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**Profile of the Alumni of University of São  
Paulo - 2012**

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## **Profile of the Alumni of University of São Paulo - 2012**

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### **Abstract**

This paper reports the results of a survey conducted in 2012, between October and December, directed toward the University of São Paulo's alumni, both from undergraduate and graduate programs. The main research question is to understand how different patterns of curricula and learning contents influence the alumni's life aspirations and expectations.

**Keywords:** Alumni follow-up, public higher education, life aspirations, U-Map, ISCED97 classification.

## **Introduction**

The University of São Paulo (Universidade de São Paulo, USP) is a public, state university at São Paulo, Brazil. It is the largest Brazilian university and the country's most prestigious educational institution, and one of the best universities in Ibero-America. According to reports by the Ministry of Science and Technology, the University of São Paulo faculty is responsible for more than 30% of scientific papers published by Brazilian researchers in high quality journals. The total enrolment is approximately 90,000 with 33% enrolled at the graduate level (master's and doctoral programs). USP offers 247 undergraduate programs and more than 230 graduate programs in all academic areas, delivering 2,300 PhD degrees each year.

Due its traditional curricula design, with strong devise between different undergraduate courses, the University of São Paulo provides a good ground for exploring how patterns of curricula and learning contends influence the alumni's life aspirations and expectations.

The survey covered issues related to the alumnus' professional life, his\her evaluation of the university's infrastructure (library, laboratories, teaching facilities, etc.), curricula contends and quality of the university's faculty. In the last part, the questionnaire inquired on the alumnus "life aspirations", presenting a number of questions inquiring some fundamental values of life, as developed by Edward Ryan and Richard Deci, from the University of Rochester. The Aspiration Index "assesses people's intrinsic and extrinsic life goals or aspirations. That is, it measures the degree to which people value seven broad goal contents – wealth, fame, image, personal growth, relationships, community contribution, and health."

To sort the courses, we apply the Organization for Economic Co-Operation and Development (OECD) ISCED97 classification of educational programs, which distinguished courses focused on 8 broad subject areas or fields of education: agriculture, education, engineering, health and social services, humanities and arts, personal services, science, and social sciences, business and law. This classification produces a consistent pattern of stratification and had already been used by USP in previous study conducted in collaboration with the U-Map team from Center for Higher Education Policy Studies (CHEPS) of University of Twente, The Netherlands.

On the total, 12,000 alumni answered the on-line questionnaire. Of this total, 9,978 were selected for analysis. Incomplete questionnaires and those with missing or contradictory information were sorted out of the sample.

## **The Survey**

The survey was conducted through an online questionnaire, available from first week of October, 2012. The questionnaire is still available on the internet in order to continuously capture the alumni evaluation.

After the launch of the questionnaire, an advertising campaign was initiated in the University main Internet Portal and in some magazines and newspapers, which produced a significant initial volume of responses (3360 in 14 days). In October 10, 2012 was made a pre-sampling for analysis and later a new sample was extracted, being examined herein.

The questionnaire was structured in 3 macro sections ("Identification", "Current professional activity", "Course Evaluation"). The "Course Evaluation", in turn, was divided into two segments: "General Information" and "Course Evaluation / Contribution"). The "Course Evaluation" consisted of a Likert 5-point scale where 1 represented "Poorly" and 5, "Excellent", in items:

- Faculty quality
- Intellectually challenging/ stimulating environment
- Opportunities for active learning
- Curriculum/disciplines adequacy
- Library quality
- Infrastructure/facilities quality
- Quality Equipment (workshops/laboratories)

The "Course Contribution" also used a Likert 5-point scale (1-"No importance", 5-"High importance") and evaluated intrinsic aspirations (personal development, community contributions and significant relationships) and extrinsic aspirations (wealth, fame and image), exploring course related contribution to:

