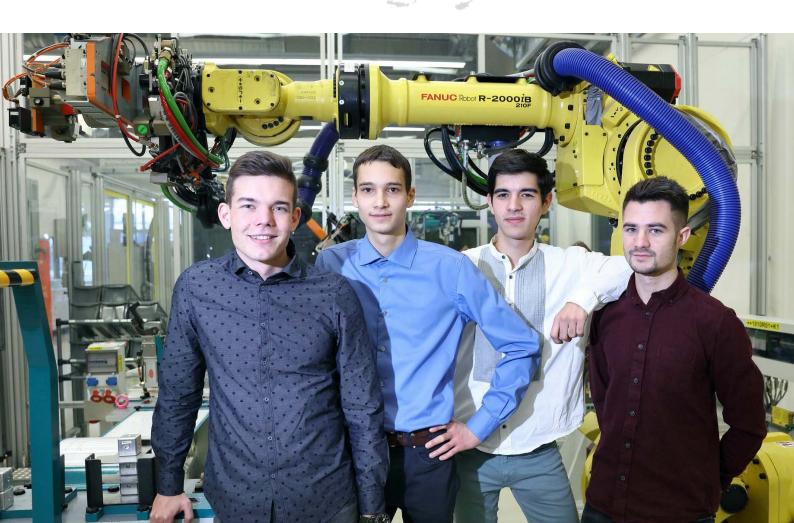
Dual Study programmes: An effective symbiosis of theory and practice

Wolfsburg und Baden-Württemberg, Germany





Title	Dual Study programmes – the hybrid higher educational programme	
Pitch	Dual Study Programmes – an effective symbiosis of theory and practice	
Organisations	VW Group, Baden-Württemberg Cooperative State University (DHBW)	
Country	Germany	
Authors	Dr. Todd Davey and Balzhan Orazbayeva (Science-to-Business Marketing Research Centre)	
Nature of interaction	 □ Collaboration in R&D □ Commercialisation of R&D results □ Mobility of staff □ Academic entrepreneurship □ Governance 	 □ Lifelong learning ☑ Joint curriculum design and delivery ☑ Mobility of students □ Student entrepreneurship □ Shared resources
Supporting mechanism	☐ Strategic☑ Structural☐ Operational☐ Policy	
Summary	Dual study programmes are an emerging hybrid form of higher education which offer the participant the opportunity to complete a degree programme at a higher education institution whilst simultaneously receiving a certification of practical vocational training or work experience in a company. In addressing high youth unemployment as well as employability gaps, dual study programmes offer significant potential because they affectively close the gap between education and the world of work, resulting in better qualified and skills graduates, who might even emerge with a job already upon completion With its origins in Germany, this case highlights dual study programmes from two perspectives: The HEI perspective through the example of Baden-Württemberg Cooperative State University and the VW Group from the business perspective	



1. BACKGROUND

One of the policy recommendations of the 'Modernisation Agenda of European Universities' for higher education institutions is to involve employers, industry and labour market stakeholders in the design and delivery of programmes, and to make curricula include more on site practical components.

Dual study programmes are considered to be a highly effective approach to support the transition of students from education to the labour market and to develop trained and skilled workers in accordance with industry requirements. They have become an increasingly relevant educational path as they allow graduates to attain not only academic credentials, but also work experience, and potentially even a job. For companies, dual education is a promising measure to attract and keep qualified employees.

The dual study programmes were first introduced to the higher education system in Germany in the 1970s. Since then, this hybrid form of education by students, higher education institutions (HEIs) and companies has consistently grown in interest for two main reasons: the combination of academic and practical learning provides a new employment pathway for students; and the interest of companies in this mode of talent acquisition as a means for securing better fitting recruits, which thereby increases student interest in these courses.

Dual study programmes combine at least two learning environments and most typically involve academic education and training within the business, whilst in approximately one third of the cases, also include vocational school¹. As such, participants have the opportunity to pursue a degree programme at a HEI (including universities or universities of applied sciences) whilst simultaneously receiving a certification of practical vocational training or work experience in a company. Resultantly, these type of programmes have a considerably higher focus on practical relevance than typical degree programmes.

