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Attention to diversity in higher education: Economic and cultural factors for labor market insertion

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Abstract

The purpose of this study was to determine how socioeconomic and cultural factors influence the labor market insertion of graduates from three study programs at the National University of Northern Border, Peru. The research design was non-experimental and cross-sectional. The population consisted of 825 graduates and a sample of 263 graduates. The data collection technique was a survey, and the instrument was a questionnaire. The study used discrete choice Logit and Probit models; the following variables were identified as socioeconomic and cultural factors that positively influence labor market insertion: age, sex, professional background, marital status, educational level, area of residence, work activity, association affiliation, monthly income, seniority, length of service, home ownership, basic services (internet, cable), language proficiency, media, place of birth, mother's education, and use of social media (WhatsApp). On the other hand, the variables related to the number of children, leisure activities, housing materials, television preferences, and father's education decrease the likelihood of a graduate working. In conclusion, these social, economic, and cultural factors explain the labor market integration of university graduates from a diversity perspective. The findings can guide the design of educational public policies, considering attention to diversity. This research expands the literature on attention to diversity and labor market integration, especially factors that determine whether graduates can enter the labor market from a diversity perspective.

Keywords: Attention to diversity, cultural factors, labor market insertion, logistic regression, social factors, economic factors, university graduates.

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1. Introduction

Attention to diversity in higher education is a topic of increasing relevance in the current context, where the importance of adapting educational processes to the needs of an increasingly heterogeneous student population is recognized. In this sense, higher education not only has the responsibility of imparting technical and academic knowledge but also of preparing students to face the challenges of the labor market [1]. Therefore, attention to diversity becomes a key element to ensure that all students, regardless of their circumstances, have access to equitable opportunities.

As Maritza and Figueroa [2] point out, this process requires a change in attitudes and values within the educational system, promoting a culture of inclusion to pay attention to diversity and reduce educational exclusion. Proper diversity management can be a determining factor in improving job placement rates, as it prepares students to interact in a diverse work environment. Likewise, economic barriers can limit access to educational resources and training opportunities, while cultural differences can influence expectations and perceptions about work, facilitating their insertion into an increasingly diverse and competitive labor market.

If the efforts to respond to the diversity of immigrant students are taken into account, for example, the development and implementation of new educational tools to promote intercultural relations and the construction of a new citizenship is easily understood. Along the same lines, students need to learn cognitive, emotional and behavioral skills necessary for adequate social integration.

According to the International Labour Organization (ILO) [3] there is a mismatch between labor supply and demand, with estimates of more than 188 million unemployed people worldwide in 2019. Likewise, there is a relationship between access to employment and the educational level achieved, given that [4] consider that increasing the educational level is one of the ways to integrate graduates into the labor market; however, the labor market does not guarantee that having a professional degree will allow access to a job. Therefore, education, skills, and labor market outcomes are closely linked [5].

At the national level, the INEI [6] reported that the unemployment rate in the second quarter of 2023 was 5.3%, 1.1 percentage points higher than that of the previous year's quarter (4.2%). Likewise, the unemployment rate for women (6.1%) is 1.4 points higher than that for men (4.7%). In Piura, the INEI [6] recorded an unemployment rate of 6.7% higher than that of the same period in 2022 (3.2%); affecting women (8.7%) to a greater extent than men (5%). In such a situation, University Law No. 30220, in its Art. 28, Inc. 7, warns that the existing mediation and job insertion mechanisms are part of the basic conditions. Meanwhile, National Superintendency of Higher University Education (SUNEDU) [7] indicates that the graduate's follow-up plan is part of the conditions for licensing. Therefore, it is not only about getting a job, but also about generating opportunities for professional development according to the level of education received, as well as skills and competencies [8].

On the one hand, the promotion of ICTs and the increase in the flow of graduates lead to greater competitiveness and rethinking the possibility of working in a place other than their place of residence [9]. Unfortunately, the approaches to career guidance and research on career insertion are two issues that are not related within the university [10].

By 2023, the University registered 825 graduates, of which 700 are high school graduates and 116 are graduates. This shows that only 14% are graduates. The main problem of the study is that the factors that intervene in the process of insertion into the labor market of graduates are indeterminate, which limits the proposal and implementation of programs and/or strategies that promote labor integration. In that sense, is it important to know how socioeconomic and cultural factors influence the job placement of graduates from the National University of Frontera? Considering that there are elements external to the university environment, such as ethnicity, gender of graduates, social capital, and family background, which are also determinants of job success, measured by salary and formality.