- Professional activities
- Technical knowledge on the practice area
- Oral communication skills and writing
- Professional ethics and social responsibility
- Environmental awareness
- Develop yourself and acquire new knowledge
- Help others improve their lives
- Be financially successful
- To have your name known to many people
- Having good friends
- Having a lifestyle that promotes physical health
- Work to make an ecologically sustainable world

The evaluations needed to be filled separately for each course. This form structure allowed hunting different perceptions of former student when in bachelor or graduate programs and not just a mixed overview. Thus, e.g., a respondent who attended two bachelor programs and two graduate programs, master's and doctoral fill once the "Identification" (same person), once the "Current Business Activity" section (same current status) and four sections of "Course Evaluation" one for each bachelor program, one for the master's

program and one for the doctoral program. In the analysis presented here use the evaluation of the latest degree course.

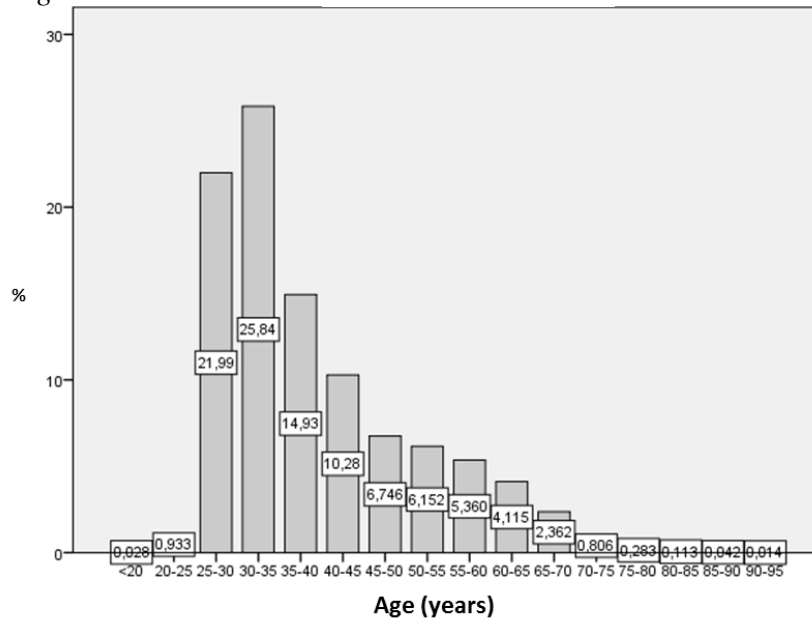
**Analysis and Results**

Among the respondents, 42% attended only bachelor programs, 29% attended graduate programs (master’s and doctoral programs) and another 29% attended bachelor and graduate programs at the University (Table 1). Differences in gender are well represented in the sample, with 47% of female among the undergraduate, and 48% of female among the graduate alumni. Most of the respondents were up to 45 years old (74% and 75% of each sample, in the same order), and for each group, the modal age was 30-35 year old (26%), and 35-40 years old (24%). Age distribution is in Figure 1.

**Table 1. Bachelor and Graduate Alumni at USP**

	Frequency	Percent
Only attended bachelor programs at USP	4206	42.2%
Only attended graduate programs at USP	2907	29.1%
Attended bachelor and graduate programs at USP	2865	28.2%
Total	9978	100.0%

**Figure 1. Age Distribution**



Regarding life aspirations, bachelor alumni evaluated more positively the item "Develop yourself and acquire new knowledge", followed by "Having good friends", "Be financially successful", "Help others improve their lives",

"To have your name known to many people" and "Work to make ecologically sustainable world". The item that had the lowest degree of evaluation was "Having a lifestyle that promotes physical health." The same pattern of results was observed in graduate alumni.

The statistical software used for analyzes was the IBM SPSS Statistics 21. The statistical procedure used was DecisionTree, which implements regression and classification analysis. The tree-building algorithm used was Exhaustive CHAID.

