

## INCREASING INNOVATION BY DUAL STUDY COURSES IN BUSINESS MANAGEMENT

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**Abstract.** One of the biggest hindrances for companies to exploit their full potential for innovation is the right qualification of young entrepreneurs. Few countries, like Germany or Finland, implement so called “dual study courses”, where students follow an academic career and vocational training at the same time. The graduates are highly qualified and have excellent job perspectives. Recent studies reveal, that in Germany 120 students are competing for 1 place in a dual study course for business management. Since 2011 the number of students of these programmes has increased by 20%. The successful model is copied to other European countries, recently in Spain to decrease youth employment. These courses allow for a deep cooperation between businesses and R&D institutions resulting in a high degree of innovations for the businesses participating. The paper presents the background, latest developments and possible transfer of these courses to other regions in the Baltic Sea Region.

**Keywords:** Dual Study Courses, dual system, education, innovation, bologna.

**Jel classification:** I25, I29,M1.

### 1. Introduction

In particular the European economy is based on the performance of its small and medium-sized enterprises (Steinerowska-Streb 2012; Wymenga 2011). They provide around 70% of all jobs, play an indispensable role in vocational qualification and account for by far the greatest part of state revenues. Between 2002 and 2010, the total number of European jobs in the nonfinancial business economy increased by 1.1 million annually (de Kok 2011). The entrepreneurship developed in SMEs is the driver of economic growth (Thurik 2004). Therefore the crucial factor determining the future economic development of the Baltic Region will strongly rely on the development opportunities afforded to small and medium-sized companies.

In principle, the Baltic SME's have good opportunities for growth and show a marked potential for the securing of existing and the creation of new jobs. Qualified young people for vocational education and training and effectively performing employees with a high level of qualifications are the essential prerequisite which will enable the sector to avail itself of these opportunities. Qualification and thus innovation are directly related to the growth of SMEs (Nikolova 2012).

However, there is currently already a significant lack of those young entrepreneurs and managerial staff in small and medium-sized companies. Demographic developments and increased competition between the different sectors of the economy will bring about a considerable increase in this shortage of entrepreneurs in future (Stiller, Faltermeier 2011). The demographic development in all countries around the Baltic Sea except for Sweden shows a decline in births, in particular in the new member states like Lithuania (Strankuniene, Jasilioniene 2008).

Besides the demographic challenge, additionally the demands on company management are high and constantly rising. In the light of globalisation and the EU, international knowledge and experience are increasingly required. Entrepreneurs and management staff working in SME's need to have soundly based theoretical qualifications as well as good vocational training and practical experience. Worldwide it is evident, that the knowledge-based SME economy is more and more dependent on high potentials, if they want to stay innovative and competitive (Wickramasinghe, Sharma 2005).

Until recently, SME's have mainly drawn upon the system of initial and continuing vocational education and training to recruit their entrepreneurs and managers. Such training routes are, however, strongly losing their appeal in many of the countries bordering the Baltic Sea. As a result SME's as a whole are able to attract fewer and fewer young people (supply problem) and are increasingly being forced to rely on young people with an inadequate level of training (quality problem). The processes of internationalisation and market liberalisation have put the squeeze on continuing vocational education and training courses in individual countries. Young people are exhibiting an ever-greater preference for university level education.

Since such courses are predominantly theoretical in nature and largely neglect the practical requirements of SME's in particular, the high numbers of students are not capable of producing a sufficient amount of suitable entrepreneurs and future managers of smaller firms. It has been evident for years that lacking manpower and qualified training for entrepreneurs are increasingly becoming a critical bottleneck factor for innovation (Kaufmann, Todtling 2002), since companies need high potential juniors with innovative minds. Dual study courses, part of the "dual system" can attract young people, who seek a profound and excellent education, to small firms.