Social factors being those that affect the person as a whole, regardless of their location or space. Economic factors aimed at increasing the productivity of goods and services and satisfying social and human needs. Cultural factors determine the conditions because they reflect the nature of human behavior [11]. Similarly, gender disparities are also observed at the level of Latin America and the Caribbean, therefore, policies that take into account the female gender in the workplace and salary field must be the subject of research, since the existence of gender discrimination reflects that an employee is not valued for their productivity and demonstrated capacity, but for their status as a man or woman [12].

For Ayala Gutiérrez [13], job placement is an activity whose purpose is to introduce people from excluded backgrounds into the labor market. However, employment is a means to access economic resources to support herself and her family [14]. In this way, the limited insertion of women engineers is probably a consequence of political, social, cultural, institutional factors, among others [15]. Similarly Memije Alarcón et al. [16] shows the exclusion of women in higher education. Therefore, it is men who obtain employment with fewer barriers than women.

Likewise, the social acceptance of women's full-time paid work is inversely proportional to the presence of sons and daughters in the family, leading to discrimination also in their income; That is, employers consider that hiring them will result in higher costs for the company [17]. Considering the salary gap, according to Tallón and Hervás [18] lesbians have a salary advantage over heterosexual women, with estimates ranging between 3% and 34%, which suggests that the market considers that lesbians are less likely to have children and are more dedicated to their professional career.

The National Policy on Higher and Technical-Productive Education promotes the inclusion in higher education of populations that lack that level of training. To do this, it articulates multiple training options, so that young people can achieve personal and professional goals [19]. Studies such as Baquero Pérez and Ruesga Benito [20] show that the work success of Spanish students has a positive relationship with working full-time while they study. Meanwhile, Niama et al. [21] characterized the capacity, academic competitiveness, professional training and complementary services, which allowed graduates to enter the labor market.

Murillo and Montaño [22] analyzed contrasts in the labor insertion of graduates, concluding that graduates from private universities receive higher salaries, are more stable and occupy better positions; However, their integration takes longer than that of graduates from public universities. Another study in Ecuador indicates that the competencies developed through practice such as interdisciplinary vision, creativity and innovation, use of technologies and teamwork are positively associated with job placement [23].

A study in Argentina showed that the labor insertion of female graduates has been high in the last 13 years. However, there is still a perception in society that there are careers more suitable for certain genders [15]. A study in Spain aimed to understand and analyze, based on students' perceptions, the influence that factors related to skills training, satisfaction with learning and predisposition to job mobility can exert on future opportunities for job success in the process of socio-labor insertion, showing that the factors influence the job insertion of 1,328 students from four universities [11].

A study in Mexico aimed to evaluate the statistical significance of a set of predictor variables such as qualifications, academic components, curricular components and personal skills; on the variable job insertion, showing that graduates are significantly associated with job insertion. Likewise, variables such as entrepreneurship, teamwork, work environment, workshop and laboratory practices, and management of information and communication technologies (ICT) are significantly related to job placement [24].

Another study in Ecuador identified that Ecuadorian regulations require public and private companies to hire people with specific disabilities instead of autism, revealing a discrepancy between the profile of unemployed people with autism and the requirements of the organizations. On the other hand, according to participants with autism, the main finding lies in family support for the economic well-being of participants who are in work, since academic preparation in high school does not guarantee job accessibility [25].

In the study carried out by Castro Pais et al. [26] aimed to analyze the skills that contribute to the employability of graduates, they found that the most valuable skills are the ability to learn, problem solving, motivation and adaptability, unlike language proficiency, creativity or leadership, with lower scores. Another study in Mexico found that those young people who graduated before the pandemic will have better working conditions than the group that graduated during the health crisis. There are also differences between fields of knowledge, placing the social sciences and humanities among the group of graduates who have the greatest difficulties in practicing their profession [27].

At the national level, Maquera-Luque et al. [28] identified the factors that influence the labor insertion of graduates through a multivariate model, from which it was found that the factors that significantly influence labor insertion are working conditions, preference for cinema and media such as TV and radio. Likewise, Ruiz Flores [29] highlighted the poor employment situation of high school graduates in Cajamarca, since 32% are unemployed and of the 68% employed, 42% work informally, 61% earned salaries between 930 and 1670, and 53% were employed in positions outside the tourism and hotel sector. Additionally, Saenz Rivera [30] identified the conclusive factors that influence the job placement of graduates in Cusco. The study found that employment is determined by academic skills in 63.9%, work skills in 62%, and demographic characteristics in 53.7% of graduates.

