

A Study of the Effectiveness of Career Advising Resources in the Procurement of Internships by Graduate Students

IMT 570 Analytic Methods for Information Professionals

Group 3

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ABSTRACT

Internships play an important role in the professional development of students and it has been proven that they have a positive effect on job acquiring capabilities after graduation (Koch et al., 2015). For helping the students in the search process, Universities provide several resources, but, the effectiveness of these resources have not been studied in detail yet. This study takes a step in that direction and explores the effectiveness of the resources provided by the University of Washington and its Career Center for the procurement of Internships by its Information Management graduate students. Mixed method approach, comprising of exploratory survey with 37 participants followed by structured interviews with 8 participants, was used for data collection which was followed by a univariate analysis. The results of the study depicts that awareness levels of students for the resources are very high along with medium to high levels of satisfaction. But, even after being aware of the resources, the study finds issue with the frequency of use of these resources as students use them very rarely. The report ends with some reasons for less frequency as found by data analysis and some probable steps for remedying the issue.

INTRODUCTION

A graduate student who seeks to build a career on the foundation of education has to rely on skills and experience in order to enter the industry. It is a dilemma that students with little or no relevant experience struggle to get jobs in an industry in which they have to enter to get experience in the first place. This is where internships offer crucial assistance. Internships help students obtain relevant experience and skills as well as show employers that they possess the professional acumen required to work in a company with peers and supervisors. According to the National Association of Colleges and Employers' survey in 2015, the number of interns converting internships to full-time jobs was 51.2% (Koch et al., 2015) and employers' internship programs were instituted specifically to convert interns to full time employees, 70.8% of them hired after the program (Koch et al., 2015). Also interns who successfully completed an internship or a co-op were, "more likely to be with the company at both the one-year and five-year retention benchmarks" (Koch et al., 2014). These facts highlight the importance of obtaining an internship for graduate students. It is especially true for the subset of students with diverse educational backgrounds who want to change their line of work or enter another industry and are actively looking for an onboarding program that'll help ease the transition.

Several previous researches have also been focused on determining the impact of internships on graduate students. Knouse, Tanner and Harris (2011) have proven in their recent study on *The Relation of College Internships, College Performance, and Subsequent Job Opportunity* that skills learned during internships may translate in higher academic performance and could increase the probability of finding employment after graduation. This increase in the probability of finding employment after graduation might also be because of the fact that professional internships help students in understanding the importance of different professional traits like personality development, time management, etc., that the employers look for during the hiring process (Green et. al., 2011) . It is because of these researches and their findings, that now the majority of universities understand the importance of internships for their students and hence, encourage, if not mandate, them to take part in such internships. Furthermore, these universities are also working hard to provide resources that would help students to gain the offers in the fields they demand. Almost every university has a dedicated section of career center that focus only on providing guidance to graduate students in their internship search process.

But, the increase in understanding of the importance of internships is accompanied by the difficulties in searching and securing one. Graduate students start actively looking for summer internships from fall the year before and continue till the start of the summer. The process involves screening for jobs that match preference, attending career fairs and networking with prospective employers, obtaining interview calls and going through several rounds of interviewing. If selected for a particular program, there is salary negotiation and in the case of international students' inquiry about visa sponsorship and whether future employment in the company depends on it. In spite of the variety of resources provided by universities like career fairs, career counselling centers, and so on; graduate students find it very difficult to gain offers in the field they want to explore and work in. There is also a noticeable imbalance in the time frame of achieving such offers as some students are able to find summer internships as early as during the fall quarter while others are unable to even after the spring quarter. While the university is working hard towards providing guidance and resources to students, such imbalance and difficulties in procuring internships raises the question of the effectiveness of such resources. In her recent article for *University Wire*, Julia Choi (2016) mentions that how being an international student could be an issue for securing internships as apart from requiring visa sponsorship, these students also face difficulties in understanding the professional culture in the United States. Another article in *University Wire* (2014), questions the effectiveness of the career fairs where more than 1000 students try to achieve an offer by explaining their skills

to employers in just 5 minutes after waiting about an hour in the long queues. Furthermore, it has also been found in previous studies that individual differences among students like level of self-esteem, job search self-efficacy (Saks & Ashforth, 1999) as well as the procedures followed for job search like preparatory or active job search along with intensity of search could be major factors affecting the employment of university graduates (Werbel, 2000). While these researches prove the importance of internships, point out different factors affecting the search process and raises questions about the resources needed, no research has been done on the effectiveness of the resources that universities are providing to students. Both the university and students are working hard for improving the internship statistics, but there seems to be a gap between what the students require and what is being provided by the university. The aim of this study is to understand the effectiveness of the resources provided by the university and find out the barriers that students are facing in their utilization if any.

Research Questions:

We have clearly defined the boundaries to establish the scope of the research. We have included questions to understand the effectiveness, utilization and impact of career resources by Information Management graduate students at the University of Washington.

The major research question behind this study is:

How effective are the resources provided by the University of Washington towards helping the MSIM graduate students procuring Internships in the field they choose?

The sub questions under the main research question could be like those mentioned below:

How aware are students of the resources that University provides for Internship search?

What is the frequency of graduate students utilizing career advising resources to seek an internship?

Are the resources that are provided helpful to students in overcoming difficulties in internship search?

Are the resources which are provided cater to the needs of diverse population of students like International students who are unaware of job seeking culture of US and students who are not native English speakers, etc.?

Purpose of research:

To decipher graduate students' awareness and utilization of university career resources, thereby studying the effectiveness of the resources provided.

Concept:

The concept used in this study is the “effectiveness” of the resources provided by the University for facilitating Internship search process by Graduate students. The variables and operational definition mentioned below will define the characteristics of this concept.

Operational Definition:

1. Effectiveness of the resources: In this study the effectiveness of the resources would be measured by considering the following points:
 - a. The awareness of students for these resources
 - b. The frequency of use of the resources provided by graduate students
 - c. The satisfaction level of the students regarding these resources
 - d. The ability of the resources to develop important skills regarding internship search in the graduate students
 - e. The increase in internship offers that might be resulted by using these resources

Variables:

Name of Variable	Type of Variable
Awareness of the resources provided	Categorical/nominal
Frequency of use	Ordinal
Satisfaction level of students	Ordinal
Ability to impart Skills	Ordinal

Definitions:

1. Career Resources provided by the university: This include the following resources:
 - a. Career Fairs
 - b. Employer Information and Networking Session
 - c. Personal Advising sessions
 - d. Guidance on Networking, Resume, Cover Letter, etc.
2. Frequency of using career advising resources - This could imply the following:
 - a. Number of career advising meetings previously set up with career advisor
 - b. Number of mock interviews previously set up with career advisors
 - c. Number of Information sessions attended,
 - d. Number of internship applications on HuskyJobs.

Scope of the study:

The scope of study is limited to currently enrolled MSIM graduate students of the Information School of the University of Washington. The resources whose effectiveness is being studied are those provided by the University and its career center. Outside/ open source resources like LinkedIn, Internship agents etc., are not included in the study.

METHODOLOGY

This section describes the methods using which the research was conducted. The methodology chosen for this study is “mixed-method approach”, where we used both quantitative as well as qualitative research methods. The definition of mixed method approach used here is similar to that of Leech and Onwuegbuzie (2009), i.e., “mixed methods research represents research that involves collecting, analyzing, and interpreting quantitative and qualitative data in a single study that investigate the same underlying phenomenon”. The approach is taken to facilitate what is called as “*triangulation*” by Denzin (1978) in order to incorporate diverse data collection and analysis for checking validity. The main reasons behind choosing mixed method approach are:

- To utilize the strengths of both the methods in a way that they complement each other. For instance, quantitative methods like numerical data gathering and statistical analysis could be used with qualitative methods like focus groups or interviews for in depth study of data driven facts.
- Triangulation is helpful for validating the findings as the results from the two methods can be cross examined to validate the inferences.

The next sections describe the procedure that was used for participant recruitment, data gathering and analysis.

