
The Eurasia Proceedings of Educational & Social Sciences (EPESS), 2015

Volume 3, Pages 107-117

ICRES 2015: International Conference on Research in Education and Science

DETERMINING THE HETEROGENEITY OF STAKEHOLDERS PREFERENCES TOWARDS DESIRABLE KEY COMPETENCES OF JOB APPLICANTS: A CONJOINT ANALYSES APPROACH

Milena POPOVIĆ

University of Belgrade, Faculty of Organizational Sciences, Belgrade, Serbia

Marija KUZMANOVIĆ

University of Belgrade, Faculty of Organizational Sciences, Belgrade, Serbia

Gordana SAVIĆ

University of Belgrade, Faculty of Organizational Sciences, Belgrade, Serbia

ABSTRACT: The competition in the labor market is severe, especially in times of economic crisis when a lot of candidates seeking for appropriate job position. The main question for applicants is how to obtain the position that suits them, or which abilities and skills they need to possess in order to best respond to the specific needs and requirements of HR managers. On the other hand, HR managers are looking for a good staff that will be loyal to the company. In this chain of "needs", teachers play a crucial role by listening to market demands and involving them in curricula developments. So the question is: what are the key competencies of candidates which all stakeholders (HR managers, teachers or students) consider as important. We propose conjoint analysis as an appropriate tool to determine the preferences of all stakeholders. Conjoint analysis is a multivariate technique that can be used to understand how an individual's preferences are developed. In particular, our approach accounts for different importance HR managers, teachers and students attach to various aspects of key competencies. The results show that most of HR managers consider the candidate's work experience as the most important. That means, the candidates should be highly specialized in the subject area or they should have the master degree. It is interesting that the students share the same opinions, while teachers believe that creativity and possess problem solving skills are more important. Understanding which competences of candidates are the most important for employers, allows teachers to make a right focus in designing a curricula, and also candidates to be focused on the development of specific skills and abilities.

Key words: key competences, job applicant, preferences, heterogeneity, conjoint analysis.

INTRODUCTION

Employees are the key to success of any company. Therefore, it is the personnel decisions that have most long lasting impact on work and business of companies. Those companies that are better equipped to select and retain quality employees will achieve competitive market advantage, thanks to that. Better quality should be reflected both in the manner of conducting of recruitment and selection, and in the end result that is reflected in the choice of quality employees, successful in their future work and loyal to the company.

Recruitment covers a series of technical procedures conducted with the aim of testing the working ability, personality, motivation and other competencies of a candidate for a certain job. Based on what is required of him/her, and what are the skills and abilities that would be desirable for each candidate, he/she will make an effort to meet the needs of his/her employer. On the other hands, with the job market becoming more competitive, it is imperative that teachers prepare students optimally to meet industry expectations. This begins with the interview process, where students seek to differentiate themselves from other candidates and recruiters gather information about applicants in order to make judgments about future work performance (Morgeston & Campion, 1997; Savage, 2009). Teachers help students in the job searching process by reviewing resumes, conducting mock interviews, and providing realistic guidance about industry expectations.

However, the question is whether and to what extent the perception of key competencies differs among HR managers, teachers and students. To what extent do recruiters weigh interview preparedness in evaluating candidates? Do other factors, such as GPA, work experience, or personality carry more weight? What differences exist between faculty and student opinions?

- This is an Open Access article distributed under the terms of the Creative Commons Attribution-Noncommercial 4.0 Unported License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

- Selection and peer-review under responsibility of the Organizing Committee of the conference

*Corresponding author: Milena POPOVIĆ - icemstoffice@gmail.com

Several studies suggest that there are indeed differences of opinion distinguishing students, faculty, and industry representatives as to which traits are most important or valued. For example, Hall and Berardino (2006) found that students view professional attire as being much less important than teachers members do (not a surprising result). In their comparison of accounting students, recruiters, and teachers, Baker and McGregor (2000) found that employers and teachers consider integrity paramount in terms of a job candidate's potential, yet students rate it as substantially less important. They also found that only faculty members believe that overall grade point average is important.

The aim of this study is manifold. Firstly, to determine which of the competencies of candidates who apply for a business manager job at graduation, are specially valued. Then, which competence the HR managers consider desirable, which are valued by teachers who "create" these candidates, and which are valued by students as potential job candidates. For this purpose, we used conjoint analysis.

Conjoint analysis is an experimental approach used for measuring customer preferences regarding the attributes of a product or service. Originally developed in the field of mathematical psychology, conjoint analysis has attracted considerable attention, especially in marketing research, as a method that portrays consumer decisions. However, few studies have used the conjoint analysis within the labor market. Using conjoint analysis Baker and McGregor (2000) determined the relative importance of seven criteria on hiring accountants and, at the same time, scrutinized whether these values differ among different groups of individuals. Biesma et al., 2007 applied conjoint analysis to estimate preferences of employers for key competencies during the transition from initial education to the labor market.

