

***Soft companies and the role of public sector procurement of R&D in
stimulating commercialisation of R&D in technology based start-
ups***

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Introduction

This briefing document briefly outlines what could be understood under the term “soft company” and then provides an overview of how public R&D contracts could support the commercialisation of R&D through technology based start-ups.

What is a soft company?

The term “soft company” was first coined by Bullock (1983) and has proven to be extremely influential in the development of the “Cambridge phenomenon” (Connell, 2010) (Bullock, 2011). The following table provides a brief comparison between the typical business models followed by a “hard company” versus a “soft company”:

	Hard company (Connell, 2011)(Bullock, 2011)	Soft company (Connell, 2010)(Connell, 2011)(Bullock, 2011)
Core business	<ul style="list-style-type: none">• Goal is to produce a product.	<ul style="list-style-type: none">• Core business is service (e.g. contract R&D).
Skill requirements	<ul style="list-style-type: none">• Very steep learning curve with full skillset requirements for developing, marketing and selling a product.	<ul style="list-style-type: none">• Science or technology based company with people with high levels of technical expertise to sell contract work.
Risk-return profile	<ul style="list-style-type: none">• Delayed return on investment.• Higher risk-return profile that may appeal to Venture Capitalists.	<ul style="list-style-type: none">• Lower risk-return profile with earlier profitability.• Allows for basis of IP development, “learning by doing” and close interaction with market.

Table 1: Author’s comparison of hard company versus soft company

Although the soft model operates differently in various industries due to differences in technological complexities, timescales, capital requirements, regulatory regimes and industry structures, the following “generic” operating models of the soft model could be identified (Connell, 2010):