Data Gathering Procedures

For this study we have followed a fully sequential design technique where quantitative approach was followed by a qualitative approach. During the first phase of the study, to gain a general understanding of the research problem by gathering data from a larger group of people belonging to the target population, a detailed survey was conducted with 37 respondents. This survey was focused on querying participants about the overall issue (effectiveness of internship oriented resources) and focused their concentration on different variables/ attributes

(frequency of use, awareness of resources, etc.). The major aim of this step was to understand the overall satisfaction level and awareness trend of students with the career center resources along with finding certain key areas where the problem might exist. For the next phase of data gathering, a qualitative study comprising of interviewing 8 of the specific target participants was conducted. The interviews were well structured and focused on the issues found in quantitative data analysis.

Sampling

The study is focused upon the Graduate Students currently enrolled in MSIM program in Information School of University of Washington. For the first part of the study, the quantitative method, the survey was distributed online to the entire target population in order to gain as many responses as possible. For the second part of the study, for the qualitative data gathering, *Purposive Non-Random Sampling* technique was utilized. The sample size was eight participants. The reason for choosing this type of sampling method is because the MSIM population comprises of a diverse set of people with differences in places of origin, native languages, cultures, educational background, etc. It is possible that some resources like workshops/events that happens using English language would not be as effective to international students as they are to native English speakers. To make sure that such people are represented in our sample, we are using purposive sampling method where each individual was chosen based on characteristics like Nationality, Immigration Status, Internship status, etc.

Instruments

Survey:

For the first part of data collection process in the research we distributed a planned questionnaire via survey. This is in order to gather standardized and normalized responses from interviewees. We have used google forms to construct the survey and careful attention was being paid to the wordings and possible interpretation of the questions to avoid ambiguous or double barreled questions. Appendix 1 shows the full version of the survey. The survey consisted of mixed set of questions with a combination of close ended as well as open ended questions, but the majority was closed questions using multiple choice and Likert scale. The survey was divided into sub-sections that focus on querying the different variables like awareness, frequency of use etc. Several *filter questions* are used to direct respondents to sections based on their responses in order to save time and to reduce missing responses.

Interview:

The interview following the quantitative data analysis was well-structured and the major theme and measures were pre-defined and selected based on data analysis and findings from the survey data. For this we targeted 8 graduate students and the interviewer was in possession of the questionnaire that has been designed by the research members. The interviewer only asked questions that have been listed in the questionnaire and recorded the responses by taking notes on a document.

Reliability

The two methods of our research, qualitative and quantitative methods was subjected to reliability for the results and data being generated from the surveys and interviews. The source of influence and impact could be the questions formulated for the purpose of the research, the method and nature of the data being recorded by each individual researcher for the interviews and the cognition of the respondents replying to the survey as well as the interviews. We have predicted the reliability of the measurements classified by the following categories:

Test - Retest Reliability

The point here is to understand if the same person will answer the question the same way the second time around. The question being asked are of three types.

1. Factual question, for example, what is your current position regarding internship, which requires the participant to answer that either they have an internship, or do not have one, or are actively seeking one. In this case if the participant answers the same question once more there is a possibility that a participant who did not have an internship at the time of giving the first survey would have an internship at another point in time. If the same question is asked the respondent's answer would differ.

2. Knowledge based question: These questions require the participant to respond with an answer to the best of their knowledge or experience. It may or may not be factual. For example, "How frequently do you use HuskyJobs" or "How often do you attend career events and workshops". The respondents reply to this question will be more or less the same the second time around.

3. Perception or thought based question: These questions require the participant to provide their perception on a particular area or topic. For example, "How well does the University career center help you in developing various skills?" The respondent would answer the question depending on what has happened in the past. If asked again in the future the answer may or may not be different.

Inter- observer reliability

The method of recording and analyzing data was standardized amongst all research members through a unanimous decision. The approach used was to record all interview responses on documents and identify concepts and key elements as a group activity. The coding methods were determined and finalized and the same were adopted by all research members.

Cognitive Testing

The question asked in the survey are simple to understand and easy to answer. The consistency of the measurements could be predicted by understanding the questions being asked in the survey and the interviews. The terminology used in the survey are common across all educational institutes and the respondents are all graduate students which makes the probability of understanding the questions very high. For the long answer questions we have asked for suggestions related to career resources and improvements in the services being provided to which the respondent is not expected to be specific.

Ethical Considerations

We had a high standard of ethical considerations during the entire process of our research, especially while involving human subjects. The Belmont Report (1979) mentions that research should have the aim of maximizing humanitarian benefits while minimizing the risk to the subjects. Our subjects were informed that they were participating in a research for our IMT 570 - Analytical Methods for Research Professionals class. They were provided with an informed consent statement before starting any survey or interview, and they had the freedom to decline participation if they feel uncomfortable with any aspect of the test process. Furthermore, questions pertaining to personal details in the survey had an option 'refuse to answer' for the participants.

The individual responses from the survey were classified and were not disclosed to any person, organization or entity. The results derived from the research were published as part of the research paper for our class. A disclaimer preceded the survey to let the participants know that the data collected will be anonymized and if they respond to the survey they agree to share the resultant information. The interview began with a briefing by the interviewer on the amount of time it would take as well the nature of questions that would be asked. The responses gathered from the interviewees might identify them but were kept safe and non-accessible by individuals other than the research members themselves. The interviewee was also notified of the same.

Data Analysis Procedures

Survey:

Overview of Data: The number of people responding to survey was 37. In the survey they were asked to respond to one demographic based question to separate them in categories of International and Domestic students and other one question corresponding to the current status of whether or not they have successfully acquired an internship offer. These facilitates the comparison of variables like satisfaction and frequency of use of resources between domestic and international students. In the survey data we found that the respondents were almost evenly distributed among International Student category (54%) and US citizen category (43%). Also, while majority of respondents lie in category of people who have acquired an internship offer of their choice (46%), we had good sample sizes for people who are still actively searching for internships (24%). Figure 1 and Figure 2 give the distribution of respondents based on their current US immigration status and internship acquisition status.

Please select the option that corresponds to your current status in United States.

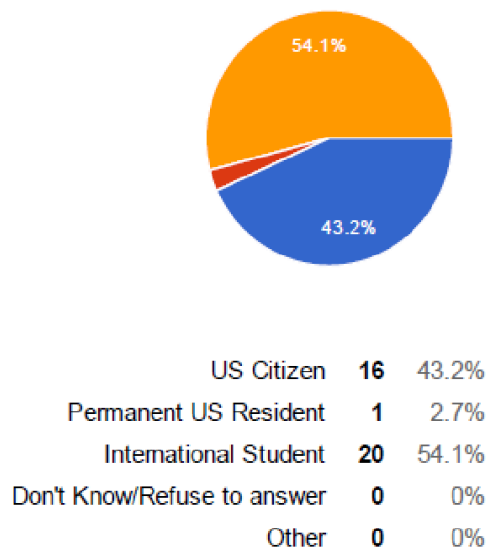


Figure 1: The survey question corresponding to US citizenship status and the distribution of responses

Which of the following category best describes your current position regarding Summer Internships?

