Internships of FT/UFAM Industrial Engineering student

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Abstract

The article identifies the profile of paid internships developed in the last two and a half years by the students of the Industrial Engineering course of the Faculty of Technology of the Federal University of Amazonas. To this end, consulting the records of the Department of Student Assistance (DAEST) of UFAM, responsible for the trainees' contracts, revealed the existence of 107 students who signed contracts to perform internship during this period. Besides, a questionnaire with 3-section and 15-questions was applied to students via email, classroom, event, and virtual groups to collect internship information. After collecting and analyzing the data, the following conclusions were reached: more than half of the interns are male, most of them interned in the industrial sector; the average monthly value of the internship scholarships is R $ 1,265, and it was identified Honda and other nine companies that best remunerate their interns; most develop their roles in Operations and Process Engineering, Quality Engineering, Product Engineering or Logistics; the course subjects that most assisted during the internship were: planning and production control, quality management, production system, maintenance management and statistical control operation.

Keywords*:* Industrial Engineering, Internship, professional profile.

1. Introduction

The Federal University of Amazonas (UFAM) began its academic activities in 1909 intending to stimulate the development of the professional career of its members. Over time, courses have been created in various areas of teaching the biological, agrarian, social and exact sciences.

The Faculty of Technology (FT) unit has courses in the exact sciences, composed of the following departments: Architecture and Urbanism, Graphic Designer and Expression, Civil Engineering, Computer Engineering, Electronic Engineering, Electrical Engineering - Electro technical and Telecommunications, Mechanical Engineering, Materials Engineering, Oil and Gas Engineering, Industrial Engineering and Chemical Engineering.

According to data analysis (Table 1) obtained from the Rectory of Teaching and Graduation (PROEG), in the second semester of 2019, 2222 students were enrolled in 12 undergraduate courses at FT/UFAM. Among the 12 undergraduate courses, there is the Industrial Engineering, which in the second semester enrolled 240 students. However, it is remarkable that the course began its activities in 2004 and by the first half of 2019, about 837 were enrolled, of which 272 (32.5%) have already graduated.

Table 1 - Number of students enrolled in FT/UFAM courses in 2019/2

COURSES	Nº	COURSES	Nº
Architecture and Urbanism	248	Industrial Engineering	240
Design	207	Electrical Engineering - Electronic	93
Civil Engineering	262	Electrical Engineering - Electro technical	95
Computer Engineering	232	Elect. Engineering - Telecommunications	90
Materials Engineering	171	Mechanical Engineering	189
Oil and Gas Engineering	179	Chemical Engineering	189
Total students enrolled	2222	-	-

Source: Rectory of Teaching and Graduation/UFAM

The research problem is the fact that until 2018, the Industrial Engineering department had not yet carried out any methodological study to know the reality of the remunerate internship experienced by its students in the market. This gap contributes little to the department's improvement process.

Thus, since 2019/1 (semester in which the course completed 15 years), it was started a work of collecting data on the profile of paid trainees of the course in the last two years. After consulting the records of the department of UFAM responsible for the internship, DAEST, it was found that of the 240 students enrolled in the Industrial Engineering course, 148 (61.66%) students achieved a paid internship from 2017 until the first semester of 2019. It is noteworthy that of this 148, 33 (22.29%) had their contractors renewed or changed companies in the following years. In all, 107 students have had or are having the experience of performing paid internships in the market.

The general objective of this paper is to identify the profile of paid internships developed by FT/UFAM Industrial Engineering students in the market over the last two and a half years, to provide useful information for managers, teachers, and students of course.

To this end, the following specific objectives were formulated: a) to update the database of Industrial Engineering students who are undergoing internships from the first semester of 2017 until the first semester of 2019; b) identify the internship profile (average amount paid by the companies, the companies where the internships take place, the sectors where the students work, the most demanded areas of Industrial Engineering, the hiring prospects and the course subjects that more contributed to the internship); c) propose suggestions for improvements to the managers of DAEST and the Industrial Engineering course.

The theme is relevant because it can show that the internship has great importance in the student's life, allowing to have a clearer and broader view and what will be required in the job market. Also, it is important for course managers, as it points out the most demanded areas of Industrial Engineering and the disciplines most applied during the internship. The research is also relevant to the students of the course, as it points to the average salary and the companies that are providing a better payment to the interns. For DAEST managers, the research is important because of the suggestions for improvements to be pointed to the process of organizing the trainee records. For the academy, the research will bring new knowledge on how to analyze the profile of the internships, as well as reflections and suggestions for new research.