The two dependent variables (MetasVidaGrad, MetasVidaPos) used in each analysis are the total scores of questions about life aspirations in Likert scale, answered by bachelor and graduate alumni of University of São Paulo, respectively (see Tables 2 and 3).

The segmentation variable (Course) used in both analyzes is the same and has the categories of “only attended bachelor program at USP”, “only attended graduate program at USP” and “attended bachelor and graduate programs at USP”.

The independent variables in both analyzes are the same, all nominal variables: current workplace size (small organization, medium or large), sector (academic or non-academic), job tenure in the current workplace, level of current title, attended high school type (public, private, etc.), gender, bachelor program field (UMapGrad), graduate program field (UMapPos), salary range and age. The independent variables selected by DecisionTree for respondents who are “only attended bachelor program at USP” or “attended bachelor and graduate programs at USP” were (in order of predictive importance): bachelor program field (UMapGrad), salary range, current workplace, current workplace size and graduate program field (UMapPos). The independent variables selected by DecisionTree for respondents who are “only attended graduate program at USP” or “attended bachelor and graduate programs at USP” were (in order of predictive importance): sector, salary range, job tenure in the current workplace and bachelor program field (UMapGrad).

**Table 2.** *Life Aspirations Mean Score – Bachelor Alumni*

<b>Course</b>	<b>Mean</b>	<b>N</b>	<b>Std. Error of Mean</b>
Only attended bachelor programs at USP	3.50	4206	0.01
Attended bachelor and graduate programs at USP	3.67	2865	0.01
Total	3.57	7071	0.01

**Table 3.** *Life Aspirations Mean Score – Graduate Alumni*

<b>Course</b>	<b>Mean</b>	<b>N</b>	<b>Std. Error of Mean</b>
Only attended graduate programs at USP	3.65	2907	0,01
Attended bachelor and graduate programs at USP	3.64	2865	0,01
Total	3.65	5772	0,01



Interesting results emerge when we look at life aspirations mean score in terms of age, program field and salary (Tables 4 to 9). Age and higher wages improve our perceptions about the course, make us more tolerant or both? The totals are lower than Table 1 due some inconsistencies in age informed.

**Table 4. Life Aspirations Mean Score By Age Range – Bachelor Alumni**

Course	Age range (year)	Mean	N	Std. Error of Mean
Only attended bachelor programs at USP	20-25	3.51	65	0.08
	25-30	3.46	1345	0.02
	30-35	3.42	1142	0.02
	35-40	3.44	431	0.03
	40-45	3.54	293	0.04
	45-50	3.49	229	0.05
	50-55	3.66	226	0.05
	55-60	3.66	207	0.05
	60-65	3.76	145	0.06
	65-70	3.91	78	0.08
	Total	3.49	4161	0.01
Attended bachelor and graduate programs at USP	20-25	2.85	1	.
	25-30	3.56	210	0.04
	30-35	3.56	685	0.02
	35-40	3.62	625	0.03
	40-45	3.66	434	0.03
	45-50	3.67	248	0.04
	50-55	3.72	209	0.05
	55-60	3.81	172	0.06
	60-65	3.99	146	0.06
	65-70	3.89	89	0.07
	Total	3.66	2819	0.01
Total	20-25	3.50	66	0.08
	25-30	3.47	1555	0.01
	30-35	3.47	1827	0.01
	35-40	3.55	1056	0.02
	40-45	3.61	727	0.02
	45-50	3.58	477	0.03
	50-55	3.69	435	0.03
	55-60	3.73	379	0.04
	60-65	3.87	291	0.04
	65-70	3.90	167	0.05
	Total	3.56	6980	0.01