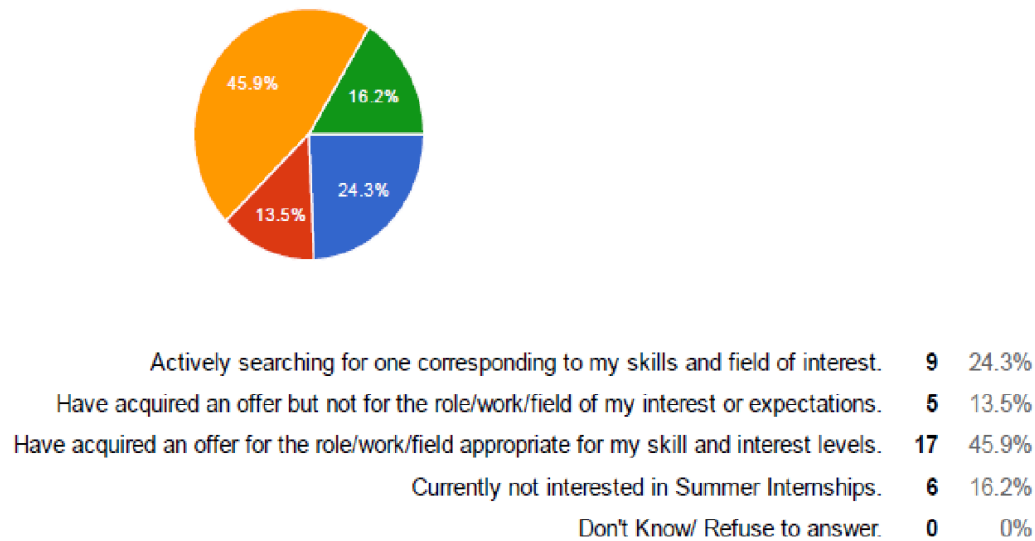


Figure 2: The survey question corresponding to internship status and the distribution of responses.

Data Screening: Before analysis of data we performed data screening and filtering. First step was to distribute the survey questions into different categories depending upon the variables whose measure they were providing. For example, responses for all the questions specifying frequency of use of different resources were separated from the responses for questions about the satisfaction of students with the resources provided. A coding sheet was developed and a numeric code was provided to the values of the responses like 1 to 5 to choices from Very frequently to Never. In order to consider only valid cases, before analyzing any variable, any row having missing values i.e. blanks were deleted from the analysis sheet. Also, for some variables where “Don’t Know” response wasn’t corresponding to the measure of variable *Awareness*, we removed the rows with responses having “Don’t know” or “Refuse to answer”. Data was also screened for faulty unit cases who might have given missing responses for most questions, but no such case was detected. One outlier that we found in our data that might be the source of potential bias, was the one respondent who belong to Permanent US Resident category in Question 1. As we got only one-unit case for that category and as his/her response could not be considered as a representative of the entire group of Permanent US citizen, we decided not to consider the case in some of the analysis.

Data Analysis: As the variables were ordinal and nominal, we used Descriptive Statistics, Frequency Distribution, Pivot Tables/Charts, Cross Tabulation and Chi-Square Statistics for analyzing the data. Frequency Distribution charts along with Descriptive Statistics were used to understand the distribution of responses for different variables. After that Cross Tabulation and Chi-Square tests were performed for testing associations between these variables.

Initial Analysis: An initial chi-square test was run between the two nominal variables related to demographics, i.e., the US citizenship status and Internship status to see whether there was an association between the immigrant status of a student and whether or not he or she has acquired an internship offer.

The result of the test is displayed in table 1. The results show that we can accept the Null Hypothesis and there is, whatsoever, no relationship or association between an individual's citizenship status and status of internship acquisition.

Independent Variable	Dependent Variable	p-value	df	Chi-square
US Immigration Status	Internship Offer Status	0.39802472	1	0.714285714

Table 1: Chi-square test for US immigration status and Internship acquisition status

Frequency of use: For measuring Frequency of use of different resources, Likert scale questions were provided to rate the frequency of use of resources like Career Fairs, Diversity Resources, Career Center Library, Counseling Sessions, Online Portals, etc., on the scale varying from *Very Frequently* to *Never*. For data analysis, each ordinal category was assigned a numeric value from 1 to 5 with *Very Frequently* having a value of 1 and *Never* was assigned the value of 5. The next step in examining this variable was to determine whether there exist an association between frequency of use of resources by an individual and his or her US citizenship status The Hypothesis for this test was:

There exists an association between the US citizenship status of a student and the frequency with which he or she utilizes the career center resources.

Awareness of resources: To measure the awareness of resources among students, two types of questions were asked. In first type of question, while asking for frequency of use of

resources, an option was given to the participants to select *Don't know about this resource*. In the other type of question, people were queried about whether they use a particular resource (Online Portal) for different functions. This question helped us to determine whether students have awareness about all the different functionalities that a resource could provide. Frequency distribution charts were used for analyzing this variable.

Student Satisfaction: To measure the satisfaction levels of students with the resources provided, their perception of how effective the resources are being queried. This was done in two ways. Firstly, they were asked to rate some of the major resources like Personal Counselling Sessions, Online Portals and Events on a scale of 1 to 5 with 1 being *Not helpful at all* and 5 being *Very Helpful*. Secondly, they were asked to tell their level of agreement about whether they think that all the essential resources were provided or not and whether these resources are helpful and accessible to them on scale from 1 (Strongly Agree) to 5 (Strongly Disagree). Table 4 and 5 shows the distribution of the responses for these questions. Frequency distribution charts along with descriptive statistics were used to measure the responses for this variable.

Skills Achieved: To measure whether the resources were successful in imparting skills important for acquiring internships, participants were asked the extent to which they think that the resources prepare them for achieving different skills like knowing the job search culture, making resumes etc.

Frequency distribution charts were used to analysis of this variable. Furthermore, to find out whether there is a dependency of skills achieved on the citizenship status, a chi-square test was carried out. The hypothesis for the test is mentioned below:

There is an association between the US citizenship status of a student and whether or not they think that the resources were able to impart important skills for internship search process.

Interviews

Interviews were conducted by each group member. At the most 2 interviews were conducted giving us a total of 8 responses. All the respondents were from the MSIM full time career program and were they were all first year students. Interview consisted of 7 questions designed strategically to gain data about the internships process followed by students and the barriers they faced during the process. Interview were conducted in person and consent forms were signed by the interviewers informing the use of the data. Interviewees were also given a brief about the process before the interview could be conducted.

Questions were asked by the interviewer and responses were noted by the interviewer in a word document. The process took approximately 10 minutes. All the responses were then added to a repository safely with no disclosure of the interviewees' information.

We then performed qualitative analysis on the data gathered from the 8 interviews.

International Student Status: We found that there was no relation between a student's citizenship/visa status and whether they acquired an internship or not. This supports the results found in the survey as well.

Barriers faced by the student: This question was not asked in the survey because it is very descriptive in nature when communicated by the student. The purpose of asking this question was to create a reference point so as to learn if the career resources were useful in overcoming these barriers. There were numerous barriers mentioned by the interviewees. Some notable ones were lack of networking opportunities, problems with accent and finding the exact role match on the career website.

University Resources: Almost all interviewees used at least two career resources for searching internships while only one did not use any at all. The most commonly used resources were career fairs and resume workshops.

Satisfaction: The satisfaction levels of the interviewees with the career resources were average which was similar to the results found through the surveys. This did not provide any new insights.

Usefulness of resources in overcoming barriers: The respondents were asked to relate the usefulness of the career resources in overcoming the barriers mentioned by themselves earlier. The general response was similar to the satisfaction levels mentioned by the interviewees for the same career resources. Mostly believed that the university career resources were not useful in overcoming the barriers mentioned by themselves.

Reasons for not utilizing other career resources: Several reasons were provided by the respondents for not using these resources. These reasons were separated into categories during the analysis process. One main reason for not utilizing university provided career resources was that the respondents did not feel that they could not network and connect well with employers. Other reasons include no provisions for improving technical skills and no resources to overcome barriers like accent problems.

Affinity Diagram

(The purpose of highlighting affinity diagram here is only to point to the method of qualitative analysis performed on the interview transcripts.)

