

PREFERENCES OF JOB ATTRIBUTES AND ITS DETERMINANTS: A CONJOINT ANALYSIS

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Abstract

This study is aimed to estimate the relative importance of attributes in job choices and identify the key job characteristics that influence the job preferences of management undergraduates in a selected national university in Sri Lanka. A total of 100 undergraduates from third and fourth years who are following a Business Management degree in the university were selected in 2020 as the sample for the study. The manufacturing sector, banking sector, academic sector and auditing sector were taken as the major types of job choices and its frequency results show that 40% and 22 % of the students prefer to select the manufacturing and auditing sectors respectively whereas 19 % of them chose banking and academic sectors. The results of chi-square test suggest that personal factors and job attributes are significantly associated with the job choices. The conjoint analysis followed by part-worth utility was employed to investigate the relative importance of various attributes of job choices and its results have revealed that the type of contract, career path and salary have more importance than the other two attributes in terms of job choices. The findings of the study are important for academics in revising their curriculums towards job-oriented ness and suggest the managers for designing the jobs to attract and retain the best talented workers in their organizations in the future.

Keywords: Conjoint Analysis, Job Attributes, Job Choices, Part-Worth Utility, Relative Utilities

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1. Introduction

Economists have long recognized that expected earnings do not solely determine occupational choices. Although simple models based on earnings maximization abound and are useful in applications, it is clear that people have a diverse set of preferences for aspects of jobs other than expected earnings, such as dismissal risk (Wiswall & Zafar, 2018) . The main problem faced by the company providing the job opportunities is that their lack of understanding on how to attract the younger generation to their companies. Therefore, understanding young job seekers' job preferences will help companies understand the significant attributes (Demel et al., 2019). Earlier, when they select a job, they mainly focused on the salary. Therefore, if a firm wants to attract quality and best-fitted workers, they should be aware of younger generations' expectations. Hence, the job search literature establishes that if companies want to attract young graduates, they need to understand their expectations, job and organizational characteristics that influence them during their job searches (Montgomery & Ramus, 2011) .

In the present context, job seekers do not only focus on monetary attributes when they search for jobs, but also different job attributes such as salary, distance, the opportunity to grow, working hours, types of contracts, and job security. These attributes vary from person to person as well. Therefore, to attract suitable employees, companies might have to offer non-monetary job attributes that would fit the position and the company, especially when companies are interested in medium to long-term employees (Demel et al., 2019).

Each year, many new graduates enter the job market in different fields with different specializations. The management profession is important in globalization, especially in developing countries like Sri Lanka (Thayaparan & Gunathilaka, 2018) . Nowadays, the Sri Lankan job market faces a problem when attracting and retaining new graduates for their companies. This is due to the fact that job providers are not fully focused on the expectations of young graduated job seekers. Thus, there is a mismatch between the job expected by the graduates and the job provided by the companies. Ultimately, the mismatch causes the graduates to be unemployed or underemployed and there are significant issues when companies recruit appropriate workers for their workplace. Therefore, it is vital to know the job seekers' job preferences to design and attract them to the particular job roles. Thus, this study may help the companies to design jobs that attract quality employees to sustain themselves in the competitive world.

Objectives of the study

- To estimate the relative importance of the job attributes in job choices.
- To identify the key job characteristics which influence the job preferences of management undergraduates in Sri Lankan universities.

2. Literature Review

Scholars have found different job attributes which impact job selection preferences. Shanley & Fombrunn (1990) and Belt & Paolillo (1982) stated that corporate reputation is significant in job choice related decisions. Aligned with the same idea, Montgomery & Ramus (2011) identified organizational reputation as a job attribute.

Kapoor & Yadav (2020) revealed that organization reputation, utility value for low level is higher (.671) than high level (.336), by indicating students less concentration on organizational reputation. Further, Gatewood et al., (1993) also indicated corporate reputation as a significant component of job choice decisions. Guillot-Soulez & Soulez (2014) ranked reputation in eighth place out of ten job attributes, which contradicts the findings with other scholars.

Scholars have found that the opportunity for growth and the type of contract as important job attributes which lead to learning and moving up in the organizational ladder. Iacovou et al., (2004); Jurgensen (1978); Sutherland (2012); Turban et al., (1993) and Corrigan & Konrad (2006) found advancement or opportunity for growth at the top of preference among different job attributes. Based on the full model conjoint analysis findings, Guillot-Soulez & Soulez (2014) ranked the average importance of career path on the fourth position among ten job attributes. Furthermore, the results highlighted that the type of contract is also ranked the highest with a preference for a permanent position, thus guaranteeing job security.

Scholars have found that salary and benefits can also be considered as important job attributes. Kapoor & Yadav (2020) indicates that the highest utility value for the level is more than 7 lakhs per annum (0.087) and the least utility value for the level is less than 3 lakhs per annum (.022) for the job attribute of the salary. Furthermore, the average importance score of 2.361 for the salary justified the less importance of salary as a job attribute. Karima et al., (2020), by using the full profile method of conjoint analysis, found that salary and benefits to be the most preferred job attributes (47.35%) compared to other job attributes such as the suitability of educational background to the workplace (23.77%), work fields (16.99%) and working hours (11.89%). The choice-based conjoint analysis done by Meyerding (2018) found income and future perspective to be the most important job characteristics for job choice among agricultural students. Yasmin et al., (2016) identified major job attributes for job choice decisions and measured the relative importance of each of the job attributes by using conjoint analysis. Results revealed the salary and the benefit to be the most important job attributes followed by person job match, job security, working hours, involvement in decision-making, growth opportunities, company reputation, and work environment respectively. Marketing students' job preferences were identified by Kun et al., (2020) by employing an adaptive based conjoint analysis and the findings revealed net income to be the most preferred job attribute followed by distance from home, payment method and employer type in determining the job preferences of the marketing students in the study. Further, Guillot-Soulez & Soulez (2014) ranked salary as the fifth out of the ten job attributes.

