



Acute deficiencies of IT-experts

Above all there is a lack of Java-, Oracle- and Unix-specialists

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Abstract

This issue of IT-FACTS deals with the relative market strength of the demand and supply of skills in the area of operating systems, programming languages and database systems. Hereby, an exaggerated demand for *Java*-experts with *Oracle*-know-how under *Unix* is noticeable. Furthermore, there is an extreme demand for *C++*, *C#*, *PL-SQL* and *ABAP* know-how. Aside of the facts, there will be a sketch of the possible reactions to the imbalance of the market.

Programming Languages

Figure 1 compares the demand for programming languages to the available supply (q.v. next page on the method of collecting data). The demand is dominated by *Java*, *C++*, *C#*, *PL-SQL* and *ABAP* -skills, which means, that the relative demand of skills in the announced jobs and projects, is higher than the supply offered by the IT-experts registered at JoinVision. Especially in the field of *Java* there are notable deficiencies of the supply of skills.

A surplus of know-how is to be found in the fields of *Visual Basic*, *PHP* and *JavaScript*, while the demand and supply of *Perl*, *C*, and *Cobol* is in balance.

Balance Mechanisms

An imbalance of the market, as mentioned above, most often leads to balance mechanisms as below:

A. *Price*. Price alternations are an immediate reaction on every normally functioning market. Practically spoken, this would mean a drop of hourly wage rates concerning *Visual-Basic* or *PHP*, and an increase of prices concerning *Java*, *C++*, and *C#*.

B. *Substitution*. The price alternation tends to result in an adjustment of the demand and supply for skills in order to reinstate the balance of the market. Substitution from both sides may, for example, result in: IT-experts, who enrich their knowledge on *Visual Basic* with *C#*-know-how; or companies, which recruit *Visual Basic* experts for a *C#*-project and retrain them for the task. Second, changes of the demand are possible: a company could decide to implement a project in *Visual Basic* instead of *C#*.

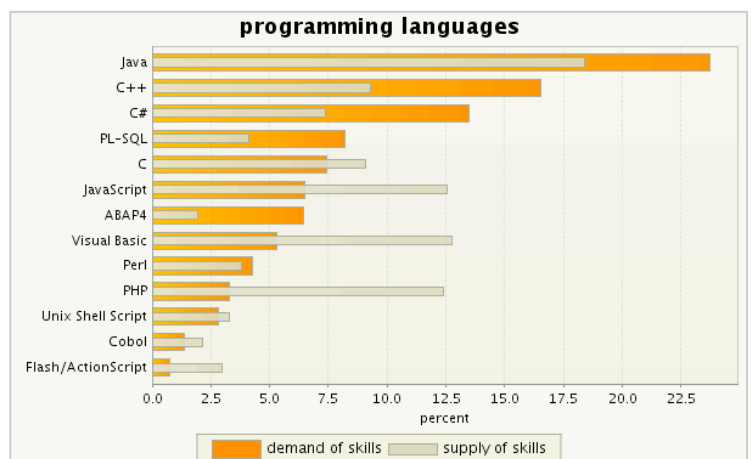


Figure 1: The market of programming skills

Database Systems

In this area the demand is clearly dominated by *Oracle*, the supply is dominated by *MySql* or *Microsoft SQL Server*. Following the logic of the market, *MySql* or *Microsoft SQL Server* specialists should be tempted to learn *Oracle*. On the other hand, in this area substitutions on the side of the demand are possible too. For example the choice of *MySql* or *Microsoft SQL Server* instead of *Oracle* could have a positive impact on the mutable price of IT-skills - whereas the switching of database systems is only possible, if the substitute for *Oracle* can cover all its project standards.

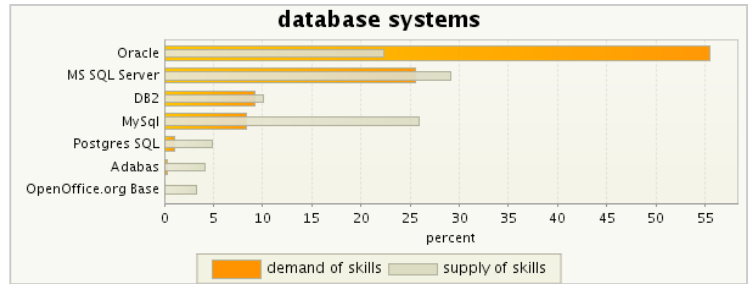


Figure 2: The market of databases

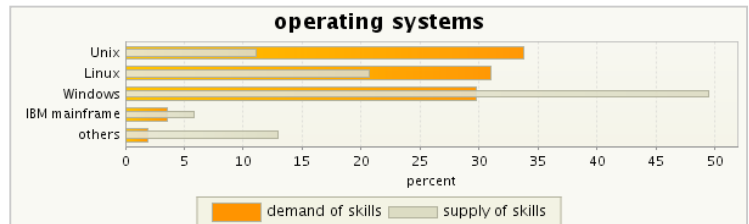


Figure 3: The market of operating systems

Operating Systems

Currently there is an extensive demand for *Unix* in the job and project offers on JoinVision, which is not covered by the supply (fig.3). This provides IT-experts with the opportunity to stand out, if they have additional knowledge in one or more of these areas. Theoretically, companies could substitute *Unix* through *Microsoft Windows*, which, regarding to other surveys, is being done. However, we may assume, that, of all the possibilities, the pricing pressure on the IT- labour market has a rather small influence on the substitution process in the field of operating systems. Strategic goals, the dependency of producers, and performance requirements supposedly are more important than the price of IT-skills.

Conclusion

This survey shows the imbalance of the IT-labour market. This conclusion is based on the information derived from the conduct of the users of the electronic market space JoinVision. According to this, there especially is an extreme demand for *Java*-experts in the vicinity of *Oracle* and *Unix*. The survey highlights this imbalance and discusses possible consequences from a microeconomic point of view.

Methodology

In order to evaluate the *demand for skills*, 500 job ads from the last 12 months have been analyzed. In the job ads of JoinVision skills are matched (on a semantic basis) and weighted. The aggregated weight of all job ads, which are normed to 100 %, complies to the demand for skills in the figures.

The *supply of skills* is derived from the resumes of the last 500 IT-experts registered on JoinVision. In their resumes, the experts give information which skills they have gained in projects or in a particular phase of training. These skills are first calculated for each expert separately, taking into account time and oblivion, then the results of all experts are summed up and again normed to 100 %. Out of this, a cumulated metric is derived, which displays the available know-how on the JoinVision market space. By means of simplification, this is equated to the supply of skills. Please consider, that this can merely be interpreted as the upper limit, for not every IT-expert might be willing to offer each skill on the market, especially those, that are not in the technological trend anymore.

JoinVision

www.joinvision.com is a market space for IT-services in the german speaking countries. Employed IT-experts and freelancers allocate their skills by means of a profile or resume on the electronic platform and hereby meet companies, which are searching for skills in the context of projects or jobs.

The information collected on this platform is analyzed by JoinVision and allocated to the community in the form of statistics: the IT-FACTS.