2. Theoretical Referential

2.1 Internship Law in Brazil

Law No. 11,788, created on September 25, 2008, provides for Student Internship. According to Art. 1, the Internship is a supervised school educational activities, its main objective is to prepare students of the final years of elementary, high school, college, and vocational education for the job market.

This law defines the parameters that regulate the hiring of interns as listed below:

- The maximum workload of 4 hours per day and 20 hours per week for students of the final years of elementary school, in the professional mode of youth and adult education, six hours per day and 30 hours per week for higher education students, vocational education of regular average level;
- It may be mandatory and non-mandatory, as determined by the curricular guidelines of the teaching and the pedagogical project of the course, where the mandatory internship is the one defined as such in the course project, whose workload is an indispensable requirement for approval and obtaining a diploma. On the other hand, the non-mandatory stage is developed as an optional activity;
- The probationary period may not exceed two years, except for a trainee with an incapacity. It is important to highlight that in the case of internship contracts lasting one year or more, the trainee will be entitled to 30 days off, preferably during the school holidays;
- Unlike what is defined by the laws of the Labor Law Consolidation (CLT), the legislation stipulates a minimum floor for the internship remunerate, considering that the amount is defined in common between the parties to the internship agreement.

In addition, the maximum number of interns in relation to the staff of the internship granting entities shall be in the following proportions: from 1 to 5 employees: 1 intern; from 6 to 10 employees: up to 2 interns; from 11 to 25 employees: up to 5 interns; over 25 employees: up to 20% on the number of employees.

It is important to emphasize that the internship in the companies does not create an employment relationship, that is, the remuneration must be paid without labor law charges, therefore they do not have any discount charges by the companies.

2.2 The Internship importance

The internship can develop the student's professional identity through their experiences and real situations that they promote. It is the first contact that students have as their future area of activity, becoming more important when these experiences are shared in the classroom, producing discussions, enabling a new view on the profession (LINHARES et. al., 2015).

Helping the student to have the opportunity to put into practice the academic teachings, for the best professional development, it is important to emphasize that the activities performed in the internship are directly related to the areas of the course and its formation. For many students, it is the gateway to the world of work (IEL, 2017).

Achieving a good internship is a key factor for enriching not only the curriculum but for gaining experience and it is these factors that contribute to the job market. The internship is a way to shorten the distance between students and the job market.

The apprenticeship, when properly conducted, targeted and evaluated, creates and enhances tangible and

intangible benefits for the student; improves academic qualification; evidence and enhance personal qualities; facilitates the transition from academic to professional life; provokes the exercise of vocational guidance; breaks the dichotomy of knowing and doing; breaks the umbilical cord with the school and provides an irreplaceable life experience. (BARROS; LIMONGI, 2003, p. 4)

Learning is more efficient when acquired through experience, so much so that it is more common for trainees to remember the activities during the internship than in activities that were developed in the classroom (SCALABRIN, MOLINARI, 2013).

For students who live the experience, the work is comprehensive and shows a professional reality that puts the front of those who do not an internship and will only work after completing the course (ROCIO, 2001). Thus, an undergraduate course should contribute theoretical and practical resources for the performance of professional functions, according to each area of knowledge. Thus, it is in the undergraduate course that begins built the knowledge, skills, postures, and attitudes that form the professional. In internship periods, this knowledge is re-signified by the student intern from their personal experiences in direct contact with the field of work that, throughout their professional life, are being reconstructed in the exercise of their profession. (ALMEIDA and PIMENTA, 2014, p. 73)

According to the CEAT (Center for Advanced Studies and Training, 2015) internship offers the student the unique opportunity to assimilate and reconcile theory and practice, and learning is more effective when acquired by experience through frequent practice. It is important to emphasize that the experience of what has not been seen in the classroom increases curiosity about the classes, as new doubts arise. Practicing the internship makes it possible for the student to realize what they need to learn or even improve, as they show deficiencies and flaws. Practical difficulties will point to theoretical difficulties. By still being in the classroom, the intern can bring freshness and innovation to the company. Given the importance of the internship, the student should not seek to make money from experience, the main will not be the scholarship paid, but the knowledge acquired.

According to Rios (2003), the internship has some uses, such as awakening the professional vocation, obtaining knowledge of different types of companies, human relations, internship, classes, and qualification for the future professional career.

It is noteworthy that academic learning prepares students to achieve the maximum skills necessary to direct them to their career goals; from the beginning, it meets challenges, warnings, and opportunities (MISHIMA and BALESTRASSI, 2008).