Meyerding (2018) studied job preferences of agricultural students in Germany by using choice-based conjoint analysis. The results of the conjoint analysis indicated that 'income' has the highest impact on job choice for agricultural students in Germany for both female and male sub-samples. Future prospective, work-life balance, location (place), working hours, job image and prestige, respectively, took place from 2nd to 7th in the study. Montgomery & Ramus (2011) found salary as the key important job attribute in terms of job selection.

3. Materials and Methods

This study examines the relative utilities and importance of each job attribute influencing the decisions on job choices among undergraduates in national universities in Sri Lanka.

The target respondents in this study included the third-year general students, third-year project management students and final-year management students from the specialization of business economics, marketing management, human resource management and accounting and finance. This is due to the fact that these are the students who are highly relevant for this study as they would be on the job market soon after they have graduated. Out of the 120, the third and the fourth-year undergraduates, (hundred management graduates) were selected by using simple random sampling in 2020. The collected data was analysed using the frequency, chi-square test and the conjoint analysis. Frequency analysis was used to describe the demographic profile of the respondents, the choices of the degree programs and the job choices preferred by the students in the campus. The association between personal characteristics of the students and job choices as well as the association between job attributes and job choices were assessed by chi-square test. Conjoint analysis was used to investigate the relative importance of various job attributes in selecting the jobs which was measured by part-worth and relative utilities in the study.

Conjoint analysis was first introduced by Green & Rao (1971) in marketing literature. Green & Srinivasan (1978) asserted that the conjoint analysis has a decomposition approach for analysing the preferences of candidates and their overall understanding of the subject. This method is advantageous in understanding the behavioural responses of individuals. Shiva & Singh (2019) studied the behaviour of retail investors using this approach.

Conjoint analysis is a multivariate technique specifically used to study consumers' product or service preferences by measuring utility of each level of each attribute and the relative importance value of various attributes (Hair et al., 2010). The current study also applied the conjoint analysis to estimate the relative utilities and importance of each job attributes on job choices. Further, this approach was used to understand the job preferences and expectations of students among management graduates in a selected national university in Sri Lanka.

According to the Molin (1999) the basic model of conjoint analysis assumes a linear relationship between utility and each attribute level as follows:

$$U(X) = \sum_{i=1}^m \sum_{j=1}^{k_i} \alpha_{ij} x_{ij}$$

where,

- $U(X)$ = overall utility of a profile
- α_{ij} = the part-worth contribution or utility associated with the j^{th} level ($j, j = 1, 2, \dots, k_i$) of attribute ($i = 1, 2, \dots, m$)
- $x_{ij} = 1$ if the j^{th} level of the i^{th} attribute is present; = 0 otherwise
- k_i = number of levels of attribute i
- m = number of attributes

The importance of an attribute, I_i , is defined in terms of the range of the part-worth, α_{ij} , across the levels of that attribute and the importance of attributes is calculated to determine its importance relative to other attributes. It can be determined as follows:

$$W_i = \frac{I_i}{\sum_{i=1}^m I_i} \quad \text{So that} \quad \sum_{i=1}^m W_i = 1$$

The Ordinary Least Square (OLS) regression technique is applied to estimate the preference functions of each respondent. Dependent variable is the profile rating, and the independent variables are formed by the coded attribute levels. The estimated regression coefficients are then interpreted as the part-worth utilities that make up overall ratings of the profiles. The importance of attributes is understood as the extent to which each attribute contributes to the determination of the utility.

Job attributes and level of job attribute used in the conjoint analysis can be shown as below:

Table 1: Measurements of the variables

Job Attributes	Levels of attributes
1. Salary	Less than LKR 40,000 More than LKR40,000
2. Type of contract	Short term job contract (Less than 2 years) Permanent job contract (More than 2 years)
3. Career path	Limited opportunities More opportunities
4. Job location	In the home town Out of the home town
5. Reputation	Considered Not considered

Source: Authors compiled

This study used five job attributes, and each of them has two levels and using them, an orthogonal design was generated in Statistical Package for Social Science (SPSS 25.0). The orthogonal design generated eight choice cards that were a combination of attributes, and these cards were considered as a hypothetical job offer. A questionnaire was created using these card choices and the respondents were asked to rank the combination of attributes in order of their preference from 1-8, where 1 being the most preferred and 8 being the least preferred. The conjoint analysis does not require respondents to evaluate all the possible combinations of attributes. A full factorial design of five attributes with two levels in each would require respondents to evaluate all 32 hypothetical profiles. But when too many choices are given to the respondents, they might get either confused or fatigued and thus, it is very difficult to conduct the full factorial design. Therefore, a data reduction technique called the fractional factorial design was applied to reduce the

number of profiles (Green & Srinivasan, 1990). SPSS software was used to reduce the number of profiles from 32 to 8 hypothetical profile systematically and it will select the best combinations of job attributes and hence, each respondent has to evaluate eight profiles. Finally, based on the preference of the respondents ranked from 1 to 8, the collected data were analysed in the study.

4. Results and Discussion

In the beginning, frequency of the selected variables was analysed and thereafter chi-square test was applied to illustrate the association between the variables used in the study.

