EQUIPMENT NEED ANALYSIS FOR ENGINEER AND TECHNICAN IN TELECOM SECTOR IN TURKEY

Ayhan ISTANBULLU
Computer Engineering Department
Balikesir, TURKEY
ayhan@ieee.org

Metin DEMİRTAS
Electrical and electronics Engineering Department
Balikesir, TURKEY
mdtas@balikesir.edu.tr

ABSTRACT

In this study, equipment analysis is made for engineers and technicians in telecom sector, in Turkey. A survey is executed in this sector. 38 people are attended the survey. Participants consist of private and state sector. The survey is carried out on the six firms. The obtained results are presented as graphics. The analysis of the results is made in detail.

I. INTRODUCTION

The telecommunications play an important role in today's market dynamic. In the last decade a dramatic change in the ownership structure of telecommunications companies has taken place, from public (state-owned) monopolies to private companies. The rapid development of mobile telephone networks and video and Internet technologies has created enormous competitive pressure on the companies. (Karlsson et al., 2001). Also, stock market expectations are enormous, and investors and financial analysts need tested tools to gain information about how companies perform financially compared to their competitors, what they are good at, who the major competitors are, etc.. In other words, the telecom companies need to benchmark their performances against competitors in order to remain important players in this market.

Telecommunication services include Basic service, Cellular service, Internet Service Provider and Very Small Aperture Terminal services. There is a big problem about the telecom service that is lack of equipment or trained personal. . The aim of this paper is to analyze need equipment for workers in telecom sector, in Turkey. Therefore, the survey is made for engineer and technician about equipment used in this sector. The survey provides extensive research and objective analysis of the telecom sector in Turkey. It helps the telecom firms in analyzing of telecom equipment need in Turkey. The obtained survey results are presented and evaluated in survey analysis section. After, the analysis results are given in conclusion.

II. SURVEY ANALYSIS

The survey is prepared as two part (Engineer and technicians). The separation of the data to this two investigation jobs and the definition of the particular samples results from the following scheme.

Engineer: Those are selected from target industry and have at least Engineering Bachelor degree.

Technician: Those are selected from target industry and have vocational school, +2 year vocational education degree

Distributions of subjects according to engineers and technicians are given in Figure 1. As shown in Figure 1, 27 of the subjects are engineer and the rest of then are technicians.
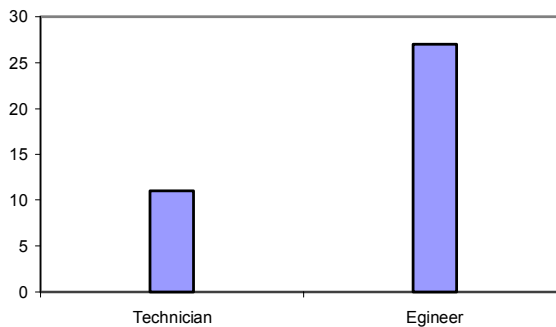
Distribution of subjects

Figureure 1 Distribution of subjects as engineer and technicians

Experience years of subjects are illustrated in Figure 2. Experience years are taken for four different periods. As shown, majority of the subjects have 0-5 experience years. That is, subjects are young.
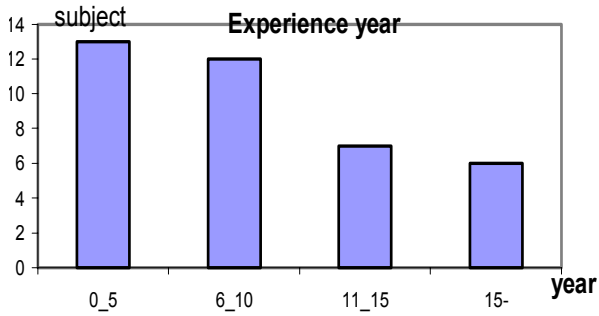
Figure 2 Experience years of subjects for different periods

The selected system knowledge topics by subjects in Telecom are shown in Figure 3. Majority of the subjects select electronic, telecommunication, RF and Antenna propagation. Microwave and electromagnetic topics are selected at least.
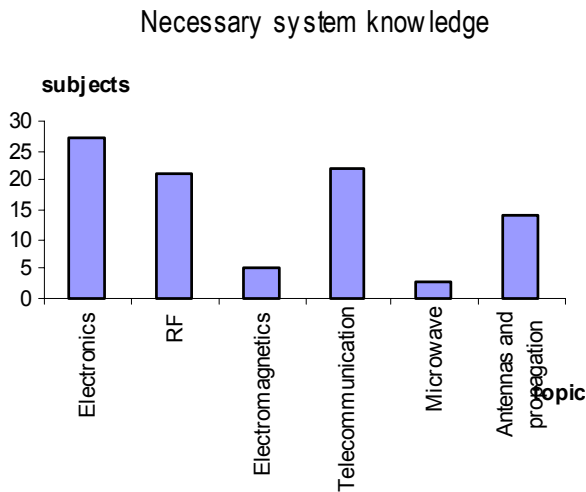