2.3 ABRES and Internship Statistics in Brazil

Created on June 08, 2004, the Brazilian Internship Association (ABRES), provides the insertion of young people in the labor market in Brazil, in addition to providing quantitative and qualitative statistical data of the “internship” activity to the national institutions. It also provides students and trainees with free lectures and courses for technical, scientific and cultural development.

According to research conducted by this association, the number of interns before the approval of Law No. 11,788 (2008) was 1.1 million. However, in 2017, this number increased to 1 million, where 740 thousand were from higher education and 260 thousand were from high school and technical. Besides, the region with the greatest number of interns was the Southeast with 591,334, followed by the South with 233,978

interns, the Northeast with 89,314, the Midwest with 59,873, and the North with 25,511 students. The most of internships are for Business Administration (16.8%), Law (7.3%), Social Communication (6.2%), Computer Science (5.2%), Engineering (5.1%) and Pedagogy (4.2%). Nevertheless, in some careers, especially in engineering, candidates are lacking to fill the demand for opportunities offered.

2.4 Industrial Engineering Profile and Areas

In Brazil there is a Nacional Industrial Engineering Industrial Association called ABEPRO. According with them:

a) Engineering aims to implement, operate and propose improvements and maintenance to integrated productive systems of goods and services, involving men, materials, technology, information and energy, and to predict and analyze the results obtained from these systems for society and for environment, seeking specialized knowledge in mathematics, physics, humanities and social sciences, together with the principles and methods of engineering analysis and design;

b) This engineering stands out for its product and production system dimensions, is related to the ideas of designing, making viable and distributing products to society. These activities are viewed in an integrated manner by Industrial Engineering and are fundamental to the country's competitiveness;

c) There are ten areas of knowledge of Industrial Engineering: Product Engineering; Operations Engineering and Production Processes; Logistics; Operational Research; Quality Engineering; Organizational engineering; Economic Engineering; Health and Safety Engineering; Sustainability Engineering; and Education in Industrial Engineering.

For the analysis of the professional profile in Industrial Engineering, some companies value three types of knowledge: the know-how, are the practical, technical and scientific dimensions acquired through professional experiences; knowing how to be is the personality that determines behavior in social work relations, such as initiative, productivity and competitiveness; knowing how to act is knowing how to work in teams, be able to solve problems and do new jobs.

In this context, learning can transform knowledge into skills in a specific professional situation, adding value to the individual and the organization. Thus, the production engineer must seek new knowledge to express autonomously and independently; must contribute to scientific and technological development; present creative and original solutions to production problems; develop good work in multidisciplinary teams; design, execute and manage engineering enterprises; to worry about the impacts of their work, especially regarding the ethical, environmental and political repercussions (OLIVEIRA and PINTO, 2006). Taking into account the global context, the current model of economics requires knowledge of the Engineer to produce concepts, methods, and practices of industrial process responsibilities (KYPPER, 2014).

As it is a very ample area, this is one of the possible factors that has been causing the increase in the offer of Industrial Engineering courses, because the job market has a growing receptivity by the professional who is graduated in the course (SANTOS, 2008).

2.5 Average of Internship remuneration in Brazil

A salary survey conducted in March 2019 by Catho, a recruitment firm, indicates that an Industrial Engineer in Brazil has average compensation of R$ 6,228 per month. An Industrial Engineering intern earns an

average of R$ 1,120 and a trainee earns an average of R$ 2,185.

Table 2 - Ten highest paid internships in 5 Brazilian states in 2017

Areas	Salary average	Areas	Salary average
Industrial Engineering	R$ 1,436.72	Mechanical Engineering	R$ 1,051.48
Mechatronics Engineering	R$ 1,259.23	Marketing	R$ 1,030.29
Electronic Engineering	R$ 1,204.50	Electrotechnical Engineering	R$ 989.73
Economics	R$ 1,163.58	Electrical Engineering	R$ 924.83
Civil Engineering	R$ 1,100.38	Hospital Administration	R$ 916.33

Source: Student Guide (2017)

In 2017, the site <guiadoestudante.abril.com> surveyed trainees registered with residences in the states of Paraná, Rio Grande do Sul, Sao Paulo, Rio de Janeiro, and Minas Gerais. As can be seen in Table 2, the internship in Industrial Engineering (R$ 1,436.72) has one of the highest-paid values in this region, followed by Mechatronic Engineering (R$ 1,259.23) and Electronic Engineering (R$ 1,204.50).

3. Methodology

The research has applied nature since the knowledge generated will contribute to the improvement of the services provided by the managers of the Industrial Engineering course.

