Analyzing the Effectiveness of Internship Programs from Students’ Perspectives: A Non-parametric Approach

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Abstract: This article assesses the difference between economics students’ expectations and actual internship experiences. Non-parametric statistical analysis was used to examine the variations. This research was divided into two phases. During the first stage, students’ expectations for internships were evaluated. The faculty selected a group of students to participate in an experiment, which was an internship program that was thoroughly thought out. Both students and host organizations received support from the faculty throughout the entire process. Pre- and post-internship results showed substantial differences. This article concludes with a discussion of research limitations and conclusions.

1. INTRODUCTION

Internships are common co-curricular activities that assist students in meeting business talent requirements as well as exposing faculty to a potentially larger intake of students (Knouse & Fontenot, 2008; Lam & Ching, 2007; McHugh, 2017). In recent years, numerous studies have confirmed that internships offer benefits to students, institutions, and businesses (McHugh, 2017; Silva et al., 2018). Employers seek well-prepared students in order to eliminate ambiguity in the recruitment process later on, while students aim to advance their professional skills through internship programs (Lam & Ching, 2007). As a result, internship programs promote the triangle of collaboration between students, employers, and academic institutions. As previous research has shown, these three actors, however, have various expectations for internship programs. This variation may jeopardize internship programs.

Fox (2001) argues that a bad internship experience can prompt young people to leave the industry quickly. That being said, the entire program calls for extra attention to what students hope to gain from internships. For a variety of reasons, it is crucial to recognize students’ expectations. Firstly, there is little to no consideration of students’ interests, experiences, or views when discussing students’ employability (Tymon, 2013). The participation of students in discussions about employability in general and internships, in particular, reflects a broader and equal array of interests and viewpoints (Higdon, 2016). Secondly, internships are crucial to a student’s professional development. The ability to understand student expectations can help higher education institutions create learning environments and internships that are appropriate, advantageous, and effective for specific student groups (Lown et al., 2009). Lastly, predicting student expectations might help to avoid conflicts with private sector expectations (Davies, 1990).

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Researchers have shown that students' vague and perplexing expectations result in a mismatch between expectations and satisfaction (Parilla & Hesser, 1998). By recognizing students' expectations, Collins (2002) argues that internship programs can be streamlined and students will be more satisfied. A qualitative study conducted by Ruhanen et al. (2013) supports this conclusion. Without these insights, higher education institutions would not create conceptual frameworks for internship programs that add value for employers, students, and the institutions themselves.

This article aims to understand students' expectations before starting internship programs and collect real perceptions after internship programs have begun. By using the Wilcoxon sign test, this study examines the gap between expectations and real experiences. Data was gathered using a structured survey instrument. This paper is structured as follows. Section 2 discusses the literature review. Section 3 describes the methodological aspects. Section 4 lays out the results. This paper closes up with conclusions, implications, and limitations.

2. LITERATURE REVIEW

The term "internship" is one of the most frequently used words to refer to partnerships between educational institutions and businesses. More specifically, an internship is an experiential learning model that gives students the chance to apply their theoretical knowledge in real-world and/or practical situations. By fusing classroom learning with real-world experiences, students can integrate and solidify their thinking and action (Lam & Ching, 2007). Internships are typically tied to a specified period of on-the-job training, which can last anywhere from a few weeks to a year or more and be completed in a single assignment or more.

Students are generally required to complete internships as part of higher education programs. Despite widespread recognition of its significance, higher education institutions still pay little attention to its process in favor of traditional educational classes. This requires students to fulfill all the requirements in class to pass the exam. In contrast to formal education, where the emphasis is on what students know, internship programs place more emphasis on what students do. A clear line between formal education and internships is lacking, though. For instance, Ronnestad and Skovholt (1993) stress the significance of combining both theoretical and practical knowledge acquired during an internship to successfully maximize that experience. They emphasize that their theoretical understanding heavily influences knowledge application. However, there are occasions when integration is impossible due to the enormous gap between what is learned in class and what happens in practice. Raskin (1994) empirically supports this. Due to this gap, there are numerous instances where students give the internship program the least attention.

While educational advisors or faculty members may fail to adequately train their students to take full advantage of internship opportunities, students may just observe the internship work environment. This is without applying their classroom knowledge to the business environment. A strong internship program for students may be achieved by acknowledging internship goals and relevant industry participants, choosing motivated students, and analyzing, monitoring, and providing feedback on the internship program. Additionally, educational institutions and academic advisers are essential to the development and implementation of this internship program.