Results of frequency

Table 2 describes the frequency of students' profile, and it shows that 53 % of the students were selected from the fourth year and 47 % of them were selected from third year.

Table 2: Profile of the respondents

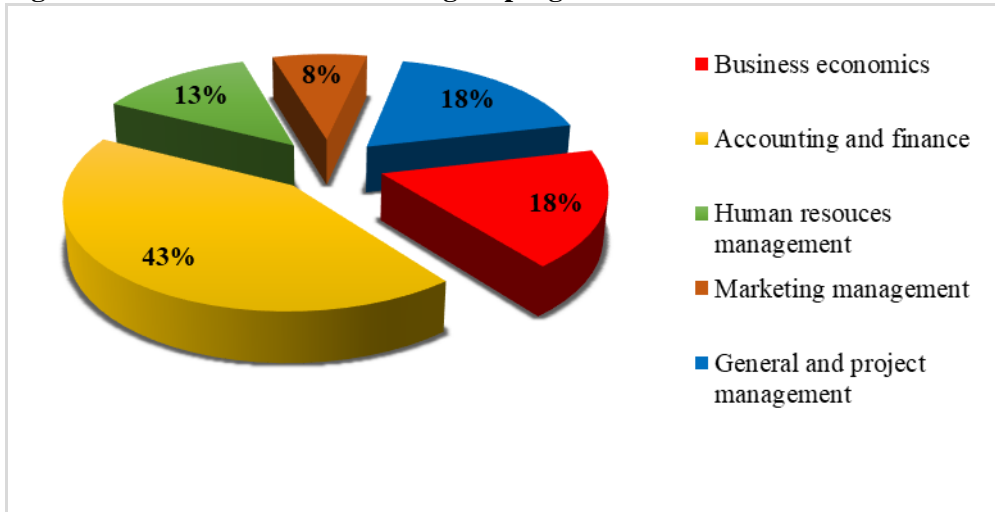
Variable	Percentage (%)
Year of study	
Third year	47
Fourth year	53
Gender	
Male	32
Female	68
Degree programme	
Bachelors in Business Management (BBM)	82
Bachelors in Project Management (BPM)	18

Source: Authors compiled

Further it showed that, 68 % of them are females and rest of the 32% of them are males. Out of 100 respondents, 82 % of the students are following bachelor's in business management and 18 % of them are following the Project Management degree programme.

Choices of the degree programs chosen by the students is illustrated by the following Figure 1 which reveals that the majority of them (43%) are following specialization in Accounting and Finance (A & F) and only 8% of them are following specialization in Marketing Management. The Choices of specialization in Business Economics (BE), General and Project management selected by the students remains the same whereas only 13 % of the students selected Human Resource Management (HRM) as the specialization in their study.

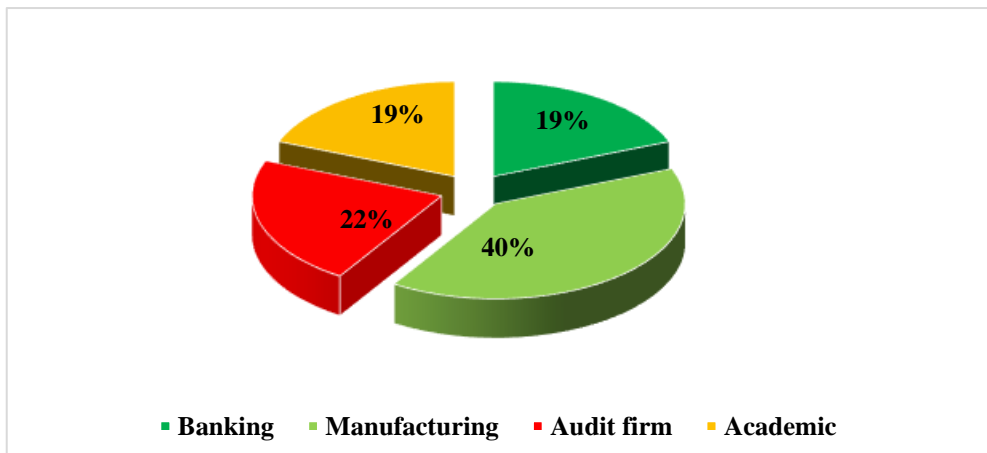
Figure 1: Choices of students on degree programmes



Source: Authors compiled

In addition to the choices on degree programme, the students are requested to select their job preferences across four types of job categories. Frequency of their preferences is graphically shown by Figure 2.

Figure 02: Frequency of job choices



Source: Authors compiled

According to Figure 2, 40 % of the students prefer to select the manufacturing and distribution sector whereas 19 % of them chose banking as well as academic sectors and 22 % of students prefer their first jobs in the auditing sector.

Results of chi-square test

The chi-square test was conducted to find out the association between personal characteristics such as gender, choice of degree program, field of specialization and job choices as the first part and in the second part the association between job attributes such as career path, job contract, reputation, and job location with job choices.