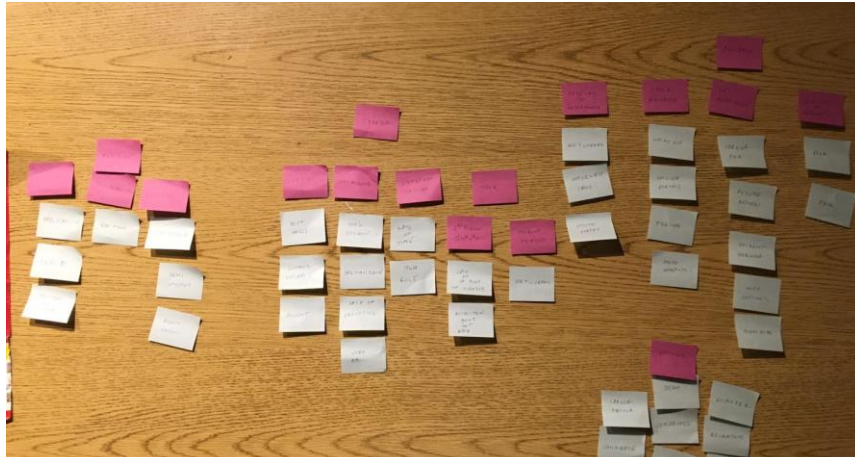


Figure 3: Affinity diagram

Coding Manual

The affinity model was utilized to create a coding manual. The coding manual was designed to organized the results of the interview data collected. Codes were identified by the pink post it notes and categories were identified by the same color but with the upper level hierarchy. Overall we have 16 codes and 5 categories. The categories and codes have a description added to them so that the reader can understand the context of the codes and categories. In addition, examples have been provided to make it more clear. The coding was performed by multiple coders so as to develop an efficient and robust model. Inter-coder reliability test was not performed as the development of the coding manual was performed by 3 coders and had multiple iterations. The number of codes and categories was not significantly large which would require inter-coding reliability test.

The coding manual was designed and developed by analyzing only the responses gathered from the interviews and they are classified as Barriers, Procedure, Resources, Entity and Emotion. Barriers are the issues faced by the students while searching for internships and it has been further classified into factors pertaining to the individual as well as external factors. The main codes here are Traits, Background, External Factors, Task and quality of resources. Procedure is

described as the actions and requirements for obtaining an internship as described by the interviewees. Resources describes the classification of all university and external resources that have been utilized by the interviewees. Entities mentions all the people or companies or organizations involved in the process of acquiring internships. And lastly emotion describes what the interviewee feels about the credibility and usefulness of the career resources in the university.

1. **Barriers** (Things or requirements that stop the student from securing an internship)
 - a. **Traits** (Physical or mental qualities of the candidate)
Example: Soft skills
 - b. **Background** (Candidate's Race, Ethnicity, work ex, education)
Example: International student
 - c. **External Factors** (Time, money, opportunity)
Example: Time
 - d. **Task** (Process to be worked upon)
 - i. **Student Initiated** (Task initiated by the student)
Example: Networking
 - ii. **Second Person Initiated** (Task initiated by a person other than student)
Example: Jobs posted on career site and online portals by HR
 - e. **Quality of Resources** (Quality of resources that are used for searching internships)
Example: Fair, Poor
2. **Procedure** (Process of acquiring internship)
 - a. **Student Action** (Action taken by candidate)
Example: Applying for the internship
 - b. **Requirement fulfillment** (Qualification for the internship job profile)
Example: Portfolio
3. **Resources** (University provided resources like workshops, resume reviews, career fairs)
 - a. **Gateways to Interviews** (Event or procedure of initiating an internship acquisition)
Example: Networking events
 - b. **University Resources** (Resources provided by university)
Example: Resume reviews

- c. **Other resources** (Resources other than those provided by university)
Example: LinkedIn
- 4. **Entities** (People or organizations involved with the internship acquisition process)
 - a. **University** (Educations institute where student pursues degree)
Example: University of Washington
 - b. **Company** (Employer giving the internship)
Example: PWC
 - c. **Self** (Student seeking internship)
Example: Student
- 5. **Emotion** (Emotion expressed by student)
Example: Satisfied

RESULTS & FINDINGS

The major findings from the data analysis of survey and interviews are mentioned in the following sections.

Quantitative Analysis Findings:

As mentioned in the data analysis section, we found no association between the US citizenship status of a student and whether he or she has acquired an internship offer or not. This result is quite positive as it depicts that acquisition of internships does not depend upon citizenship status. For the remaining variables the findings are listed below:

Awareness of Resources:

From analyzing the results, we found that the level of awareness among the students for the resources are very high. Also, students are aware about the different functionalities of the resources offered. By looking at Figure 3 we can say that only for two resources namely, *Diversity Resources* and *Career Center Library*, most people have responded that they *Don't know about this resource*, hence, generating low awareness levels for these two.

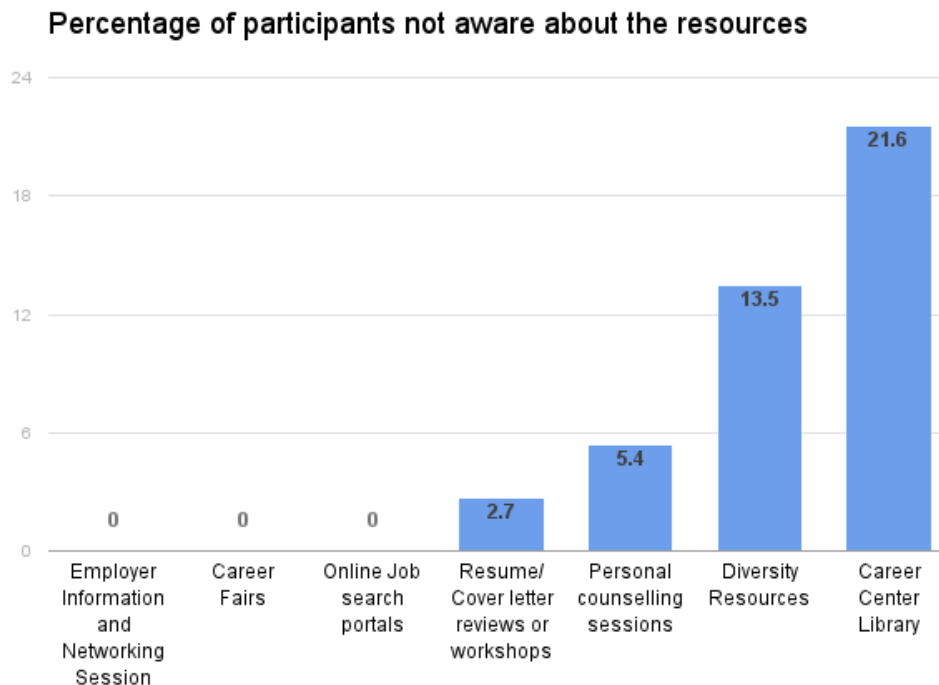


Figure 4: Awareness levels for different resources

Frequency of use:

Figure 5 displays the distribution of responses that we got for the frequency of use of all the resources. The figure tells us that the levels for frequency of use for the resources are very low and most participants replied that either they never use the resources or they use them occasionally. Furthermore, if we look at Figure 6 then we can say that the percentage of people never using the resources is particularly large in case of some resources like Diversity Resources and Career Center Library. This result is surprising particularly when the students have shown high levels of awareness for all the resources. For analyzing the issue further, we performed a chi-square test for checking the association for frequency of use with the US citizenship status to see whether this low frequency is associated with whether the student is International student or not. The result for the chi-square test is given in Table 2. The test shows that there is no association between the frequency of use of resources and the citizenship status of the students.