This paper is organized as follows. In Chapter 2, the problem of selection of candidates based on their skills and competences is presented. Chapter 3 describes Conjoint Analysis, a way of determining the significance of all criteria and selecting the most important ones. It also explains the empirical study, with the subject of selection of candidates for employment. A survey was conducted as a part of the study, analysis of the results was conducted, and the segmentation of the respondents on the basis of preferences and segmentation of pre-defined segments is given. In the last section, concluding remarks are given.

KEY COMPETENCES OF JOB CANDIDATES

In the conditions of unemployment and high pressure to rationalize production, as a result of increased competition causing an increase in labor productivity, it is crucial to hire the best people for the company. In other words, technological and organizational changes lead to an increased need for staff equipped with higher and better skills (Borghans, Green, & Mayhew, 2001; Elias, & McKnight 2001; Green, Ashton & Felstead, 2001; Stasz, 2001) which is primarily achieved through education and training (Borghans et al., 2001).

For an organization to respond to the demands of the modern age, it is necessary to perform quality and efficient recruitment, selecting the right people for the job, and efficiently using human resources, motivating employees, eliminating the leaves, introducing fair remuneration and promotion systems, and making decisions based on current information. Expert recruitment and orientation of employees enables assigning the employees on the basis of their skills, attitudes and work motivation.

Although there is no direct and linear relationship between the recruitment of personnel and organizational efficiency and performance, it is reasonable to assume that improved personnel selection will result in better performance (Kurtz & Bartram, 2002). In addition to potential benefits directly related to a good recruitment, there are lower costs of poor selection of candidates, as well as the risk of rejection of good candidates who can be hired by competitors (Robertson, Bartram & Callinan, 2002).

The question is what are the capabilities and skills and competencies, which a candidate should possess so he could be chosen. In addition, there is other potential problem also, that candidate's wishes and potentials sometimes are not aligned with demands of those who do the hiring.

In response to this question, numerous studies have been conducted. In terms of qualities and skills a candidate should possess, many authors distinguish between two types of competencies: field-specific and generic competencies. Generic competencies can be defined as the combination of learning, analytical and problem-solving abilities, applicable in various domains (Heijke, Meng & Ris, 2003). Several studies investigated the role of key competencies for the labor market (Borghans et al., 2001; Stasz, 2001; Heijke et al., 2003).

According to Ruetzler et al. (2010) there are seven criteria to evaluate a candidate: academic grade point average (GPA), interpersonal skills, interview preparedness, the ability to work with others, alignment with organizational culture, and work experience.

GPA. Since a student's primary "job" is to study academic materials, a student's GPA is often seen as the equivalent of an employer's performance evaluation. The use of the GPA as a selection variable is controversial; however, when a job candidate has limited work experience, the GPA provides an apparently objective criterion to which recruiters can turn in screening applicants and establishing a candidate's potential (Kuncel, Hezlett, & Ones, 2004). Although some studies suggest that overall GPA is not considered to be an important selection criterion (Baker & McGregor, 2000; Guo, Adams, & Price, 2009; McKinney, Carlson, Mecham, D'Angelo, & Connerley, 2003), there is support elsewhere for the proposition that GPA is used as a selection tool and may well be important when identifying a set of candidates to be interviewed (Roth & Bobko, 2000).

Interpersonal Skills, which include listening as well as oral and written communication abilities, are widely identified across the literature as important competencies. Interpersonal skills—sometimes referred to generically as communication skills—have been ranked among the five most important skills for entry-level managers by hospitality industry leaders (Fjelstul, 2007; Kay & Russette, 2000; Mayo & Thomas-Haysbert, 2005; Tesone & Ricci, 2005).

Interview Preparedness. Little research exists that directly examines the preparedness of a candidate for an interview or the impact of such preparation on job offers. A recent study addresses the effects of preparation for interviews that involves faculty members conducting mock interviews so that candidates can “rehearse” performing in the interview setting, concluding that mock interviews lead to increased confidence and enhanced interviewing skills (Hansen, Oliphant, Oliphant, & Hansen, 2009).

Ability to Work with Others. Having the ability to work with others involves being able to work as a team member as opposed to behaving as an individual who prefers to work alone or does not like to help others. Being team-oriented is a highly valued trait in the most industries. Tesone and Ricci (2005) found that the ability to work as part of a team was the number one skill identified by industry practitioners. In Fjelstul’s (2007) research, teamwork ranked as the second most important skill. Baker and Harris (2000) discovered that students who specialize in technology or information systems felt that the ability to work with others was one of the two most important traits in the eyes of recruiters.

Alignment with an organization’s culture and mission occurs when a candidate’s values and beliefs are consistent with those espoused in the organization’s internal literature, such as its mission statement. An employee’s “emotional commitment” and sense of identity with a company lead to greater employee and firm performance (Hemp, 2002). A meta-analysis conducted by Kristof-Brown, Zimmerman, and Johnson (2005) found that person-organization fit, the compatibility between a person and an organization, correlated significantly with the intent to hire and with actual job offers.