Internship programs have many benefits. It first enables them to gain vital experience by applying what they learn in class to real-world situations (Johari & Bradshaw, 2008; Weible, 2009). In addition, internship experience affects students’ performance and professional advancement
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(Anjum, 2020). Furthermore, internships help students develop excellent character traits, professional habits, and confidence (Anjum, 2020). Internship increases the likelihood that students will receive quality job offers sooner (Rigsby et al., 2013). According to Mello (2006), conducting an internship is the most effective strategy for obtaining a permanent position. In order to build a strong network and connect directly with company specialists, internships help students become ready for their first job.

Internship benefits are well known, but several challenges could prevent internship success. Internship management is challenging. An experience that was produced with an academic aim in mind but is meant for non-academic use is challenging to plan, organize, and manage (Kay & DeVeau, 2003). For instance, 58 percent of students said they did not receive enough preparation before beginning their internship program, according to Collins (2002). It is logistically challenging to oversee the internship program. This is because it involves visiting and interacting with the intern on the ground as well as the intern's employer or supervisor. Therefore, to reap the benefits of internships, it is essential to first comprehend students’ expectations before the internship takes place. Then, based on their expectations, design a structured internship program. Upon completion of the internship, the institution must evaluate the real impact, to see how students’ expectations are met. To follow this logical process, we experimented with students at the Faculty of Economy, University of Tirana.

3. METHODOLOGY

This study employed a quantitative approach. A structured survey instrument was developed considering studies by Hite and Bellizzi (1986) and Kelley-Patterson and George (2001) who evaluated the expectations of students for internship programs by assessing: (i) the role of the supervisor (faculty and business supervisor); (ii) the job itself; and (iii) help from business and follow up upon the accomplishment of the internship. Each of these components comprised a set of statements. Each statement was rated on a five-point Likert scale (strongly disagree, disagree, no opinion, agree, strongly agree). The same survey instrument was completed twice. The first time, the survey instrument was transferred into digital form and distributed to the entire population. This was to gather responses from students who were in the second year of their master's program at the Faculty of Economy, University of Tirana. The population counts 1030 students, of whom 153 completed the survey. This first phase aimed to evaluate students’ expectations about internships, before starting the internship. After completing the survey instrument for the first time, 30 students were selected from a commission established with the FET academic staff. They were asked to undergo an experiment, namely a well-structured internship program, with all the processes supported by the FEUT. A significant outcome of the selected group of students included the preparation of diploma theses for the company where they did the internship program. This was at least in the same economic sector where the company operates. Students were placed in specific businesses was the next step in the program. The selection of businesses was done based on the preferences of the students for the economic activity where they prefer to do the internship program. In addition, it covered as many sectors as possible. The FEUT has established contacts with 15 businesses in different economic sectors to attach students to the internship program. In-depth interviews were conducted with these businesses and at the same time a memorandum of cooperation was signed to specify the conditions of the internship program and also the support the companies had to give to the students. Of the 30 students selected only 26 completed the internship program and the diploma thesis on time. Only 16 of them completed diploma theses directly related to the company or in the same economic sector. The second time of survey instrument
completion happened with these 26 selected students that finished the program on time. However, only the group of 16 students who completed their diploma thesis in the same economic sector where the company operates was considered for comparative analysis. The purpose of this study was to determine whether perceptions changed before and after taking part in the internship program. Since we are dealing with the same group of students asked before and after attending the program and with nominal data, non-parametric statistical methods are used to analyze the differences in the student’s perception of the specific objectives of the program (Hollander et al., 2015). For this purpose, the Wilcoxon sign test is used to compare two dependent samples. For each student in the internship program, we observed twice.

So if we write \( X_{1,i} \) and \( X_{2,i} \) the observation values before and after the internship for each student, then we are interested in the absolute values of differences which later are ranked as \( R_i (i = 1 \ldots \ldots \ n) \).

Based on this calculation we estimate the value of \( W \):

\[
W = \sum_{i=1}^{n} Z_i R_i
\]  

(1)

Where:

\( W \) – the Wilcoxon signed-rank test statistic,

\( Z_i = 0 \) if \( X_{1,i} - X_{2,i} \) is negative and \( Z_i = 1 \) if \( X_{1,i} - X_{2,i} \) is positive.

