

High Tech Entrepreneurs

And their role in the economy



What do I talk about?

YTBFs are new business start-ups, which have their own R&D activities and develop and commercialize new products/services based upon a proprietary technology or skill

Related concepts are:

NTBFs (e.g. A.D. Little, 1977; Utterback et al., 1988; Storey & Tether, 1998; Autio & Yli-Renko, 1998)

Small Technology-Based Firms (e.g. Meyer & Roberts, 1986; Mason & Harrison, 1994)

(New, Small, or Entrepreneurial) High Tech Firms (e.g. Cooper, 1986; Feeser & Willard, 1990; Roberts, 1991; Burton, 1996)

(Academic or Corporate) Spin-Offs/ University Start-Ups (e.g. Smilor et al., 1990; Roberts, 1991; Clarysse et al., 2001; Shane & Stuart, 2002; Burgelman, 1983; Zahra, 1996;)

Once upon a time, there was a romantic idea

The typical young high tech firm probably grows much more rapidly than its non-technical counterpart (Cooper, 1986)

Visible success stories such as HP, Xerox, Intel, Microsoft, Apple, etc. lead to high growth expectations for high tech start-ups in general

The high growth, highly visible success stories (so-called gazelles) got most attention from policy makers and researchers (Autio & Lumme, 1998)

Is the Romantic Perception of Growth an illusion?

It is a gross oversimplification to argue that all (or most) NTBFs have rapid growth potential (Oakey, 1994)

Most NTBFs grow slowly or remain small (Autio & Yli-Renko, 1998; Storey & Tether, 1998; Rickne & Jacobsson, 1999)

Slowly and not growing start-ups might be one potential cause of weak economic performance of European R&D intensive industries in comparison to USA (Paasi, 1999)

Some Facts

In Europe (including UK), the average young technology based firm after 7 years

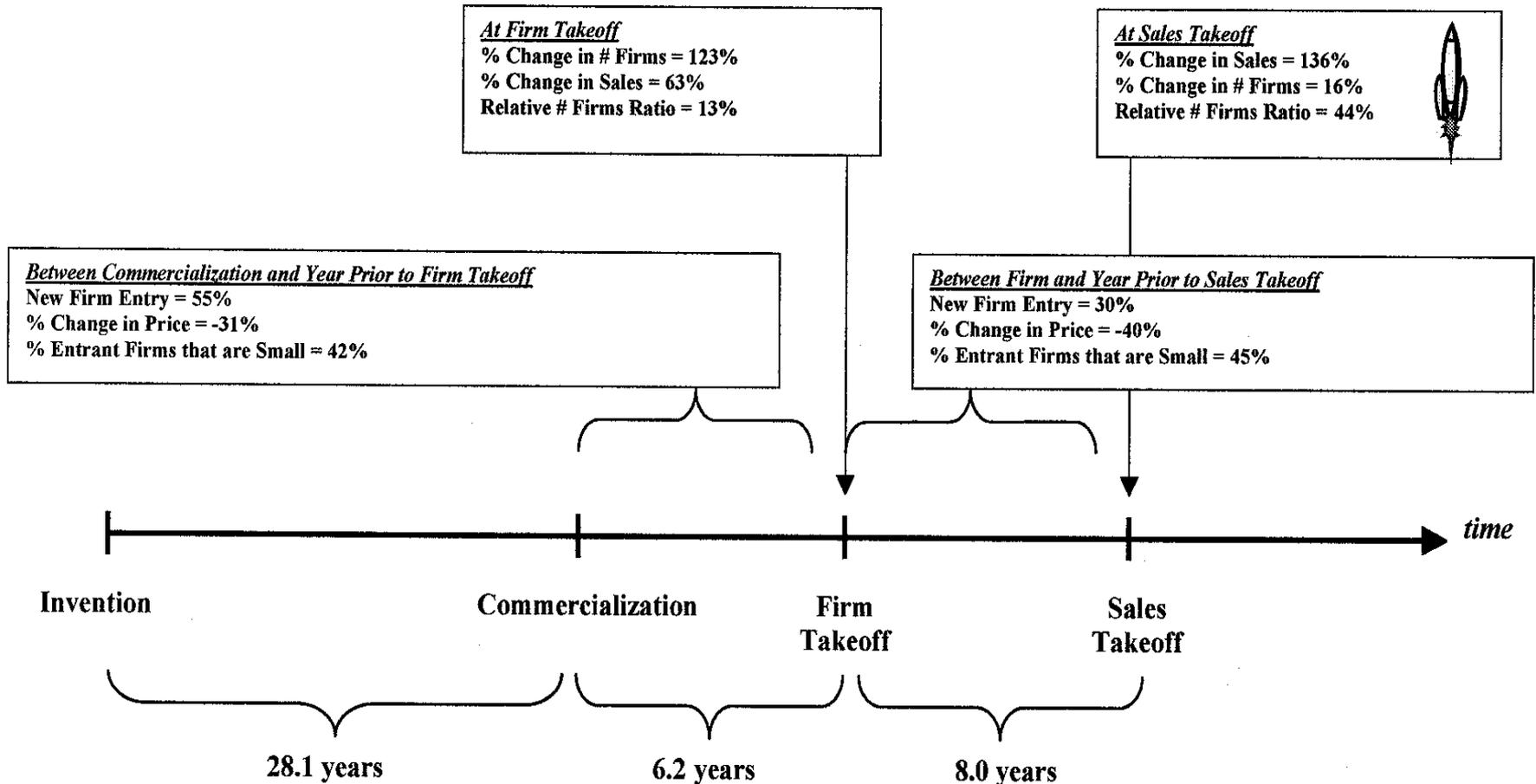
- employs 18.5 persons
- realizes 250 K of annual revenues
- has a starting capital of 200 K
- has a 36% chance of survival > 10 years