CONJOINT ANALYSIS: MODELING OF CONSUMER PREFERENCES

Conjoint analysis is a multivariate technique used specifically to understand how respondents develop references for products or services. It is based on the simple premise that consumers evaluate the value of a product or service by combining the separate amounts of value provided by each attribute (Hair et al., 1998).

A conjoint analysis study includes the following key steps:

Attribute list formulation.

The first phase of the conjoint analysis dealt with the analysis of attributes. Having chosen the attributes, the levels must be assigned to them. Levels should be realistic, plausible and should span the range over which respondents are expected to have preferences for the good being valued.

Efficient experimental design construction.

Once attributes and their respective levels have been selected, the product profiles should be created. The profile represented various combinations of the attribute levels. A full replication of seven attributes, each having three levels would have necessitated the creation of 2187 profiles (3x3x3x3x3x3x3). We cannot consider this number of profiles as being a reasonable task that an interviewee can complete. That’s why analysts often use fractional factorial design. Thus, fractional factorial designs, which assume no interactions between attributes and ensure the absence of multicollinearity, are used to reduce the number of profiles. In this reduction process, the goodness of the reduced designs is especially important (Kuzmanović, 2008).

Data collection.

Respondents are asked to express the trade-offs they are willing to make among product features by rating, sorting or choosing among hypothetical product concepts.

Utility calculation.

The simplest and most commonly used conjoint model assumes that the overall utility derived from any combination of attributes of a given good or service is obtained from the sum of the separate part-worths of the attributes (Kuzmanović et al., 2013). Thus, respondent i ’s predicted conjoint utility for profile j can be specified as follows:

$$U_{ij} = \sum_{k=1}^K \sum_{l=1}^{L_k} \beta_{ikl} x_{jkl} + \varepsilon_{ij}, \quad i = 1, \dots, I, \quad j = 1, \dots, J \quad (1)$$

where: I is the number of respondents; J is the number of profiles; K is the number of attributes; L_k is the number of levels of attribute k ; β_{ikl} is respondent i 's utility with respect to level l of attribute k ; x_{ijl} is such a (0,1) variable that it equals 1 if profile j has attribute k at level l , otherwise it equals 0; ε_{ij} is a stochastic error term.

The parameters β_{ikl} (part-worth utilities), can be used to establish a number of things. Firstly, the value of these coefficients indicates the amount of any effect that an attribute has on overall utility – the larger the coefficient, the greater the impact. Secondly, part-worths can be used to calculate the relative importance of each of K attributes, which is known as an importance score or value. These values are calculated by taking the utility range for each attribute separately, and then dividing it by the sum of the utility ranges for all of the factors:

$$FI_{ik} = \frac{\max_l \{\beta_{ikl}\} - \min_l \{\beta_{ikl}\}}{\sum_{k=1}^K (\max_l \{\beta_{ikl}\} - \min_l \{\beta_{ikl}\})}, \quad i = 1, \dots, I, k = 1, \dots, K, l = 1, \dots, L_k \quad (2)$$

The calculations are done separately for each respondent, and the results are then averaged to include all of the respondents.

Market segmentation.

Given that part worth utilities are calculated at the individual level, if preference heterogeneity is present, the researcher can find it. Respondents who place similar value to the various attribute levels will be grouped together into a segment.

Market simulation.

The utility values (U_{ij}) are used to predict how buyers will choose among competing products and how their choices are expected to change as product features and/or price are varied. Market simulations make it possible to find out all hidden effects that could have influence on products' market share. The simplest simulation specifies several competitive products in terms of their attribute levels, and then predicts which of those products each respondent would prefer. Such results may be used to estimate market share for hypothetical new or modified products, as well as their potential revenue and likely profitability.

EMPIRICAL STUDY

The main objective of this study was to identify the key competencies of job candidates, but also to determine a most preferred candidate. On the other hand, the objective is also to determine whether there is difference in the preferences of HR managers, teachers and students, as well as to perform segmentation based on preferences of participants in the study.

The conjoint survey was fielded in Belgrade, Serbia, in May 2011. In total, 118 individuals completed the questionnaire. After the elimination of incomplete surveys and ineligible participants, 111 eligible surveys were collected.

Study design

The first stage in the design of a conjoint analysis study is the selection of the attributes. We have defined ten key attributes based on literature review (Biesma et al., 2007; Ruetzler et al., 2010), and opinions and views of HR managers (within conducted pilot study). Having chosen the attributes, levels must be assign to them. The attributes and levels assigned to them are shown in Table 1.