Extent of dual study programmes

In October 2014, the German Federal Institute for Vocational Education and Training established that there were 1,505 dual study programmes for initial education with 41,466 cooperating companies and 94,723 participating students in Germany. The great majority of these courses (71%) are related to the engineering field (e.g. mechanical/ process engineering, electrical engineering, industrial engineering etc.) and to economics and business studies. Computing, social sciences and others make up for the remaining 39%.

The main providers of dual study programmes are universities of applied sciences, with 1,014 course offerings nationwide, universities of cooperative education and the Baden-Wuerttemberg Cooperative State University which was founded in 2009. With regards to the geographical dispersion, the largest states have the most dual study programmes with Bavaria the most, followed by the states North-Rhine Westphalia and Baden-Wuerttemberg². On the employer side, 72% of companies involved are SMEs, but the percentage of large organisations is increasing³.

There is a long-held tradition of dual study programmes (duales Studium) in primarily German-speaking countries such as Switzerland and Austria as well as the Netherlands, where similar concepts for dual study programmes exist. Although there is evidence of other European countries having dual

study programmes, these are isolated examples and these programmes remain largely unknown with a much larger separation between theory and practice. Education models are based on a combination of an academic education in a HEI and vocational training in a company. However, the intensity of cooperation between the HEI and the company, as well as integration of theoretical and practical content, differs from country to country, with Germany having the most advanced model⁴.

An example of the increasing recognition of dual study programmes across Europe, can be seen in Hungary. Following a 2-year long pilot period (2012-2014), the Hungarian government undertook some substantial structural changes in its higher education system ('Switching gear in higher education'), which among other initiatives, led to an adaptation of the German model of dual education with certain amendments suited to the Hungarian market. The approach taken by the Hungarian educational administration is built on the belief that engaging industry, HEIs, vocational education providers and local governments in education can create exceptional synergies in higher education, whilst allowing HEIs to follow rapid technological changes and advance new learning technologies.

2. OBJECTIVES AND MOTIVATIONS

Primarily in German-speaking countries, dual study programmes are viewed as an important educational programme with the primary aim of bridging the divide between academia and industry as well as to increase employment opportunities for graduates. A number of specific aims have been identified for different stakeholders:

For government, the aims include:

- to match skills provision to the needs of enterprises;
- to ensure the relevance of education;
- b to ensure that workers adjust to an increasingly rapid pace of change and
- to increase graduate employability and reduce unemployment.

For business, the aims include:

- to acquire high-performance students with a HEI qualification;
- to receive a first-hand account about the potential employee's professional and personal skills;
- b to engender a high level of commitment and company loyalty in potential employees and
- to prepare potential employees optimally for their later work at the company⁵.

The most frequently cited motivations **for students** to undertake a dual study programme include the opportunity to:

- obtain a dual qualification;
- receive payment of a training allowance and
- connect with potential future employers⁶.

3. STAKEHOLDERS

Dual-study programmes are built upon effective links between education providers and employers. These programmes require stable long-term cooperation to make sure that the curriculum is closely connected to the job while meeting all academic standards. Both parties need to negotiate to award students a double qualification for the two integral parts of the programme; a higher education certificate and a certification of practical training or work experience in a company. Effective agreements can allow for a symbiotic correlation of academic and vocational content in the curriculum⁷.

Vital stakeholders in dual-study education therefore include:

- Governments Providing the framework in which dual study programmes can be recognised and accredited.
- <u>Business</u> Providing the market driver for dual study programmes as well as the employment and vocational training for students entering these programmes.
- <u>HEIs</u> Providing the educational element of the programme executed through the curriculum design and delivery functions, which offers students a HEI degree as part of the dual study programme.
- <u>Vocation education providers</u> Providing the vocational education and training (VET) element in selected dual study programmes, which offers a further qualification for students.





4. ACTIVITIES

In the German context, the following forms of dual study programmes can be differentiated in terms of target groups, intensity of HEI-company cooperation and the organisation of working and study phases⁸:

- Integrated vocational training programmes combine a degree course with an officially recognised apprenticeship. Study and working phases are interconnected in terms of time and content. In addition to an academic degree, students receive a vocational training qualification as well.
- Integrated workplace practice programmes combine work placements for an extended period of time with academic degree programmes. For this type of dual study programme, an internship, employment or traineeship contract with a company is mandatory for enrolment. The content covered in the academic and vocational education is related.
- Integrated full-time employment programmes and programmes in tandem with employment are directed at continuing vocational education and target experienced employees. Degree courses are undertaken next to a full-time employment, mainly through self-study and evening or weekend classes.