## **2. Dual system**

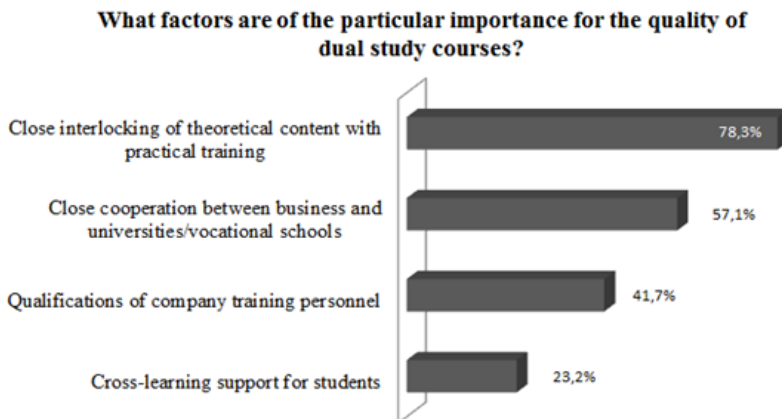
The terminology "dual system" is not consistent. In some case, dual system has been used to describe the concept of family owned businesses, encompassing the family and business world (Whiteside and Brown 1991), but in Europe dual system usually refers to the educational system with a German tradition, combining vocational training and academic studies (Blossfeld 1992; Dessinger 2000), sometimes also titled "Hybrid Qualification" (Jørgensen 2011) . The dual system has its roots in the 19<sup>th</sup> century, when typical craft training was not considered sufficient any-

more for the new labour market in the context of the globalisation and so called “dual apprenticeships” evolved (Deissinger 2005). This dual system developed predominantly in Austria, Switzerland and Germany (Greinert 2005; Nikolai 2012). The German Commercial Code from 1869, so called “Gewerbeordnung” stated that apprentices must visit a further training school to acquire the relevant theoretical knowledge for their profession (Werner 2008).

Today in particular dual study courses combining a university degree with a recognized occupational qualification have become an attractive alternative or supplement to the traditional model of apprenticeship training. Indeed, nowadays the opposite is true: Not apprentices are asked to visit a school besides their vocational training, but students wish to get some practical experience in a company besides studying the theories, while – corresponding to this – companies ask for students with more practical skills.

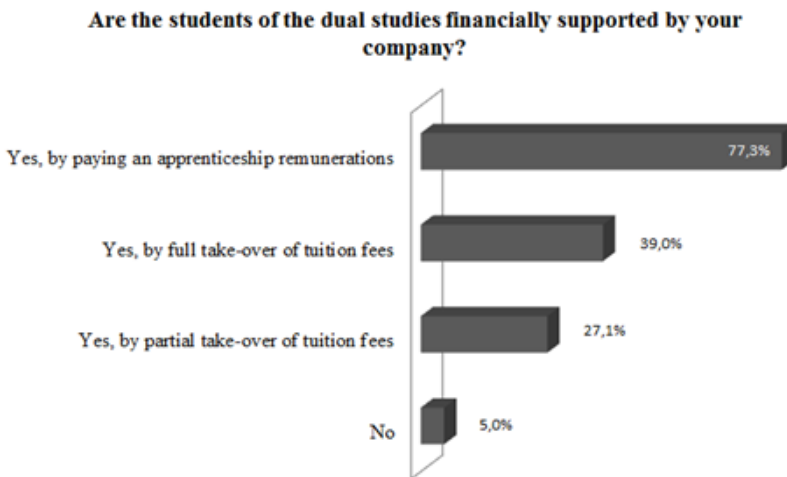
Certainly dual education is often considered an attractive basis for career development, also for the young people that are qualified to enter university. More and more so called high potentials choose this career. In 2011 the number of offered educations in a dual system in Germany increased by 20%, the number of German students from 50 600 students in 2010 to 61 000 students in 2011 (Goeser, Isenmann 2012).

The students either have technical college entrance qualifications or an upper secondary school leaving certificate. Their motivation to start an apprenticeship training program is to have either an alternative to studying or a possibility of acquiring supplementary basic qualifications for studying (Weiss 2007). The dual qualification is not only interesting for young people, but also for the companies to establish a close link to the academic and R&D world that can help them to be more innovative. Indeed a survey in German companies participating in dual study courses from 2011 shows that this interlocking of theoretical content with practical training in most important (Fig.1).