Table 1. Attributes And Their Levels

Attribute	Level 1	Level 2	Level 3
Education	Bachelor	Master, general	Master, specialized
Work Experience	None	Internship	Employment
Foreign languages	One language	More languages	/
Computer skills	Basic	Advanced	/
Communication skills	Fair	Good	/
Problem solving skills and creativity	Fair	Good	/
Team working skills	Team worker	Individualist	/
Organizational skills	Average	Good	/
Proactivity	Highly	Insufficient	/
Interview preparedness	Insufficient	Full	/

The first attribute "Education" refers to the fact that candidate entering the selection process must have at least the Bachelor degree. In addition to Bachelor degree, the candidate may have a "general" master degree, or may

be specialized in a specific field. The attribute "work experience" is chosen because employers often emphasize its importance during the pilot research. In this study we distinguish work experience in terms of employment or internship. The internship most often refers to the three-month period of work during studies. The assumption is that all candidates are fluent in at least one foreign language (usually English language). Therefore, we define two levels for this attribute. The first level corresponds to excellent reading, writing and good conversation of one foreign language, while the second level assumes the same for more than one languages. Candidate's preparedness for the interview indicates his willingness and desire for a given position. This attribute refers not only to how the candidate is informed about the company but also his attitude, manners and outfit. Therefore, we define two levels of this attribute: full and insufficient prepared. All other attributes are described using two levels, where one of them refers to the fair level while the other refers to a higher level of a certain skill.

Although many previous studies stressed the GPA as an important factor, the results of the pilot research we conducted indicate that this attribute is of negligible importance for the position of business manager. Therefore, we excluded it from this study.

The attributes and levels in Table 1 gave rise to 2304 possible profiles ($3^2 \times 2^8$). In this study a component of the statistical package SPSS 16.0 (Orthoplan) was used to reduce this number of profiles to a manageable level. Thus the 2304 possible profiles were reduced to 16. Two control profiles (holdout tasks) were added to the given design. Control profiles were not used by the conjoint procedure for estimating the utilities. Instead, the conjoint procedure calculates correlations between the observed and predicted rank orders for these profiles, as a check of the validity of the utilities. The 18 hypothetical profiles considered are shown in Table 2.

In order to elicit the preferences for the various profiles a rating approach was utilized. The respondents expressed their preferences for a particular candidate on a scale of 1 to 9, where 1 stands for absolutely undesirable, and 9 stands for absolutely desirable. The survey was conducted using the traditional "paper and pencil" method.

Table 2. Generated List Of Profiles

ID	Educa tion	Work Experie nce	Foreig n langua ges	Comp uter skills	Com mun. Skills	Problem solving and creativ ity	Team working skills	Orga niz. Skills	Proacti vity	Intervie w prepare .
1	Master G	None	One	Advanc ed	Good	Fair	teamwor k	Good	insuffici ent	insuffici ent
2	Bachel or	None	More	Basic	Fair	Fair	individua list	Good	insuffici ent	full
3	Bachel or	İnternsh ip	More	Advanc ed	Good	Good	individua list	Avera ge	insuffici ent	insuffici ent
4	Bachel or	employ ment	One	Advanc ed	Good	Good	teamwor k	Good	Highly	full
5	Master S	İnternsh ip	More	Basic	Good	Fair	teamwor k	Good	Highly	insuffici ent
6	Bachel or	employ ment	More	Advanc ed	Fair	Fair	teamwor k	Avera ge	insuffici ent	insuffici ent
7	Master G	employ ment	More	Basic	Fair	Good	individua list	Good	Highly	insuffici ent
8	Bachel or	None	More	Basic	Good	Good	teamwor k	Good	insuffici ent	full
9	Master S	employ ment	One	Basic	Good	Fair	individua list	Avera ge	insuffici ent	full
10	Bachel or	None	One	Basic	Good	Good	individua list	Avera ge	Highly	insuffici ent
11	Master G	İnternsh ip	One	Basic	Fair	Good	teamwor k	Avera ge	insuffici ent	full
12	Bachel or	None	One	Basic	Fair	Fair	teamwor k	Avera ge	Highly	insuffici ent
13	Master G	None	More	Advanc ed	Good	Fair	individua list	Avera ge	Highly	full
14	Master S	None	One	Advanc ed	Fair	Good	individua list	Good	insuffici ent	insuffici ent
15	Master S	None	More	Advanc ed	Fair	Good	teamwor k	Avera ge	Highly	full
16	Bachel or	İnternsh ip	One	Advanc ed	Fair	Fair	individua list	Good	Highly	full

17*	Bachelor	Internship	One	Advanced	Fair	Fair	teamwork	Average	insufficient	full
18*	Master S	Internship	One	Advanced	Fair	Good	teamwork	Good	insufficient	full

* holdout profiles

ANALYSIS and RESULTS

In the total sample, there were 31 (27.9%) HR managers, 16 teachers (14.4%), and 64 students (57.7%). Table 3 provides detailed demographic data for segments of HR managers, teachers and students, respectively.

Table 3. Demographic Characteristics Of The Segment Of HR Managers, Teachers And Students

Characteristics	Description	(%)		
		HR managers	Teachers	Students
Gender	Male	45.2	56.3	54.7
	Female	54.8	43.7	45.3
Working experience	Less than five	54.8	43.7	
	From six to ten	32.3	25.0	
	More than ten	12.9	31.3	
The year of study	III			42.2
	IV			40.6
	Senior undergraduate			10.9
	Master			6.3

Results at the aggregate level (Averaged preferences)

Results from the analysis are shown in Table 4 and Figure 1. Table 4 presents the (averaged) part-worth of each level of the attributes, while Figure 1 is the graph description of the attributes importance.