5. OUTPUTS

The major **outcomes** for dual study programmes include:

- For **students**, it can provide an ongoing income stream and an educational option that provides more practical outcomes and potentially results in a job.
- For **business**, it can provide a better human capital supply chain, more committed and loyal employees with the appropriate skills for the organisation.
- For HEIs, it can provide an ongoing income stream, academics with better practical understanding, more market-connected educational programmes and better student employability.
- For **society**, it can mean more appropriately skilled graduates as well as higher employment rates as well as the improvement of regional competitiveness.



6. BARRIERS AND DRIVERS

Whilst dual-study programmes offer promise as a means for improving graduate employability and developing the human capital supply chain for business, there remains a number of **issues**.

A significant inhibiting factor in the development of dual study programmes is the **lack of under-standing** of the educational mode in non-German speaking countries and **differing legal frame-works** in place in across countries as well as within countries. Given the lack of state recognition and a general lack of understanding about dual study programmes, few common frameworks exist that govern these programmes. This means that the programmes can be difficult to compare, assess or accredit.

Another major issue includes the **lack of transparency** of the study requirements, structure and activities included in the programme and the fact that most programmes are heavily customised to the industrial partner. Each business partner has a **heterogeneous set of needs** meaning that each dual study programme tends to be structured differently and needs to be negotiated individually. This means that organising such a programme can potentially be a time-consuming, costly and bureaucratic process.

The substantial **differences in the culture** of the HEI and business environments are well recognised, causing differences in expectations around time, delivery and outcomes. This already highlights potential issues in creating a curriculum fitting both the HEI and the business. Furthermore, the engagement of both the HEI and vocational educational streams is challenging since the two education sectors have traditionally been characterised by different curricular goals, teaching principles, governance mechanisms, and funding structures.

Drivers for dual study programmes have already been detailed in the objectives for the case, however the primary facilitators for dual study programmes to prosper relate to the understanding of, and provision for, the programmes as well as the existence of respected champions.

The need for both **industry and HEIs to possess an understanding** of the existence, structure and functionality of dual study programmes is a basic, but underestimated facilitator of the proliferation of dual study programmes. Whilst the model is known primarily in German-speaking nations, the adaption of this model of education is limited elsewhere owing to this lack of understanding or a highbrow negative association already in existence for such a model.

Moreover, a further key facilitator is the provision for dual study programmes within the state educational framework and consideration for this type of programme in accreditation programmes. Without such consideration, dual study programmes cannot achieve the dual aim of academic and practical learning or cannot exist at all.

Finally, the presence of respected champions able to promote and spread the merits of this form of education can be crucial to winning acceptance in new territories. The dispersion of dual studies programmes throughout Europe is facilitated by multinational corporations with a headquarters in Germany. This is because the understanding of the potential for such a programme already exists and directives from head office provide the respected recommendation for the programmes in countries where a subsidiary exists. This principle is demonstrated in the VW Group case explanation later in this case.

7. FUTURE CHALLENGES

One of the key challenges facing dual-study programmes relates to how to align the differing policies and requirements of the stakeholders involved, including how to comply with state regulations and conditions. Dual study programmes demand flexibility for their successful execution, which is especially difficult for bureaucratic institutions such as government and HEIs. Similar to the development and delivery of vocational education, being a business-centric educational offering, dual study programmes will inevitably involve unconventional (for HEIs) programme development and delivery. As such, issues around how programmes can be accredited with the state needing to either reduce or adapt conditions and regulations as well as potentially give up a measure of control, are significant challenges facing the development of these programmes.

Mobilising the most important stakeholders is another major challenge. This includes getting business to buy-in to the system and commit to providing the training aspect, HEIs to invest into the programme creation and allow flexibility for vocation and work-related training, vocational providers to align with the needs of both businesses and HEIs as well as trade unions and other support organisations to support the initiative. This process is made more difficult in countries where the understanding and recognition of dual study programmes is limited, or whereby the image of these programmes is somehow negative.





