ibw *research brief*

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Demand for skilled workers and current recruitment difficulties

Results of the 2016 survey on demand for qualifications carried out on behalf of the Federation of Austrian Industries

Companies face a number of challenges when it comes to meeting their demand for appropriately qualified staff. Against the background of a continuing trend towards higher qualifications – mainly driven by technological progress – a clear lack of skilled workers becomes apparent in the field of the MINT occupations. The companies' demand for staff is truly heterogeneous in terms of their qualification profiles. In any case, the simple picture of demand that is primarily geared towards academic qualifications does not reflect reality at all. The medium skilled workers' level will also represent the backbone of employees in the future. Furthermore, higher vocational qualifications are gaining in importance. In general, noticeable differences regarding recruitment demand, recruitment difficulties and recruitment/HRM strategies can be observed between companies. In this connection, the staff's current qualification structure is a major influential factor.

What is the companies' current demand for qualifications? How do they recruit staff and what are the difficulties they are facing in that respect, ranging up to skilled labour shortage? How has the employment situation changed over the last five years, particularly regarding qualification demand and structure? These questions are the focus of the latest survey on demand for qualifications on behalf of the Federation of Austrian Industries (IV)[1].

The varied range of study findings[2] can be summarised as the following core theses:

- a continuing trend towards higher qualifications
- insufficient competences of applicants are a decisive factor but not the only factor for recruitment difficulties
- recruitment difficulties mainly occur in the field of MINT occupations (this is the umbrella term for job qualifications involving mathematics, information technology, natural sciences and technology)
- companies pursue different recruitment strategies depending on their staff's qualification structure

Qualification clusters

The surveyed companies are characterised by a wide range of different company-specific qualification structures. Based on the formal educational qualifications of their staff they were able to be assigned to **three clusters** (cf. Diagram 1). The terms used for the three clusters (highly, medium and low qualified) only aim to distinguish the companies' formal qualification structure with

one keyword. There is no intention to rate them and such a rating is not implied in these groups. The companies' qualification structure, business purpose and production methods are in a complex interrelationship.

- **Cluster "highly qualified":** most employees are HE graduates and/or graduates of VET colleges (most often technical VET colleges)
- **Cluster "medium qualified":** most employees have a medium-level professional qualification (apprenticeship and/or a technical VET school)
- **Cluster "low qualified":** around half of the staff have completed compulsory schooling as their highest qualification.

Diagram 1:   Staff qualification structure
              Highest qualification obtained by clusters (mean value)
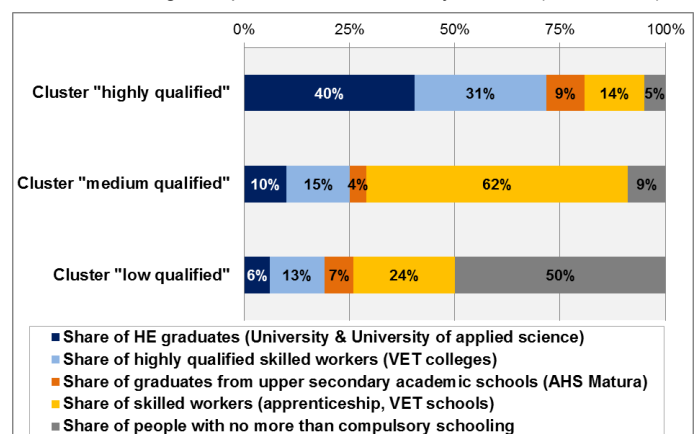
Source: 2016 ibw-IV survey on demand for qualifications

The **main results of this study** can be summarised as follows:

(1) Development of employment: continuing trend towards and necessity of higher qualifications

Over the last five years, the surveyed companies record-ed relative (and absolute) **increases in more highly qualified employment and decreases in low-qualified staff**. The companies assume that this trend will also continue to a similar extent over the next five years. The **medium skilled workers' level** (apprenticeship gradu-ates etc.) will by all means also play an important quanti-tative role in many companies in the future (and it will continue to form the backbone of employment especially in the "medium qualified" cluster)[3]. This development dynamic can be interpreted as a **continuing trend of technological progress that is distorted by qualifica-tions**. In addition, there are signs of a certain upscaling of qualification structures so that the respective (formally) highest qualification levels are typically encouraged in the clusters.

