



## **DETERMINANTS OF OCCUPATIONAL CHOICES: A MULTINOMIAL LOGIT ANALYSIS OF SELECTED VAVUNIYA CAMPUS GRADUANDS IN SRI LANKA**

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### **Abstract**

This study uses multinomial logit model to estimate the impact of significant factors influencing occupational choices among the undergraduates in Sri Lanka. For this purpose, 123 Bachelor of Business Management undergraduates from third and fourth years of the Vavuniya Campus of the University of Jaffna were selected. The primary data were collected through the structured questionnaires and this study predominantly employed multinomial logistic regression model and marginal effects to arrive the findings. Since the discrete choices have more than two categories in the dependent variable, multinomial logit model is more appropriate than other logit or probit models. Job choice was considered as an outcome variable which has six categories whereas salaries, other benefits, working environment, job security, career development and employer reputation were utilized as predictors in the study. Empirical results of the model indicate that all the above variables are important factors that determine the job choices, but their magnitude and significant levels vary across different types of job choices. Salary was considered as an important factor in all job categories except in choice of own business. The respondents who prefer to start their own businesses were more concerned on other benefits while the respondents who prefer to become as an accountant more concerned on career development than other job choices. The major findings of the study may assist the students of Vavuniya Campus in selecting their specialization preferences on the subjects and the academics to improve their curriculum design in the future.

**Keywords:** Occupational Choices, Bachelor of Business Management Undergraduates, Probability of Job Preferences, Multinomial Logit Model, Marginal Effects.

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### **1. Introduction**

Job choice is a very serious issue for a job seeker because it does not only affect on the individual's future life, but also it affects on the development of a country. In worldwide, labour market is changing continuously and with the awareness, acknowledgement, modernization and industrialization the demand for skilled labour force create in the labour market and people are gradually moving towards the selecting the job according to their preferences.

The selection of the occupational choice is one of the most important things of life and people are differing to one another in selecting their occupational choices with respect to their preferences, utility, skills, productivity, strength, education, area of interest and specialization. As economic theory also speaks that people are different in productive capacity and opportunity cost related to the labour supply. In the current era, job preference information is a massive resource and input that is compulsory for a job providing organizations and for policy makers under several purposes. Identifying attractive qualities of positions and determining applicants' job preferences creates a more transparent

environment in which candidates and employers can make well-informed decisions to job creation.

There is a keen struggle and competition in the world of job selection, and only the fittest will survive. A right choice of a job is fundamental importance and correct choice may lead to success career life. "Generally, job choices are influenced by number of factors such as personality, interest, self-concept, cultural identity, globalization, socialization, role model, social support and available resources such as information and finance" (Kochung & Migunde, 2011). Every individual undertaking the processes is influenced by number of factors including the context in which they live in, their social contacts, personal aptitudes and educational attainment (Bandura et. al, 2001). More people are influenced by jobs that their family and parents' favors, others follow their educational choices have been opened for them, some choose to follow their passion regardless of how much it will make them while others choose the jobs that give more favorable remuneration (Anojan and Nimalathan, 2013)

Each year, many new graduates enter the job market in different fields and different specializations. Management profession is of significant importance in the era of globalization, especially to developing countries like Sri Lanka. Sri Lanka needs more managers, to be in line with fast economic growth, to provide support for the growing business environment. Management graduates join private, public, and other organization for different positions and their decisions are influenced by various factors.

## **2. Objectives of the Study**

- To identify the preferences of occupational choices among the undergraduate students who are studying BBM in the Vavuniya Campus in Sri Lanka.
- To investigate what are the significant factors which influencing the selection of occupational decisions among the undergraduates in the above campus in Sri Lanka.

## **3. Review of Literature**

Aycan & Fikret-Pasa, (2003) addressed the career choices, job selection criteria, and leadership preferences in Transitional Nation and their results conclude that having power and authority, pay, opportunity for career advancement and participating in decision making were the most influential factors in job selection. Galhena & Rathnayake, (2005) conducted a research to examine the determinants of career choice decision of management undergraduates in Sri Lanka. Their results revealed that skills and competencies are the most critical factors influencing the career selection decision and personality, educational background was rated as the second and third factors respectively.

Lim & Soon, (2006) studied the job selection criteria of economics final year students in university Utara, Malaysia. The researcher found that long term career prospect is the most important job selection criterion, followed by job security, working environment, salary, opportunity to learn, applicability of university degree studied and flexible in working schedule. The estimated ordered logit model showed that the importance of job selection criteria is varying across job sector preferences in Malaysia.