Table 3: Results of Chi-square test for personal factors

	Job Choices (%)				χ^2	Significant
	Banking Sector	Manufacturing and distribution	Audit firm	Academic sector		
Gender					12.983	0.005***
Male	5.26	37.50	54.50	21.05		
Female	94.74	62.50	45.50	78.95		
Degree					11.115	0.011**
BBM	100.00	67.5	90.91	84.21		
BPM	0	32.5	9.09	15.79		
Specialization					58.749	0.000***
BE	63.15	7.50	4.54	10.52		
A & F	36.85	27.50	81.81	36.84		
HRM	0	22.50	0	21.05		
Marketing	0	12.50	0	15.79		
General and PM	0	30.00	13.63	15.79		

Source: Authors compiled

Note: *** and ** represent 1% and 5% levels of significant respectively

The results indicated in Table 3 reveal that all personal characters are significantly associated with job choices and among them, gender and choices of specialization areas are significantly associated with the job choices at 1% significance level. Among gender, nearly 95% of female students have chosen the banking sector as their preferred job, while nearly 55 % of males like to do auditing. In the case of degree program and job choices, it shows that all BBM students prefer to do the job in the banking sector or audit firm, while 30% of the General and BPM students chose manufacturing and distributing sectors.

The selection of job choices across different specialization degree programs suggests that about 63% of Business Economics specialization students chose banking sector and only 7.5 % of them chose the job in manufacturing and distribution sector. Nearly 82 % of the accounting and finance students chose audit works, but only 27.5% of them selected the manufacturing and distribution sector as their job preference in the sample. Among HRM students, no one chose banking and audit work, and they prefer manufacturing and distribution and academic sectors.

Table 4: Results of Chi-square test for job attributes

	Job Choices (%)				χ^2	Significant
	Banking	Manufacturing and distribution sector	Auditing	Academic sector		
Career Path						
Limited opportunity	10.52	45	100	42.10		
More opportunity	89.74	55	0	57.89	34.71	0.000***
Job contract						
Short term	5.26	15	77.27	36.84		
Permanent	94.74	85	22.72	63.16	32.99	0.000***
Location						
Out of the home town	36.84	42.5	59.09	73.68		
In the home town	63.16	57.5	40.91	26.31	10.68	0.099*
Reputation						
Consider	100	60	81.81	94.74		
Not –consider	0	40	18.18	5.26	16.69	0.001***

Source: Authors compiled

Note: *** and * represent 1% and 10% levels of significant respectively

Based on the chi-square test results for job attributes, all job attributes are highly and significantly associated with the job choices except the location of the job. Students who search for more opportunities in their career path mostly prefer to work at banks, academic sector, and manufacturing and distribution sector. In the case of job contract and job choices, about 95% of the respondents prefer a permanent job contract in the banking sector while around 77% of them prefer a short-term job contract in the auditing sector. Moreover, about 23 % of the undergraduates prefer a permanent job contract in audit firms. Therefore, students who choose to work at banks, manufacturing and academic sectors are more likely to prefer permanent job contracts. Furthermore, students who prefer to work at banks and manufacturing sectors are more likely to work in the hometown, while students who prefer to work in the academic sector and audit firm are more likely to work out of their hometown.

Results of conjoint analysis

The relative utilities and relative importance of each job attribute on the job choices were examined using conjoint analysis.

Relative utility

The estimated relative utilities of each job attribute with each level and standard errors are represented in Table 5. The range of utility values from the highest to lowest for each factor shows how vital the factor was to the overall preference on four types of jobs. The factors with greater utility ranges play a more significant role than those with smaller ranges. As indicated in Table 5, salary, type of contract has a positive and direct relationship to the job preference, while career path, job

location and reputation have negative relationship with utility values. This indicates that salary, types of contracts have higher utility whereas career path, job location and reputation have lower utility in the current study. According to Table 5, for the job attribute of salary, the highest utility value is 1.239 for more than LKR.30,000 and the salary which is less than LKR.30,000 has the least utility value of 0.620 which implies that high salary is the important attribute for students. The current study findings align with the findings of Kapoor & Yadav (2020). For the next attribute, which is the type of contract, the utility value is higher for a permanent job contract (2.065) rather than a short-term job contract which has a utility value of 1.033.

For career path, utility value for more opportunities is higher (-.674) than limited opportunities (-1.348), which means that students are much more concerned whether the job has more opportunities in their career path than the limited career opportunities. In case of job location, where the job is available in the hometown, it is more important in the selection of job choices than where the work place located far from their home town. The utility estimate for a reputed job is higher than other a non – reputed job which implies the students are much concerned on the job status when they are selecting a job in the study.

The range of utility values from the highest to lowest for each factor shows how vital the factor was to the overall preference on four types of jobs. Factors with greater utility ranges play a more significant role than those with smaller ranges. As indicated in Table 5, salary, types of contracts have a positive and direct relationship to the job preference, while career path, job location and reputation have negative relationship with utility values. This indicates that salary, types of contracts have higher utility whereas career path, job location and reputation have lower utility in the study area.