Table 4. Averaged Part-Worth Utilities

Attribute	Attribute level	Part-worth utilities	Std. Error
Education	Bachelor	-0.272	0.121
	Master, general	-0.108	0.141
	Master, specialized	0.380	0.141
Work Experience	None	-0.452	0.121
	Internship	0.202	0.141
	Work	0.250	0.141
Foreign languages	One language	-0.062	0.090
	More languages	0.062	0.090
Computer skills	Basic	-0.257	0.090
	Advanced	0.257	0.090
Communication skills	Fair	-0.145	0.090
	Good	0.145	0.090
Problem solving skills and creativity	Fair	-0.261	0.090
	Good	0.261	0.090
Team working skills	Team work orientation	0.185	0.090
	Individual work orientation	-0.185	0.090
Organizational skills	Average	-0.051	0.090
	Good	0.051	0.090
Proactivity	Yes	0.417	0.090
	Insufficient	-0.417	0.090
Interview preparedness	Insufficient	-0.369	0.090
	Yes	0.369	0.090
Constant	6.010	0.095	
Correlations between observed and estimated preferences			
Pearson's R	0.983	Significance = 0.000	
Kendall's tau	0.946	Significance = 0.000	
Kendall's tau for 2 Holdouts	1.000		

As Table 4 shows, attributes are characterized by high levels of sensitivity. A high level of attribute sensitivity indicates that result of changes in the level of a given attribute to the overall usefulness of a candidate is great. The specific situation applies to attribute "Education", where it can be concluded there is high sensitivity of

preferences between the level of "Specialized Master" and "Master General", while the sensitivity between levels of "Master General" and "Bachelor" is significantly lower.

The constant whose value is 6.010 (Table 4) represents a stochastic error obtained through regression analysis, and it is used to calculate the total utility of each profile. A high value of the Pearson coefficient, 0.983, confirms the high level of significance of the obtained results. Similarly, a high value of the Kendall correlation coefficient, 0.946, indicates a high level of correlation between the observed and estimated preferences. The Kendall coefficient for two holdout profiles has a value of 1.000, which is an additional indicator of the high quality of the obtained data.

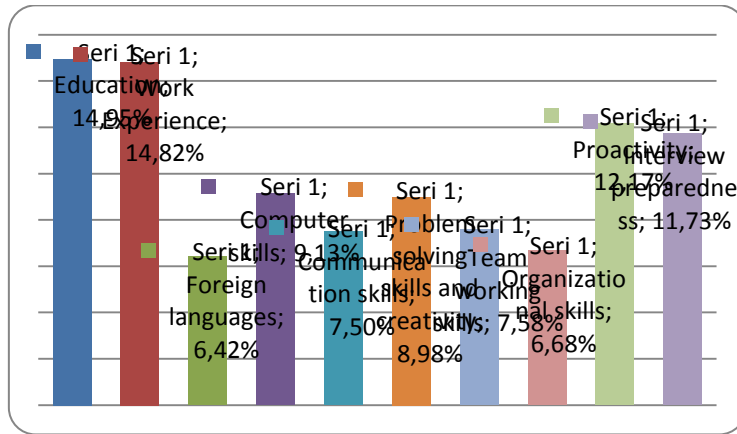


Figure 1. Averaged Attributes Importance Value

As Figure 1 shows, the most important attribute at the sample level is "Education", which average importance at the aggregate level is 14.95%. Somewhat lower importance at the aggregate level is attributed to "Work Experience" (14.82%). Attributes with a relatively greater importance are also "Proactivity" (12.17%) and "Interview preparedness" (11.73%). The least important attributes at the aggregate level are "Organizational skills" and "Foreign Language", whose importance have values of 6.68% and 6.42%, respectively (Figure 1). Characteristics that describe the "best" candidate are: Specialized Master degree in education, has work experience, speaks two or more foreign languages, has advanced computer skills, has strong communication skills, he/she is very creative and skilled in problem solving, oriented to teamwork, possess good organizational skills, he/she is proactive and well prepared for the interview.

Preferences for pre-defined segments

In order to determine whether there are differences in preferences of certain groups of subjects, analysis was performed for each segments predefined. A priori segmentation was based on three groups of subjects who participated in the study: HR managers, teachers and students. In Figure 2 are given relative importance of attributes in total, for each of the previously defined segments.

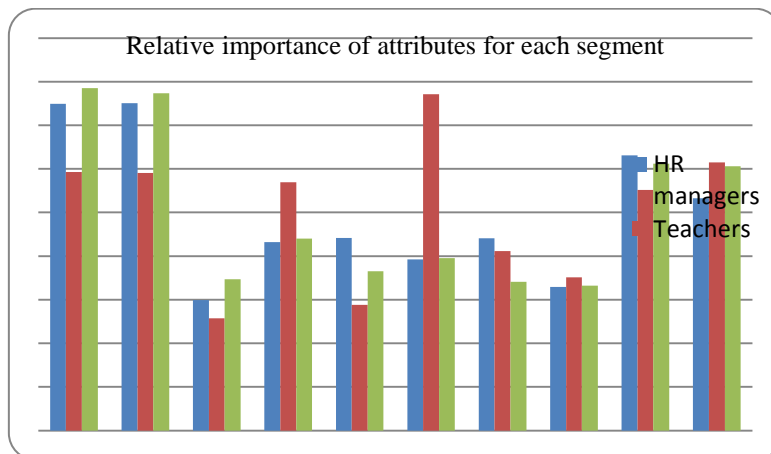


Figure 2. Relative Importance Of Attributes For Each Predefined Segments

In Table 5 are given part-worth utilities of attributes' levels for each of the previously defined segments.