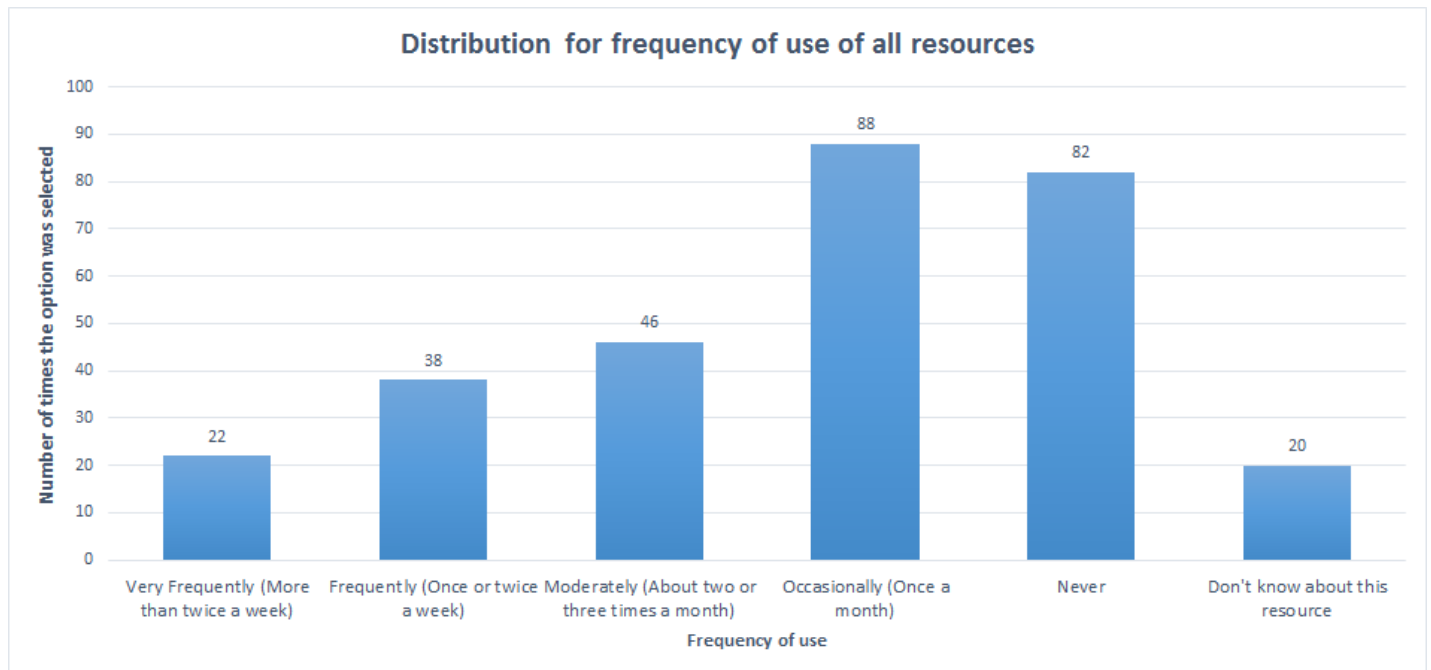


Figure 5: Distribution of Frequency of use for all resources

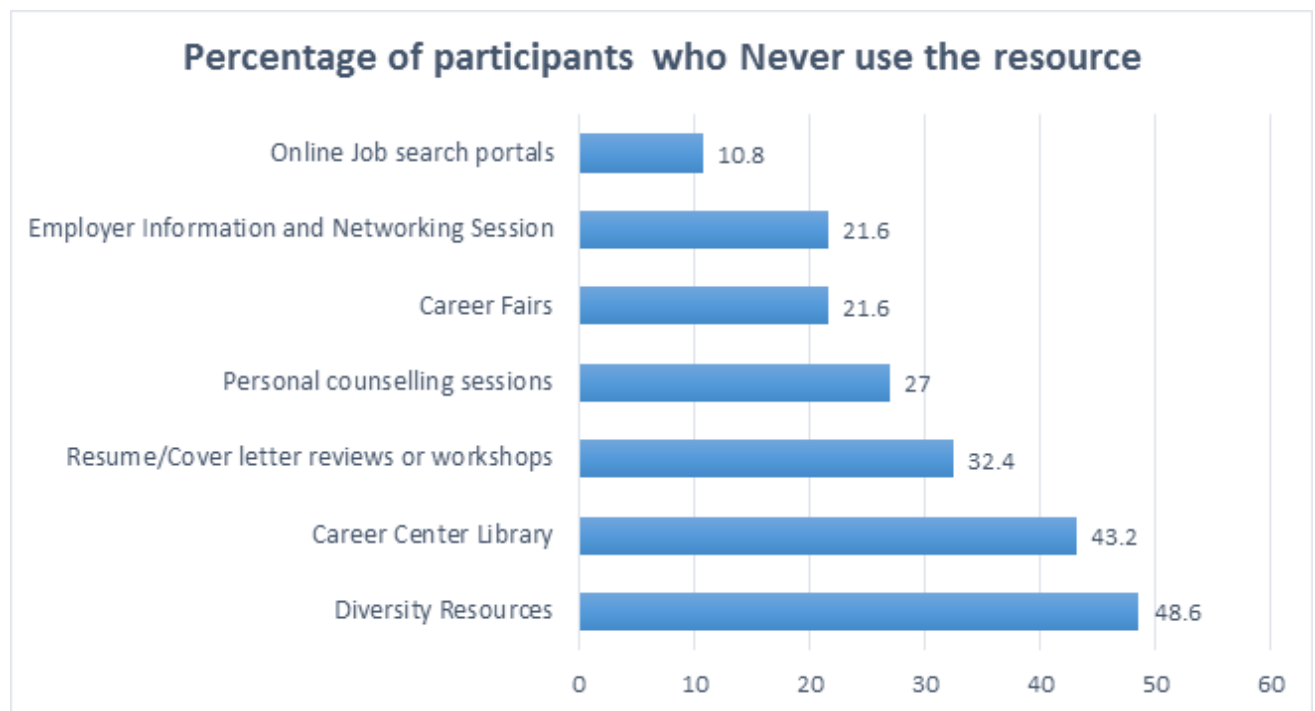


Figure 6: Percentage of participants responding as Never for usage frequency

<i>Frequency of use of (resource name)</i>	p-value	df	Chi-square value
<i>Employer Information and Networking Session</i>	0.0743	4	8.519444
<i>Resume/Cover letter reviews or workshops</i>	0.118370368	4	7.352966478
<i>Career Fairs</i>	0.072708152	4	8.572896825
<i>Diversity Resources</i>	0.281484576	4	5.057140883
<i>Career Center Library</i>	0.206956527	3	4.560504202
<i>Personal counselling sessions</i>	0.564169625	3	2.039885989
<i>Online Job search portals (iCareers/HuskyJobs)</i>	0.018177	4	11.89141

Table 2: Chi-square test for US citizenship status and frequency of use of resources

Student Satisfaction:

Figure 7 provides the distribution of ratings that the participants provided for the three mostly used resources i.e., Online Portals, Events and Personal Counselling Sessions. The figure depicts that the satisfaction levels of students for the three resources fall in Average to High category. Furthermore, for the questions about the opinions of participants about the availability, helpfulness and accessibility of resources the responses that we got, as shown in Table 5, were between 2 to 3 which means again that people either agree that resources are available and are helpful and accessible or have neutral opinions about these factors.