Regarding the objectives, the research is descriptive because of the use of descriptive statistics of data without intervening in the variables involved in the study of the internship profile performed by students in the market.

The approach is quantitative using procedures that involve bibliographic research and Survey application along with questionnaires and interviews, as well as the application of descriptive statistics to analyze the collected data. The survey has a quantitative approach and can be described as obtaining data or information on characteristics, actions or opinions of a particular group of people, indicated as representative of a target population, through a survey instrument, usually a questionnaire (TANUR APPUD PINSONNEAUT & KRAEMER, 1993).

The research stages were: a) bibliographic survey; b) development of the data collection instrument with the application of questionnaires and interviews; c) target audience definition and sample size; d) conducting the pilot test; e) completion of the definitive test; f) data gathering and analysis.

For data collection, the target was 107 Industrial Engineering students from the UFAM Faculty of Technology who have been or are performing paid internships in the last 2 and half years, identified from the UFAM Student Assistance Department (DAEST) records, analyzing the data of the commitment term of the interns registered in the sector.

A questionnaire was developed in Google Forms (Appendix 1), consisting of three sections:

Section 1 has ten questions about the Internship, 5 of which are open and another 5 with alternatives to mark. Section 2 has three open-ended questions for personal student information, such as name, registration, and year of course.

Section 3 has two open-ended questions designed to identify respondents' views on the course, as well as suggestions for future trainees.

To assess the comprehensibility level of the questionnaire, the pilot test was conducted in the first semester of 2019 with 41 (38.31%) students of the Industrial Engineering course at UFAM who began their internship in 2018, and the invitation was sent individually by email, of which 20 (48.47%) answered the questionnaire correctly.

After completing the pilot test, some adjustments were made to the questionnaire, and on October 14, 2019, the definitive test began by sending an online invitation to the other students, containing the access link to the questionnaire, which was available for 12 days.

The invitation was sent via email via Facebook and WhatsApp from the student group. Besides, from October 16 to 18, 2019, the questionnaire was applied during the XII Amazonense Engineering Symposium at the Federal University of Amazonas.

To encourage participation, two prizes were raffled for the students who completed the survey. As a result, of the 107 target students, 51 (47.66%) answered the questionnaire correctly, whose data were collected and registered in a spreadsheet editor, for analysis and discussion of results.

4. Discussion

4.1 Respondent Profile

The data collected along the terms of commitments in DAEST indicate that between 2017/1 and 2019/1 about 107 students of the course became interns, of which 24 (22.42%) completed the undergraduate and 83 (77.57) %) remain enrolled in the course and have their internship contracts renewed or have changed companies.

Regarding the periods of the student interns, it was observed that 8 (7.48%) students are between the 2nd and 4th period, 30 (28.04%) between the 6th and 8th periods, 20 (18.69%) are in the 10th period, 25 (23.36%) have been in the institution for more than 5 years and 24 (22.43%) have already graduated. Concerning gender, it was observed that 54% of the sample is male, while 46% is female.

4.2 Internship Profile

It was first observed the branch of activity of the companies in which students are performing internships. Of the 51 respondents, 38 (74.51%) are performing or have completed internships, most (86%) of them in the industrial sector, companies that manufacture everything from automotive parts to hygiene and cleaning products. Another 11% work in companies that provide services, such as consulting, IT support and technology, while only 2% interns work in commerce.

When analyzing the scholarship remuneration, it was necessary to make the frequency distribution of the values informed by the students. Figure 1 shows the distribution, where 12 (23.53%) receive up to R$ 913; 10 respondents (19.61%) receive between R$ 913 and R$ 1,126; 12 (23.53%) between R$ 1,126 and

R$ 1,339; 7 (13.73%) students received between R$ 1,339 and R$ 1,552; 3 (5.88%) receive between R$ 1552 and R$ 1,765; only 1 (1.96%) receives between R$ 1,765 and R$ 1,978; 3 (5.88%) receive between R$ 1978 and R$ 2,191, while 3 (5.9%) receive over R$ 2,191.

