



GROWTH

Blended entrepreneurial education for high growth in Life Sciences and Health (GROWTH)

Objective R1 - analysis of required entrepreneurial competences in the LSH sector, seen from a business perspective

Entrepreneurial competences needed for the Life Sciences and Health sector, according to the GROWTH consortium

In the Life Sciences & Health sector, research and development is just the start, the technical input, for the innovation process. To successfully commercialize and effectively innovate with impact, entrepreneurship is essential. Entrepreneurship, according to the Business Dictionary, is defined as the capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit, and literature tends to agree that economic growth and business success are attributed to the entrepreneur's competences and entrepreneurial activities.

Entrepreneurship research attempts to identify key factors for successfully building and growing a business. Entrepreneurial intention has been shown to be a primary predictor of future entrepreneurial behavior (Kautonen et al, 2015) but no absolute list of success indicators can be drawn. An overview of existing concepts, policies and initiatives on entrepreneurial competence by the European Commission (JCR Science & Policy Reports, 2015) states that based on literature review and case analysis *the competences associated with an entrepreneurial subject depend very much on how entrepreneurship is defined. [...] the spectrum of knowledge, skills and attitudes that make up the core of the competence is very wide.*

In addition to general entrepreneurial characteristics and skills, a life sciences entrepreneur also requires competences to understand the ecosystem, see opportunities and drive business growth in the LSH sector. Innovations in the life sciences and health sector and development of medicines, medical devices and technologies often depends on scientific research that is usually still far from the market or the patient. Time to market, with an average development time of 15 to 20 years, is too long for private investors to take the risk at an early stage. After (preclinical) proof of concept, often financed with seed grants, loans and credits, large investments will be needed to accelerate business growth and regional or global expansion. Growth of a business requires fast adaption and learning of the entrepreneurial team in terms of leadership capabilities, business tools, network and organization. Moreover, in order to attract investments from private parties, such as venture capital, IPO or a corporate partnership or buy-out, the company will be facing assessments on e.g. technology and intellectual property, commercial relevance, financial control and/or team expertise. A vast array of entrepreneurial competences and skills is needed to successfully



attract, negotiate and close multimillion deals and to keep up with the rapid change of a growing venture.

Several studies have indeed demonstrated the need for entrepreneurial competences in the LSH sector. Biopartner (2009) has e.g. demonstrated that there are several potential benefits of an external CEO compared to the inventor scientist, since the external CEO brings entrepreneurial skills into the organisation. Research by FlandersBio shows that start-ups in the LSH sector in Belgium cannot find sufficient 'industry ready' personnel. The OECD (2012) reported a mismatch between demand and supply in the labour market for skilled personnel. The OECD concluded that there is a strong need for innovation in labor markets and education. This is a general problem throughout Europe. The Dutch LSH Cluster acknowledges as well that enough well educated, entrepreneurial people are one of the critical preconditions for the LSH top sector to realize its ambitions (Innovation contract 2012, Top sector Life Sciences & Health, p. 15).

Within the GROWTH consortium we regarded the following entrepreneurial competences to be our first focus when developing the educational program for accelerating growth of a LSH business.

Personal characteristics and human capital:

Attitude: motivation, stamina to drive action and persevere

Risk-taking propensity, tolerance of ambiguity, to be able to see opportunities and act on them

Creativity and innovativeness, to be able to solve problems and diversify from competitors.

Education level, work experience, start-up experience.

Entrepreneurial mindset - think big, act small, accelerate fast

Entrepreneurial skills

Entrepreneurial intelligence

Personal leadership, team leadership, to build and lead a growing company

Negotiation and deal-making skills, to assure partnerships and investments

Marketing skills, communication skills, including presentation and pitching skills, to create visibility for the product and company, and to persuade stakeholders and investors

Interpersonal skills, social relationships, to build and expand a network and increase exposure

Strategic skills, to see business opportunities and implement strategy

Resource skills, to attain financial resources, expertise, support

Knowledge and insights on:

Sector and market knowledge

Technical know-how

Intellectual property and asset management; knowledge transfer

Payers perspective and reimbursement

Regulatory affairs

Product and business validation



Customer insights, stakeholders' analysis
Marketing and branding
Finance, financial control and funding opportunities
Strategy and implementation of strategy

As the GROWTH consortium considers above entrepreneurial competences required for the Life Sciences and Health sector, these will be addressed in the innovative and effective educational program.