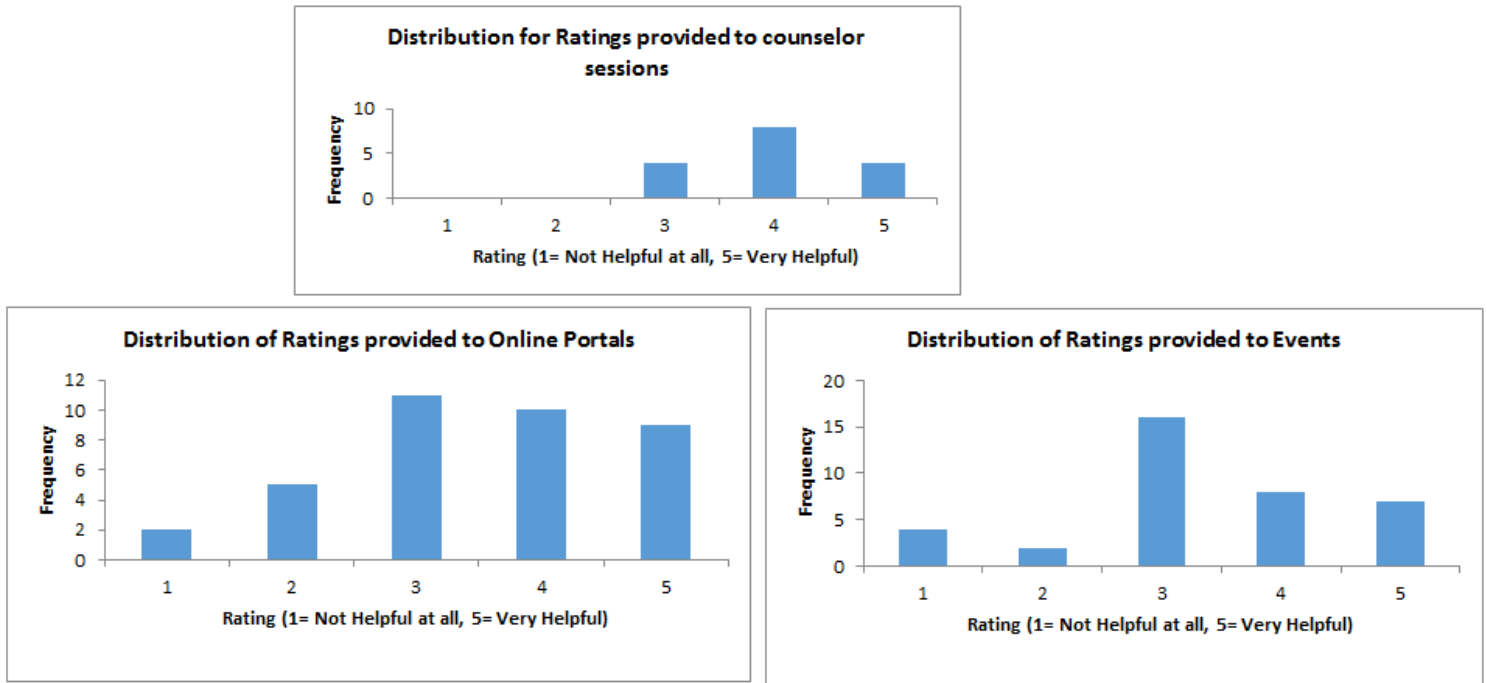


Figure 7: Distribution of Ratings provided to the resources

Statement	Count(n)	Mean (M)	Standard Deviation(SD)
All the essential resources for internship search process are provided.	37	2.702703	1.777402
All the resources that are provided are helpful in fulfilling your requirements.	37	3.108108	2.118487
All the resources are accessible and you receive timely communication about them.	37	2.783784	1.959806

Table 3: Description of level of agreement of participants with effectiveness of resources (1=Strongly Agree, 5= Strongly Disagree)

Skills achieved:

For perception of skills achieved by using the resources by the students, we received very high levels. Most students responded that these resources *Highly Prepare* or *Prepare* them for different important skills needed for Internship acquisition. This can be seen in Figure 8 that depicts the percentage of people selecting *Highly Prepared* or *Prepared* as their responses for questions pertaining to skills achieved. Furthermore, we also performed chi-square test for checking whether this perception is dependent upon the US citizenship status or not. The results as shown in Table 4 depicts that there is no association between the perception of skills achieved and us citizenship status. Hence, we can say that all participants belonging to International student category as well as Domestic student category, have perception that the resources prepare them fairly for the skills mentioned.

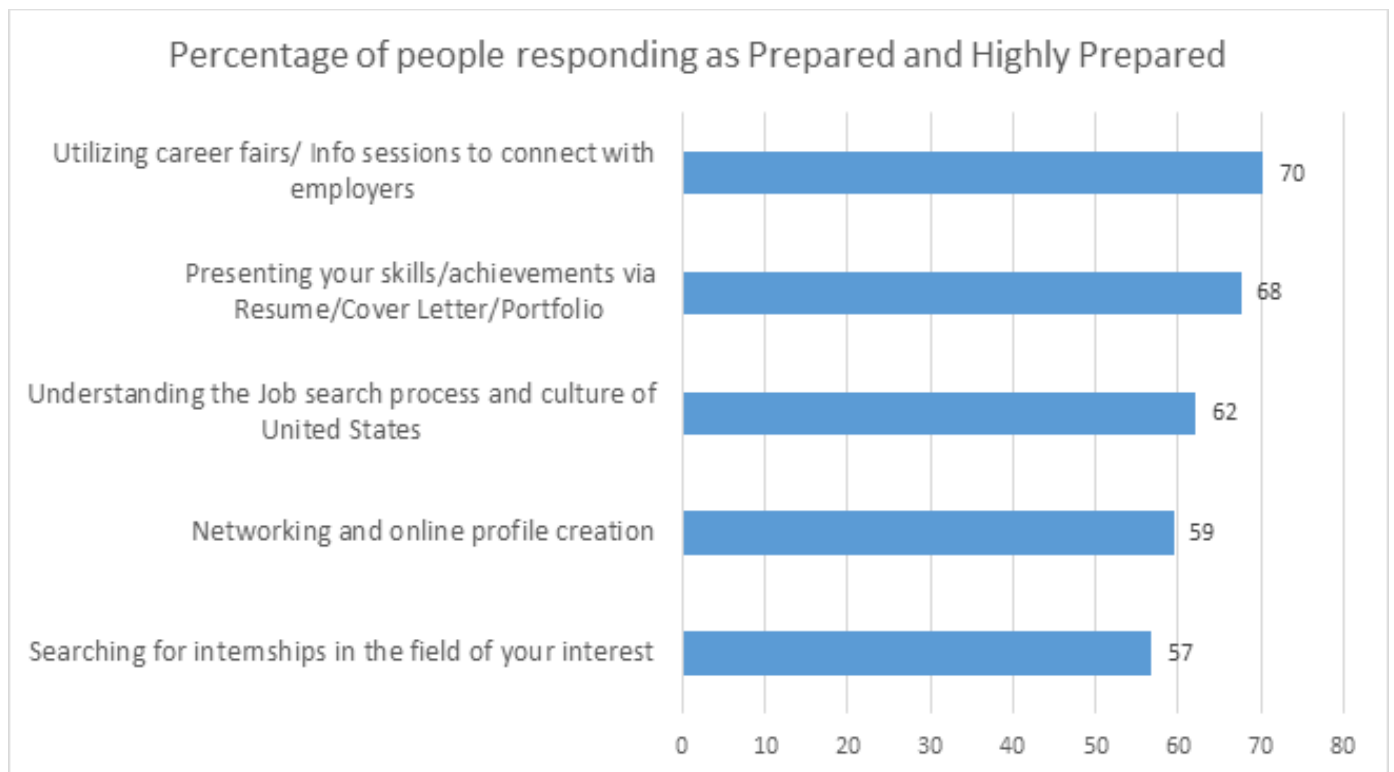


Figure 8: Percentage of people who have selected Highly Prepared or Prepared for the skills

Skills	p-value	df	Chi-square
<i>Searching for internships in the field of your interest.</i>	0.430212	4	3.824969
<i>Understanding the Job search process and culture of United States.</i>	0.7836518	4	1.7388347
<i>Networking and online profile creation</i>	0.71391757	4	2.118809524
<i>Presenting your skills/achievements via Resume/Cover Letter/Portfolio</i>	0.646659	4	2.488706
<i>Utilizing career fairs/ Info sessions to connect with employers</i>	0.237445538	4	5.52609127

Table 4: Chi square test for skills achieved and US Citizenship status

Qualitative Analysis Findings:

The interview results did provide data from a diverse set of subjects because they were selected by

“Purposive non random sampling” method. As a further research into the issue the qualitative data provided the below mentioned insights:

- The general response on the quality and usefulness of university career resources was that they are average in quality.
- The barriers mentioned by all 8 respondents were quite unique but the response regarding the quality and usefulness of the university career resources was very much similar.
- The results are very much similar to the results acquired from the surveys and is conclusive that most students feel the career resources are average in quality as

described by the limited set of respondents, but, one important point that we found was that the students feel that these resources are not very effective in overcoming the unique and common barriers faced by the students.