Tabela 5. Summary Results For The Preferences Of HR Managers, Teachers And Students

Attribute	Attributes' levels	HR managers	Teachers	Students
		Part-worth utilities		
Education	Bachelor	-0.164	-0.193	-0.344
	Master, general	-0.188	-0.076	-0.078
	Master, specialized	0.352	0.268	0.422
Work Experience	None	-0.427	-0.370	-0.484
	Internship	0.109	0.115	0.270
	Work	0.319	0.255	0.215
Foreign languages	One language	-0.087	-0.074	-0.047
	More languages	0.087	0.074	0.047
Computer skills	Basic	-0.236	-0.402	-0.230
	Advanced	0.236	0.402	0.230
Communication skills	Fair	-0.236	-0.191	-0.090
	Good	0.236	0.191	0.090
Problem solving skills and creativity	Fair	-0.240	-0.504	-0.211
	Good	0.240	0.504	0.211
Team working skills	Team work orientation	0.236	0.293	0.133
	Individual work orientation	-0.236	-0.293	-0.133
Organizational skills	Average	-0.067	-0.207	-0.004
	Good	0.067	0.207	0.004
Proactivity	Yes	0.409	0.410	0.422
	Insufficient	-0.409	-0.410	-0.422
Interview preparedness	Insufficient	-0.296	-0.426	-0.391
	Yes	0.296	0.426	0.391
		Constant = 5.771	Constant = 5.855	Constant = 6.164
Significance = 0.000		Pearson's R = 0.983	Pearson's R = 0.983	Pearson's R = 0.983
Significance = 0.000		Kendall's tau = 0.899	Kendall's tau = 0.895	Kendall's tau = 0.946

As in the previous case, high values of statistical indicators (Pearson's and Kendall's coefficient) indicate the high importance and reliability of results (Table 5). Kendall coefficient for holdout profiles has a value of 1.000.

Segment made by HR managers. Research has shown that HR managers consider the work experience (work) and education (Master specialized only) as most important attributes, while foreign language and organizational skills are of least importance. They stressed they more often pick proactive candidates due to lack of time for the training of hired workers. Because of the shorter training, selected candidates must be skilled, resourceful and capable to quickly incorporate into the new work environment. It is interesting that teachers and students attribute more importance to good preparation for the interview than those who perform such an interviews.

Segment made by teachers. This segment is very different from the segment made of HR managers and segment made of students. Teachers highly favor problem-solving skills and creativity of the applicants, where knowledge of several foreign languages is least important to them also. After completing the questionnaire some of the teachers have declared that none of provided descriptions of candidates was ideal. They prefer candidates who have advanced computer skills, as opposed to decision-makers, and students, who believe that if a candidate has a basic knowledge of computer technology, he/she can easily improve him/herself, especially if it is required at a certain job position. Regardless of their job, or the transfer of knowledge in the discipline they specialized, teachers also emphasize that practical work can allow developing new skills and improving knowledge.

The segment made by students. It may be noted that importance of attributes and preferences of the respondents according to their levels in this segment have similar values as a segment that consists of decision makers. Students are well aware of decision-makers preferences, so they most often adjust to these. For the attribute of great importance to them - work experience, internship and work are equally important. For them, it is a single word - "experience", and they do not see a major difference between these levels. Some students have negative attitude towards teamwork, because of bad experiences when working in a team were they were being restrained and suppressed. They prefer to work independently and value hierarchy in the organization, which is interesting. For them, too, knowing several languages reflects the general culture: "A man is worth as much as many different languages he speaks."

Preference-based segmentation

Using the preferences of each individual subjects obtained by research, a post hoc segmentation was conducted, where preferences were used as the criterion of segmentation. K-means cluster analysis is used, from the SPSS 16.0. Three segments were defined, and relative importance of attributes for each of them are given in Figure 3.