The special features of the Austrian qualification land-scape (apprenticeship training and VET colleges) are therefore clearly reflected in the staff structures and dy-namics: on the one hand regarding their scope and posi-tioning, on the other hand in their dynamics because – as will be shown further below – the companies' demand for staff is by all means diversified and technical VET college in particular constitutes a truly important education and qualification pathway for companies in the manufacturing industry. For **apprenticeship training** there is the pro-spect of stabilisation because more than half of the ques-tioned companies rank it as "on the same level". Appren-ticeship training will be provided by companies of the "medium qualified" and "low qualified" clusters. In the "highly qualified" cluster, however, a reduction of appren-ticeship training can be expected.

(2) Two out of three companies are facing recruit-ment difficulties – often due to the applicants' in-sufficient competences

As almost all of the questioned companies have recruited new staff members in the last two years, there is diverse evidence of possible **recruitment difficulties**. Two thirds of the companies are reporting that they sometimes or often have considerable problems finding suitable staff (26% stated they "often" and another 41% stated they "sometimes" had difficulties finding staff); cf. Diagram 2.

The higher their desired formal qualification level, the more frequently the companies report they had recruit-ment difficulties and **the longer** it took them on average **to fill a vacancy**: thus two out of three companies (with

recruitment problems) had difficulties finding suitable HE graduates; one in two companies had problems finding skilled labour (at the level of VET college, apprenticeship training, VET school) and only one in ten had problems finding unskilled/semiskilled staff. Accordingly the time by which a vacancy could be filled also varied: in the case of positions for HE graduates it was 16 weeks on average, for skilled workers it was around 11 weeks, and for un-skilled/semiskilled staff it was three weeks.

These values are informative mainly for the field of the MINT occupations as it is only here that there are mani-fest recruitment problems (cf. item (4))[4].

Diagram 2: Recruitment difficulties: assessment of difficulties finding suitable staff over the last 2-3 years

Difficulties finding suitable staff

often	26%
sometimes	41%
seldom	20%
never	12%
don't know	1%
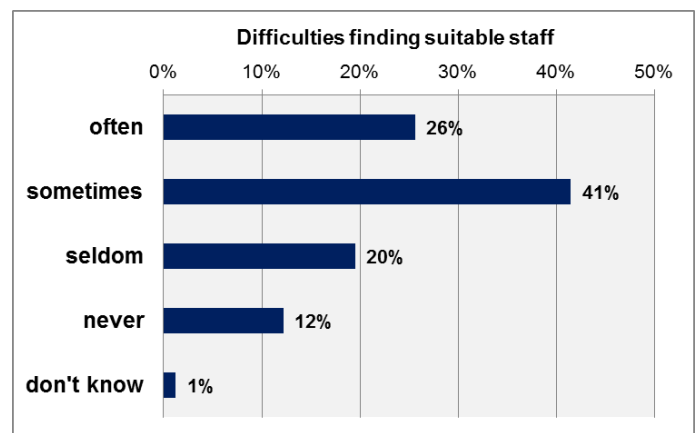
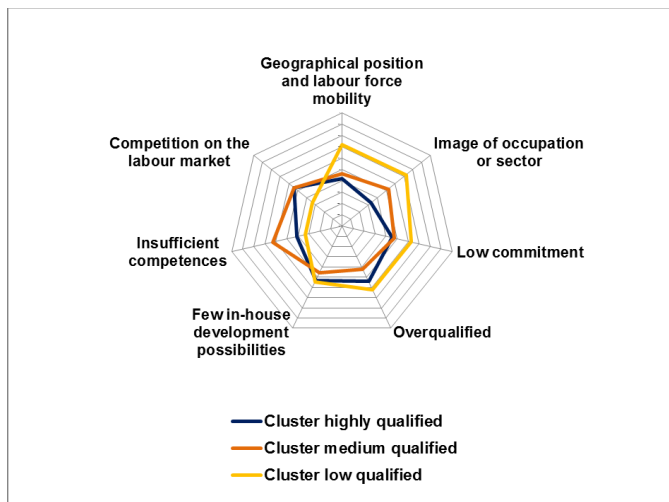Source: 2016 ibw-IV survey on demand for qualifications