- Some reasons found for low frequency of use were:
 - **Lack of time:** Responses indicating this reason: “The timing is an issue with lots of ongoing classes”, “Lack of time”
 - **Very basic level of resources:** “The stuff is more basic than what I want. They are treating us as we are first timers in job search”, “I feel that my own knowledge adequately addresses these issues”
 - **Not dynamic:** “Same input is received each time”
 - **Not catering to specific careers:** “Career center is not providing any resources for leveraging technical skills”, “Resources are very generic and not tailored to specific job roles or student’s need”
- Some major suggestions for improvement as provided by the participants:
 - Good Alumni Base
 - Should provide intermediary moderators who could introduce students to companies
 - Personalization for students and positions
 - Mentorship Programs

DISCUSSION & CONCLUSION

The study presented some interesting findings with lot of scope of extending the research in future. The results depicting that several factors like internship offer acquisition status, frequency of use of resources, satisfaction and skills achieved by the resources are independent of US citizenship status, could be considered as positive results for the University and Career Center. Considering the effectiveness of the resources as defined in the study by variables, we found that some issues lie with the frequency of use of these resources and the overall satisfaction levels for the resources provided. Even though the students are aware about the resources and the skills that they could achieve by using these resources, majority of the sample population studied in the research do not use these resources frequently. The major reason for this issue on which further work could be done was the very basic and non-dynamic nature of the resources. Most of the participants mentioned that they would like to see some resources that are specific for a particular type of role or field, like resources for improving

technical skills for technical roles, instead of the very basic stuff provided right now that more or less focuses only on improving soft skills. Also further steps could be taken by the university to form a good alumni base and to provide some mentorship programs.

This study reveals the major problem areas that are acting as barriers between students and the full utilization of the resources for gaining Internships. The results found in this study can be used by the University and its Career Center to further analyze the issues in detail and to implement some of the solutions that could cater to the need of majority of students and could help them in searching for Internships of their choice.

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APPENDIX 1: SURVEY QUESTIONS

A link to online survey: [Survey of Internship Search Resources](#)

Questionnaire:

Survey of Internship Search Resources

This survey is for the study conducted as a part of course IMT-570 for investigating the effectiveness of the resources provided to graduate students for Internship search process. This survey takes about 5 minutes to be completed. The responses are completely anonymous and the data would neither be released nor used for any purposes other than for the study.

***Required**

Please select the option that corresponds to your current status in United States. *

- ☐ US Citizen
- ☐ Permanent US Resident
- ☐ International Student
- ☐ Don't Know/Refuse to answer
- ☐ Other:

Which of the following category best describes your current position regarding Summer Internships? *

- ☐ Actively searching for one corresponding to my skills and field of interest.
- ☐ Have acquired an offer but not for the role/work/field of my interest or expectations.
- ☐ Have acquired an offer for the role/work/field appropriate for my skill and interest levels.
- ☐ Currently not interested in Summer Internships.
- ☐ Don't Know/ Refuse to answer.

Thinking about the resources (career counseling, workshops, career fairs, etc.) that your University provides for finding Internships, to what extent do you agree with the following statements? *

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Don't know
All the essential resources for internship search process are provided.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All the resources						

that are provided are helpful in fulfilling your requirements.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
All the resources are accessible and you receive timely communication about them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

How well, according to you, does your University/Career center prepare you for developing following skills? *

	Highly Unprepared	Unprepared	Not sure	Prepared	Highly Prepared
Searching for internships in the field of your interest.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Understanding the Job search process and culture of United States.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Networking and online profile creation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presenting your skills/achievements via Resume/Cover Letter/Portfolio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Utilizing career fairs/ Info sessions to connect with employers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

What according to you, is hindering/ have hindered your internship acquisition process?

Please provide the frequency with which you utilize the following resources. *

	Very Frequently (More than twice a week)	Frequently (Once or twice a week)	Moderately (About two or three times a month)	Occasionally (Once a month)	Never	Don't know about this resource
Employer Information and Networking Session	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Resume/Cover letter reviews or workshops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Career Fairs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diversity Resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Career Center Library	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personal counselling sessions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Online Job search portals (iCareers/HuskyJob)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other events/workshops.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If you selected **Never** or **Occasionally** for any of the resources, then please provide some major reasons for not using them.

Job search portals

Please select the top three online portal that you use frequently to search and apply for Internships? *

- ☐ Husky Jobs
☐ iCareers
☐ LinkedIn
☐ AfterCollege
☐ Glassdoor
☐ indeed
☐ Other:

Do you use Husky jobs/iCareers for fulfilling the following tasks? *

	Yes	No	Don't know about this feature
Finding and Applying for On-Campus Jobs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding and Applying for Internships	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Viewing upcoming events/workshops organized by university/career center	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Finding and Applying for Employer Information/Networking Sessions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Searching for Career Fairs/ uploading resume on career books for fairs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scheduling appointments with advisors	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rate how useful you find HuskyJob and iCareers for helping you to acquire Internship of your choice. *

1 2 3 4 5

Not useful at all ☐ ☐ ☐ ☐ ☐ Very useful

Events/Workshops

Have you ever attended the following types of events/workshops organised by Career Center? *

	Yes	No	Don't know about this type of events.
Online Workshops (Streaming Workshops)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Same day sessions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Workshops and Labs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fairs and Meetups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please rate how helpful you find the events you have attended for Internship search process. *

1 2 3 4 5

Not helpful at all ☐ ☐ ☐ ☐ ☐ Very helpful

Please provide some suggestions for actions that could be taken to increase the usefulness of these events.

Career Counselor

Have you ever scheduled an appointment with the designated Career Counselor of your program to discuss Summer Internships? *

- ☐ Yes
- ☐ No
- ☐ Don't know who the counselor for my program is/ Don't have a career counselor.
- ☐ Refuse to answer.

Rate Experience

Please rate your experience with the career counselor: *

1 2 3 4 5

Not helpful at all ☐ ☐ ☐ ☐ ☐ Very helpful

APPENDIX 2: INTERVIEW TRANSCRIPT

TRANSCRIPT 1:

Thank you for participating in the Interview process for our research study. First I will give you the introduction of the research, then we can proceed with the consent form and the interview process.

The interview is a part of the study conducted as course IMT570: Analytic Methods for Information Professionals. The study is based on evaluating the effectiveness of the resources provided by the university and the career center for the procurement of Internships by graduate students. The interview process is completely anonymous and data will not be used for purposes other than those for the study.

Please read the consent form and provide your consent for the interview if you feel comfortable in being a part of this research.

Participant Description:

Status in US: Student / F1

Working Full time: No

Gender: Male

Q1: Are you currently searching or have successfully searched in the past for an Internship?

Yes I have!

Q2: Have you acquired an Internship Offer?

Yes, I recently did.

Q3: In your Internship search process, what according to you are the major barriers that you are facing or have faced?

I believe the major barrier was being able to know what companies usually needs or looks for in a candidate for a specific role. It is also tough to track updates on your applications.

Q4: The career center of the University provides resources to make the internship search process easy for the students for example Career fairs, Info Sessions, resume reviews. Have you ever utilized any of such resources? Can you name some of them?

Yes, I have attended the Career Fairs. I have had a Resume Review session by the Student Services at the iSchool.

Q5: How satisfied are you with the resources provided?

Pretty satisfied!

Q.6 Are these resources helpful for overcoming the barriers that you mentioned previously?

Somewhat helps but not completely though.

Q7: Can you provide some main reasons for not utilizing other resources?

I believe UW itself has strong resources, so there is no need to go outside for other resources.

TRANSCRIPT 2:

Status in US: f1

Working Full time: no

Gender: female

Q1: Are you currently searching or have successfully searched in the past for an Internship?

Yes, in the past

Q2: Have you acquired an Internship Offer?

Yes

Q3: In your Internship search process, what according to you are the major barriers that you are facing or have faced?

Don't always get interview calls for the role I want. The networking process is very harrowing, and for me getting past the recruiters was always a challenge.