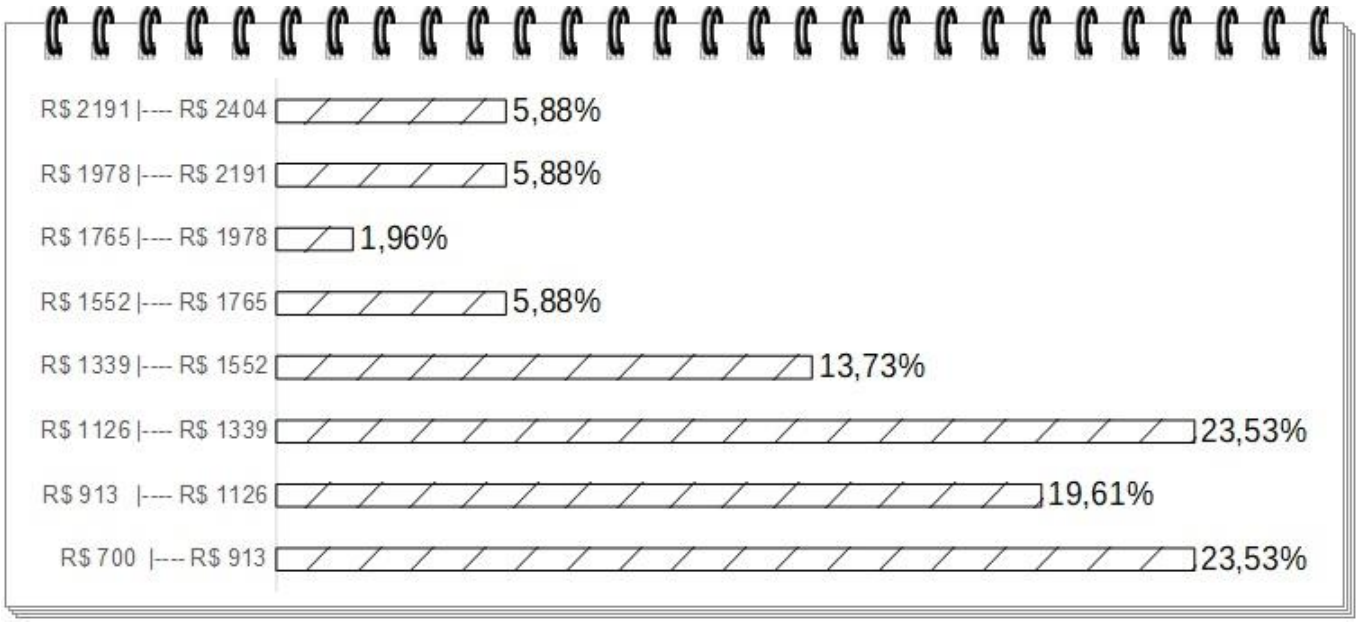

Figure 1 - Range of scholarship value received monthly by interns between 2017/1 and 2019/1
Source: Author

Table 3 - Ten companies from Manaus that pay well to Industrial Engineering interns

COMPANY	SCHOLARSHIP	COMPANY	SCHOLARSHIP
Honda	R$ 2,400	Pepsico	R$ 1,570
Breitener Energética S.A	R$ 2,300	Bic	R$ 1,500
P&G	R$ 2,300	Faber Castell	R$ 1,432
Visteon	R$ 1,800	Sonoco	R$ 1,425
Ambev	R$ 1,600	LG Eletronics	R$ 1,300

Source: Author

The average monthly value of the scholarship was around R$ 1,265 with a standard variation of R$ 425. An analysis was made to identify the total number of organizations receiving FT/UFAM Industrial Engineering interns, as well as those paying the above-average remuneration.

Companies in the industrial sector are the ones that make the best financial grants available to their interns. Table 3 presents the ten companies with the best scholarships, among them the multinational company Honda with monthly scholarship payment of R$ 2,400 and Breitner Energética SA, a thermoelectric company that provides a salary of R$ 2,300.

Regarding the areas of Industrial Engineering in which the intern works in companies (Figure 2), it was observed from the 51 respondents, the majority (30; 58.8%) perform their functions in the area of Operations and Process Engineering, while 7 (13.7%) work in Quality Engineering, 4 (7.8%) in Product Engineering, 3 (5.9%) in Logistics, 4 (7.8%) perform their duties in the operational Research and Organizational Engineering, while the remainder (3; 6%) perform their functions in the areas of Health and

Safety Engineering, Economic Engineering or Sustainability Engineering.