Meanwhile, Peralta Medina [31] determined the incidence of vocational training on graduates' labor insertion, finding that vocational training had a moderate impact on graduates' incorporation into the labor market, with an R2 of 64.2% and a significance level of 1%. On the other hand, Zumaeta Vásquez [32] identified the relationship between academic training and insertion into the labor market of university students in Iquitos, demonstrating that there is a significant relationship with a correlation coefficient of 0.780 and a degree of significance of 0.000; deduced by means of Spearman's Rho statistic.

One study applied Spearman's Rho test, which shows that implementing a systematic teaching and learning process creates opportunities for workforce participation [33]. Another study in Lima Norte, I consider that dual training affects the employment of students after reaching the Nagelkerke value, that is, 50.9% of the employment gap is explained [34]. A study in Cusco found that there is a direct relationship between the variables, concluding that government employment policies influence women's employment [35].

At the local level, in the Puno region, the factors that determine adequate employment of graduates were analyzed, where the probability of being adequately employed is directly related to variables: sector where the graduate works (43.8%), income level (13.06%) and type of contract (42.25%). Furthermore, 70% are employed and 30% are unemployed and/or underemployed [36]. Another study concludes that the mother tongue significantly influences job placement where 30.5% of graduates master the Quechua language and the place of work is a public institution [37]. Finally, Chipana Quispe and Pacompia Capacoila [38] revealed that the beneficiaries entered the workforce due to the modality of beneficiary status and social vulnerability status of the Program.

The university, object of study, at the end of the 2023-II academic semester registered 825 graduates, of which 700 are high school graduates and 116 are qualified professionals; showing that only 14% are qualified professionals from the three study programs. In that sense, we sought to answer the question: ¿How do socioeconomic and cultural factors influence the labor insertion of graduates from the National University of Frontera? Therefore, the study aimed to determine the socioeconomic and cultural factors that influence the labor insertion of graduates from the National University of Frontera.

2. Methods

2.1. Scope or Place of Study

It was carried out at the National University of Frontera, located in the province of Sullana in the Piura region. The execution of the investigation took place in 2023.

2.2. Method Description

2.2.1. Population

The population under study is made up of graduates [1] from the academic semesters from 2018-II to 2023-I.

Table 1.
Study population.

Professional School	No. of graduates
Hotel and Tourism Administration	278
Economic Engineering	297
Food Industries Engineering	250
Total	825

Source: Directorate of Admissions and Academic Records -DARA.

2.2.2. Sample

Non-probabilistic, the technique being simple random sampling through the application of the formula, considering a significance level of 5% and a sampling error of 7%, therefore, the sample size was 263 graduates.

2.2.3. Research Method

The type of research has a quantitative approach and is of an explanatory level [39].

2.2.4. Research Design

It is framed in a non-experimental cross-sectional design [39]. It is non-experimental because the study does not intend to manipulate any variables, and it is cross-sectional since data was collected at a defined moment in time. The study has a quantitative approach. According to the scope, the research is correlational and explanatory because it not only describes and relates but also seeks to find the causes of a phenomenon.

2.2.5. Technique and Instrument

For the measurement of the independent variable: Socioeconomic and cultural factors; and the dependent variable: Job insertion The technique was the survey, and the instrument was the questionnaire. For Anguita et al. [40] the questionnaire survey technique includes the structuring of questions or items with the purpose of collecting data on the variables, their dimensions and indicators, to ensure the coherence of the information.

2.2.6. Reliability by Internal Consistency

The Cronbach's Alpha coefficient applied to the items of the instrument was calculated through the SPSS software and its result is 0.601, which, according to the interpretation of Tuapanta et al. [41], has good reliability and is reliable. Therefore, it is concluded that the internal consistency of the instrument used is acceptable and its application proceeds. Likewise, for the job placement variables, the Cronbach's Alpha coefficient applied to the items of the instrument was calculated through the SPSS software and its result is 0.886, which, according to the interpretation of Tuapanta et al. [41], has a very good reliability and presents excellent reliability. Therefore, it is concluded that the internal consistency of the instrument used is acceptable and its application proceeds.

Table 2.
Reliability statistics.

Instrument	Cronbach's alpha	Number of elements
Socioeconomic and cultural factors questionnaire	0.601	22
Job insertion questionnaire	0.886	17

2.3. Variable Description

This section presents the variables that were used for the analysis of the different stages of the research and also for the econometric models, being the following:

Table 3.
Variables used in the research.