Q4: The career center of the University provides resources to make the internship search process easy for the students for example Career fairs, Info Sessions, resume reviews. Have you ever utilized any of such resources? Can you name some of them?

Yes, have been to career fairs, info sessions and resume workshops.

Q5: How satisfied are you with the resources provided?

Satisfied to some extent.

Q.6 Are these resources helpful for overcoming the barriers that you mentioned previously?

Personally, none of these resources have helped me overcome my problems. I am not saying they aren't useful, but not so much for me.

Q7: Can you provide some main reasons for not utilizing other resources?

I do use other resources like LinkedIn, online portals, meetups etc.

TRANSCRIPT 3:

Participant Description:

Status in US: F1 Student Visa

Working Full time: NO

Gender: Male

Q1: Are you currently searching or have successfully searched in the past for an Internship?

Currently searching but not yet received.

Q2: Have you acquired an Internship Offer?

NO

Q3: In your Internship search process, what according to you are the major barriers that you are facing or have faced?

Resume doesn't get short listed. Work experience is in a different domain and specialization is in different domain and cannot strike a balance between these two domains.

Q4: The career center of the University provides resources to make the internship search process easy for the students for example Career fairs, Info Sessions, resume reviews. Have you ever utilized any of such resources? Can you name some of them?

Resume review and career fair.

Q5: How satisfied are you with the resources provided?

Resume review good and career fair poor. Recruiters ask to apply online even after networking with them which makes it not worthy to attend career fair

Q.6 Are these resources helpful for overcoming the barriers that you mentioned previously?

Somewhat. Resume review was purely for “Consultant” domain and not information security.

Q7: Can you provide some main reasons for not utilizing other resources?

Lack of time and not aware of any career resources that exist.

TRANSCRIPT 4:

Participant Description:

Status in US: Student

Working Full time: No

Gender: Male

Q1: Are you currently searching or have successfully searched in the past for an Internship?

I’m currently searching

Q2: Have you acquired an Internship Offer?

No I haven’t

Q3: In your Internship search process, what according to you are the major barriers that you are facing or have faced?

Online applications don’t matter much, getting in touch with recruiters is difficult, and they often don’t get back. Not many job openings and interview calls.

Q4: The career center of the University provides resources to make the internship search process easy for the students for example Career fairs, Info Sessions, resume reviews. Have you ever utilized any of such resources? Can you name some of them?

Career fair and career advisors, resume and cover letter touch up, upcoming opportunities etc.

Q5: How satisfied are you with the resources provided?

Nope

Q.6 Are these resources helpful for overcoming the barriers that you mentioned previously?

Nope. They are useful for getting the resume ready but that doesn’t directly correlate with interview calls.

Q7: Why do you think so?

Career advisors should get in touch with companies and put them in touch with us but that doesn't happen.

TRANSCRIPT 5:

Participant Description:

Status in US: Student

Working Full time: No

Gender: Male

Q1: Are you currently searching or have successfully searched in the past for an Internship?

I have successfully searched in the past for an internship.

Q2: Have you acquired an Internship Offer?

Yes I have.

Q3: In your Internship search process, what according to you are the major barriers that you are facing or have faced?

Couldn't access recruiter networks due to online application, lack of technical expertise. Didn't spend enough time searching for one.

Q4: The career center of the University provides resources to make the internship search process easy for the students for example Career fairs, Info Sessions, resume reviews. Have you ever utilized any of such resources? Can you name some of them?

I have utilized career fair, resume reviews and have gone to a few info sessions.

Q5: How satisfied are you with the resources provided?

Semi-satisfied.

Q.6 Are these resources helpful for overcoming the barriers that you mentioned previously?

Not always.

Q7: Why do you think so?

Because they don't connect us to HR employers and recruiters. We shouldn't spend time looking for these people, the iSchool should do that. The students should only prepare for the interview.

TRANSCRIPT 6:

Participant Description:

Status in US: F1 Student Visa

Working Full time: NO

Gender: Male

Q1: Are you currently searching or have successfully searched in the past for an Internship?

I have successfully searched for an internship

Q2: Have you acquired an Internship Offer?

Yes

Q3: In your Internship search process, what according to you are the major barriers that you are facing or have faced?

I did not have the right skill and did not have my portfolio. I wasn't sure which field I should apply for. Getting used to applying for jobs in US.

Q4: The career center of the University provides resources to make the internship search process easy for the students for example Career fairs, Info Sessions, resume reviews. Have you ever utilized any of such resources? Can you name some of them?

Went to Dean for resume review for a general resume review. Wasn't helpful. Career fairs were not useful as it was very crowded and companies I was interested were not hiring. They said go online and apply. Didn't use iCareers and HuskyJobs. Dint attend info sessions.

Q5: How satisfied are you with the resources provided?

Not at all satisfied.

Q.6 Are these resources helpful for overcoming the barriers that you mentioned previously?

Don't think so. Maybe career advising to a small extent but otherwise no.

Q7: Can you provide some main reasons for not utilizing other resources?

Most people say it is personalized. There is no UX jobs on iCareers and HuskyJobs and couldn't find anything I am interested in. For HCDE they are very specific and can conduct resources tailored for students use. iSchool resources are too generic and not of much help.

TRANSCRIPT 7:

Participant Description:

Status in US: International student

Working Full time: No

Gender: Female

Q1: Are you currently searching or have successfully searched in the past for an Internship?

Res: Yes, some months back.

Q2: Have you acquired an Internship Offer?

Res: Yes.

Q3: In your Internship search process, what according to you are the major barriers that you are facing or have faced?

Res: If the kind of role is not technical then communication skills should be good. Due to accent and limited vocabulary this seems to be a problem sometimes. For technical roles, most jobs focus on previous work experience and not on things I have learned since joining the college. Accent is an issue because I am an International student. Being exposed to new roles and fields are a barrier.

Q4: The career center of the University provides resources to make the internship search process easy for the students for example Career fairs, Info Sessions, resume reviews. Have you ever utilized any of such resources? Can you name some of them?

Res: Employer info sessions (Yahoo, PWC), Career fairs (2-3 fairs)

Q5: How satisfied are you with the resources provided?

Res: 75% happy. Depends on kind of opportunity you are looking for. The career center is doing a good job. One thing that they could do is connection between new students and alumni of University. That would make things easier.

Q.6 Are these resources helpful for overcoming the barriers that you mentioned previously?

Res: The career center offers mock interview services by which I think behavioral interview part can be improved. Professionalism is a part which, as an International student, is different in United States than in my country. But, again I think communicating with the alumni could be very helpful.

Q7: Can you provide some main reasons for not utilizing other resources?

Res: I feel the kind of company to which I am applying for are technical and they give focus to previous job experiences and skills in resume. So such soft skills as provided by career center resources are not required. Career center is not providing any resources for leveraging technical skills.

TRANSCRIPT 8:

Participant Description:

Status in US: US citizen

Working Full time: No

Gender: Male

Q1: Are you currently searching or have successfully searched in the past for an Internship?

Res: Yes.

Q2: Have you acquired an Internship Offer?

Res: Yes.

Q3: In your Internship search process, what according to you are the major barriers that you are facing or have faced?

Res: Didn't face any barriers as employer directly contacted me and provided an offer.

Q4: The career center of the University provides resources to make the internship search process easy for the students for example Career fairs, Info Sessions, resume reviews. Have you ever utilized any of such resources? Can you name some of them?

I have once taken one to one counseling session with the career counselor for resume review.

Q5: How satisfied are you with the resources provided?

Pretty satisfied with the counselling sessions and as the session was one on one so could discuss lots of issues. Haven't used any other resource.

Q.6 Are these resources helpful for overcoming the barriers that you mentioned previously?

--

Q7: Can you provide some main reasons for not utilizing other resources?

I think these resources don't fill my needs that's why I do not go. The stuff is more basic than what I want. They are treating us as we are first timers in job search. Almost all of us have some experiences as we are graduate students and not undergrads.