The Wilcoxon sign test, tests the null hypothesis that the average signed rank of two dependent samples is zero. As we are interested to know the perception of students for different aspects of the program the two-side test has to be used.

\[
H_0: \theta = 0 \\
H_1: \theta \neq 0
\]  

(2)

Where:

\( \theta \) is referred to as the internship effect

So, we reject \( H_0 \) if:

\[
W \geq \frac{t_\alpha}{\frac{2}{2}} \text{ or } W \leq \frac{n(n + 1)}{2} - \frac{t_\alpha}{\frac{2}{2}}
\]  

(3)

Where:

\( n \) – is the number of students that are part of the study.

\( \alpha \) – is the level of significance.

This null hypothesis states that the differences are symmetrically distributed around 0, which corresponds to no difference due to the treatment. So, that means that if this hypothesis does not stand, then the training had a statistically significant effect.

The estimations were done using the SPSS program, which, among others, is well-developed for non-parametric tests. The program was used to compare if there is any significant difference in the students’ expectations from the internship program with the experience that they have.
4. RESULTS

Students who joined the internship program were asked to evaluate whether their opinions had changed before and after joining it. As illustrated in Figure 1, before the internship, 56% of surveyed students considered taking a job in a specific position in the business. Training from guests and representatives of businesses is very important which will help them enhance their professional skills. None of the students, before and after the internship program, prefer an internship where they will get to know all business processes or be trained by guests and business representatives. The combination of training with a concrete job has been seen as the most preferable before following the internship program.

Interestingly, after the completion of the internship program, students evaluate the most critical component for their professional development, the recognition of all business processes, and taking additional information through training from guest speakers and business representatives (50%).

![Figure 1. Impact on professional growth, before and after the internship](image)

Source: Authors

Figure 2 displays the results related to the role the FEUT should play in the whole internship program. Before starting the internship program, students are asked about the role the FEUT should play in finding and monitoring an internship program. All of them agree that faculty must offer the right internship to students.
Furthermore, 62.5% of students believe or strongly agree that the internship program should be full time while only 18.8% disagree or strongly disagree with this. In addition, students prefer the internship to take place based on a preliminary competition (6.3% strongly agree and 56.3% agree) and 18.8% think the opposite.

When asked about the general importance of internships, 81% agreed that this is a valuable experience for them while 19% were neutral. Students were asked about the monitoring process of an internship, and they admitted that supervisor monitoring at the workplace (81%) adds value to their daily working activities. So, they support such monitoring.

Finally, the majority of respondents (69%) strongly agree or agree that the diploma theme should be related to the position and the sector where the internship is carried out while 31 are neutral regarding this question and no one disagrees or strongly disagrees.

In Figure 3, students' responses to questions about internships and the faculty's role are shown after they have already completed an internship. All of the students agreed that the faculty should make internships possible. This supports the views they expressed before the internship.
program started. The remaining options have not been chosen by any students. 88% of students agree with the idea of developing a full-time internship program, while 6% are neutral.

From 66.7% to 88% of students, these results indicate that the internship program should be full-time. In contrast to the previous survey, just 50% of students now believe internships should be given out after a preliminary competition. This has decreased by 17%.

94% of the students who participated in the internship development felt that it was a worthwhile experience. They also feel that it complemented the knowledge they learned at the faculty. Only 6% of respondents said they disagreed. About 94% of students maintain regular communication with their faculty mentors for their internship. 43.3% of students who completed internships agree that the diploma’s subject should be connected to the role and industry to which the company belongs. When compared to the responses before the internship, which was 73%, this percentage has dropped.

![Figure 3. Internship and the role of the Faculty, after the internship](image)

Based on the Wilcoxon sign test, only six of the 18 questions related to the quality of the internship met the normal distribution criteria before and after the internship program. From those discussions, it can be inferred that the internships have been beneficial and have complemented the knowledge learned at the faculty. The diploma's subject is better connected to the role and industry, which has improved the students' overall experience.

Source: Authors

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4 The test z is approximately normal distributed for large samples that are n>10, excluding 0 values.
questions, three of them show significant differences in the students’ perception with a 95% confidence level. Two of them show significant differences in the students’ perception with a 90% confidence level before and after the internship period. Table 1 presents the results.