Variable	Description	Quantification	Expected sign
Prob(YES/NO)	Probability of responding YES he is employed, or NOT he is employed.	0 = Not inserted in the labor market. 1= If you are inserted in the labor market	
Age	Age of graduation in years	Continuous quantitative	+/-
Sex	Sex or gender of the graduate	0 = Female 1 = Male	+/-
Career	Professional career to which the graduate belongs	1 = Hotel and tourism administration 2 = Economic Engineering 3=Food Industries Engineering	+/-
Marital status	Marital status or marital status	0= Single/No commitment 1= Married/committed	+/-

Variable	Description	Quantification	Expected sign
Children	Number of children of the graduate	Continuous quantitative (1, 2, 3,…)	+/-
Education	Educational level or academic degree achieved	1= Graduate 2= Bachelor 3= Graduate	+
Area	Graduate residence area	0= Rural 1= Urban	+
Work activity	Activity to which the graduate is dedicated	0= Dependent activities 1= Independent activities	+/-
Association	If the graduate belongs to any social association	0=Does not belong to any association 1= Belongs to an association	+/-
Activities in your free time	Activities they do in their free time	1= Sports 2= Walk with friends 3= Sleep 4= Watch TV 5= Make use of the internet	+/-
Income	Income level of graduates	1= Does not receive 2= S/. 800 a S/. 1200 3= S/. 1200 a S/. 2000 4= S/. 2000 a S/. 3000 5= More than S/. 3000	+
Service time	Length of service working in one or different jobs	Continuous quantitative (1, 2, 3, 4,…)	+
Housing material	Main housing material	1= Foreign 2= Stone with mud 3= Adobe 4= Wood 5= Brick and cement	+/-
Housing ownership	Housing ownership	1= Familiar 2= Own 3=Rented	+/-
Basic services – Internet	If the home has internet services	0= Does not have internet 1= Has internet	+/-
Basic services – Cable	If the home has cable services	0= Does not have Cable 1= If you have Cable	+/-
Languages	If the graduate masters more than one language	Continuous quantitative (1, 2, 3)	+/-
TV preferences	If the graduate has a preference in TV, such as cartoons, movies, series, among others.	0= No preferences 1= If you have preferences	+/-
Information media	If the graduate uses the Internet as a means of information or uses other media (friends, neighbors, TV, radio, newspaper)	0= Does not use the Internet as a means of information 1= If you use the internet as a means of information	+/-
place of birth	Place of birth of graduates	0= Other place 1= Sullana	+/-
Father's education	Level of education achieved by the father	1= No level 2= Primary level 3= Secondary level 4= Technical level 5= Higher level	+/-
mother's education	Level of education achieved by the mother	1= No level 2= Primary level 3= Secondary level 4= Technical level 5= Higher level	+/-
Use of social network	If you use WhatsApp or other types of social networks	0= Use other social networks 1= use WhatsApp	+/-

Source: Prepared based on Maquera-Luque, et al. [28].

2.4. Detailed Description of Methods for Specific Objectives

To test the research hypothesis, logistic regression was used; with which the social, economic and cultural factors that influence the labor insertion of the graduates of the public university in question were determined.

2.5. Estimation Method

This section shows each of the methods used for the corresponding estimates:

2.5.1. Discrete Choice Models

The discrete choice model *discrete choice* It is one that allows you to discover which attributes or characteristics, such as price sensitivity, are important to the customer and taken into account during decision making.

Discrete choice models are used to explain or predict a choice between a set of two or more discrete (i.e., distinct and separable; mutually exclusive) alternatives.

2.5.2. Logit Probabilistic Model

The Logit model is represented by the logistic (cumulative) distribution function:

$$P_i = \frac{1}{1 + e^{-(\beta_1 + \beta_2 X_i)}} \quad (5)$$

where the linear expression $\beta_1 + \beta_2 X_i = Z_i$. Making the corresponding replacements:

$$P_i = \frac{1}{1 + e^{-Z_i}} = \frac{e^Z}{1 + e^Z} \quad (6)$$

Assuming that (P_i) is the probability of working or not, it is given by the equation.

And, the probability of not belonging to the labor market is:

$$1 - P_i = \frac{1}{1 + e^{Z_i}} \quad (7)$$

2.5.3. Probit Probabilistic Model

The Probit model based on the theory of utility, the decision of the *i-th* individual belonging to the labor market is represented by the function with a normal distribution, called Probit:

$$P_i = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{I_i} e^{-z^2/2} dz = \frac{1}{\sqrt{2\pi}} \int_{-\infty}^{\beta_1 + \beta_2 X_i} e^{-z^2/2} dz \quad (8)$$

P , represents the probability of belonging to the labor market. The beta parameters are estimated using the Maximum Likelihood method.