**Table 5. Life Aspirations Mean Score By Age Range – Graduate Alumni**

<b>Course</b>	<b>Age range (year)</b>	<b>Mean</b>	<b>N</b>	<b>Std. Error of Mean</b>
Only attended graduate programs at USP	25-30	3.56	147	0.06
	30-35	3.62	637	0.03
	35-40	3.65	748	0.02
	40-45	3.57	534	0.03
	45-50	3.68	297	0.04
	50-55	3.74	232	0.05
	55-60	3.80	164	0.06
	60-65	3.59	93	0.09
	65-70	4.04	35	0.11
	Total	3.65	2887	0.01
Attended bachelor and graduate programs at USP	20-25	2.71	1	.
	25-30	3.44	210	0.05
	30-35	3.49	685	0.03
	35-40	3.60	625	0.03
	40-45	3.67	434	0.04
	45-50	3.66	248	0.05
	50-55	3.73	209	0.05
	55-60	3.81	172	0.06
	60-65	4.02	146	0.06
	65-70	3.99	89	0.07
Total	3.63	2819	0.01	
Total	20-25	2.71	1	.
	25-30	3.49	357	0.04
	30-35	3.55	1322	0.02
	35-40	3.63	1373	0.02
	40-45	3.61	968	0.02
	45-50	3.67	545	0.03
	50-55	3.74	441	0.03
	55-60	3.81	336	0.04
	60-65	3.85	239	0.05
	65-70	4.00	124	0.06
Total	3.64	5706	0.01	

**Table 6.** *Life Aspirations Mean Score By Program Field – Bachelor Alumni*

<b>Course</b>	<b>Bachelor program field (UMapGrad)</b>	<b>Mean</b>	<b>N</b>	<b>Std. Error of Mean</b>
Only attended bachelor programs at USP	Agriculture	3.70	279	0.04
	Education	3.65	66	0.09
	Engineering	3.68	810	0.02
	Health and social services	3.68	770	0.02
	Humanities and arts	3.22	327	0.04
	Personal services	3.49	68	0.07
	Science	3.41	618	0.03
	Social sciences, business and law	3.33	1268	0.02
	Total	3.50	4206	0.01
Attended bachelor and graduate programs at USP	Agriculture	3.85	207	0.05
	Education	3.45	38	0.14
	Engineering	3.69	445	0.03
	Health and social services	3.85	638	0.02
	Humanities and arts	3.51	189	0.05
	Personal services	3.37	26	0.11
	Science	3.51	752	0.02
	Social sciences, business and law	3.63	570	0.03
	Total	3.66	2865	0.01
Total	Agriculture	3.77	486	0.03
	Education	3.58	104	0.07
	Engineering	3.68	1255	0.01
	Health and social services	3.76	1408	0.01
	Humanities and arts	3.33	516	0.03
	Personal services	3.46	94	0.06
	Science	3.47	1370	0.02
	Social sciences, business and law	3.42	1838	0.01
	Total	3.56	7071	0.01

**Table 7. Life Aspirations Mean Score By Program Field – Graduate Alumni**

Course	Graduate program field (UMapPos)	Mean	N	Std. Error of Mean
Only attended graduate programs at USP	Agriculture	3.90	223	0.05
	Education	3.64	95	0.07
	Engineering	3.71	452	0.03
	Health and social services	3.64	804	0.02
	Humanities and arts	3.46	145	0.07
	Personal services	3.52	25	0.17
	Science	3.67	747	0.02
	Social sciences, business and law	3.50	416	0.04
	Total	3.65	2907	0.01
Attended bachelor and graduate programs at USP	Agriculture	3.72	184	0.06
	Education	3.57	90	0.08
	Engineering	3.58	457	0.03
	Health and social services	3.78	630	0.03
	Humanities and arts	3.50	177	0.06
	Personal services	3.76	12	0.14
	Science	3.58	774	0.03
	Social sciences, business and law	3.63	541	0.03
	Total	3.64	2865	0.01
Total	Agriculture	3.82	407	0.04
	Education	3.61	185	0.05
	Engineering	3.65	909	0.02
	Health and social services	3.70	1434	0.02
	Humanities and arts	3.48	322	0.04
	Personal services	3.60	37	0.12
	Science	3.63	1521	0.02
	Social sciences, business and law	3.57	957	0.02
	Total	3.64	5772	0.01

In Table 8, Table 9, Figure 2 and Figure 3, salary range is in Brazilian Real (R\$) and R\$ 1.00 = USD 0.50 (average) at survey time so, to get tables in USD divide values by 2.