Bathula & Karia, (2011) conducted a study to examine job preference factors of international students in New Zealand. Their results revealed that friendly working environment and high annual salary were ranked as top two influential factors compared to status or reputation of the employer in the country.

Jariangprasert & Kantabutara, (2012) conducted a study to ascertain the exploratory of student's job selection factors and job candidate attributes in Luang Prabang, Laos. The results of the study revealed that university students and the graduates choose to work with the government and state enterprise because of better job security and more attractive welfare and benefits.

Another research was done by McGraw, et al., (2012) to identify the factors influencing job choice among agricultural economics professionals in USA. The results of the probit model showed that job responsibilities were the most important factor in choosing the job. Furthermore, having a positive work environment, a good salary, time for family care, having adequate resources and lack of professional isolation were important job attributes which influenced for a job choice in USA.

On, et al., (2013) has embarked to examine the factors affecting job selection preferences of Malaysian Universities. Findings of the study show that career development and employer reputation were significantly related to the job selection preferences and salary and benefits, working environment and job security were found have no significant relationship with job selection preferences.

Mangaleswaran, (2016) examine the factors influencing on job decision of management undergraduates in North and East universities. Cross tab analysis revealed that Sinhala students prefer to join private sector organization and they do not like to join NGOs. On the other hand, Tamil students more prefer to join public sector. Out of twenty two influential factors, salary, interesting on job, security of the job, educational opportunities and freedom at workplace had the biggest influence on management undergraduate's job selection decision in the study area.

#### **4. Methods of Data Analysis**

To identify the factors which affect on the occupational choices among the undergraduates who are studying third and fourth year in Vavuniya Campus, Sri Lanka, primary data were collected through the structured questionnaires during the period of December 2016 to January 2017.

159 questionnaires were distributed and out of them only 138 questionnaires were returned at the end of January 2017, achieving a response rate of 86.7%. Questionnaires that were not completed and respondents who indicate that they were not wish to do a job after their graduation have been rejected to ensure the reliability of the sample. As a result, finally, out of 138 only 123 questionnaires were selected as a sample in the study. Each of the job related variables further split into three sub questions, consists of totally 18 items and each of them was placed on a 5- point likert scale, where, 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree and 5 for strongly agree. The collected data were analyzed using various statistical and econometrics tools such as, frequency analysis, chi- square test, multinomial logit model and marginal effects.

##### **i) Frequency analysis**

Frequency statistics was used to analyze the demographic profile of the respondents and preferences of occupational choices among the management graduates in the above campus in Sri Lanka.

##### **ii) Cross tabs and Chi- square test**

Chi-square test with cross tabs was done to identify the association between occupational choices of management undergraduates and the demographic factors such as gender, ethnicity and academic courses in the study area.

##### **iii) Multinomial logistic regression model**

In addition to the above statistics, to investigate the factors which influence on occupational choices, multinomial logit model was applied. The multinomial logit model is more applicable and more relevant than other regression models because of the dependent variable is the occupational choices with more than two categories, the above model was more suitable one and thus, it was used by the researcher in this study. Occupational choices were considered as dependent variable which has six categories and six variables which are related to the preferences of occupational choices treated as explanatory variables in the study.

To identify the factors affecting occupational choices among the undergraduates, researchers assume that in a given period, rational undergraduates choose among the Vavuniya Campus mutually exclusive occupational alternatives that offer the maximum utility. Following Green (2003) and Kennedy (2003), suppose for the  $i^{\text{th}}$  respondent faced with  $j$  choices, assume the utility choice  $j$  as:

$$U_{ij} = Z_{ij}\beta + \varepsilon_{ij} \dots\dots\dots (1)$$

If the respondents make choice  $j$  in particular, then researchers assume that  $U_{ij}$  is the maximum among the  $j$  utilities. So, the statistical model is derived by the probability that choice  $j$  is made, which is:

$$\text{Prob}(U_{ij} > U_{ik}) \text{ for all other } k \neq j \dots\dots\dots (2)$$

Researchers select this model not only because of the computational ease (Miller and Volker, 1985) but also multinomial logit analysis exhibits a superior ability to predict occupational distribution (Keane, 1992). The multinomial logit model can allow estimating a set of coefficients  $\beta_j$  corresponding to each occupational category as follows:

$$\text{Pr}(y=j/\chi) = \frac{e^{\beta_j x_i}}{\sum_{j=1}^7 e^{\beta_k x_i}} \dots\dots\dots (3)$$

To identify the model, impose the normalization by considering the parameter vector associated with “manager” occupation category as zero ( $\beta_1=0$ ). So, the remaining coefficients  $\beta_j$  measures the change relative to the base group of manager. The probabilities as, therefore, Where,

$Pr$  is the probability of an economic activity,  $i$  denotes the indexes of the individuals;  $j$  represents the six nominal unordered occupational categories in the samples. The model can be written as follows;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

Where,

$Y$ = Job choices which is categorized as;

1 = Accountant

3 = Teacher

5 = Non –government organization (NGO)

$\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  and  $\beta_6$  are the coefficients of each independent variable respectively.