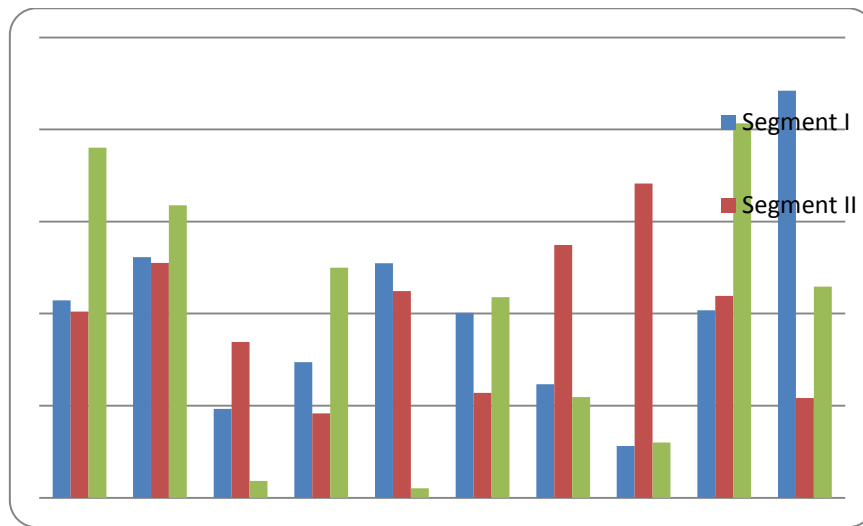


Figure 3. Relative Importance Of Attributes For Each Segment

The first segment covers almost a quarter (22.5%) of total respondents, and consists of those respondents who consider that most important thing for candidate is to be well prepared for the interview. According to them, this last step before employment can often cancel all the previous steps performed well, by the fault of a candidate him/her self. Respondents pointed out work experience of candidates (much preferring the work itself), and good communication skills. The cause of this is that respondents in this segment are mainly employed in service and retail sectors, while students belonging to this segment emphasized they would like to work in some of these sectors. Therefore, candidates who wish to be employed in the service or retail sector must make a good impression at the interview first.

The second segment is the smallest one (15:32%), and consists of respondents who value coordination and management of both resources and people as most important skills of candidates. In addition to organizational skills, highly valued are following skills: orientation towards teamwork and communication skills. Respondents in this segment, as in the first, pointed out work experience of candidates as well, however, unlike the first segment, much preferring the internship. Preferences of respondents in this segment may result to the fact that all students who belong to this segment are from the Faculty of Organizational Sciences, while a majority of employees have declared that, based on past experience, prefer candidates who have graduated at the Faculty of Organizational Sciences. It is also interesting that respondents in this segment have more than 10 years of experience and they are mainly young people, of positive spirit and energy.

The largest segment, with as many as 62.16% of respondents, is the third segment. For the respondents belonging to this segment it is essential that candidates applying for the job be proactive and show readiness to independently take the initiative to perform a task. Negligible importance is shown by the attributes of foreign language and communication skills. It is interesting also that they prefer moderate or average communication and organizational skills, rather than pronounced. This group of respondents consists of students at third and fourth year of the study, who generally have a desire to work in the banking sector, whereas undergraduates at final year prefer the service sector. Specialized master degree is also very important, according to respondents of this group. They consider that overall average during studies is the most important thing for the employment, especially the higher degree and specialization.

CONCLUSIONS

The job candidates often ask themselves a questions like: "How would I able to get a proper job for myself?" "How do I find the right job for me?" or "What are the skills and competencies that I need to gain in order to fulfill specific requirements and needs of HR managers?". The similar questions are put in front of an almost all companies which are in searching for quality stuff. As a response to those questions, this paper introduces the conjoint analysis as an appropriate tool to determine HR managers, teachers or students' preferences towards the key competencies. Based on the results, the study suggests a strategy for HR managers as well as for teachers and students.

The most important attribute is "Education" at the sample level. It was expected since the preliminary ranking list of job candidates is usually formed based on this attribute. Based on the results of our study, "Education" doesn't have absolute predominant and it is followed by "Work experience". The companies often search candidates with work experience which assumes shorter time of training. Work experience is considered as attribute that gives clear picture of what a candidates want or do not want to do. In addition, the internship is considered as an excellent way to make a connection between acquired knowledge on studies and practical knowledge.

Post hoc segmentation, based on the stakeholders' preferences, showed substantial differences between the segments. Three different segments were identified, and we concluded that HR managers have the same preferences and opinions as students. Common characteristic for all three segments of stakeholders is that they mostly prefer work experience (internship and work). The reasons for this are numerous. Not only did the working experience contribute to expanding and gaining a better starting position of candidates, compared to others, but it means a great deal for candidates themselves, in choosing the job.

Since the goal of the research was to show the applicability of conjoint analysis to determine the stakeholders' preferences toward key competencies. The findings obtained and presented above confirm that our task is successfully accomplished. Using conjoint analysis may be able to reduce the time and costs of recruitment. On the other hand, job candidates should focus on specific skills, abilities and knowledge needed to do the job.