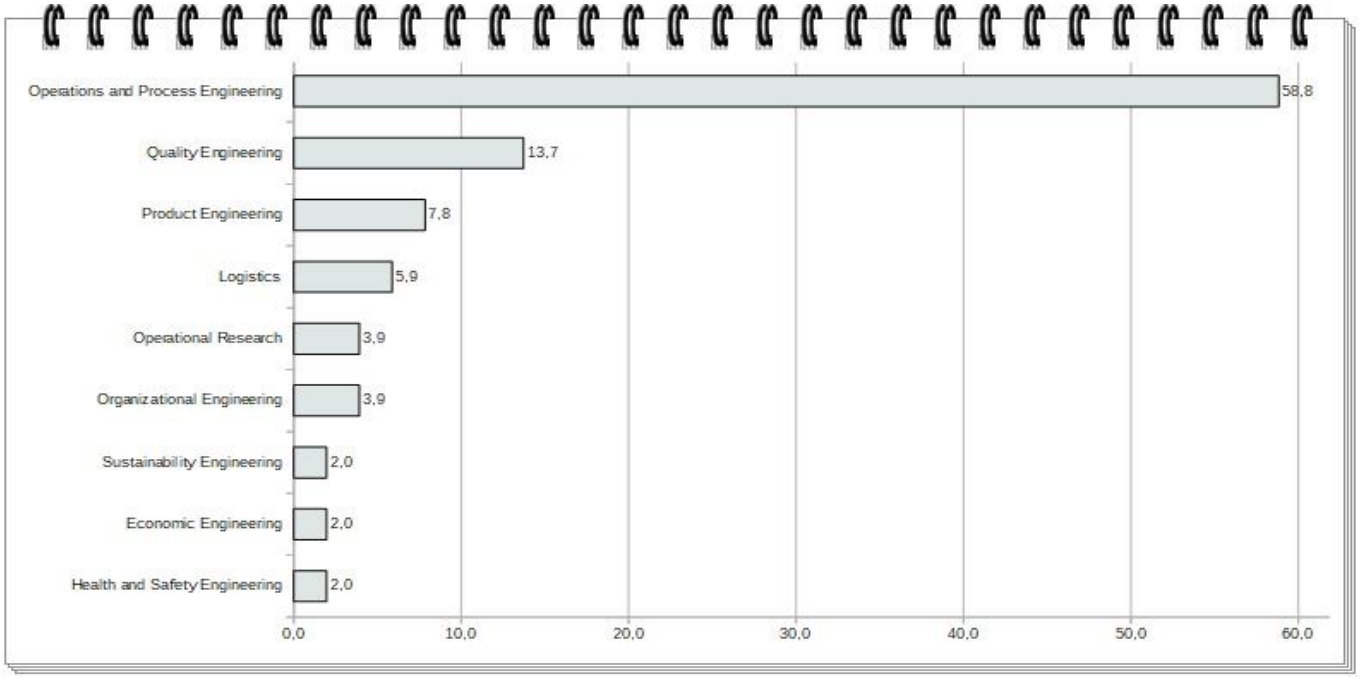

Figure 2 - Practice areas of the Industrial Engineering Course interns between 2017/1 and 2019/1