3. Results and Discussion

3.1. Specific Objective Results

The results obtained on the socioeconomic and cultural factors that influence the labor insertion of graduates are presented below.

3.2. Results of Specific Objective 01, of the Determining Factors of Belonging to the Labor Market

In this section we show the results of the specific objectives set in the research. Thus, to identify the social factors that influence the labor insertion of university graduates, probabilistic regression was carried out with the Logit and Probit models. According to the results, both models are similar and the reading is that: the positive signs of the coefficients increase the probability of working (or getting a job) and the coefficients with negative signs decrease the probability of working (or decrease the probability of getting a job).

To choose the best model, we are guided by the results of the statistical inference and the information criteria, both from the Logit and Probit models, which try to explain the labor insertion of university graduates, which is done with the estimated coefficients (*betas*), it is important to verify the level of significance of each variable (*p-value*) that measures the individual significance, the Likelihood Ratio - LR statistic that measures the global significance of the model, the Pseudo R2 statistic that measures the goodness of fit. The Akaike and Schwarz information criteria describe the relationship between bias and variance in model construction, or speaking generally about the accuracy and complexity of the model.

Table 4.
Probability of entering or not entering the labor market of graduates according to social factors.

Variables	Logit	Probit
	Dependent variable: 1=works, 0=does not work	
Age	0.070*(0.073)	0.044*(0.044)
Sex or gender	0.884**(0.342)	0.548**(0.208)
Professional career	0.115*(0.203)	0.064*(0.123)
Marital status	1.122**(0.563)	0.689**(0.337)
Number of children	-0.668*(0.430)	-0.428*(0.262)
Education level	0.213*(0.247)	0.125*(0.148)
Residence area	0.273*(0.285)	0.163*(0.174)
Work activity	0.517*(0.280)	0.314*(0.171)
If you belong to any association	0.468*(0.506)	0.277*(0.300)
Activities in your free time	-0.155**(0.070)	-0.093**(0.043)
Constant	-2.549*(1.875)	-1.559(1.142)
Observations	262	262
P-pseudo R2	0.1161	0.1168
Likelihood Ratio	42.091	42.322
Log. Verisimilitude	-160.070	-159.954
Log. Vero. with restrictions	-181.115	-181.115
Akaike information criterion	342.14	341.909
Schwarz information criterion	381.392	381.161

Note: Significance level: * <0.1, **<0.05, ***<0.01.\

The specification of the econometric model applied to the regression is as follows:

$$\begin{aligned} Insercion\ Laboral = {} & \beta_0 + \beta_1 Edad + \beta_2 Sexo + \beta_3 Profesion + \beta_4 Estado\ civil \\ & + \beta_5 N° \ de\ Hijos + \beta_6 Nivel\ de\ estudios + \beta_7 Zona\ de\ residencia \\ & + \beta_8 Actividad\ laboral + \beta_9 Pertenece\ a\ asociación \\ & + \beta_{10} Actividades\ en\ tiempo\ libre + \varepsilon_i \end{aligned}$$

The results in statistical terms show that at the individual level all the variables included in the regression are significant, for the most part, at a significance level of 10%, but the model that has the best fit is the probabilistic Probit model. Well, the P-pseudo R2 statistic is higher (0.116) compared to the other Logit model, the Likelihood Ratio is higher (42.322), the Akaike Information Criterion is lower (341.909) and finally the Schwarz information is also lower (381,161), according to all this information and in accordance with the econometric theory, we choose the Probit model.

According to the selected Probit model, the coefficients (β_i) only represent the relationship of the dependent variable with the independent variables, as well as their direct or inverse relationship. It does not express the probabilities of the event. Consequently, the variables with a positive sign: Age, Sex, Professional career, Marital status, Level of education, Area of residence, Work activity, if they belong to an association, increase the probability that the graduate will enter the labor market from a focus on attention to diversity, that is, they increase the probability that the graduate will work. While the variables with a negative sign: Number of children and Activities in their free time, decrease the probability that the woman works.

3.3. Marginal Effects of Insertion into the Labor Market of University Graduates

To really estimate the true effect of social variables on the decision of whether or not to enter the labor market by university graduates, we estimate the marginal effects of the selected model, in this case the Probit model, now we will be able to interpret the magnitudes of the effect of each of the variables.

The marginal effects are obtained through the partial derivative of the probability density function, which is as follows for continuous variables:

$$\frac{\partial E\left[y \mid x\right]}{\partial y} = \phi(x'\beta) \cdot \beta \qquad (9)$$

And for discrete variables it has the following specification:

$$\text{Prob}\left[y = 1 \mid \bar{x}_{(d)}, d = 1\right] - \text{Prob}\left[y = 1 \mid \bar{x}_{(d)}, d = 0\right] \qquad (10)$$

with $\bar{x}_{(d)}$, which are the means of all other variables in the model. The results of applying the previous formulas are shown in the following table, both the marginal effect, the standard error and the level of significance.