The main problem area is **insufficient competences of applicants**. In this respect, the companies are facing different recruitment difficulties: on the one hand, regard-ing the **demanded competences** and, on the other, regarding the issue of a **sufficient number of appli-cants**. Most frequently the companies miss appropriate specialist knowledge, followed by formal qualifications and soft skills. Usually there is the trend that both the competences are insufficient and that there are not enough applicants. In cases where the applicants' com-petences meet the requirements of the companies there are most often too few applicants with related qualifica-tions.

These recruitment problems due to qualifications are often linked with the situation that, in general, too few people apply for positions. The latter point is often due to an unfavourable **geographical position**, the limits of labour force mobility and **competition on the labour market**, and often also to the **companies' lack of at-tractiveness as employers** (negative sectoral im-age/image of advertised occupations, too little possibility of in-house development) as well as **diverging ideas between potential employers and applicants** about the salary level and (work-)life balance. The employers also complain that the applicants often show insufficient

flexibility (effort, willingness to travel) and, in general, not enough commitment.

The recruitment difficulties vary only slightly according to company size, it is only for large enterprises (over 1,000 employees) that certain advantages in terms of attractiveness and therefore also competitiveness can be observed. But **differences between the three qualification clusters** are clearly more relevant (cf. Diagram 3):

Diagram 3:   Reasons for recruitment difficulties by qualification - clusters (comparison of factor mean values)

Source: 2016 ibw-IV survey on demand for qualifications

- **Cluster "highly qualified":** the companies are facing strong competition on the labour market and the applicants are frequently overqualified (i.e. formal over-qualification combined with lack of competences and/or inappropriate profiles of previous training contents).
- **Cluster "medium qualified":** here the companies mainly complain about the applicants' insufficient competences. In addition, strong competition on the labour market and the geographical position as well as labour force mobility constitute major recruitment challenges. Some companies are also "suffering" from the poor image of the sector/occupation.
- The **cluster "low qualified"** has various recruitment difficulties: these are related to the geographical position and labour force mobility, the image of the sector/profession, few in-house development possibilities, as well as the applicants' low commitment and their overqualification.

In addition, it appears that the higher the qualifications of their staff, the less frequently companies are faced with recruitment difficulties due to their geographical position and low labour force mobility, poor image of the profession/sector, and low commitment. Companies of the "low qualified" cluster in particular are especially affected by these aspects. Apparently filter effects make the suc-

cessful recruitment of appropriately trained and motivated applicants more difficult.

The **relevance of appropriate (professional, specialist) qualifications** for successful job matching is also illustrated by the Job Vacancy Survey of Statistics Austria. Thus, for more than 60% of the total of around 67,000 vacancies on an annual average for 2015, a qualification above the compulsory school certificate was mentioned as a minimum requirement. It is also striking that an HE qualification beyond the upper secondary school-leaving certificate *Matura* is only expected/demanded in 9% of vacancies[5]. The conclusion is that the **companies' demand for staff is truly heterogeneous** in terms of their qualification profiles. The **simple picture of demand that is primarily geared towards (highly) qualified skilled workers** apparently **does not reflect reality at all**.

(3) Companies are pursuing different recruitment strategies depending on their staff's qualification structure

Companies use a **wide mix of different instruments** in their **search for personnel**. There are different recruitment strategies between the various qualification clusters (cf. Diagram 4):

- **Cluster "highly qualified":** the companies rely on supra-regional recruitment of job starters with school or HE certificates and on in-house measures (continuing training and informal learning).
- **Cluster "medium qualified":** here the companies rely more on a mix of different measures. Their own apprenticeship training (and recruitment of apprenticeship graduates) is most important to them.
- **Cluster "low qualified":** on-the-job training of externally recruited staff with work experience and the companies' own apprenticeship training.