In the UK, there are **2900** young technology based firms created since 1991

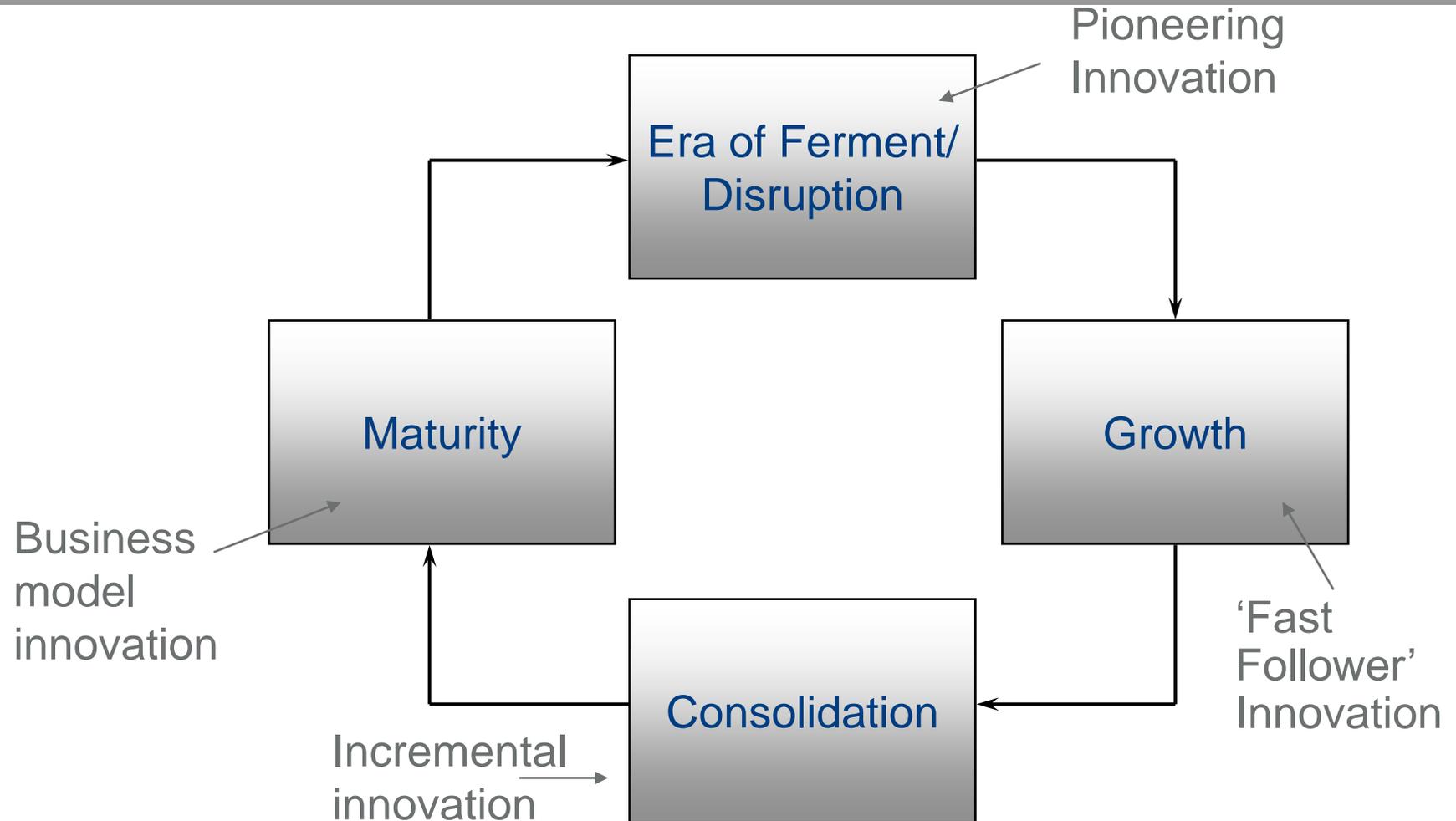
- they represent over 40 000 direct jobs
- they have burnt so far **£ 2.5 bio**