**Table 8.** *Life Aspirations Mean Score By Salary Range – Bachelor Alumni*

Course	Salary range	Mean	N	Std. Error of Mean
Only attended bachelor programs at USP	< R\$1500	3.20	409	0.03
	R\$1500 - R\$3000	3.38	762	0.02
	R\$3000 - R\$6000	3.47	1102	0.02
	R\$6000 - R\$10000	3.62	800	0.02
	R\$10000 - R\$15000	3.66	498	0.03
	> R\$15000	3.65	428	0.03
	Total	3.50	3999	0.01
Attended bachelor and graduate programs at USP	< R\$1500	3.16	114	0.07
	R\$1500 - R\$3000	3.48	361	0.04
	R\$3000 - R\$6000	3.57	575	0.03
	R\$6000 - R\$10000	3.71	868	0.02
	R\$10000 - R\$15000	3.80	486	0.03
	> R\$15000	3.83	386	0.03
	Total	3.66	2790	0.01
Total	< R\$1500	3.19	523	0.03
	R\$1500 - R\$3000	3.41	1123	0.02
	R\$3000 - R\$6000	3.51	1677	0.01
	R\$6000 - R\$10000	3.67	1668	0.01
	R\$10000 - R\$15000	3.73	984	0.02
	> R\$15000	3.74	814	0.02
	Total	3.57	6789	0.01

**Table 9.** *Life Aspirations Mean Score By Salary Range – Graduate Alumni*

Course	Salary range	Mean	N	Std. Error of Mean
Only attended graduate programs at USP	< R\$1500	3.38	136	0.07
	R\$1500 - R\$3000	3.46	368	0.04
	R\$3000 - R\$6000	3.64	718	0.03
	R\$6000 - R\$10000	3.76	941	0.02
	R\$10000 - R\$15000	3.70	415	0.03
	> R\$15000	3.58	229	0.05
	Total	3.65	2807	0.01
Attended bachelor and graduate programs at USP	< R\$1500	3.10	114	0.09
	R\$1500 - R\$3000	3.46	361	0.04
	R\$3000 - R\$6000	3.52	575	0.03
	R\$6000 - R\$10000	3.72	868	0.02
	R\$10000 - R\$15000	3.80	486	0.03
	> R\$15000	3.78	386	0.04
	Total	3.64	2790	0.01
Total	< R\$1500	3.25	250	0.05
	R\$1500 - R\$3000	3.46	729	0.03