It's interesting to note that students who have completed the internship program believe the internship must be completed full-time. We reject the null hypothesis that there is no difference in the students' perceptions before and after the findings because this result is significantly different (p=0.026 0.05). This means that before starting the internship, the students did not see too much importance in the fact that the internship should be full-time, while after following the internship program there is a significant change in their perception that the practice should be full-time.

The students' expectation that the company where they will complete their internship will require them to complete additional reading materials relevant to the internship activity, suggests that reading materials connected to the internship activity are also of importance (p=0.022 0.05). So, after following the internship, the students find it very necessary to read additional materials before starting the practice. This was not assessed as significant before.

Even the student's impression of the idea of having a specific work directly tied to their study profile has changed significantly (p=0.017 0.05). Students believed this was crucial before the internship. However, it appears that there is now less of a connection between the work and their academic profile.

With a 90% confidence level (p=0.066 0.1), there is a significant difference in their perception concerning the question of whether they will leave their current residence solely to pursue the internship program in Tirana, which means that we reject the null hypothesis that there is no difference in the students' perceptions before and after the results. So, after completing the internship, the students are more convinced that they will return to their place of residence to pursue an internship. This is very helpful for their career.

These changes in perception are clear indicators of internship importance for students. They also indicate the significant role faculties should play in informing students about the benefits they receive from internships. They should also find opportunities for full-time internships in related sectors to their fields of study.

Additionally, with a 90% confidence level (p=0.094 0.1), students who have completed an internship program are no longer in favor of having a topic for a master's thesis that is closely related to the sector that their internship company operates.

The students who successfully completed the internships as part of this program have been offered some recommendations for additional enhancements by the faculty. These enhancements are to ease the transition from academic life to the workforce. The inclusion of such programs in bachelor’s degrees is suggested.

Additionally, it is recommended that internships be distributed throughout the academic year of study rather than concentrated solely at the end of the study cycle. Students must have access to more organizations/businesses and internship opportunities to have a wider range of options. Students propose that if an intern's performance during the internship is adequate, there should be an alternative option for employment.
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Table 1. Test Statistics

<table>
<thead>
<tr>
<th>Questions</th>
<th>Z</th>
<th>Asymp. Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internship should be done full-time</td>
<td>-2.230b</td>
<td>0.026</td>
</tr>
<tr>
<td>I would move from the city where I live just to follow the internship program in Tirana</td>
<td>-1.839b</td>
<td>0.066</td>
</tr>
<tr>
<td>I expect that the business where I do my internship will require me to do additional reading related to my internship activity</td>
<td>-2.292b</td>
<td>0.022</td>
</tr>
<tr>
<td>I expect that in practice I will have a concrete job/task to do which is directly related to my study profile</td>
<td>-2.389c</td>
<td>0.017</td>
</tr>
<tr>
<td>I expect that at the end of the internship, the business will test the knowledge gained during the internship period</td>
<td>-.313c</td>
<td>0.754</td>
</tr>
<tr>
<td>I think that the topic of the degree should be related to the position and the sector where the business operates where I will do the internship period</td>
<td>-1.674c</td>
<td>0.094</td>
</tr>
</tbody>
</table>

a. Wilcoxon Signed Ranks Test; b. Based on positive ranks; c. Based on negative ranks

5. CONCLUSION

This research aimed to answer three main questions. First, what are students' expectations before starting an internship? Second, what are students' experiences and opinions after an internship? Third, are there any differences between "before" and "after" the internship?

To answer these questions, the first phase analyzed the responses of 153 students in the second year of their master's degree at FEUT. The second phase considered only 30 students, of which only 26 finished on time, who underwent a structured internship. The faculty matched the candidates with the right place, keeping in touch with the business and students, and making sure everything worked out well. This research revealed that faculty must take the leading role in shaping an effective internship program. This is done by matching students' desires and business needs. In addition, faculties should periodically analyze the demand and supply side, for a better understanding of market needs and academic gaps. As they see high interest in being deeply involved in work processes, internship programs should last at least three months and should be full-time.

This research has limitations. First, the limited sample size of students finishing the internship program was low. This study included only students with master's degrees from the FEUT, excluding students with bachelor's degrees and studies from other fields.

References