Source: Author

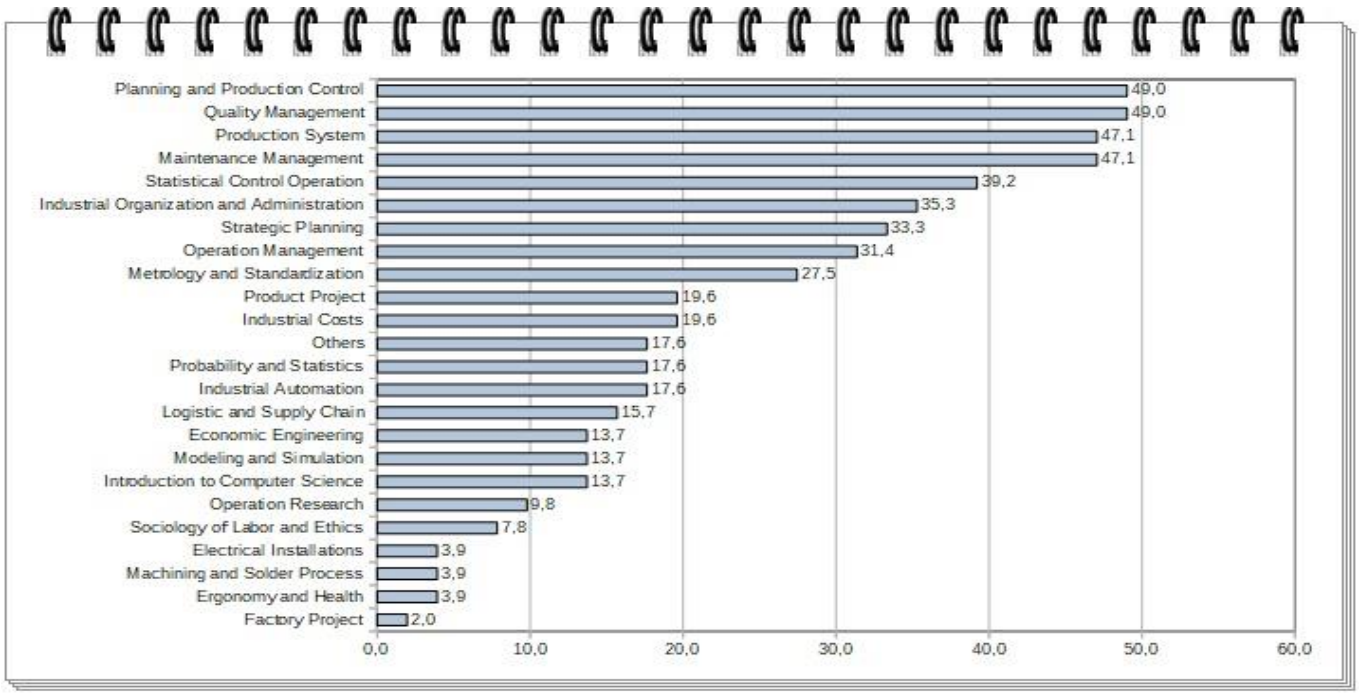

Figure 3 - Ten subjects that most helped students during the Internship

Source: Author

Respondents were asked which disciplines contributed to the professional development of their internship in the company. This question was a multiple choice and emphasized 24 subjects from the Industrial Engineering course.

All answered the question and Figure 3 shows that the ten disciplines that contributed the most were: Production Planning and Control (49%); Quality Management (49%), Production System (47.1%),

Management Maintenance (47.1%), Statistical Operations Control (39.2%), Industrial Organization and Administration (35.3%), Strategic Planning (33.3%), Operations Management (31.4%), Metrology and Standardization (27.5%) and Product Project (19.6%).

Regarding the internship situation in the company, more than half of the respondents (56.86%) reported that they are still doing the internship, while 17.65% were successful, concluding and being hired by the company. Also, around 16% of them reported that they have already completed their internship without being hired and almost one-tenth (9.80%) reported that they had other reasons for being dismissed from the company.

4.3 Respondents suggestions for improvements

At the end of the questionnaire, two open questions were proposed for the respondents to present suggestions for improvements for the Industrial Engineering course and for future trainees.

Regarding the question: "What suggestions would you give to the managers of the Industrial Engineering course at UFAM?", 45 students (88.23%) answered the question, of which 20 (39.21%) recommended to teachers the application of practical classes so that students had a better knowledge of the subject.

In general, the recommendations were:

S1) Mandatory application of practical content in Internship I and II disciplines, as well as an indication of companies with the possibility of acting on the subject;

S2) Improve the teaching methodology in the classroom, as there is a lot of repetition of activities in the subjects and teachers with limited didactics to teach;

S3) Focus on the areas of the future and direct the student towards their learning. In this sense, it is advisable to develop stronger partnerships with PIM companies, as well as exchange programs;

S4) Offer tools and develop actions that simulate situations that students will encounter in the job market;

S5) Focus on exercises with real cases, to use Industrial Engineering tools;

S6) Improve the content, update teaching plan, and classroom dynamics;

S7) Invest in research and laboratories.

Regarding the question "What suggestions would respondents give to future students hoping to intern?", 48 answered (94.11%), with a good portion suggesting the training outside the university (English, Excel, etc.) as well as knowing the company before going to the interview, etc. Below are the suggestions:

S8) Take courses in the area of Industrial Engineering to differentiate themselves in the market;

S9) Seek to have experience in the first year of college;

S10) Study English;

S11) Improve your behavior;

S12) Improve oral and written communication skills;

S13) Always be honest in interviews;

S14) Search for projects that involve academic activities to have management experience;

S15) Be willing to learn, seeking to know the company, as well as finding ways to positively influence the organization;

S16) Put the College disciplines into practice to get an overview and apply each area of Industrial Engineering in the internship so that projects and jobs become more robust;

S17) Focus a lot at the beginning of college, learn and advance as many subjects as possible when the time comes to train, focus learning for work.

5. Conclusions and recommendations

The objective was to identify the profile of paid internships developed by FT/UFAM Industrial Engineering students in the job market over the past two and a half years, to provide useful information for the course managers, teachers, and students.

