Multivariate Statistical Analysis in Missing Skills’ Identification

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Abstract

The aim of the research is to apply the results of fuzzy measurement of consumer preferences on durable goods market for customer segmentation. New phenomena on durable goods market manifest itself in consumer behaviour. As a result, the brand acts as the most important feature while purchasing decisions is taken. Brand assessment by the consumer is associated with a complex evaluation process of a few to several criteria, such as the reliability, credibility, modernity and prestige. The burdensome problem here is that assessment criteria for features, which by their nature are immeasurable on metric scales, are perceived differently by each respondent. Typical quantitative tools used to measure attitudes partly ignore these problems. Alternative approach, which attempts to account for differences in individual assessments of the respondents is the measurement technique which rely on the use of fuzzy numbers. Conversion of linguistic expressions to form a triangular fuzzy numbers allows for the differences in the assessments of individual respondents, and thus allows better identification and representation of actual consumer preferences. Classical, multivariate statistical analysis methods modified for fuzzy measurement results may be used for customer segmentation, which takes into consideration the nature of market for high tech durables. Customer preferences towards the attributes associated with the brand of selected durable goods is used for this task. In the study market data set on smartphone devices was used.

Keywords: linguistic variable, fuzzy measurement, fuzzy multivariate statistical analysis, preferences study, smartphones brand attractiveness assessment.
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Abstract

The human capital development programs, partly financed by the means of European Social Fund, result in activities with the goal to equip students with skills not offered in traditional education and training system. Especially unique, so called soft skills seems to be necessary in contemporary professional careers and thus on the labour market. Courses developing skills such as team work ability, leadership, creativity, independent thinking and innovative approach to problem solving will be financed. Here, the university graduates are of special interest. For that purpose, a thorough analysis of needs is necessary. Existing databases describing the quality of human capital should be analysed in order to identify those competencies that graduates of universities are missing. Rich arsenal of multivariate statistical tools may be applicable for analyses. The list cover a wide range of techniques, from the simplest methods of descriptive statistics to advanced multivariate statistical clustering methods. The authors of the study will attempt to identify the missing soft competences using available statistical data.

Keywords: human capital, missing skills, multivariate statistical analysis