Second we need to understand time cycles

Figure 3 Descriptive Statistics for the Market Evolution of Product Innovations (Means)



First, we need to understand a typical industry cycle



The Result of this

- Only **6%** of the high tech start-ups grow into mainstream markets
- Together they represent only **4%** market share
- Market leaders enter on average **7-13** years after the pioneers

In the UK

- **17%** of the high tech start-ups created after 1991 have been sold
- Average trade sale price is **£ 47 million**
- At the time of trade sale they employ on average **126 people**
- Average revenues at the time of trade sale is **£ 13.7 million**
- Average time to trade sale is **9-11 years**

So the main question becomes ...

-For the entrepreneur...

Whether to create an exit oriented company or not

How to boost trade sale value if an exit oriented company is created

Which company to sell to

-For the policy maker ...

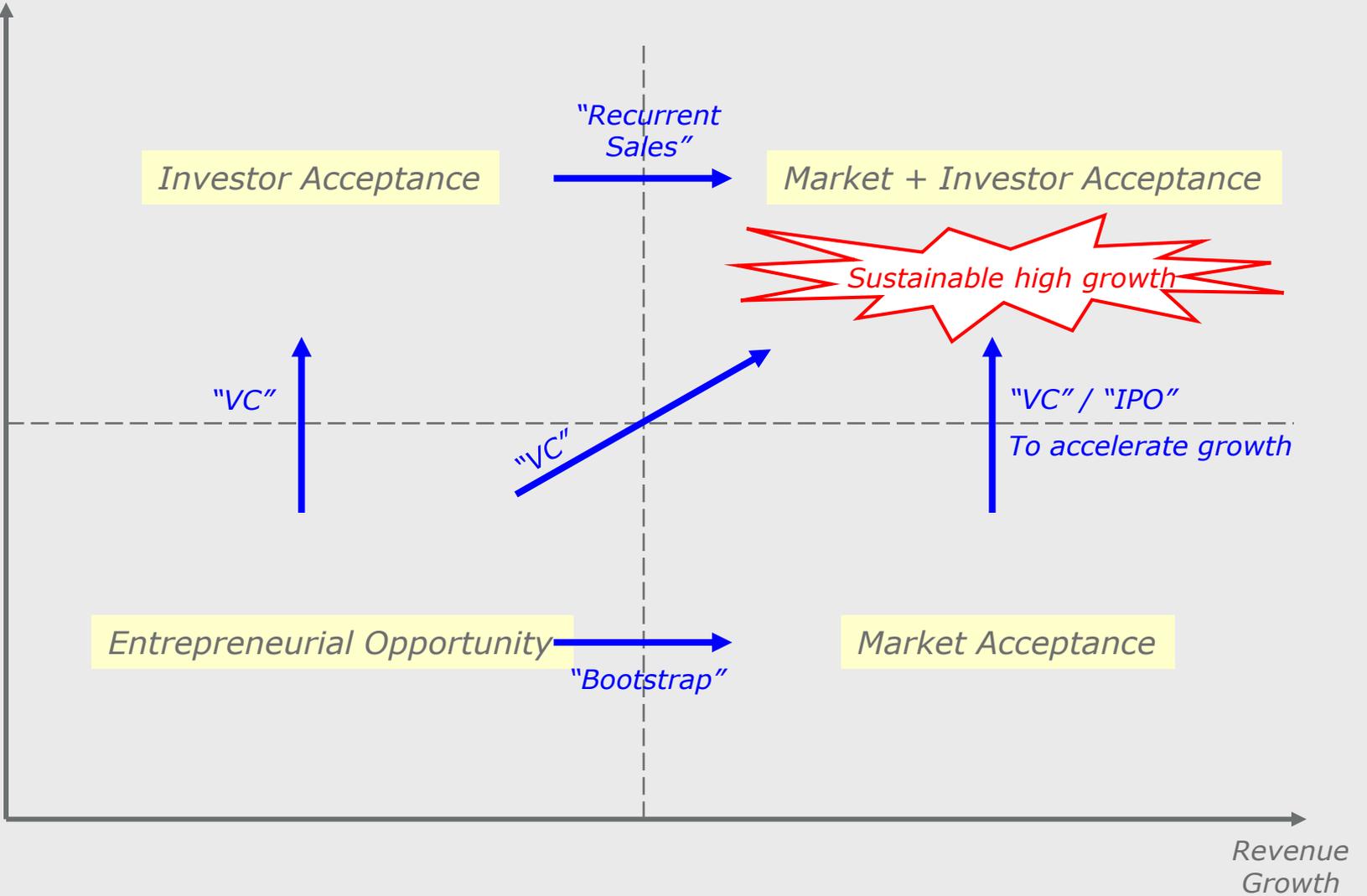
Which companies do we have which have sufficient critical mass and complementary assets to actively acquire high tech start-ups?