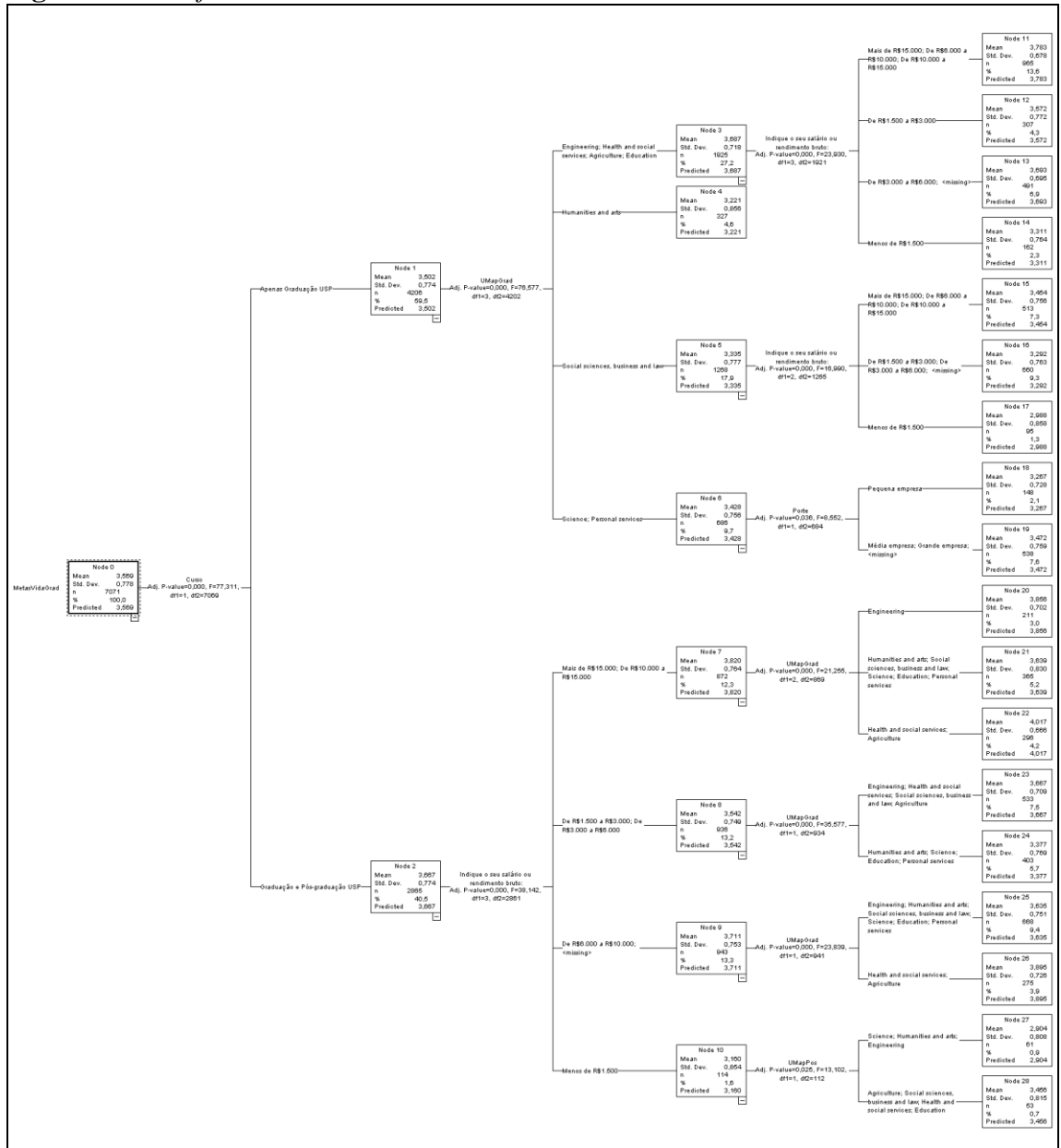
	R\$3000 - R\$6000	3.58	1293	0.02
	R\$6000 - R\$10000	3.74	1809	0.01
	R\$10000 - R\$15000	3.75	901	0.02
	> R\$15000	3.70	615	0.03
	Total	3.64	5597	0.01

The regression and classification tree analysis using as dependent variable the total score of the “Life aspirations”. This analysis produced a well-defined pattern where the most relevant variables for predicting the score are the classification of courses and the alumni level of income.

**Table 10. Model Summary – Life Aspirations - Bachelor Alumni**

Specifications	Growing Method	EXHAUSTIVE CHAID
	<i>Dependent Variable</i>	<i>MetasVidaGrad</i>
	Independent Variables	Porte, Área, Há quanto tempo trabalha na organização?, Qual o nível de seu cargo atual?, Onde cursou o Ensino Médio?, Sexo, UMapGrad, UMapPos, Indique o seu salário ou rendimento bruto:, Faixa etária (ano), Curso
	Validation	None
	Maximum Tree Depth	3
	Minimum Cases in Parent Node	100
	Minimum Cases in Child Node	50
<b>Results</b>	Independent Variables Included	Curso, UMapGrad, Indique o seu salário ou rendimento bruto:, Porte, UMapPos
	Number of Nodes	29
	Number of Terminal Nodes	19
	Depth	3

