

Bipartite Networks of Universities and Companies: Recruiting New Graduates in Japan

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Abstract

We investigated the bipartite networks of universities and companies in Japan from the viewpoint of flow of new graduates. Japanese way of employing new graduates is unique. Every year almost all companies start their recruiting process at the same time, usually in spring, for the next fiscal year which begins in April. They interview candidates several times and usually make a decision before or in summer. This custom is known as a simultaneous recruiting system of new graduates. Therefore, which companies employ how many graduates from which universities is a big concern for both universities and industries.

The relationship between universities and companies can be depicted with a bipartite graph which is a network whose nodes can be divided into two disjoint sets in which there are no direct links.

We used the data of a matrix which consists of 78 famous universities and 325 large companies in 2015. The matrix shows which universities send how many new graduates to the listed companies above mentioned. We found the characteristics of each university and company in sending and receiving new graduates by statistical tests. Also we categorized these universities and companies into several groups by using dendrogram and made investigation the patterns of pushing and pulling new graduates from college to business world. Finally we successfully identified the hubs and authorities in the networks.