$X_1$  = Salary

$X_3$  = Working environment

$X_5$  = Career development

2 = Manager

4 = Administrative

6 = Own business.

$X_2$  = Other benefits

$X_4$  = Job security

$\varepsilon$  = Error term

In the above model, dependent variable is the preference of job choice which has six categories with the choice become as a “manager” is the reference choice in the study. Estimated coefficients measure the change in the logit for a one unit change in predictor variable while other explanatory variables are held constant. A positive estimated coefficient implies an increase in likelihood that a respondent will choose the alternative choice of a job while a negative estimated coefficient indicates that there is less likelihood that a respondent will choose to alternative of other job choice.

#### iv) Marginal Effects

Coefficients of each independent variable in the above model will not represent the impact of the variable on the dependent variable in terms of magnitude or size. Thus, marginal effects were used to interpret the results of multinomial logit model effectively and these effects show the probabilities of occurring the dependent variable with respect to the changes in each explanatory variable.

## 5. Results and Discussion

In the beginning, the data were analyzed using the basic statistical tool namely, descriptive statistics to identify the some basic features of the respondents in the study area.

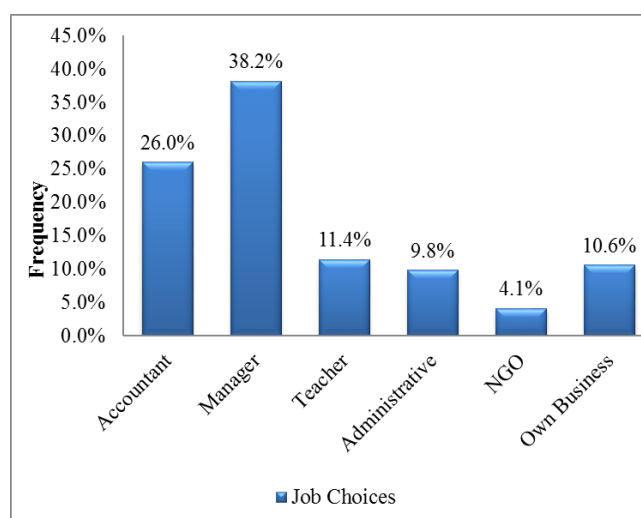
Table 01: Profile of the respondents

Variable	Percentage (%)
<b>Year of study</b>	
Third Year	43.9
Fourth Year	56.1
<b>Academic Courses</b>	
General Degree	13
Accountancy and Finance	40.7
Business Economics	17.9
Marketing Management	16.3
Human Resource Management	12.2
<b>Gender</b>	
Male	39.8
Female	60.2
<b>Ethnicity</b>	
Sinhala	69.9
Tamil	20.3
Muslim	8.9
Other	0.8

Source: Survey data, 2016/2017

The above table shows that, nearly 56% of the respondents are from fourth year students while the rest of the 44% of them from the third year which were used in the analysis. Percentage of the academic courses followed by the students and their gender with ethnicity also displays in the above table.

Figure 01: Job choices among Business Management undergraduates



Source: Survey data, 2016/2017

According to the above figure, among the six types of occupational choices, the majority of the respondents prefer to become as “Manager” and only 4% of them preferred to work in

NGO. The Second most preference goes to “Accountant” while only 9.8% of them select their choices as “Teacher” in our sample.

### 5.1 Cross tabs and Chi-square Test

Results of the cross tabs and chi-square test illustrate that gender, academic courses and ethnicity significantly associated with occupational choices and their associations are statistically significant at 1% level.

**Table 02: Results of Cross tabs and Chi-square Test**

	Occupational choices						χ <sup>2</sup>	Sig value
	Accountant	Manager	Teacher	Administrative	NGO	Own Business		
<b>Gender</b>							23.99	0.000*
Male	28.1%	46.8%	0.0%	33.3%	60%	84.6%		
Female	71.9%	53.2	100%	66.7%	40%	15.4%		
<b>Ethnicity</b>							34.32	0.003*
Sinhala	30.2%	37.2%	12.8%	10.5%	0%	9.3%		
Tamil	16.0%	40.0%	8%	8%	20%	8%		
Muslim	18.2%	45.5%	0%	9.1%	0%	27.3%		
Other	0%	0%	100%	0%	0%	0%		
<b>Academic Course</b>							59.22	0.000*
General	12.5%	50%	6.2%	6.2%	6.2%	18.8%		
Accountancy	58%	16.0%	8%	8%	2%	8%		
Economics	4.5%	36.4%	22.7%	18.2%	4.5%	13.6%		
Marketing	0%	75%	5%	10%	5%	5%		
HRM	0%	53.3%	20%	6.7%	6.7%	13.3%		

Note: \* indicate the 1% level of significant.