Two perspectives of dual-study programmes are presented in this case, representing the approach of:

- <u>Universities</u> Dual Studies at Baden-Württemberg Cooperative State University presents a HEI which dedicates itself to dual study programmes, and
- <u>Business</u> Dual study programmes at the Volkswagen Group presents their commitment to dual study programmes in Germany and internationally.

Dual Studies at Baden-Württemberg Cooperative State University (DHBW)

Background

Baden-Württemberg Cooperative State University (Duale Hochschule Baden-Württemberg – DHBW) is the first university in Germany, which combines on-the-job training and classical academic studies and, therefore, achieves a close integration of the components of the cooperative education concept. With around 34,000 enrolled students, over 9,000 partner companies and more than 145,000 graduates, DHBW is one of the largest higher education institutions in Baden-Wuerttemberg.¹⁰

Inspired by the US State University System, the organisational structure of the university entails both the central and the local levels, which also makes the university unique in Germany. The DHBW headquarters are located in Stuttgart, however it has nine locations and three campuses. DHBW offers a broad range of undergraduate study programmes in the field of business, engineering, and social sciences, mixing the theoretical and practical approaches. Furthermore, the university offers postgraduate degree programmes with integrated on-the-job training.

Baden-Württemberg Cooperative State University traces its history back to 1974, when the University of Cooperative Education BA BW (Berufsakademie Baden-Württemberg) was founded. More than 40 years ago, this model of cooperative education was initiated by well-known companies such as Robert Bosch, Daimler-Benz and SEL. Consequently, the Federal State of Baden-Württemberg, in cooperation with many other prominent companies in the region, settled a professional education model for the school graduates in addition to the traditional one.

In 2009, after decades of outstanding performance in providing high quality education, the German Federal State of Baden-Württemberg granted Berufsakademie Baden-Wuerttemberg the legal status of a university. Furthermore, for DHBW the corporate university status also means that the university is able to grant academic degrees and to facilitate cooperative research projects, working in close collaboration with partner companies on a strategic level.¹¹

Objectives/ motivations

The cooperative (work-integrated) education offered by DHBW is the unique combination of theory and practice. The university's curriculum entails traditional higher education and on-the-job training at numerous partner enterprises, and aims to provide students both academic skills and work-related expertise. The advantages of their dual studies go beyond the academic or practical importance; they involve the contracting of relationships with certain enterprises and the students, whom they employ during the life of the programme. With this strategy, DHBW provides academic qualifications at the same time enabling students to gain extensive practical experience. This allows DHBW graduates to rise to the challenges early during the educational process, whilst also helping them to launch their future careers.

Input

DHBW is a state university funded by the state government. In general, there are no tuition fees for bachelor's and consecutive master's degree programmes. Students need to pay only a small enrolment or confirmation fee, which normally is covered by the partner company. One of the main benefits for students is that they receive a monthly remuneration for the duration of their studies at the university.

Furthermore, the university has its own foundation, which aims to strengthen the university profile thorough the financial donations from companies and individuals, and provides further stimulus for teaching and research. The DHBW Foundation's funds are utilised in a long-term way to secure the outstanding position of the university. In addition, the specific earmarked donations are invested directly into the individual DHBW locations to be used for the certain activities at a campus level. The university has nine locations with three campuses in the German Federal State of Baden-Württemberg.

DHBW has several governing bodies in their top management: the supervisory board, the managing board with a university president as a chairman, as well as a senate. The supervisory board is composed of 17 members, with at least 8 members from the private sector. In the university councils, the number of academic representatives is always equal to the number of company representatives.

Activities

DHBW delivers job integrated learning programmes only. Dual education offered by the university is provided in the three-month rhythm, alternating between the university and their workplace training provider. Due to this regular switch from theory and practice, the studies are explicitly intensive. The dual education programme operates on a non-stop, twelve-month schedule. Students are granted vacation days as stipulated in the three-year employment contract signed between the student and the partner company at the beginning of the dual study programme.

The recruitment of the students is also exclusively done by the cooperative education partners, while the DHBW only has to verify the higher education entrance qualification. The university courses are taught by full-time professors of DHBW, associate lecturers from partner universities, and furthermore by the specialists and experts from partner companies

and social institutions. All of the study programmes provided by the university are both nationally and internationally recognised degree programmes.

