Identifying the Factors Affecting University Students' E-Businesses

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ABSTRACT

University students encounter economic challenges in the complex technological world, and finding part-time work can provide benefits such as earning money, gaining experience, and developing skills, although it is difficult to avoid the potential negative consequences on academic performance. This paper aims to identify influencing factors on e-business in selected universities in Sri Lanka. This study was conducted from September to October 2022, specifically in the north and eastern provinces, with 232 participants focusing on the faculties of Science, Engineering, Technology, Management and Commerce. The study uses univariate and bivariate analysis techniques, including binary logistic regression to identify the factors influencing e-business behavior among university students and explore the relationships between variables, ensuring accurate and reliable results. The study revealed that the majority were male, with a high proportion of Sinhala students in the sample. Most students own laptops /desktops and smartphones, have weekly expenses between LKR 3,000 to LKR 5,000, and prefer to work in their field of study. Also, language issues are a major issue in the university environment and are usually reported as a challenge, while many students have roommates engaged in e-business. Overall, students exhibited average competencies in

computer and English literacy skills. Factors such as device usage, weekly expenses, preferred field of work, faculty, level of study, e-businesses among roommates, computer skills before entering the university, and IT courses followed were found to be the most significant factors affecting e-business among university students.

1. INTRODUCTION

When high school students enter university, they encounter economic challenges in this modern world. Due to the complexity of technology, students must interact with this environment. Freelancers are identified as the alternative solution for individuals and countries to address youth unemployment and gain skills and education in a workable and independent work environment. Online e-business provide better opportunities for female engagement in enterprises while contributing to the economy. Computer literacy plays a crucial role in their ability to engage in online freelancing. However, if university students possess these skills but are unable to contribute to the business world, it is a waste of their potential. To overcome this problem, starting an e-business is seen as a positive option to use their skills and engage with the business world (Lansiti & Lakhani, 2014).

Tessema et al. (2014) suggested that part-time work has an insignificant impact on academic performance. However, different researchers have reached various conclusions about the relationship between part-time jobs and the academic performance. Bandaranayake et al. (2020) highlighted that e-businesses enable females to fulfil work and family responsibilities. However, he acknowledged that lack of awareness remains a significant barrier for females looking to start e-businesses. Surahman et al. (2021) stated the importance of age, education, and knowledge of university students, who are well-suited to seeking employment through online e-business platforms. If the challenges and negative impacts of online learning arise due to the COVID-19 pandemic, Karasmanaki et al., (2021) mentioned that it was a new opportunity and beneficial to engage through online freelancing.

2. REVIEW OF LITERATURE

Perampalam et al. (2017) conducted a study in Sri Lanka to identify the factors influencing the adoption of online freelancing. Using a sample size of 5,500, the results show that only 11% of the respondents are willing to work in online freelancing jobs. Ambepitiya et al. (2021) conducted research using 184 females in the Colombo district in the field of Information Technology (IT) freelancing focusing on the challenges faced by women, and their motivation to be involved in freelancing in Sri Lanka. Galhena et al. (2018) conducted a cross-sectional study using the snowball sampling method to examine the situation of entrepreneurs as online freelancers. The study took a gender perspective and found that women can do more online e-business work than men. The demographic results indicate that 80% of the collected sample significantly contributed to the Sri Lankan economy by earning US dollars. Lin et al. (2014) identified the factors and practical implications of students working part-time jobs during their college years. They collected data from 450 students in Taiwan. Common things for students who take part-time jobs include a convenient location, daily living allowances, and having friends in the same field. Many students were introduced to this job by their friends. Carney et al. (2005) conducted a study to investigate the impact of part-time employment on students' health and academic performance. The study examined various variables such as demographics, financial information, employment details, reasons for work and the results revealed no significant difference in working hours.

3. METHODOLOGY

Faculties of Science, Engineering, Technology, Management and Commerce were chosen for this

study from the University of Jaffna, South Eastern, and Eastern University. The survey by Perampalam et al. (2017), showed an 11% willingness to engage in online freelancing among individuals aged 16 to 40. The total population was approximately 5000. Thus, 550 university students who do online businesses were taken as the population of the study. . Thus, the population size for this study is 550.