Table 5: Relative utilities and standard errors of the job attributes

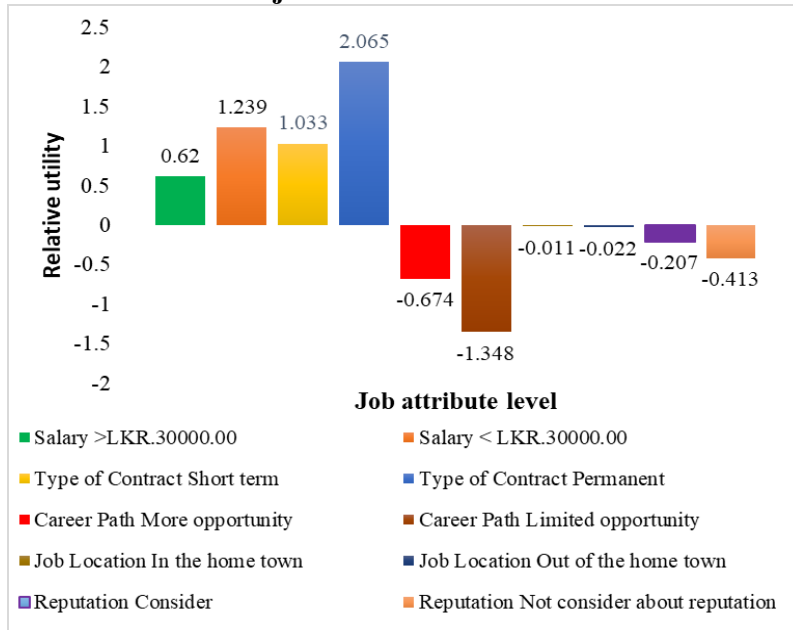
Job Attributes	Level of attributes	Utility Estimate	Standard Error
Salary	Less than LKR.30,000.00	0.620	0.712
	More than LKR.30,000.00	1.239	1.424
Type of contract	Short term job contract	1.033	0.712
	Permanent job contract	2.065	1.424
Career path	More opportunity	-0.674	0.712
	Limited opportunity	-1.348	1.424
Job location	In the hometown	-0.011	0.712
	Out of the hometown	-0.022	1.424
Reputation	Consider	-0.207	0.712
	Not consider	-0.413	1.424
Constant		3.359	2.415

Source: Authors compiled

Since the utilities are all expressed in a common unit, they can be added together to give the total utility of any combination. For example, the total utility of an undergraduate student with an expected salary of more than LKR 30,000 on a permanent job contract and limited opportunities in career path who lives in out of his or her hometown without considering the reputation of the job is $1.239 + 2.065$

+ (- 1.348) + (-0.022) + (-0.413) = 1.521. These kinds of other calculations for different possible combinations were illustrated in Table 5. The relative importance of each job attribute is considered in the study shown by Figure 3 and these values represent a percentage of the total sum of 100.

Figure 3: Relative utilities of job attributes levels



Source: Authors compiled

In the conjoint analysis, the higher utility values represent the greater preferences and the lower utility values represent the lower preferences. According to the above results, a permanent job contract has a higher utility value of 2.065 than others. Therefore, if any job opportunity offers a permanent job contract, the respondent has a greater preference over other opportunities. The second highest level of part-worth utility score given by the salary scale is less than LKR 30,000 and its utility value is 1. 239. The third highest level of part-worth utility is earned by a short-term job contract by scoring a 1.033 utility level. The lower part-worth utility score is given by the limited opportunity for a career path with the highest negative value in the study. According to the above findings, salary and types of contracts have a direct relationship with job preferences. Due to the fact that utility value of all attribute levels of salary and type of contract are positive while career path, job location and reputation have an inverse relationship with job preference by having negative utility at all attribute levels. Based on the part worth utility, respondents prefer the job that has salary less than LKR 30,000 more and respondents have a greater preference on the job that have permanent job contract than short term job contract. When considering the career path, respondents have higher preference on jobs which provide more job opportunities than jobs with limited opportunities. Respondents prefer more to work in their hometown and most

of them consider about the reputation as well. Based on the above results, total utilities of 8 job cards that proved to respondents to rank their preferences can be calculated by adding all utilities related to the above 5 attributes level combinations. In addition to that, when calculating the total part worth utility value, constant value also has to be added to each job card.

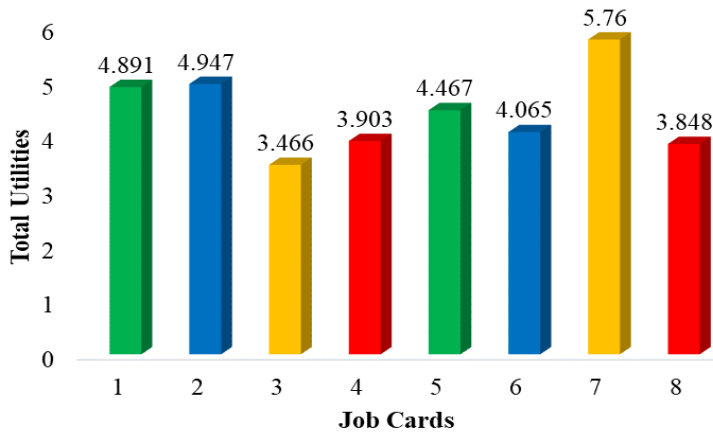
According to the Table 6 calculations, the highest utility is earned by the 7th job card which has the salary more than LKR 30,000, permanent job contract and with more opportunities. The job cards 2nd, 1st and 5th achieved the second, third and fourth places respectively. All the above job categories offer permanent job contracts but only two job cards offer a salary more than LKR 30,000. Job card 3 scores a lower part worth utility level, which offers a salary of less than LKR 30,000 short-term contract, and limited opportunities. From the above facts, the pattern of selecting job offers by the undergraduates of the selected university can be analysed. The total utilities of each job card can be shown by a figure 4.