**Fig. 1.** Goeser, Isenmann AusbildungPlus Survey 2011 in companies (Briebsumfrage 2011)

Since the owners of SMEs are very content with the skills their graduates obtain during their dual study programmes, it is not surprising, that according to the latest survey, that 75% of all graduates stay in the same company they trained with (Goeser 2011). Indeed, most companies are more than willing to have students that pursue a dual education and there is a competition for the best talents. Consequently the companies are not only paying the tuition fees for the universities (39%), but the majority also pays an apprenticeship remuneration (77.3%) as the survey from 2011 points out (Fig. 2).



**Fig. 2.** Goeser, Isenmann AusbildungPlus Survey 2011 in companies (Brietsumfrage 2011)

### 3. Structure of dual bachelor study courses

Dual Bachelor study courses are a special form of education in the dual system, referring to an academic graduation of the participants with the degree of a Bachelor, that later allows a further academic career regarding Step 2 (Master) or 3 (PhD) of the Bologna System. This flexibility and permeability is significant for the dual system (Severing 2009), providing the students with many opportunities.

A dual bachelor study course consists of a soundly based vocational education and training leading to journeyman/woman or similar skilled worker qualification and a recognised programme of study leading to a Bachelor degree. The two components of the training are coordinated and are implemented in parallel. Participants need to have a certificate of qualification for university entrance and usually conclude separate contracts for the vocational training with the company and for the study course with the academic institution. The vocational education and training can comprise any technical specialist or commercial occupation and is carried out either within the dual VET system with practical in-company training and theoretical training at a vocational school or within a school-based system with practi-

cal and theoretical training at a vocational school and periods of practical placement in a company. During the three to four year period of training, the vocational element of the qualification will enjoy a special status, enabling the graduates to acquire in-depth practical knowledge and experience. The duration of the dual bachelor studies lies between three and four years and thus is identical or close to a regular bachelor study. Therefore the dual programme asks for an extra commitment of the students that have no semester breaks and practically complete vocational training besides doing a bachelor. Students of dual bachelor study programmes make an extra effort which is rewarded with two degrees.

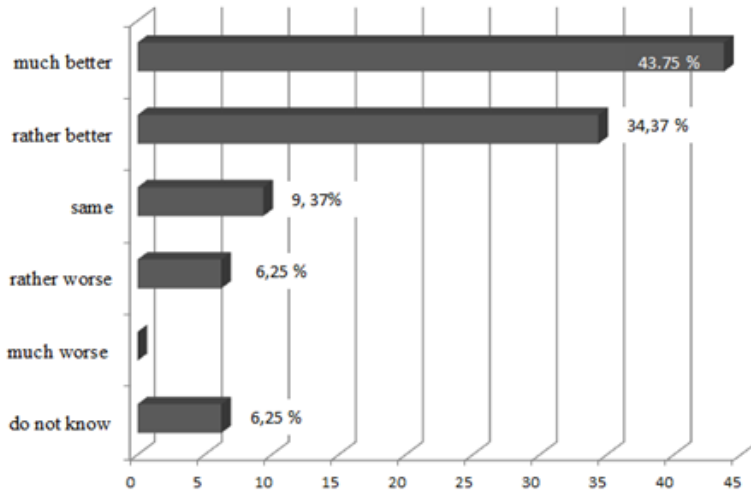
The programme of study is concluded with the internationally recognised “Bachelor” qualification. Therefore the programmes of study must be in complete compliance with the aims and requirements of the Bologna Process, to which more than 40 countries have signed up thus far. The programmes of study are usually designed in a modular form. Credit points are awarded for the modules of the programme of study as well as for the practical training. Although the EQF and ECVET has been a challenge for the dual system (Drexel 2005; Schopf 2005) countries like Germany managed to award credit points also for the practical training. The dual bachelor study courses are monitored and certified by recognised accreditation bodies on a regular basis.