As the population size is known, Cochran's sample size formula for categorical data as outlined by Kotrlik et al. (2001), was used to determine sample size.

$$n_0 = \frac{z^2 * (p)(1-p)}{d^2} \quad \text{and} \quad n_1 = \frac{n_0}{1+n_0/\mathrm{N}}$$

where, z = 1.96, p = .5 (maximum value for p(1-p), d = margin of error (= 0.05), N= population size (550) . It was found that the sample size equals to 384. 232 students responded to a structured questionnaire in English, Sinhala, and Tamil via Google Forms while . Data was collected between September to October 2022. Variables were divided into demographics (gender, place of birth, etc.), university (faculty, GPA, etc), and skills (IT, English proficiency, etc.).

Using univariate and bivariate analysis techniques, important details from the data set and explanatory variables were extracted to answer the research objectives. Because the response variable is dichotomous in nature, binary logistic regression analysis was selected as the appropriate analytical approach to examine the relationships between different variables. In addition, the study explored and tested several established evaluation methods, such as stepwise regression and the Hosmer and Lemshow test, to ensure the accuracy and reliability of the findings. Details of some of the selected variables in this study are given below in Table1:

Table 1: Description of selected variables

Variables	Operational Definition	Categories
Faculty	The faculties to which students belong	Faculty of Commerce and Management
		Faculty of Science
		Faculty of Technology
		Faculty of Engineering
Level	The studying year of the students	2nd year
		3rd year
		4th year
Using devices	Devices which students use for their work	Laptop / Desktop
		Smart mobile phone
		Smart mobile phone; Tablet
		Laptop / Desktop; Smart mobile phone
		Laptop / Desktop; Smart mobile phone; Tablet
Decision of higher education	Students' satisfaction with their decision to pursue higher education	No
		Yes

4. RESULTS AND DISCUSSION

According to Table 2, the majority of respondents are male (60.3%) and there is a higher percentage of Sinhala (90.1%) students. Half of the participants were from urban areas used laptops /desktops and smart mobile phones, while some used only smart mobile phones. During this period, more than half of the participants had weekly expenses between LKR 3000 to LKR 5000. Most of them prefer to get a job related to their degrees. In particular, none of the Tamil or Muslim respondents were involved in e-businesses, using smartphones or tablets. Regarding the decision to pursue higher education, most students are satisfied with their choices. GPAs were distributed similarly, around 3.0, with most students claimed the language issue as a difficulty, while some students reported of having no difficulties in this respect. Interestingly, there is strong evidence that students' roommates are involved in e-businesses. Computer skills before entering university and students' English literacy

skills were at a moderate level: 76.3% and 83.6% respectively.

Table 2: Frequency distribution of all variables

Variable	Categories	Percentage (%)	Doing e-businesses	
			Yes (%)	No (%)
Gender	Male	60.3	19.0	41.3
	Female	39.7	4.8	34.9
Race	Sinhala	90.1	23.7	66.4
	Tamil	7.3	0.0	7.3
	Muslim	2.6	0.0	2.6
Birthplace	Rural area	47.0	12.9	34.1
	Urban area	53.0	10.8	42.2
Using devices	Laptop / Desktop	7.3	1.7	5.6
	Smart mobile phone	20.7	1.3	19.4
	Smart mobile phone; Tablet	0.9	0.0	0.9
	Laptop / Desktop; Smart mobile phone	68.1	19.8	48.3
	Laptop / Desktop; Smart mobile phone; Tablet	3.0	0.8	2.2
Weekly expenses	< LKR 3000	21.6	6.9	14.7
	LKR 3000 - 5000	55.6	12.1	43.5
	> LKR 3000	22.8	4.7	18.1
Preferred job field	Degree based job	70.3	12.5	57.8
	Freelancer job	29.7	11.2	18.5
Decision of higher education	No	19.0	4.3	14.7
	Yes	81.0	19.4	61.6
GPA	< 3.0	53.0	11.6	41.4
	>= 3.0	47.0	12.1	34.9
Language problems	No	14.2	3.4	10.8
	Yes	85.8	19.4	66.4
Roommates doing e-businesses	No	47.0	4.8	42.2
	Yes	53.0	19.0	34.0
Computer skills before university	Low	13.8	2.2	11.6
	Medium	76.3	16.8	59.5
	High	9.9	4.7	5.2
English skill	Low	11.2	3.0	8.2
	Medium	83.6	19.0	64.7
	High	5.2	1.7	3.4

Binary logistic regression analysis treats factors as categorical explanatory variables to examine the relationship between variables and students' e-business behavior.