Outputs

At academic level the dual study programmes offered by DHBW have a direct positive effect on the students' university life and future career development. One of the main advantages for DHBW students is the financial independence. As employees of programme partner companies, in addition to being provided with workplace training, they also receive a monthly allowance. But more importantly, they have a chance to get cutting-edge skills, receiving the in-depth academic expertise and the ability to solve real-life problems independently, effectively and purposefully, while studying. These consequently provide students with excellent employment opportunities. Given this combination of academic skills and applied knowledge, the graduates are able to follow a straight-forward path to career success in any type of industrial area.

The student mobility and effective talent acquisition are the main benefits for collaborating partner companies, which have a good opportunity to simply choose students, and thus future employees, for themselves. This in turn enables partner enterprises to have good qualified junior staff. Furthermore, the close relationships with the university on a strategic level can also be extremely beneficial for the partner enterprises, giving them a possibility to promote talents, to do research together and to expand contacts.

Key success factors

The commitment to a unique dual study system offered by the Baden-Württemberg Cooperative State University is one of the main success factors, which allows it to contribute the HEI's outstanding performance in collaboration with numerous renowned global companies. Being the first higher education institution in Germany which combines on-the-job training and academic studies, DHBW achieves a close integration of theory and practice enabling its students to be review practical experience during their studies, as well as a potential job after graduation, while building their future career paths.

Awards and recognition

In 2006, the Central Agency for Evaluation and Accreditation (CAEA/ZEvA) accredited all the university's study programmes and validated them as intensive degree programmes with 210 ECTS points. In 2014, DHBW was the first higher education institution in the Federal State of Baden-Württemberg that obtained the system accreditation by the Central Evaluation and Accreditation Agency (ZEvA).¹²

For its commitment to an improved compatibility of family life with the education and professional career, DHBW was awarded as a 'Family-Friendly University' on the 29th of June 2015 in Berlin.¹³

In 2015, the DHBW department for corporate communication received two prestigious awards for its public relations work: the German Design Award and ECON Award 2015.¹⁴

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Links

Duale Hochschule Baden- Württemberg http://www.dhbw.de/english/dhbw/about-us.html

Duale Hochschule Baden- Württemberg http://www.dhbw.de/english/dhbw/about-us/history.html

Duale Hochschule Baden- Württemberg http://www.dhbw.de/english/dhbw/cooperative-education-at-dhbw.html

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Dual study programmes in Volkswagen Group

Background

The Volkswagen (VW) Group is one of the world's leading automobile manufacturers and the largest carmaker in Europe. It has a long history of involvement in Bachelor dual study programmes (Duales Studium) through its brands in Germany (VW, Audi, MAN, Porsche etc.). A key feature of such a programme is the potential for students to go directly into practical work rather than simply working with theory.

Objectives/motivations

For students completing a dual study programme with VW Group, this is an important step to a future career. Combining practical education with academic education leads to the ability to apply academic knowledge when creating, optimising and problem-solving in the future practical work. It also includes 'hands-on' work required in the field of engineering. Furthermore, it provides valuable 'in-company' experience, which enables the graduate to

more easily assimilate into their career within the company. For the brands, it also offers a valuable way to recruit specialists that, otherwise, can be tough to find in the labour market.

Activities

 German dual study programmes run with VW AG (biggest company within VW brand in Germany)

The dual study programme at VW AG offers the possibility to gain a vocational qualification in a recognised occupation: gain a bachelor degree at a HEI and at the same time, work and learn within the company. The standard programme provides a strong practical focus through periods of work with a relevant company department, which is separated by semesters of study within the HEI. In total, the dual study programme lasts eight semesters on average. The programme provides the ability for students to earn whilst they learn through a monthly payment, and ultimately leads to a job at VW¹⁵.

For Volkswagen AG, dual study programmes can be undertaken in a range of topics including: information technology, mechanical engineering, electrical engineering, automotive information technology, body structure development, mechatronics, logistics, materials sciences, industrial engineering, business studies, sales management and economics, and in any of the six VW locations in Germany.