REFERENCES

- Baker, W.M. & McGregor, C. C. (2000). Empirically assessing the importance of characteristics of accounting students. *Journal of Education for Business*, 75(3), 149-157.
- Biesma, R.G., Pavlova, M., Van Merode, G.G., & Groot, W. (2007). Using conjoint analysis to estimate employers preferences for key competencies of master level Dutch graduates entering the public health field. *Economics of Education Review*, 26, 375-386.
- Borghans, L., Green, F., & Mayhew, K. (2001). Skills Measurement and Economic Analysis: An Introduction. *Oxford Economic Papers*, 53(3), 375-384.
- Elias, P., & McKnight, A. (2001). Skill measurement in official statistics: recent developments in the UK and the rest of Europe. *Oxford Economic Papers*, 3, 508-540.
- Fjelstul, J. (2007). Competencies and opportunities for entry-level golf and club management careers: perceptions from the industry. *Journal of Hospitality & Tourism Education*, 19(3), 32-38.
- Green, F., Ashton, D., & Felstead, A. (2001). Estimating the determinants of supply of computing, problem-solving, communication, social, and teamworking skills. *Oxford Economic Papers*, 3, 406-433.
- Guo, L., Adams, C.R., & Price, M.A. (2009). Factors influencing hospitality recruiters hiring decisions in college recruiting. Paper presented at I-CHRIE conference, San Francisco.
- Hair, J.F., Anderson, R.E., Tatham, R.L. & Black, W.C. (1998). *Multivariate Data Analysis*, 5th edition, Upper saddle River, New Jersey, Prentice Hall International.
- Hall, A. & Berdino, L. (2006). Teaching professional behaviors: Differences in the perceptions of faculty, students, and employers. *Journal of Business Ethics*, 63, 407-415.
- Hansen, K., Oliphant, G.C., Oliphant, B.J., & Hansen, R.S. (2009). Best practices in preparing for mock interviews. *Business Communication Quarterly*, 72(3), 318-327.
- Heijke, H., Meng, C., & Ris, C. (2003). Fitting to the Job: The role of generic and vocational competencies in adjustment and performance. *Labour Economics*, 10(2), 215-229.
- Hemp, P. 2002. My week as a room service waiter at the Ritz (HBR at Large reprint RO206B). *Harvard Business Review*, 4-11.
- Kay, C. & Russette, J. (2000). Hospitality-management competencies. *Cornell Hotel and Restaurant Administration Quarterly*, 41(2), 52-63.
- Kristof-Brown, A.L., Zimmerman, R.D., & Johnson, E.C. (2005). Consequences of individuals' fit at work: A meta-analysis of person-job, person-organization, person-group, and person-supervisor fit. *Personnel Psychology*, 58, 281-342.
- Kuncel, R., Hezlett, A., & Ones, S. (2004). Academic performance, career potential, creativity, and job performance: Can one construct predict them all? *Journal of Personality and Social Psychology*, 86(1), 148-161.
- Kurtz, R., & Bartram, D. (2002). Competency and individual performance: Modelling the world of work. In: Robertson et al. (eds.), *Organizational effectiveness. The role of psychology*, Routledge, Chichester England, 227-255.
- Kuzmanovic, M., Savic, G., Andric-Gusavac, B., Makajic-Nikolic, D. & Panic B. (2013). A Conjoint-based approach to student evaluations of teaching performance, *Expert Systems With Applications*, 40(10), 4083-4089.
- Kuzmanović, M., (2008). The Nonstandard Algorithm for Constructing Efficient Conjoint Experimental Designs, *YUJOR*, 18(1), 63-74.
- Mayo, C.R., & Thomas-Haysbert, C. (2005). Essential competencies needed by hospitality and tourism management graduates as determined by industry professionals and hospitality educators. *The Consortium Journal*, 9(2), 5-17.
- McKinney, A.P., Carlson, K.D., Mecham, R.L., D'Angelo, N.C., & Connerley, M.L. (2003). Recruiters' use of GPA in initial screening decisions: Higher GPA's don't always make the cut. *Personnel Psychology*, 56, 823-845.
- Morgenson, F.P., & Campion, M.A. (1997). Social and cognitive sources of potential inaccuracy in the job analysis. *Journal of Applied Psychology*, 82, 627-655.

- Orme, B., "Sample Size Issues for Conjoint Analysis (Chapter 7)", Getting Started with Conjoint Analysis: Strategies for Product Design and Pricing Research. Reprinted from Orme B. Madison, Wis.: Research Publishers LLC (2006).
- Robertson, I. T., Bartram, D., & Callinan, M. (2002). Personnel selection and assessment. In: P. Warr (Ed.), Psychology at work. London: Penguin Books, 5th edition, ch 5, 100–152.
- Roth, P.L., & Bobko, P. (2000). College grade point average as a personnel selection device: Ethnic group differences and potential adverse impact. *Journal of Applied Psychology*, 85(3), 399-406.
- Ruetzler, T., Taylor, J., Reynolds, D., & Baker, W. (2010). Assessing Professional Attributes using Conjoint Analysis. International CHRIE Conference-Refereed Track.
- Savage, M. (2009). Eight lessons from a mater recruiter. *U.S. Business Review*, 9(11), 16-17.
- Stasz, C. (2001). Assessing skills for work: Two perspectives. *Oxford Economic Papers*, 53(3), 385–405.
- Tesone, D., & Ricci, P. (2005). Job competency expectations for hospitality and tourism employees: Perceptions of educational preparation. *Journal of Human Resources in Hospitality & Tourism*, 4(2), 53-64.