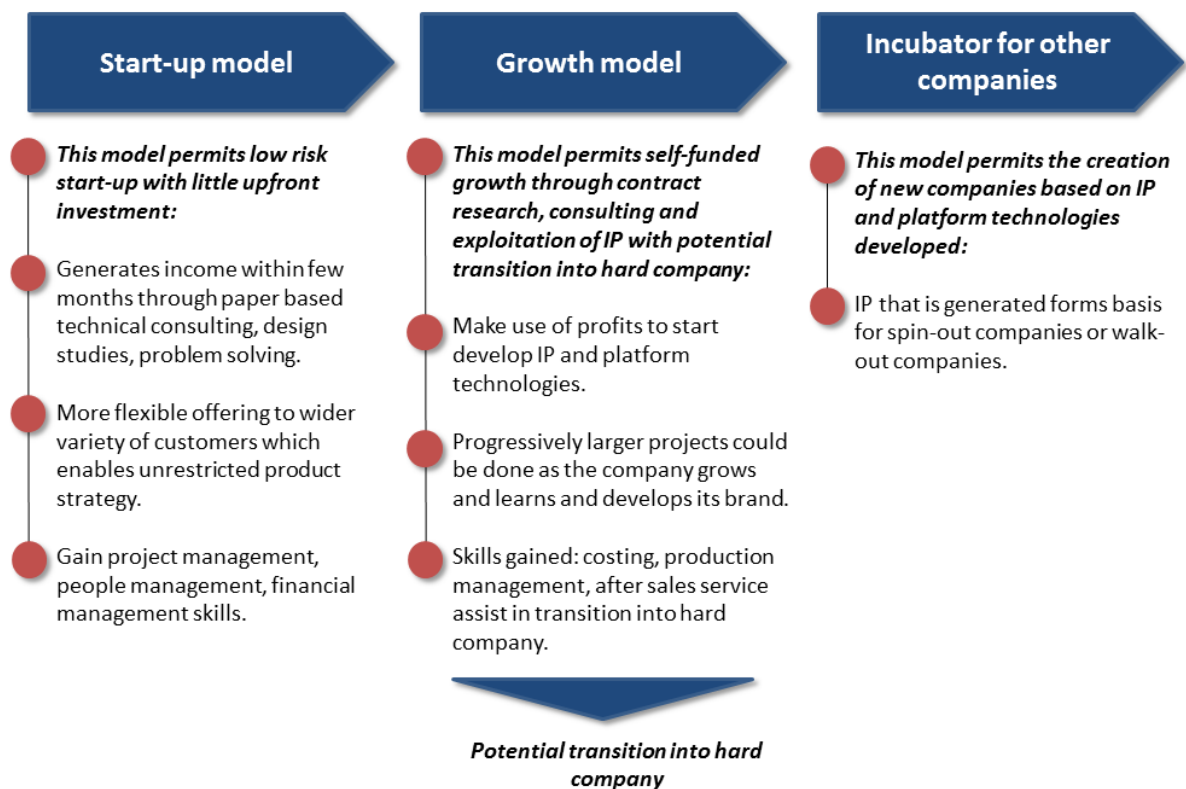


Figure 1: Author's summary of models of soft companies extracted from Connell (2010)

The role of demand side policies in driving commercialisation of R&D

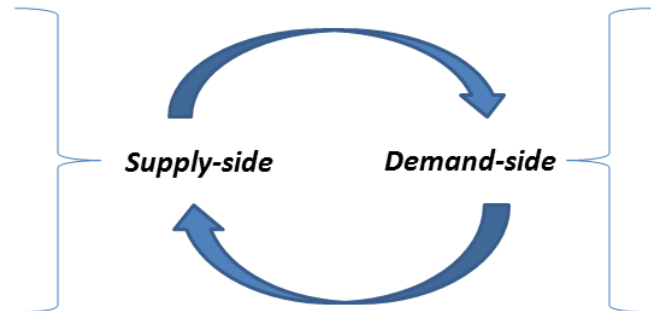
The systemic view of innovation goes beyond the linear view in that it acknowledges the case for government intervention not only on the supply-side but also on the demand-side (Edquist, 1999).

“Demand-side innovation policy instruments are designed to increase the demand for innovations, speed up its diffusion and/or to improve the articulation of demand” (Edler, 2009)

Although historically most countries have been more focused on supply-side interventions, the UK has explicitly included it in its innovation strategies (NESTA, 2010). The following figure provides a selection of supply-side interventions in the UK (Connell, 2009) and general demand side interventions as outlined by Cunningham (2009) and Edler (2009).

Selected supply-side interventions (Connell, 2009)

R&D tax credits
Research Councils funding
TSB programmes
R&D grants



Selected demand-side interventions (Edler, 2009) (Cunningham, 2009)

Procurement
Demand subsidies
Soft steering (e.g. information sharing)
Regulation (e.g. standards)

Figure 2: Author's summary of selection of available supply-side and demand side interventions

Supply-side programmes such as UK grant programmes and R&D tax credits only cover about 35% of costs which creates an important case for procurement of pre-commercial R&D (Connell, 2009). In response to this, the UK SBRI programme was launched in 2008 (after two attempts in 2001 and 2004) (Connell, 2010). This was modelled on a highly successful programme in the United States (Connell, 2009) designed to increase public sector procurement of pre-commercial R&D from small businesses (Bound et al, 2010).

How public procurement could aid in driving commercialisation in R&D in high-technology start-ups

1. The funding gap may be bridged and time to market may be reduced through demonstration on feasibility of technology and subsequent prototype development (SBRI, 2011)(Connell, 2009);
2. The risks of innovation is reduced on both sides and aid in helping small firms develop a track record for future sales (Bound et al, 2010)(Connell, 2009);
3. Access to government budgets and procurement networks is gained as well as a demanding customer from which much learning could take place to increase technological capabilities and production capacity (Edquist, 1999)(NESTA, 2010)(Geroski 1990);
4. More companies could become ready for VC funding improving the health of the VC sector further bolstering commercialisation of R&D (Connell, 2009);
5. Restructuring of user–producer relationships in fast changing industries may take place to overcome inertia based on vested interests (Gavras and Hommen et al, 2010).

Conclusion

Soft companies could be effectively used as a start-up model, growth model or as a basis from which spin-out companies and walk-out companies could be generated.

It is important to balance supply-side innovation policy with demand-side policy of which government procurement of pre-commercial R&D could be an effective tool to help small firms to commercialise their R&D.

Although well-structured and managed, the SBRI in the UK is still small at about £27 million per annum compared with the US success story of over \$2 billion a year (Bound and Puttick, 2010).

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