Table 3. Classification table

	Observed		Predicted		
			Do e-businesses	Percentage Correct	
			No		
Step 1	Do e-businesses	No	162	15	91.5
		Yes	32	23	41.8
	Overall Percentage				79.7
Step 6	Do e-businesses	No	163	14	92.1
		Yes	31	24	43.6
	Overall Percentage				80.6

Table 3 is divided into two steps: step 1 for enter method and step 6 for the last step of the backward elimination method. In step 1, when comparing observed and predicted categories, the overall percentage of correct classifications in step 1 is 79.7%. In step 6, there is a slight improvement in classification performance. The matrix shows that of all the cases where no e-businesses was observed (No), 163 cases were correctly classified (true negatives). Similarly, there were 14 cases where e-business was observed (Yes) but they were falsely classified as not doing e-businesses (false negatives). of the cases where e-businesses were observed (Yes), 31 cases were correctly classified (true positives), while 24 cases were falsely classified as not doing e-businesses (false positives). In general, at step 6, the model achieved an improved accuracy rate of 80.6%.

To check the adequacy of the fitted model, the Hosmer and Lemeshow test was applied to the reduced model for goodness of fit. The null hypothesis (H_0) states that the fitted model is adequate when there is no difference between predicted and observed values. The obtained p-value is 0.067 (> 0.05). Therefore, the null

hypothesis would not be rejected at the 5% level of significance.

In the reduced model from the backward elimination method, nine variables were selected while all were significant at a 5% significance level and only gender was not. The final model adapted eight variables, all of which were significant at the 5% significance level while weekly expense was significant at the 10% significance level.

Table 4. Variables in the fitted model

Variables	Coeffi-cients	Sig.	Exp(B)	95% C.I. for Exp(B)	
				Lower	Upper
Using de-vices	0.645	0.006	1.905	1.204	3.016
Weekly expenses	-0.526	0.054	0.591	0.346	1.010
Preferred job field	1.563	0.000	4.774	2.131	10.691
Faculty	-0.501	0.041	0.606	0.375	0.980
Level	0.567	0.051	1.763	0.997	3.119
Roommates do e-busi-nesses	1.887	0.000	6.599	2.804	15.533
Com: skills before uni-versity	0.949	0.012	2.583	1.228	5.434
IT courses followed	-1.002	0.012	0.367	0.169	0.801
Constant	-4.517	0.000	0.011		

The fitted model is written as

= – 4.517 + 0.645 (Using devices) – 0.526 (Weekly expenses) + 1.563 (Preferred job

field) – 0.501 (Faculty) + 0.567 (Level) + 1.887 (Roommates do e-businesses) +

0.949 (Computer skills before university) – 1.002 (IT courses followed)

5. CONCLUSION AND RECOMMENDATIONS

Most students use laptops/desktops and smart mobile phones to do e-businesses in university, and their weekly expenses range from LKR 3000 to LKR 5000. The majority of students prefer to get degree-based jobs, the Tamil or Muslim students are not involved in e-business, and students using smartphones or tablets are also not engaged in e-business activities. Most students are satisfied with their decision to pursue higher education. The language problem is the most common challenge encountered by students at the university. Many of the students' roommates are involved in e-businesses. Students have an average level of computer and English literacy skills. These findings provide many insights on the e-business involvement while using a device, weekly expenses, preferred field of job, faculty, level, E-businesses among roommates, Computer skills before entering university, and IT courses followed are most significant influencing factors for doing e-business university students. It can be recommended that the use of high-performing devices, joining with roommates who are doing e-business, and the acquisition of computer and information technology skills help maintain consistent e-businesses among university students.

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