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# DATA ANALYSIS TECHNIQUES FOR EXAMINING FACTORS INFLUENCING STUDENT'S ENROLLMENT DECISION

Empirical  
studies

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## Keywords

Data analysis techniques  
Student's enrolment decision  
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## Abstract

*This research was conducted to explore the data analysis techniques applied for analysis of factors which have significant impact on the student's attitude behind enrollment decision. Data on which such techniques are applied are collected from first year students or last year high school pupils via survey. The results have shown that the most used data analysis techniques are: descriptive statistics, comparing means techniques, correlation, regression, ANOVA, factor analysis, Cronbach alpha. Findings of this study are likely to warn and help higher education institutions to increase institutional knowledge about student's enrollment decision by results obtained from the application of these techniques, and can be relied to provide a solid base for action (policy and practice development).*

## Introduction

This paper gives an overview of data analysis techniques, particularly on how are they used in various research applied for analysis of factors which have significant impact on the student's attitude behind enrollment decision.

## A map of student surveys

First year student surveys are administrated for more than 40 years (CIRP Freshman Survey, since 1966, more then 400 institutions) and serve as a resource for research on entering first year students covering a broad array of issues: demographic characteristics, high school experiences, reasons for attending HEI, student's attitudes, perspectives/plans /aspirations /expectations, experiences, beliefs, finances, etc. Figure 1 shows the usefulness of applying these surveys.

Most surveys examine, in addition to general data (age, gender, environment, high school, specialization), minimum 20 items using: Lickert scales (3,5,7 steps), hierarchy questions (1-10, 1-5), open questions. Most of this items aim to identify influencing factors and sources of information which prospective students take into account in higher education enrollment decision process. Also, there may be items used to evaluate student's satisfaction, expectations on university studies.

## Data analysis techniques

Table 1 presents an overview of methods for data analysis used in literature, methods that include combinations of descriptive statistics to determine the importance of various factors and usefulness of information sources, and inferential statistics for statistical hypothesis testing.

Frequency or/and means of comparing is used in order to identify the relative importance of choice factors and usefulness of information sources.

To check the difference regarding the importance of choice factors in case of students from different academic institutions, between different groups of students, can be used: means of comparing items, t test, ANOVA (in case of normality of the data)/MANOVA (in case of differences between groups collectively), Kruskal-Wallis (in case of non-normality of the data).

Pearson chi-square tests ( $\chi^2$ ) were used to identify if there was any association between different groups of student. This test measures the difference between the actual cell scores and the expected one in a crosstabs table.

The Cronbach alpha reliability coefficient is generally used in the choice factors scale, indicating that the scale has (has not) acceptable internal consistency reliability.

Factor analysis is conducted on measurable variables (ordinal or continuous but also on categorical or dichotomies) - items that represented

influencers on student decision – in order to reduce them to fewer latent variables / groups of variables / factors (not directly measured but represent variables). This technique requires normality within the data, a linear relationship between variables – in order to compute correlation. The coefficient of correlation is used to test the relationship between decision factors and inter item correlation to test the multi / co linearity between variables.

Regression analysis is used to analyze the relationship between items/ factors determining if the independent variable can explain the variance of the dependent one.

## Discussion / conclusion

Exploratory factor analysis conducted by Wilkins, S. on 52 items indicates six factors(accounted 60% of total variance): financial issues, entertainment and atmosphere, institution quality and reputation, career and work issues, country reputation and foreign experiences. Cronbach's alpha coefficient was then computed for each factor in order to test internal consistency.

Multiple regression analysis was used by Hans Vossensteyn to test the hypotheses that the student socio-economic background influences the price perception.

This study wants to underline that there isn't a single data analysis technique that is going in the mind of researchers when examining the factors that influence the students when making the decision choice, there are multiple methods that can be used.

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[http://www.msmu.edu/uploadedFiles/Content/About\\_MSMU/Administrative\\_Offices/2010-freshman-survey-report.pdf](http://www.msmu.edu/uploadedFiles/Content/About_MSMU/Administrative_Offices/2010-freshman-survey-report.pdf)
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**Appendices**

Figure 1. Usefulness of surveys

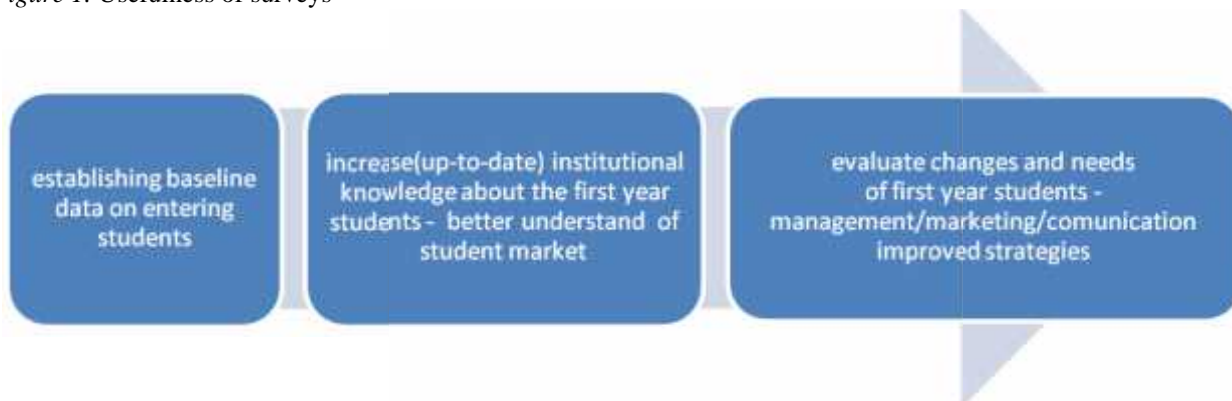


Table No.1  
 Data analysis techniques

Country	Author / Year	Desc. Stat.	Mean comp.	<sup>2</sup>	Regression	Correlation	ANOVA / MANOVA	Factor analysis	Cronbach alpha
USA 2004	Gray, M., Daugherty, M.	*							
2005	Oregon State	*	*						
2010	Case Western Reserve	*							
2013	Mout Saint Mary's	*	*						
UK 2013	Wilkins, S., <i>et al.</i>	*	*				*	*	
Netherlands 2005	Vossensteyn H.	*	*	*	*	*	*		
Denmark 2010	Rashkov, A.	*	*	*	*	*			
South Africa 2009	Wiese <i>et al.</i>	*	*				*		*
Malaezia 2013	Ming J.								
Pakistan 2012	Waseem N., <i>et al</i>	*	*		*	*	*		
Romania 2013	Balan, C., <i>et al.</i>	*							
2014	Anghel, L., Orindaru, A.	*	*						