Table 6: Total part worth utility of job cards

Card	Salary	Type of Contract	Career path	Location	Reputation	Total utility
1	More than LKR.30,000	Permanent job contract	Limited opportunities	In the home town	Not consider	4.891
2	Less than LKR.30,000	Permanent job contract	More opportunities	In the home town	Not consider	4.947
3	Less than LKR.30,000	Short term job contract	Limited opportunities	In the home town	Consider	3.466
4	Less than LKR.30,000	Short term job contract	More opportunities	Out of the home town	Not consider	3.903
5	Less than LKR.30000	Permanent job contract	Limited opportunities	Out of the home town	Consider	4.467
6	More than LKR.30000	Short term job contract	More opportunities	In the home town	Consider	4.065
7	More than LKR.30000	Permanent job contract	More opportunities	Out of the home town	Consider	5.760
8	More than LKR.30000	Short term job contract	Limited opportunities	Out of the home town	Not consider	3.848

Source: Authors compiled

Figure 4: Total utility of each job cards



Source: Authors compiled

Relative importance of attributes

After analysing the data using the conjoint procedure, the utility scores are analogous to regression coefficients which provide a quantitative measure of the preference for each attribute level, with larger values corresponding to greater preference. Based on the result of the conjoint survey the relative importance of each job attribute can be shown as below.

Table 7: Coefficient values and relative importance

Job Attributes	Coefficient values	Relative importance (%)
Salary	0.620	24.359
Types of contracts	1.033	40.598
Career path	-0.674	26.496
Job location	-0.011	0.427
Reputation	-0.207	8.120

Source: Authors compiled

As results in Table 7, it indicates a measure of the relative importance of each factor which is known as an important score or value. The values are computed by taking the utility range for each factor separately and dividing by the sum of the utility range for all factors. Thus, the results present the relative importance of the job attributes and according to that, type of contract is the most important attribute of job choice decision with a relative importance of 40.6 percent attached to it. This finding aligns with the findings of Guillot-Soulez & Soulez (2014). The career path is the second attribute with the most relative importance of 26.5% and it was ranked as the second preferred job attribute in the study. This finding aligned with Iacovou et al., (2004); Jurgensen (1978); Sutherland (2012); Turban et al., (1993) Corrigan & Konrad (2006) who found that advancement or opportunity for growth are at the top of preference among different job attributes.

Salary is the third important attribute with 24.36 % of relative importance and has the greater utility rank in the third position in the study. This finding contradicts with the findings of previous studies done by Kapoor & Yadav (2020); Karima et al., (2020); Meyerding (2018); Yasmin et al., (2016) and Kun et al., (2020) who found salary as the most preferred job attribute in their studies. But, Guillot-Soulez & Soulez (2014) stated that salary ranked fifth out of 10 job attributes and this is aligned with the current study. Reputation is ranked in the fourth place among five job attributes and this is consistent with the findings of Guillot-Soulez & Soulez (2014) and Kapoor & Yadav (2020) which implied that undergraduates are less concentrating on organizational reputation because they are willing to work and get an experience immediately after the graduation.

Job location and reputation have been identified as the least preferred job attributes of job choice decisions among the students. Out of five attributes, the type of contract is ranked 1st in importance, followed by career path and salary ranked the 2nd and the 3rd in terms of importance respectively. Salary and benefits were identified as the most important attributes of job choice decision in previous studies (Yasmin et al., 2016), but according to this finding, salary is the third important attribute in the study. The above findings revealed that, undergraduates are not worried about attributes of job location and reputation while the type of contract, career path and salary were more considered to be important by them when they chose their first job in the study.

The Coefficient shows the nature of the relationship between job attributes and job preferences. The utility for a particular factor level is determined by multiplying the level by the coefficient. Based on the coefficient, salary and type of contract have a direct or positive relationship with job preference while career path, job location and reputation have an inverse or negative relationship between job choices.

Further, the relative importance of job attributes across male and female students was illustrated in Table 8 and its results depicted that, relative importance for salary given by male and females are the same. But relative importance for type of contract and career path given by male students is higher than females which revealed that when they were selecting the job, male respondents had more concern on type of contract and career than females.

Table 8: Relative importance of job attributes across gender

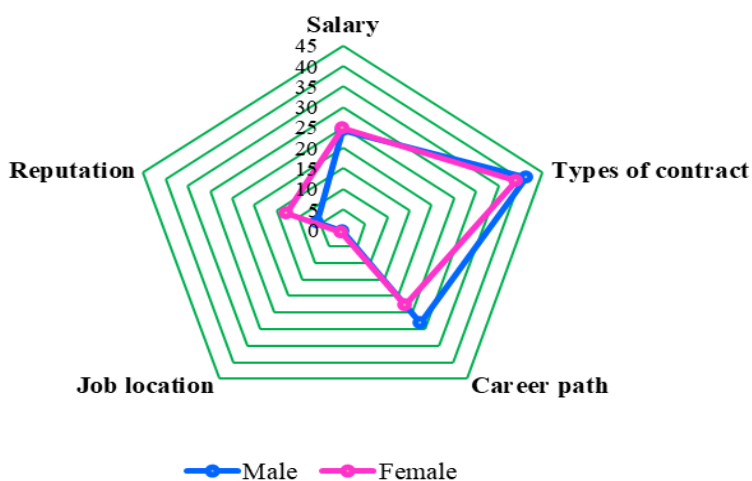
Job attributes	Relative importance (%)	
	Male	Female
Salary	24.138	24.832
Type of contract	41.379	38.926
Career path	28.213	22.819
Job location	0.313	0.671
Reputation	5.956	12.752

Source: Authors compiled

Table 8 reveals that the type of contract is the most important job attribute for both male and female students when selecting a job. However, the relative importance of job contract for male respondents is higher than females. Career path is the second important in selecting a job and male students have more concern about it than females. In case of salary, its relative importance given by males and females is the same while the relative importance of reputation given by females were higher than males in the study.

On the other hand, the relative importance of job location and reputation given by females is higher than males which imply that, these two attributes are more preferred by females than males in the study. The results are shown in the above table displaced in a radar graph in Figure 5.