To this end, the survey conducted with the DAEST records revealed the existence of 107 students who have been or are still doing paid internships since 2017/1, most of whom have been studying in the course for over 3 years and are male. During the records study process, it was noted that DAEST needs to develop a more accurate and up-to-date database to be able to provide real-time indicators from Industrial Engineering interns, and other courses, as it took a lot of time to organize the information, either by manual work or by entering the intern data. Thus, it is recommended that UFAM managers develop or acquire software that enables paper elimination and digital data management.

After analyzing the data of 51 respondents, the following conclusions and suggestions for improvements were made:

First) Most students of Industrial Engineering are working in the industrial sector, while the rest are in services or commercial. It would be advisable for Industrial Engineering course managers to partner with service sector organizations, as this sector accounts for almost half of the annual GDP of the State of Amazonas, meaning there are many opportunities to recruiting the talent of students in this segment;

Second) The average of the student internship salary is R$ 1,265 and Honda is the company that pays the best scholarship to students. It is recommended to create an office at the Faculty of Technology to support DAEST and students, with professionals from the University visiting organizations to promote courses and to form partnerships, aiming at the creation of a talent bank, the identification of demands, and offering these talents to partner companies;

Third) Among ten areas, more than half of students act in Industrial Engineering, Operations, and Process Engineering, followed by Quality Engineering, Product Engineering, Logistics, Operational Research and Organizational Engineering. Further research needs to be done to identify the most demanded subareas, tools, and methods at these internship locations;

Fourth) The five disciplines that contributed most to the internship process were Production Planning and Control, Quality Management, Production Systems, Maintenance Management, and Statistical Control of Operations. Further research may be undertaken to analyze the most demanded tools and methods of these disciplines, as well as to obtain from the HR Manager of these companies a study on the level of utilization of the professional disciplines of the course in the company environment. Besides, it is recommended to conduct further research focused on the skills and attitudes that organizations want to find in Interns to contribute to their training and even hiring in the organization;

Fifth) Teachers play a relevant role in the professional development of students, so respondents recommended more practical classes throughout the course, training to improve teachers' services, as well as greater involvement with existing organizations in the state;

Sixth) For future interns, greater dedication is recommended in the area in which they are following, continuing education, seeking to learn new courses related to Industrial Engineering, and communication, especially English, as it is a major differential in great companies.

One of the main difficulties encountered during the research was to contact some students who completed the course or students who were not enrolled in the course were not found, so it is recommended to course managers and student representatives to develop a job more effective with interns and alumni, to continue to maintain a good relationship with them over time and encourage them to participate in new training activities in the course.

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APPENDIX 1 – Questionnaire on Industrial Eng. Internship Employability Level

Objective: To analyze the level of employability of Industrial Engineering students, from the Internship.

SECTION 1: ABOUT THE INTERNSHIP

1.1 Enter the company name:

1.2 Enter the internship area:

1.3 Internship Start Date;

1.4 Internship End Date;

1.5 Salary:

1.6 Internship situation:

(a) Running; (b) completed and hired; (c) completed but not hired.

1.7 The internship is being performed in some area of Industrial Engineering:

(a) Yes; (b) No; (c) Maybe.

1.8 If yes, which area?

( ) Operations and Process Engineering	( ) Operational Research
( ) Logistics	( ) Quality Engineering
( ) Product Engineering	( ) Health and Safety Engineering
( ) Organizational Engineering	( ) Sustainability Engineering
( ) Economic Engineering	

1.9 Which disciplines of the Industrial Engineering course helped you with the knowledge to perform your internship well?

( ) Industrial Automation	( ) Modeling and Simulation
( ) Statistical Control of Operations	( ) Industrial Organization and Administration
( ) Industrial Costs	( ) Operational Research
( ) Economic Engineering	( ) Planning and Production Control
( ) Ergonomics and Health	( ) Estrategic Planning
( ) Maintenance Management	( ) Probability & Statistics
(Operations Management	( ) Factory Project
( ) Quality Management	( ) Product Projet
( ) Electrical Installations	( ) Machining and Solder Process
( ) Introduction to Computer Science	( ) Production System
( ) Logistics and Supply Chain	( ) Sociology of Labor and Ethics
( ) Metrology and Standardization	( ) Others

1.10 Does the company have the prospect of hiring you during or after the internship?
(a) Yes; (b) No; (c) Hired.

SECTION 2: ABOUT STUDENT
2.1 Name:
2.2 Registration number:
2.3 Year you entered the Industrial Engineering Course:

SECTION 3: SUGGESTIONS
3.1 What suggestions would you give to Industrial Engineering course managers

3.2 What suggestions would you give to prospective students wishing to intern?