Table 5.
Marginal effect of social variables.

Variable	Marginal Effect	Standard Error
Age	0.017*	0.017
Sex or gender	0.211***	0.077
Professional career	0.025*	0.048
Marital status	0.255**	0.111
Number of children	-0.169*	0.103
Education level	0.049*	0.059
Residence area	0.064*	0.069
Work activity	0.124**	0.067
If you belong to any association	0.107*	0.113
Activities in your free time	-0.036**	0.017

Note: Significance level: *** at 1%, ** at 5%, * at 10%.

3.4. Results of Specific Objective 02, of the Determining Factors of Belonging to the Labor Market

With the objective of identifying the economic factors that influence the labor insertion of university graduates, the regression of two econometric models was carried out, both Logit and Probit, as shown below.

Table 6.
Probability of entering or not entering the labor market according to economic factors.

Variables	Logit	Probit
	Dependent variable: 1=works, 0=does not work	
Monthly income	0.489***(0.130)	0.302***(0.079)
Service time	0.415**(0.162)	0.252**(0.098)
Housing material	-0.034*(0.151)	-0.014*(0.090)
Housing ownership	0.272*(0.187)	0.169*(0.114)
Basic services – Internet	0.409*(0.314)	0.255*(0.192)
Basic services – Cable	0.023*(0.301)	0.019*(0.182)
Constant	-2.271***(0.755)	-1.432***(0.455)
Observations	262	262
P-pseudo R2	0.0992	0.0998
Likelihood Ratio	35.916	36.134
Log. Verisimilitude	-163.157	-163.048
Log. Vero. with restrictions	-181.115	-181.115
Akaike information criterion	340.314	340.097
Schwarz information criterion	365.293	365.075

Note: Significance level: * <0.1, **<0.05, ***<0.01.

The specification of the econometric model applied to both regressions is as follows:

$$Insercion\ Laboral = \beta_0 + \beta_1 Ingreso\ mensual + \beta_2 Tiempo\ de\ servicio + \beta_3 Material\ de\ vivienda + \beta_4 Pertenencia\ de\ la\ vivienda + \beta_5 Servicios\ de\ internet + \beta_6 Servicios\ de\ cable + \varepsilon_i$$

In the same way as in the previous specific objective, it can be seen that the Probit model has a better fit than the Logit model, since its Akaike Information Criterion is lower (340.097), the Schwarz Information Criterion is also lower (365.075), therefore, the probit model is chosen.

The coefficients (β_i)of the chosen model, only represent the relationship of the dependent variable with the independent variables, as well as their direct or inverse relationship. It does not express the probabilities of the event. Consequently, the variables with a positive sign: Monthly income, Length of service, Housing ownership, Basic services – Internet, Basic services – Cable, increase the probability that the graduate will enter the labor market, that is, they increase the probability that the graduate will work. While the variables with a negative sign: Housing material, decrease the probability that the graduate will enter the workforce.

3.5. Marginal Effects of Insertion into the Labor Market of University Graduates According to Economic Factors.

To really estimate the true effect of economic variables on the decision of whether or not to enter the labor market by university graduates, we estimate the marginal effects of the selected model.

Table 7.
Marginal effect of economic variables.

Variable	Marginal Effect	Standard Error
Monthly income	0.120***	0.031
Service time	0.100**	0.039
Housing material	-0.005*	0.035
Housing ownership	0.67*	0.045
Basic services – Internet	0.101	0.076
Basic services – Cable	0.007	0.072

Note: Significance level: *** at 1%, ** at 5%, * at 10%.

3.6. Results of Specific Objective 03, of the Determining Factors of Belonging to the Labor Market

With the objective of identifying the cultural factors that influence the labor insertion of university graduates, the regression of two econometric models was carried out, both Logit and Probit, as shown below.

Table 8.
Probability of entering or not entering the labor market according to cultural factors.

