Growing pains

Starting a company may not be easy, but growing it into a mid-sized entity is where the challenge really lies.

The rate of start-up creation in many countries has declined in recent years, and at 5 years since birth only a tiny fraction (~4%) have grown and only about 50% still survive. These are the stark conclusions arising from a new policy note published by the Directorate for Science, Technology and Innovation at the Organisation for Economic Co-operation and Development (OECD).

Entitled ‘No country for young firms?’ and published in June (go.nature.com/2cnLkHE), the note gathers data mined from the OECD’s DynEmp v.2 database on employment dynamics and presents an analysis for 21 countries including the US, the UK and many other countries in Europe, but notably not Germany.

The analysis makes interesting reading. While the data is not restricted to the photonics sector — it more broadly covers manufacturing, construction and non-financial business services — it makes the point that national policies and regulations tend to be a greater obstacle for start-ups than for incumbents and are likely to hamper the formers’ growth prospects and creation (Fig. 1).

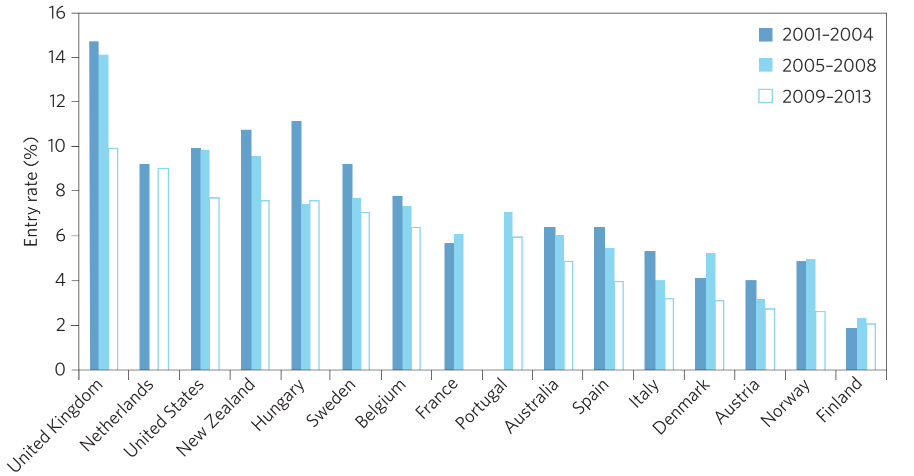

Figure 1 | The entry rate for start-ups by country. Data adapted from go.nature.com/2cnLkHE, OECD 2016.

The report comments that only a tiny fraction of start-ups substantially contribute to job creation, while most either fail in the first few years of activity, or remain very small. “In the majority of countries, the survival rate is equal to just over 60% after three years from entry; it decreases to about 50% after five years, and to just over 40% after seven years,” concludes the report. “Furthermore, it appears as a striking regularity across many countries that the probability of exiting is highest when businesses are two years old and decreases (linearly) beyond that age. The first two years of a firm’s activity seem therefore to be crucial in determining its fate.”

However, there are also some large geographical variations in the data, with different countries showing different characteristics. “In Belgium, the start-up rate is very low but the post-entry growth rate of survivors is the second highest among all countries. Conversely, in New Zealand and Turkey the start-up rate is high but average post-entry growth is much lower,” comments the report.

Creating a start-up is certainly by no means easy, and on page 618, Richard Murray from Innovate UK provides some valuable guidance on the ingredients needed for success in his Commentary on the topic. However, it’s the growing of a small micro start-up into a mid-sized company that is often the real challenge and stumbling block, especially in the UK, say experts.

“To step up from being a small company of say 20–30 people and revenues of a few million pounds and going to say 200–300 employees with revenues on the scale of a few tens of millions of pounds is very hard,” explained John Lincoln, who is the CEO of the UK Photonics Leadership Group and also runs his own consultancy business called Harlin. “You need to grow multiple departments to critical mass like HR, IT, finance and quality control as well as scale up manufacturing and international sales. In the UK, photonics entrepreneurs are often more comfortable with merger and acquisitions as the most efficient route to gaining the investment required to make this step change.”

As a result, many UK photonics start-ups either tend to die out when they are still young or stay small. The ones that have proven themselves to have most promise and are open to the possibility get acquired, usually by large foreign firms with an interest in the underlying technology and manufacturing capability. The acquisitions of fibre-laser maker Southampton Photonics by Trumpf, of optical sensor developer Insensys Oil & Gas by Schlumberger, of organic emitter specialist Cambridge Display technology by Sumitomo Chemical, and of Microlase by Coherent being some well-known examples over the years. Often, this merger and acquisition activity is seen as the quickest and easiest way for a start-up to gain the strategic investment it needs to scale up its technology and gain market share.

“The UK historically is very good at generating ideas, and also okay at starting companies with those new ideas, but less good at scaling up into medium and large companies that capture a lot of the market share,” comments Murray. “From my own experience, the UK does not have many very large, vertically integrated companies who can pull something from an idea into a high-volume product.”

Both Murray and Lincoln make the point that the acquisition of UK start-ups by foreign firms shouldn’t necessarily be seen as a bad thing for the UK.

“I have no problem with acquisitions, so long as the work carries on in the UK, and isn’t stripped and moved to the purchasing country. In many cases, the increased investment and contacts that an acquisition can bring to a company can really help them to grow, so it’s important that the growth is captured in the UK,” comments Murray. “It’s also important to remember that a large company will come with an even larger supply chain, with lots of jobs and spillover benefits to that supply chain. It is also important therefore that an effort is made to build and sustain the supply chain around the company, as well as just the company itself.” ❐