International expansion of dual study programmes through the VW Group

The VW Group - also including foreign-located brands, among others Seat, Škoda, Bentley, Lamborghini, Scania and Ducati - runs approximately 120 production plants in approximately 30 different countries (as of December 2015). Given the positive results of Bachelor dual study programmes for VW Group in Germany, there have been initiatives within the VW Group to expand this form of study to other countries in which they operate. To do so standards have been developed by German and foreign locations to set up a groupwide-framework. Within that framework every single location is able to discuss and decide the local characteristics of the programme with the HEI partner.

Whilst there is long held tradition of dual study programmes in Germany, in foreign countries they are largely unknown and in VW's experience, there exists a larger separation between theory and practice. Furthermore, vocational training and manual tasks are sometimes given a lower importance in other countries and occasionally possess a negative image, so time and energy is required to overcome these hurdles.

Key success factors

With many years of experience in dual study programmes in Germany, the group recognises a number of essential linkages as key success factors:

▶ Content linkage – A precondition of a good programme is a general fit between the contents of the study and the practical work for the student / graduate with VW. On this basis, the material being taught in the academic component of the programme has to link to the student's vocational experience in the company. As an example, when first commencing a dual study programme, one of the VW Group subsidiaries went through the subjects being taught in the curriculum to see which courses could be applied practically, to link practice with the curriculum. Resultantly, participants would be assigned to appropriate company departments throughout the programme.

Moreover, whilst following academics requirements, an agreement was made with the HEI that the student's assignments would be written about a topic of interest for the company or a problem in the company and then accredited by the HEI.

- Time linkage Finding the time within the year to develop a good mix between theory and practice, can be quite difficult. The programmes should allow extended periods of time in the company, however need to be flexible to the academic curriculum requirements. For example, within VW a committed 12-week period can be executed in a number of ways including mostly one block of 12 weeks, but also shortening the block a little to fit within a semester break and having the student work on a daily basis in the company during the following semester. This enables students to follow a project for a longer time and experience all the different phases that the project goes through. To achieve this, some creativity and flexibility from both the business and academic sides, is required.
- Structural linkage The basis for the dual study agreements is a regular exchange between representatives of the company and the HEI. Since in most foreign countries, universities undertake the programme with several companies, the meetings between the dual study companies also enhance their business network. The HEIs and companies discuss questions like how to attract new students for the programme or how to achieve the companies' and HEI's needs for the presence of the participants in their organisation.

Context and challenges

Whilst in Germany, there is already a well-developed understanding of dual study programmes, when expanding the programmes internationally, it is essential for the VW Group business subsidiaries first to define that there is need of graduates who are able to be assigned to a position directly after their studies with only a very short orientation period. To do so, VW requires local managers in the different cultures who recognise the benefits of such a programme. Additionally, the foreign location needs to seek out HEIs that are interested in adding the practical side to their educational experience. Mostly, these are universities with whom they have worked with before and built a stable and trusting relationship over a longer time period. These could be more practically oriented universities of applied sciences, but also regular (technical) universities. It is important for universities to recognise that the company also takes responsibility for, and participates in, the education and development of the dual study student.

The running of the dual study programmes also needs a commitment of resources including manpower and salary for programme participants. Whilst German students are paid throughout their studies, other countries may only pay for the work time completed. Finally, in addition to physical location to work in, local VW partners also need to locate appropriate departments, committed temporary supervisors and in some cases a permanent mentor for the student to work with.

Outputs and impacts

Over the years, VW Group has experienced considerable success with the programmes in Germany. They have found dual study programmes to receive a high number of applicants each intake, have only a very small percentage of students leaving the programme and a very high percentage of students who remain within the company following the study programme. In Germany at VW AG, 231 new students started a dual study programme in 2016.

In the expansion of the programmes to international subsidiaries over the last three years, VW Group has experienced a relatively high amount of applicants, despite the concept of dual study programmes being relatively unknown. Within one subsidiary for example, the programme has been expanded for one area to encompass further studies and appropriate business areas. As a measure of the success of VW dual study programme internationally, one of their local HEI partners has also starting to see the possibilities of this new study programme to attract students who prefer to combine studies linked to practical work.

Furthermore, some locations are even working on extending the programme to a dual master study.

<u>Links</u>

Volkswagen Karriere

http://www.volkswagen-karriere.de/en/come and join us/pupils/dual-study-programme.html

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