Variables	Logit	Probit
	Dependent variable: 1=works, 0=does not work	
Language proficiency	0.302*(0.235)	0.187*(0.236)
TV preferences	-0.041(0.286)	-0.028(0.286)
Information medium	0.766**(0.396)	0.475**(0.401)
place of birth	0.292*(0.282)	0.180*(0.283)
Father's education	-0.220*(0.148)	-0.137*(0.091)
mother's education	0.069*(0.145)	0.041*(0.090)
If you use social networks - Wathsapp	0.069(0.275)	0.046(0.171)
Constant	-0.727(0.721)	-0.447(0.445)
Observations	262	262
P-pseudo R2	0.0214	0.0213
Likelihood Ratio	7.762	7.738
Log. Verisimilitude	-177.234	-177.246
Log. Vero. with restrictions	-181.115	-181.115
Akaike information criterion	370.468	370.492
Schwarz information criterion	399.015	399.039

Note: Significance level: * <0.1, **<0.05, ***<0.01.

The specification of the econometric model applied to both regressions is as follows:

$$\begin{aligned} Insercion\ Laboral = {} & \beta_0 + \beta_1 Dominio\ de\ idiomas + \beta_2 Preferencias\ en\ la\ TV \\ & + \beta_3 Medio\ de\ información + \beta_4 Lugar\ de\ nacimiento \\ & + \beta_5 Educación\ del\ padre + \beta_6 Educación\ de\ ladre \\ & + \beta_7 Si\ utiliza\ redes\ sociales - WathsApp + \varepsilon_i \end{aligned}$$

In the same way as the previous specific objectives, a comparison of both probabilistic models is carried out, therefore, the Logit model has a better fit compared to the Probit, its Akaike Information Criterion is lower (370.468), the Schwarz Information Criterion is also lower (399.015), based on this evidence the Logit model is chosen.

The coefficients (β_i) of the chosen model, only represent the relationship of the dependent variable with the independent variables, as well as their direct or inverse relationship. It does not express the probabilities of the event. Consequently, the variables with a positive sign: Language proficiency, Medium of information, Place of birth, Mother's education, If you use social networks – WhatsApp, increase the probability that the graduate will enter the labor market from a focus on attention to diversity, that is, they increase the probability that the graduate will work. While the variables with a negative sign: Preferences in TV and father's education, decrease the probability that graduates enter the workforce.

3.7. Marginal Effects of Insertion into the Labor Market of University Graduates According to Economic Factors

To really estimate the true effect of cultural variables on the decision of whether or not to enter the labor market by university graduates, we estimate the marginal effects of the selected model.

Table 9.
Marginal effect of cultural variables

Variable	Marginal Effect	Standard Error
Language proficiency	0.075*	0.058
TV preferences	-0.010	0.071
Information medium	0.187**	0.093
place of birth	0.072*	0.0706
Father's education	-0.054*	0.036
mother's education	0.017*	0.036
If you use social networks - WhatsApp	0.017	0.068

Note: Significance level: *** at 1%, ** at 5%, * at 10%.

4. Discussion

4.1. Oe1. Social Factors That Influence Job Placement

The specific objective was to identify the social factors that influence the labor insertion of graduates. The study found that 56.4% of the total women who participated in the study (101 women) and 80.7% of the total men who participated in the study (67 men) were working at the time of completing the questionnaire.

Likewise, the study identified social factors that increase the probability that the graduate works at Age (1.7%), Sex or gender (21.1%), Professional career (2.5%), Marital status (25.5%), Level of education (4.9%), Area of residence (6.4%), Work activity (12.4), If they belong to an association (10.7). While the variables that reduce the probability that the graduate enters the labor market are the Number of children (-16.9%) and Activities in their free time (-3.6%).

The results align with those of Gimeno et al. [15], who conclude that there is still a perception in society that there are careers more suitable for certain sexes or genders, evidencing a conditional attention to diversity. Furthermore, Varas Ramirez [42] states that underemployment in the urban area of the city of Juliaca in 2016 is related to the sex variable, since he found that the probability that men are in a situation of underemployment is 10.41% higher compared to women, assuming that this is due to the economic activities of the place, often informal. Also, it specifies that age has a negative relationship with underemployment, that is, the older you are, the lower the probability of being underemployed by 6.82%, giving rise to the existence of barriers to employment.

In accordance with the results of the study, Rosello Peralta [43] maintains that the determining factors of the occupational situation of graduates are: age, marital status, work sector, income level, and postgraduate studies. Where as the age of the graduates increases, the probability of being in an employed situation decreases by 14.6%, single graduates have a lower probability of being employed by 11.43% compared to married ones, conditioning employment on marital status. Along the same lines, another investigation on the employment situation of graduates from the same university found that age, marital status, postgraduate studies, work sector and job permanence determine their employment situation; That is, as the age of the graduate increases, the probability of being working decreases by 2.2%; single people have an 18.4% lower probability of being working than those who are married or in a common-law unión [44]. Therefore, a change of mentality is urgently needed, which involves a change in attitude towards diversity that guarantees everyone's right to education and promotes equal opportunities.