Source: Survey data, 2016/2017

Among the occupational choices, nearly 85% of the males prefer to start their own business while none of them prefer to become as a teacher. But in the case of accountant choice, 72% of the preferences selected by female and rest of the preferences selected by male respondents. In the above table, association between occupational choices and other profiles of the respondents also represented. This study used multinomial logit model to estimate the significant factors which influence on the occupational choices of the undergraduates in the Campus in Sri Lanka.

**Table 03: Results of Multinomial logit regression for occupational choices**

Explanatory variables	Accountant	Teacher	Administrative	NGO	Own Business
Salary	-1.212* (.4462)	0.386** (.7239)	1.668** (.7273)	-2.246* (.8214)	-1.136 (.8927)
Other benefits	-.736 (.5376)	-.070 (.9971)	-1.297*** (.7517)	-.549 (1.0804)	-5.426* (1.3972)
Working environment	.860 (.6964)	-.078 (.9740)	3.168* (1.1872)	-1.086 (1.2958)	2.642** (1.0559)
Job security	-.232 (.5323)	-5.338* (1.2436)	-1.473** (.6663)	-1.253 (1.1168)	-.974 (.9492)
Career development	1.671** (.7701)	4.562* (1.5057)	-.061 (.9611)	3.291** (1.7819)	-.088 (0.955)
Employer reputation	-.395 (.4561)	-2.272* (.8727)	-.110 (.6155)	-.820 (1.0244)	0.955 (1.0759)
Observations=123	LR chi2(30)	Probability >chi=0.0000	Pseudo R <sup>2</sup>		

Note: Those selected manager as an occupation choice serve as base group and standard errors in parentheses

\*, \*\*, and \*\*\* represent 1%, 5% and 10% levels of significant respectively.

Source: survey data, 2016/2017

The above results show that all six explanatory variables were statically significant in all possible comparisons, but significant levels and magnitude of each coefficient were differ. Among job choices, considering a manager as the base category it was found that salary has significant at 1% and 5% levels and it has negative and positive impact on occupational choices in all comparisons except the own business. However, size of the salary coefficient is differing across the various occupational choices and its size is higher for choice of NGO than other choices. Career development is statistically significant influence on the selection of teaching and NGO job choices while job security is statistically insignificant impact on the choices of accountant, NGO and their own business.

In the case of job choice, to become as an accountant the sign for “salary” is negative and statistically significant at 1% level elaborates that the respondents who wish to become as an “Accountant” are less likely to choose their job based on the salary rather than the occupational choice to become as a manager. Career development was found to have a positive relation with the occupational choice to become as an “Accountant” and it was evident that when the respondents have more chances for the career development, they are more likely to select job category of “Accountant” compared to the reference job choice as “Manager”.

The negative sign of the salary, job security and employer reputation implies that the probability of chosen job category of “Teacher” tends to less likely with reference to the base category of “manager”. The sign of the career development is positive and statistically significant at 1% level suggest that respondents who wish to become as a “Teacher” is more likely to choose it based on the career development than “manager”. It concludes that respondents are likely to become as a teacher as they are more concern on their career development opportunities comparing to the “manager”.

Salary and job security statistically significant at 5% level while other benefits marginally significant at 10% level in the job choice of “Administrative”. At 1% level working environment is significant for the job selection of “Administrative”. The positive sign of the salary and working environment explained that respondents are more likely to choose job category of “Administrative” with reference to job related factors of salary and working environment than the base category. Furthermore, it is highlighted that out of the six job choices, only the “Administrative” job preferences are more likely to choose their job by considering the salary and it elaborates that based on the higher salary, respondents are more likely to choose the job category of “Administrative” than “Manager”. Respondents who select “Administrative” is negatively associate with other benefits and job security compare to the base category which illustrates that administrative job preferences are less conscious about other benefits and job security compare with “Manager”.

Salary was found to be negative relation with the selection of job category “NGO” compared to “Manager” and it is significant at 1% level. It reveals that NGO job preferred respondents are less likely to consider about their salary in their job selection than reference category as “Manager”. Career development is hypothesized at 10% and positive sign elaborates that respondents are more likely to consider about working environment in their job selection with comparison to “Manager”.