#### **4. Advantages and transferability of dual study programme**

Many different dual bachelor study courses exist, e.g. focusing on environmental techniques (Energy Engineering), Mechatronic or more general on Business Management. In 2006 the Berufsakademie Hamburg, Germany, started with a dual bachelor study course in Business Management. Following the graduation four years later, the companies were asked for their feedback regarding the competences of the students (von Kiedrowski 2011). 43.75% considered their students much better, still more than 34% considered them rather better than graduates without the dual education (Fig. 3).

With few employees, the Human Capital is the essential factor for the success of small companies (Felicio 2012). Dual bachelor study courses enable the students to not only get vocational training and academic knowledge, but at the same time the students can improve their soft skills. These skills, that cannot be measured by grades and get more and more important (Velasco 2012; Stewart 2000), especially when working in SMEs with only few colleagues and a less anonymous working environment (McLarty 2000). Recent findings suggest that micro and small enterprises have a preference for less formal training activities, especially in comparison to large firms (de Kok 2011). Every small company is unique, with individual working procedures and methods.

**Assessment of the overall competence of the Bachelor students in comparison to "normal trainees" (without dual studies)**



**Fig. 3.** Survey with companies by the Berufsakademie 2010

Recent reports indicate, that many purely academic graduates lack the knowledge to become entrepreneurs and start their own business and propose an “entrepreneurship education” (Raišienė 2012). This would very much correspond to the dual study courses, where the students get entrepreneurship training on the spot, in the company and can connect it to their academic classes at the university.

The dual study courses provide the student also with this particular, company based know-how, that is of extra value for the firm. Recent reports point out, that in fact the dual training method tends to be better than the full-time college-based training method and consequently stronger trainees are more often found in the dual forms (Nickolaus, Gschwendtner 2009; Gruber, Mandl and Oberholzner 2008). Vocational training can be very important to a nation when it comes to being innovative (Makkonen 2012). Hence the combination of vocational training and studying simultaneously creates an extra value also when it comes to innovative graduates, since the students are personally bridging the gap between the companies and the R&D world.

Despite the high potential of the dual study courses, it is realised yet only in few countries adapted this system. Currently Spain is education more people in dual study courses to fight the high youth unemployment and qualify corresponding to the needs of the Job market. Around the Baltic Sea the educational systems are comparable (Hogeforster 2007) and could adapt the dual study courses also. Despite the difficulties of assigning credit points for the practical training in the framework of ECVETS different initiatives exist to transfer dual bachelor studies to countries like Lithuania or Poland. The aim is to have a uniform structure across

the Baltic region, enabling cross border cooperation between places of study and establish an exchange of teachers and students.

These would be highly beneficial for the countries, but also allow an exchange of students doing the same dual study course “Business Management” and spend a semester in Vilnius, Hamburg or Gdansk. This will again help the companies the student is placed in for his vocational training, to get international contacts. The right use of the human capital is one of the best methods to establish international contacts in a company (Ruzzier 2007). An exchange of students will thus support companies in getting international and consequently create more jobs: SMEs report an employment growth of 7% versus only 1% for SMEs without any actual or concrete plans for international activities (de Kok 2011).

## 5. Conclusion

Securing the demand of new entrepreneurs, good qualified management and mid-level employees and thus high levels of innovation is becoming a crucial question of survival for small and medium-sized companies in the Baltic region. In this context the dual bachelor study courses have a huge potential, offering an attractive education possibility for the students/trainees and companies at the same time. First, they allow the SMEs to attract highly qualified potentials with sound theoretical and practical knowledge, which will help the firms to be innovative and stay competitive. Secondly the system is highly attractive for young people, not binding them exclusively to either the vocational training or the academy system. Its permeability enables the students after their graduation to either stay in the company full time, pursue their academic career with a master or later PhD-degree or again combine both ways if the employer allows part-time working. The clearly positive results of surveys in the last years leave no doubt, that the dual system educates highly innovative graduates and can be recommended to be transferred and adapted to other countries in the Baltic Sea Region.

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