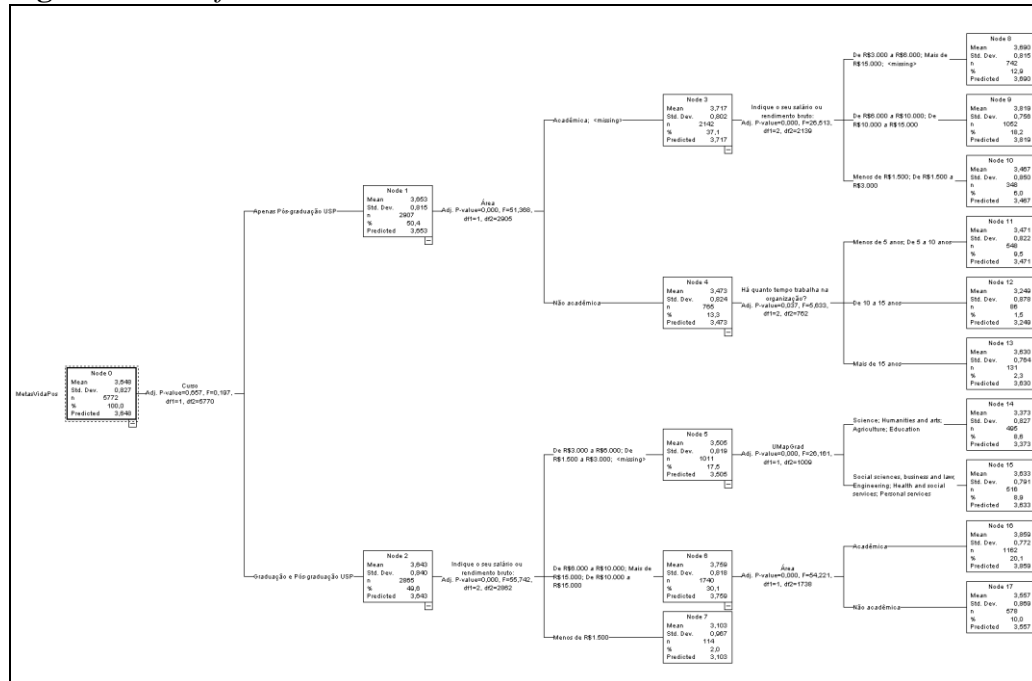
Figure 2. Classification Tree – Bachelor Alumni



**Table 11. Model Summary – Life Aspirations - Graduate Alumni**

Specifications	Growing Method	<b>EXHAUSTIVE CHAID</b>
	Dependent Variable	<b>MetasVidaPos</b>
	Independent Variables	Porte, Área, Há quanto tempo trabalha na organização?, Qual o nível de seu cargo atual?, Onde cursou o Ensino Médio?, Sexo, UMapGrad, UMapPos, Indique o seu salário ou rendimento bruto:, Faixa etária (ano), Curso
	Validation	None
	Maximum Tree Depth	3
	Minimum Cases in Parent Node	100
	Minimum Cases in Child Node	50
	Results	Independent Variables Included
Number of Nodes	18	
Number of Terminal Nodes	11	
Depth	3	

**Figure 3. Classification Tree - Graduate Alumni**





## **Conclusions and Future Works**

The Standardized Adjusted Residual (STARs) between level of income and the ECD ISCED97 classification of educational programs produced a consistent pattern of stratification. Alumni from the engineering programs received on average the highest salaries, followed by the alumni from Social Science, Business and Law, and below are other alumni. Education is the career with lowest income.

As the survey remains open and since the last sample increased by 50%, we intend for the second half 2015, make a new comparative analysis.

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