Among the above explanatory variables, other benefits and working environment are significant impact on the selection of job preferences on “own business”. Other benefits is more significant, but negative sign depicts that respondents are less likely to choose job category of “own business” than reference category based on the other benefits. At a 5% level,

working environment is significant for the job selection for “own business” than the respondents who are concern on the job choice for “manager”.

The results of the multinomial logit model were discussed in terms of significance and a sign among the six job choices in the table 03 and it shows that a set of significant explanatory variables varies across the job choices in terms of significance levels and sign of the coefficients.

### 5. 2 Marginal Effects

The estimated results of marginal effects for explanatory variables were illustrated in the following table.

**Table 04: Results of marginal effects**

	Job Choices					
	Accountant	Manager	Teacher	Administrative	NGO	Own businesses
Salary	-.302	.232	-.009	.128	-.046	-.003
Other Benefits	-.129	.205	.003	-.052	-.003	-.023
Working Environment	.137	-.257	-.005	.158	-.042	.009
Job security	.016	.133	-.049	-.071	-.025	-.003
Career development	.352	-.397	.036	-.052	.065	-.004
Employer Reputation	-.076	.102	-.020	.006	-.016	.003

Source: Survey data, 2016/2017

The marginal effect of salary has positive signs in job choices for manager and administrative reveals that, as salary increases the probability to select the choices to become as a manager and an administrative will increase by 23% and 13% respectively. But as salary increases, they are less likely to select for the occupational choices for “accountant”, “teacher”, “NGO” and “own business” assuming that other factors are held constant. The above results clearly indicate that, the respondents who are interested to become as a manager and an administrator, they more concern on salary than other factors and other job choices.

Results of marginal effects further depict that when the undergraduates considering the other benefits as an important factor to determine their job choices, there is a 20.5% and 0.3% of more probability to choose the choices for “manager” and “teacher” than other choices. Marginal effects of the working environment have positive sign for the job choices of accountant and administrative positions shows that, as working environment is very pleasant with better conditions, there is a 13.7% and 15.8% of more probabilities to select the jobs as an accountant and administrative choices respectively. The respondents who would like to become an owner of the business will consider only working environment and employer reputation are the major factors to determine their choices by the respondents in the campus. In the case of job security, results of marginal effects revealed that when a job has more security there is a 1.6% and 13.3% of more probabilities to choose the job category as an “accountant” and as a “manager” respectively.

Career development is an important determinant in job choices for the respondents who are like to become as an accountant, work at NGO and as a teacher in the study area. As career development improves, there is a 35.2% of more probability to select the choice as an accountant but there is a 0.4% of less probability to select as an own business by the respondents in the study. An employer has more reputations, it will lead to a 10.2% of more probability to select the job choice as a “manager”, but there is only 0.3% and 0.6% of more

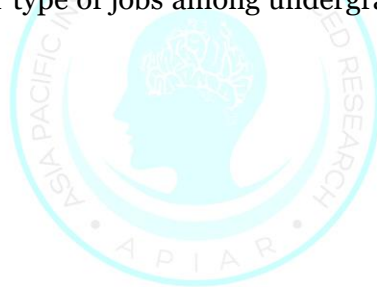


chances to prefer as an owner of a business and as an administrator respectively. However, for choice of other jobs, such as an “accountant”, “teacher” and works at “NGO” has less probability to select them as an employer has more reputations.

### **Conclusion**

This study reveals a set of important factors that determine undergraduates’ occupational choices in Vavuniya Campus of the University of Jaffna, Sri Lanka. Majority of the respondents are females and Sinhala students represents the biggest portion of the sample. Almost all of the management undergraduates are willing to select their job according to their interest on a particular occupation. Management undergraduates prefer the jobs of accountant, manager, administrative, teacher, NGO and own business as their job preferences in the campus. The results of cross tabs and chi-square test reveals that gender, ethnicity and academic courses have significantly associated with the job choices of the respondents in the sample.

The results of multinomial logit model reveal that all six explanatory variables used in the study were statically significant in all possible comparisons to determine the occupational choices of the respondents, but significant levels and magnitudes of each coefficient would differ. Salary of the job has significant impact on occupational choices in all categories except the own business while other benefits only significant impact on the occupational choices for administrative post and own business and not for other choices. The respondents who prefer to become an administrator and owner of a business as entrepreneurs, they more concerned on working environment than others. In case of job security, it was more chosen by the respondents who are preferred to become as a teacher and in administration. The respondents who are likely to become as an accountant, they are giving more priority to the career development than other type of jobs among undergraduates in the Vavuniya Campus, Sri Lanka.



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