Likewise, Ruiz Flores [29] analyzed the influence of social factors on job placement at the National University of Cajamarca in 2020, finding that friends influence 50%, focusing mainly on female graduates. These results disagree with those of Maquera-Luque et al. [28] since they found the sports activity carried out by graduates of the National University of Moquegua as a social factor that significantly influences them.

4.2. OE2. Economic Factors That Influence Job Placement

The specific objective was to know the economic factors that influence the labor insertion of university graduates. The study found that Monthly Income (12%), Service Time (10%), Housing Ownership (67%), Basic Services – Internet (10.1%), Basic Services – Cable (0.7%) increase the probability that the graduate works. While Housing Material (-0.5%) decreases the probability that the graduate will enter the labor market. These results partially coincide with those obtained in a study carried out at the Moquegua National University, where the graduates' employment status and basic electricity services were those that influenced the year 2019 [28].

Likewise, the results are related to a study carried out in Puno that analyzed the factors that determine adequate employment of E.P. graduates. Economic Engineering in 2014, where it was found that the probability of being adequately employed has a direct relationship with the sector where the graduate works, the income level, and the type of contract [36]. These results align with those of Rosello Peralta [43], who states that graduates who choose to work in the private sector are 25.36% more likely to be working than those who want to work in the public sector. On the other hand, a study on job placement in adults with autism in Ecuador shows that academic preparation in high school does not guarantee job accessibility, showing that there are other factors that influence the job placement process [25]; and that restrict attention to functional diversity.

4.3. OE3. Cultural Factors that Influence Job Placement

The specific objective was to determine to what extent cultural factors influence the job placement of university graduates. The study found that Language proficiency (7.5%), Medium of information (18.7%), Place of birth (7.2%), Mother's education (1.7%), and If they use social networks – WhatsApp (1.7%), increase the probability that the graduate

will work. While TV preferences (-1%) and father's education (-5.4%) decrease the probability that graduates enter the workforce.

They agree and disagree with Maquera-Luque et al. [28] since they determined the preference for movies and TV, and radio information media as cultural factors. A relevant aspect is that language proficiency or learning more languages in a globalized context turns out to be an influential cultural factor. However, Castro Pais et al. [26] analyzed the skills that contribute to the employability of graduates, showing that language and creativity obtained the lowest scores.

Another study states that variables such as the Occupation of the head of the household, Age and the mother's level of education are variables with greater significance in the decision to pursue higher education [45], showing that these factors significantly influence whether graduates wish to achieve new goals or make an important decision. The results also agree with Rosello Peralta [43] who determined the determining factors of the occupational situation of graduates during the period 2010 to 2014 from the engineering area of the National University of the Altiplano to be work experience, salaries and Head of household, that is, if the graduate is Head of household, the latter asserting the usefulness that working gives the graduate.

Therefore, attention to diversity, to the heterogeneity of students, requires a practice of the university teacher with an adequate profile to diagnose, design, develop, communicate, innovate, investigate, and evaluate; aspects where attention to diversity in the university environment guarantees the elimination of barriers to access to employment.

5. Conclusions

Based on the specific objectives and specific hypotheses, the following conclusions are presented:

1. It is evident that Age (1.7%), Sex or Gender (21.1%), Professional Career (2.5%), Marital Status (25.5%), Level of Education (4.9%), Area of Residence (6.4%), Work Activity (12.4%), and Whether They Belong to an Association (10.7%) are social factors that influence positively and are statistically significant for graduates entering the labor market from a focus on attention to diversity. That is, if the graduate is a man or male, belongs to the Academic Programs that are part of the study, is married or cohabiting, has graduated with a bachelor's degree or professional degree, lives in an urban area, has dependent jobs, and belongs to some association, then the probability of entering the labor market will increase.

2. It is evident that economic factors such as monthly income (12%), length of service (10%), and housing ownership (67%) have a positive influence and are statistically significant for graduates entering the labor market. Specifically, if a graduate has a level of income, has worked in one or different jobs, and lives in a family home, then the probability of him/her entering the labor market will increase.

3. It is evident that cultural factors such as language proficiency (7.5%), medium of information (18.7%), place of birth (7.2%), and mother's education (1.7%) positively influence and are statistically significant for graduates entering the labor market from a focus on attention to diversity. That is, if the graduate masters more than one language, uses the Internet as a means of information, was born in Sullana, and if the graduate's mother has a higher level of education, then the probability of entering the labor market will increase.

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