Figure 5: Relative importance of job attributes across gender



Source: Authors compiled

In addition to the above analysis, the relative importance of job attributes across degree programmes of the undergraduates was also examined and its results are shown in the following Table 9.

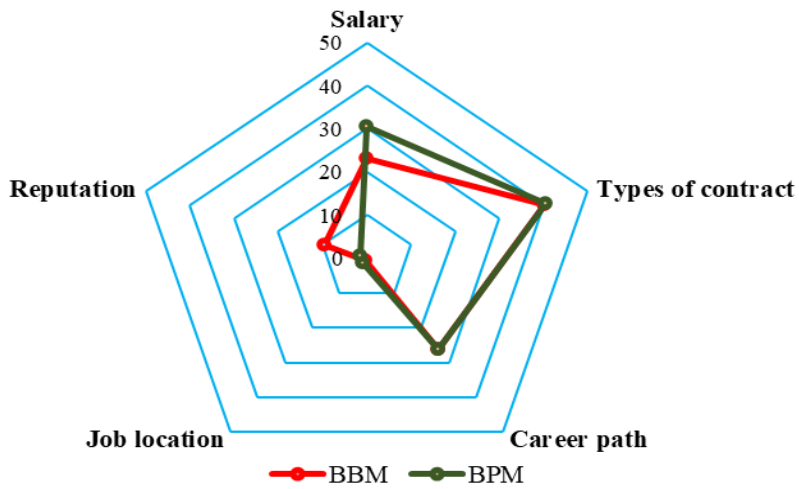
Table 9: Relative importance of job attributes across degree programmes

Job attributes	Relative importance (%)	
	Bachelors in business management (BBM)	Bachelors in project management (BPM)
Salary	23.077	30.435
Type of contract	40.199	40.58
Career path	26.303	26.087
Job location	0.744	1.449
Reputation	9.677	1.449

Source: Authors compiled

Based on Table 9, the relative importance for salary given by project management students is higher than business management students and the type of contract is the most important job attribute for the students who are following business management and project management degree and thus they give the same importance for it. When selecting a job, project management students are more concerned on job location than business management students while business management students are more concerned on reputation than project management students. Relative importance across the degree programs can be compared by using the radar chart in Figure 6.

Figure 6: Relative impotence of job attributes across degree programs



Source: Authors compiled

Relative importance of each job attribute across degree programs is also examined and its results were shown in Table 10. According to that, relative importance of salary given by HRM students is higher than other specialization students and the importance of the types of contracts given by marketing specialization students is higher than other students.

Table 10: Relative importance of job attributes across academic choices

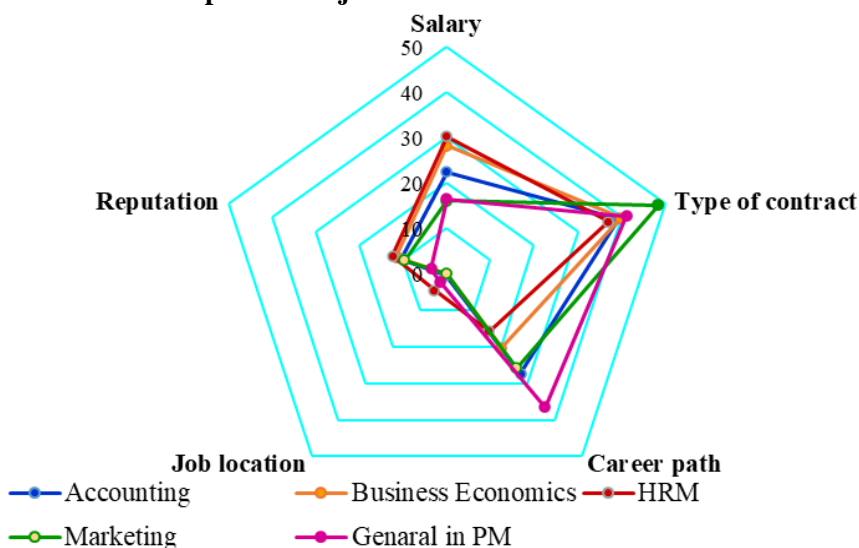
Job attributes	Relative importance (%)				
	Accounting	Business Economics	HRM	Marketing	General and PM
Salary	22.404	28.319	30.337	16.129	16.471
Types of contracts	39.344	39.823	37.079	48.387	41.176
Career path	27.322	20.354	15.73	25.806	36.471
Job location	0.546	0	4.494	0	2.353
Reputation	10.383	11.504	12.36	9.667	3.529

Source: Authors compiled

General and project management students are more concerned on career path, but HRM students have the lowest importance on it.

Job location has the lowest important and the students who are following specialization in Business Economics and Marketing are not concerned about the job location where the place of job is located near their hometown or far away from the hometown. Compared to other specialization students, only general and project management students have more concern on job location followed by the Accounting and Finance specialization students in the study. Reputation of the job has the highest importance among Business Economics specialization students followed by Accounting and Finance specialization students who gave their priority on reputation than the other students.