How to facility acquisitions of foreign high tech companies?

Success depends on...

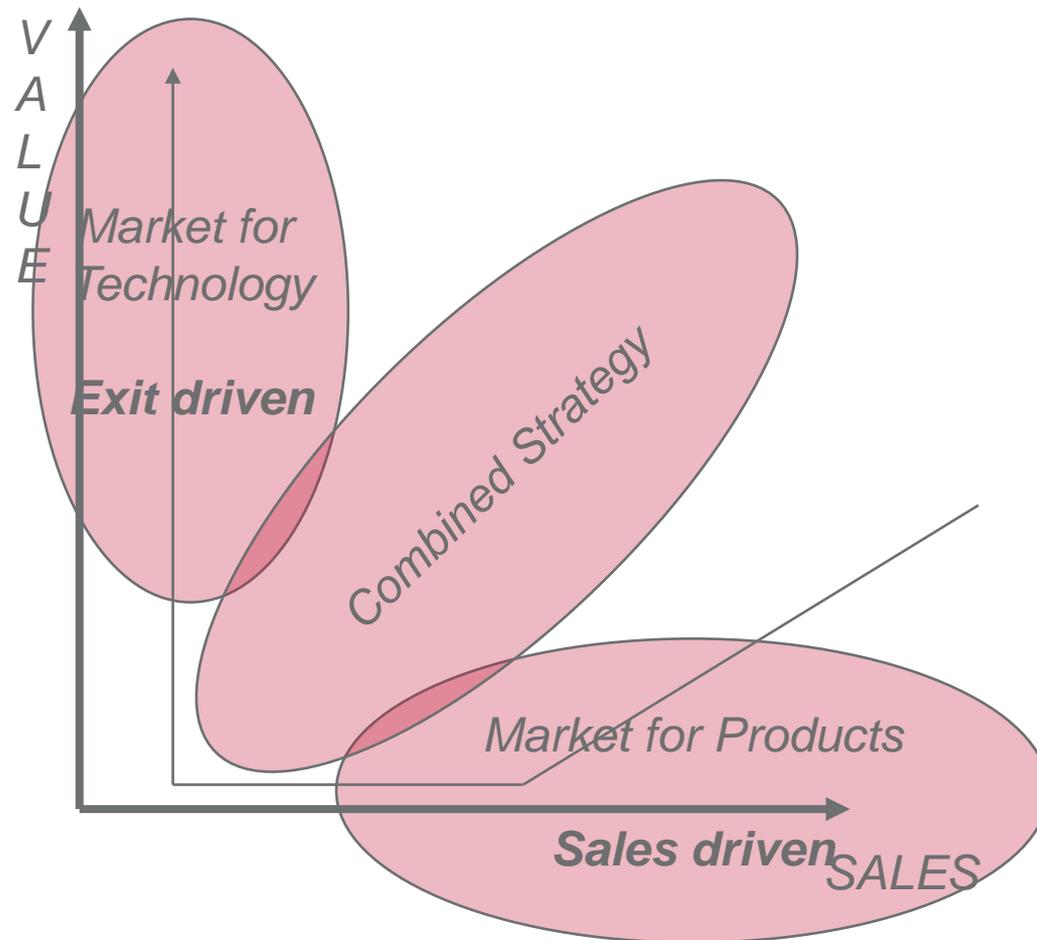
- The ability to raise **significant amounts of venture capital, on average after 24 months**
- Significant amounts are **in the order of £ 2 – 6 mio.**
- High Tech start-ups that raise less money perform **worse** than those which start-up without capital
- Founding teams needs **complementary skills**. Successful founding teams have **joint working experience** before the company is created
- The nature of the **technology** and the **market** determine to a large extent the potential paths

Employment
Growth



Revenue
Growth

General framework: Market for technology & market for products



Thank you ! Comments?