Figure 3 System knowledge topics

The most important topics are electronics, RF and Telecommunications. The least important topics preferred by subject are microwave. The device preferred by engineers and technicians are shown in figure 4 and figure 5, respectively. Two groups selected the same devices.
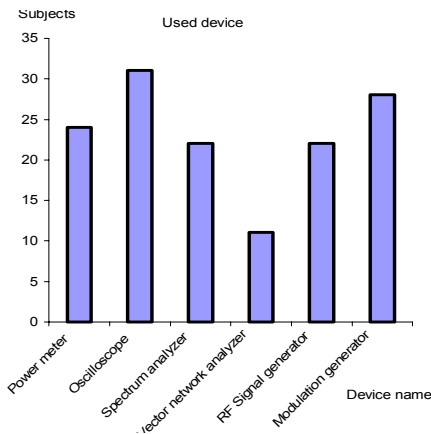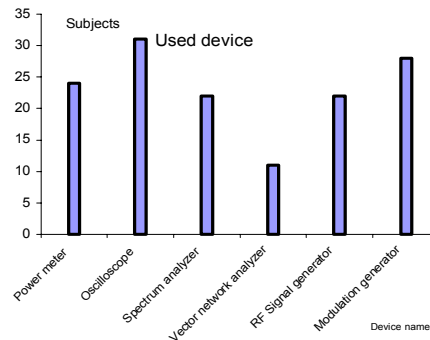

Figure 4 Used devices by engineers

Figure.5 Used devices by technicians

The basic equipment in a lab remains organized around the oscilloscope, power meter, spectrum analyzer and RF generator. The vector network analyzer is still not common equipment in a radio lab. The Vector Network Analyzer is still not widely used in industry, probably due to its high cost and therefore we may conclude that there is a need for remote learning in this case.

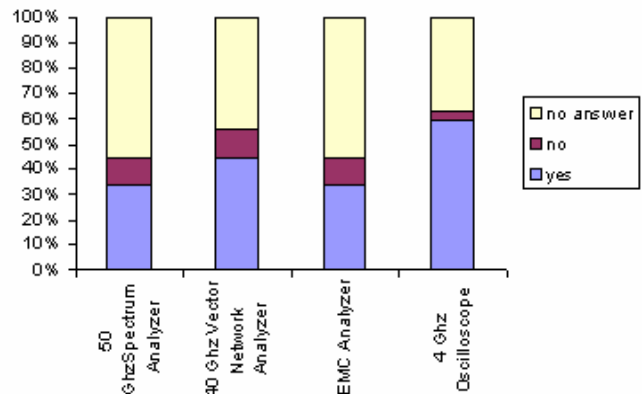Necessary devices for subjects are shown in Figure 6 and 7.

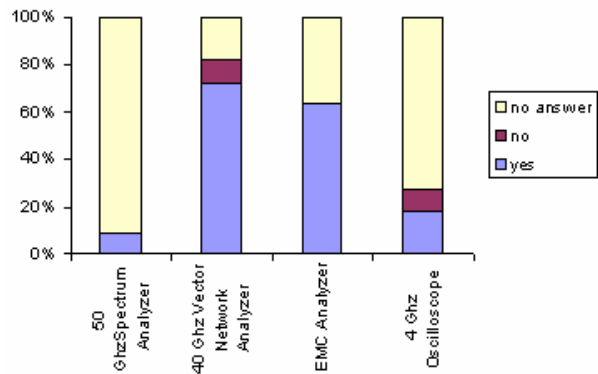Figure 6 Necessary devices for engineers

Figure 7 Necessary devices for technicians

As shown in Figure 6 and 7, Engineers want to use spectrum analyzer and vectoral analyzer but technicians want the use ossiloscope, RF generator and modulation generator.

This study is supported by European Remote Radio Laboratory – ERRL. This project includes remote radio laboratory. Subjects will be trained by the remote lab founded at Atilim University. Therefore, the need analysis is made to be trained potential candidates.

III.   CONCLUSION

Traditional equipments are commonly used in telecommunication industry. Engineers use high level equipment while technicians use generally standard equipment according to the survey data. Technicians use oscilloscope and modulation generator with low level. Both groups use rarely vector network analyzer.

The Vector Network Analyzer is still not widely used in industry, probably due to its high cost and therefore we may conclude that there is a need for remote learning in this case.

Remote experiments might be useful if they are divided two parts for engineer and technician.

ACKNOWLEDGE

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