation of digital tools for entrepreneurs can consider five levels of assessment:

1. Use of the tool by SMEs and entrepreneurs;
2. Learning by SMEs and entrepreneurs and motivation for business change through use of the tool;
3. Stimulation of additional take-up of follow-up business development advice and business development support by SMEs and entrepreneurs;
4. Change in business processes and practices of users as a result of using the diagnostic tool (including the additional business support taken up as a result);
5. Change in business performance (growth, survival, productivity and other potential measures such as exports).

The case studies all directly track a range of metrics to understand the first level. This includes tracking the number of visits, content (pages) visited and time spent on website. Some tools also track user location and the type of device used to access the tool.

In addition, the examples in this chapter all make an effort to assess the user's experience and the impact of the tool. This covers levels two, three and four. Some tools use follow-up surveys that are sent by email (e.g. Digital School of Food), some have short pop-up surveys after users have worked with a piece of content (e.g. Entrepreneur's Learning Centre) and others organise in-person testing sessions to observe and interact with users (e.g. *Virksomhedsguiden*). Pop-up surveys that are directly in the tool appear to have higher response rates than email surveys, but the scope for collecting information is much more limited. In-person testing sessions clearly yield the greatest feedback but also require the greatest investment (i.e. cost, time). There is also the risk that users in testing sessions may not be representative of the typical user.

Business diagnostic tools typically have greater ambitions than e-learning tools about impact business performance. Therefore, diagnostic tools typically place a greater emphasis on trying to measure the impact of the diagnosis and advice on business performance, i.e. level five. However, it is difficult to directly link an online diagnosis to a change in business management practice since there are often several intermediary steps such as seeking and receiving advice and coaching. The examples of business diagnostic tools in this chapter show that all monitor use of the tool and assess user satisfaction, but none have been successful at measuring the impact on business performance. While several of the tools such as Be the Business and Business Propel have been evaluated, these tools are used as part of broader packages of support so it is difficult to isolate the impact of the tool.

3 Conclusions

Only about half of entrepreneurs sustain their business for at least three years. There are many reasons why a business may stop operating, but many business exits are the result of poorly-adopted management practices (e.g. business strategy, financial planning and management, human resource management). Governments in most OECD countries have been offering tools and business advice to entrepreneurs for several decades to help them better identify challenges and understand how to overcome them, including through professional assistance. The provision of these tools and advice is increasingly moving online as online tools become more powerful and sophisticated, and this trend accelerated during the COVID-19 pandemic since face-to-face services have often been suspended.

There are a number of important trade-offs that policy makers need to confront when they design online e-learning and business diagnostic tools for entrepreneurs. First, digital business diagnostic tools face a trade-off between ease of use and power of the assessment and/or benchmarking. Powerful tools that are able to provide detailed feedback require much more information and data to be entered, increasing the amount of time required to work with this tool. However, substantial time investment can be a strong disincentive for many potential users. Second, online learning tools face a trade-off between providing detailed and practical knowledge against the availability of time that users can spend with the tools. Most users are willing to invest a limited time into working with online learning tools provided that benefits can be realised rather quickly. Therefore, content needs to be in an appropriate format for the audience (e.g. written materials, videos, interactive games) and be provided in inter-linked packages (e.g. short modules that are both connected and independent). A final important trade-off is faced on user registration. Many online tools for entrepreneurs do not require users to register since most tool operators believe this will increase use. However, this creates a knowledge gap about who uses the tools and the impacts achieved.

Policy makers can learn from experiences in other countries and many lessons can be identified. First, any online tool for entrepreneurs needs to have a clear objective(s) and target user(s) to shape the development and marketing of the tool(s). It is important to pilot test functions and content with users as they are developed and to continue to monitor use of the tool(s) after launch so that adjustments and updates can be made. Failure to do so will likely result in tools being irrelevant for entrepreneurs. Second, user interfaces need to be easy to use. They should be designed to allow for flexible and intuitive user journeys since users will have different needs. Third, the tools need to deliver value quickly. Users should therefore be able to quickly access the content that they are seeking and should see some benefits in an initial experience. Finally, e-learning and business diagnostic tools need to be connected to the broader entrepreneurship support system so that users can easily identify relevant and high-quality follow-up in-person support.

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