Figure 7: Relative impotence of job attributes across academic choices



Source: Authors compiled

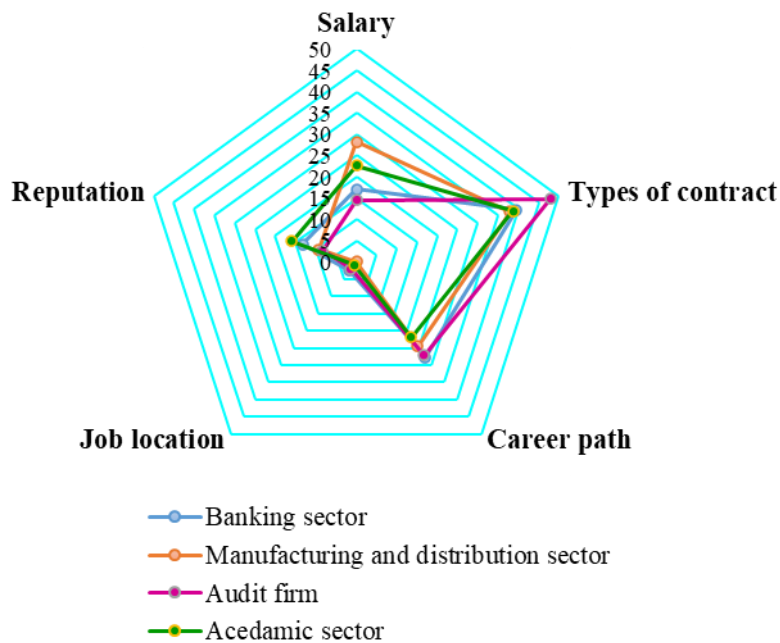
Finally, the relative importance of job attributes across the job choices also calculated in Table 11. Among the job attributes, the types of contact are the most important attribute, and the job location is the lowest attribute chosen by the students across the all-job choices. Students who prefer to work at manufacturing and distribution sectors, are not concerned about the job location. The career path got the second place among the students who prefer to work at the banking sector and audit firm while salary got the second place who prefer manufacturing and distribution sector and academic sector. Figure 8 graphically shows the relative importance of job attributes across the job choices.

Table 11: Relative importance of job attributes across job choices

Job attributes	Relative importance (%)			
	Banking sector	Manufacturing and distribution sector	Audit Firm	Academic sector
Salary	17.105	28.241	14.538	22.689
Types of contracts	39.474	37.963	47.917	38.655
Career path	27.632	24.537	27.083	21.849
Job location	2.532	0	2.083	0.84
Reputation	13.158	9.259	8.333	15.966

Source: Authors compiled

Figure 8: Relative importance of job attributes across job choices



Source: Authors compiled

Model fitting information for the conjoint analysis

The conjoint model was examined for its validity by Pearson’s and Kendall’s tau correlation coefficient, which measures the correlation between observed and estimated preferences of rank ordered variables in the study. Pearson’s correlation was 0.811, whereas the internal validity of Kendall’s tau coefficient value was 0.5 and they are significant at 1% and 5% levels respectively. Furthermore, Pearson’s R can be used to measure the model fit and the estimated results were given below.

Table 12: Results of model fit

Item	Value	Significance
Pearson's R	0.811	0.007**
Kendall's tau	0.500	0.042**

Source: Authors compiled

Note: *** and ** represents 1% and 5% levels of significant respectively

Pearson's R-value provides measures of the correlation between the observed and estimated preferences which shows that, nearly 81% of undergraduates job preferences are depended on the above job attributes and rest of the 19% of job preferences are influenced by other factors such as job security and working hours etc. Furthermore, these results suggest that, the estimated model is adequate to explain the impact of the above four explanatory variables on the job preferences among undergraduates who are studying in a selected national university in Sri Lanka.

5. Conclusion

The frequency of the job choices reveals that the majority of them are more likely to work at the manufacturing and distribution sector as their first job rather than the other job choices. Chi - square test reveals that all personal factors and job attributes are significantly associated with job choices. The results of conjoint analysis-based on estimated utilities showed that, undergraduates have higher preferences on the jobs that are permanent contract and lower preference on the jobs located in the out of their hometown. Among the relative importance of each job attribute, types of contracts have the highest relative utility while relatively the job location has a lower relative importance. This means that, when they find their first job, they are more concerned about the types of contracts whether it is permanent or not rather than the other attributes like salary, career path, reputation and job location. Based on the relative important values, salary got the third rank which represents that, it is not a much important factor to determine the job choices among the undergraduates in the study area.

6. Recommendations

Based on the findings, academics can identify the available job market opportunities for their undergraduates and develop degree programmes to make more knowledgeable, talented, and competent graduates capable of demand in the labour market. Estimated results revealed that students prefer to select a job based on their field of specialization. Therefore, undergraduates can decide their specialization degree based on their job preferences. So, it is better if the selected university can collaborate with other organizations by recommending students according to their specialization for the internship training, which will help the students to find a preferred job after their graduation.

The practitioners can use the results of this study to implement enrolment strategies and to design jobs based on the most preferred job attributes to attract and retain the best talents of the market. Furthermore, findings can incorporate design jobs with the highest possible utility for their potential workers and job prospects

can be high not only by having affiliations with companies but also by making a strong alumni network.

The current study was conducted on 100 undergraduates of a single university and future researchers can expand the scope and sample size, leading to robust findings and generalization of study results by including other undergraduate degree programs like arts, applied science, information technology, and engineering, etc. Moreover, the sample of the students who belong to the same degree across different universities as a comparative study will give more powerful results, which may be helpful to compare the findings across different universities under the same degree program. Here scholars have considered five major job attributes, but there are many other attributes like working hours, working environment, and job security which can be considered to get a clearer picture of students' preferences in future studies. Furthermore, scholars can include different job choices which were not included in the current study. In the methodological aspect, the current study is limited to data reduction technique and the fractional factorial design in conjoint analysis. In addition to these, the full factorial design also can be considered in the future analysis.

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