This shows that the instruments used to cover demand for qualifications/staff differ clearly between the qualification clusters. Here the following rule applies: the higher the qualifications of the staff, the more importance is placed on the supra-regional recruitment of job entrants with school or HE qualifications. In companies of the "highly qualified" cluster, safeguarding skilled labour by providing **in-house apprenticeship training** is more of a secondary option. In the companies of the two other clusters, however, it plays a major role so they are able to meet their demand for qualifications in the long term.

Leased labour (temporary workers) as one recruitment option or form of employment is not connected with the companies' qualification structure in any simple, direct

way. It is rather connected with (either temporary or structural) flexibilisation requirements. **In-house measures (continuing training and informal learning)** are also used by all companies and are consequently independent of the companies' qualification structure. These measures are by all means of high relevance in the "highly qualified" cluster.

Diagram 4: Measures to cover the demand for qualifications and staff by qualification clusters

Source: 2016 ibw-IV survey on demand for qualifications

(4) Recruitment difficulties occur in particular in the field of MINT occupations

Recruitment difficulties mainly occur in the field of technical and MINT occupations; this **applies to graduates of all technical qualification levels** (universities, universities of applied sciences, technical VET colleges and apprenticeships). In particular, there is also an excess demand for holders of special competence bundles (a combination of technical qualifications and management experience or of IT with technical knowledge).

This priority structure of vacancies reflects the general technicians' "gap" in Austria. Special evaluations of the microcensus illustrate that **almost half of the trained technicians are not employed in the manufacturing sector** (39% in the services sector and another 13% in public administration). As a consequence, competition among companies in this occupational field is correspondingly high. It is also apparent that, on the one hand, many employees who work as technicians do not have a relevant initial qualification and, on the other, many trained technicians are not active in a technical occupation. Of the around 860,000 people who exercise a technical profession, some 70% have completed a specialist technical programme. At 40%, **technical apprenticeship occupations form the backbone** of the qualification

structure. **13% of each have completed a technical VET college programme or a technical HE-based study**, and **4% a technical VET school**. The field of higher qualified technical occupations is therefore made up of roughly equal shares of technical VET college graduates and graduates of a technical HE institution. This illustrates the **high importance of technical VET colleges** as an educational pathway for **higher qualified technical occupations.**

Overall an **annual number of around 11,000 higher qualified technicians (including graduates of the natural sciences) enter the labour market** (4,400 technical VET college graduates, 2,700 graduates from universities of applied sciences and 4,100 graduates of technical/natural sciences programmes). Of these, probably some five to six thousand newly trained technicians ultimately "end up" in the manufacturing sector each year.

This quantity structure forms the background of the continuing recruitment difficulties of companies in the field of the MINT occupations: there are **too few sufficiently qualified/competent applicants from technical fields on all formal qualification levels.**

The entire study can be downloaded from http://www.ibw.at/de/ibw-studien (in German).

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[1] The study is based on an online survey among IV member companies which was conducted in February 2016. The 85 companies participating in the survey employ around 93,000 employees. The sample strongly reflects the companies' structural features in the manufacturing sector.

[2] cf. Schmid, Kurt / Winkler Birgit / Gruber, Benjamin (2016): Skills for Today. Aktueller Qualifizierungsbedarf und Rekrutierungsschwierigkeiten [Skills for Today. Current Demand for Qualifications and Recruitment Difficulties]. ibw research report no. 185.

[3] Many companies and particularly those from the "medium qualified" cluster train considerable numbers of skilled workers themselves. Based on their own statements, the companies of the "medium qualified" cluster in particular will continue to train apprentices themselves in the medium term to safeguard their own pool of future skilled workers.

[4] In other occupational fields it can be assumed that vacancies are filled faster due to sufficient numbers of interested applicants (e.g. in the commercial field or with HE graduates of law or business administration, for instance).

[5] The fact that no specific minimum formal requirement is demanded in almost 40% (in the manufacturing sector 25%) of vacancies does not mean that no competences are required, however. All companies require their applicants to have a well-founded basic level of key competences as well as appropriate social skills.