

# Need-Based Segmentation Analysis of University Career Services: Implications for Increasing Student Participation

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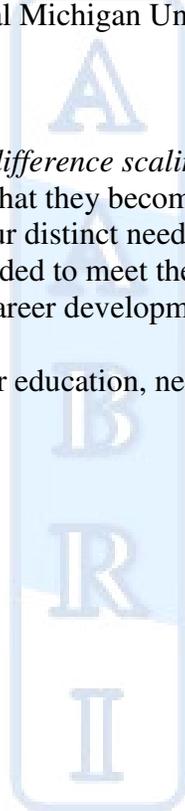
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## **Abstract**

This study employs a *maximum difference scaling* analysis in order to examine the career services needs of university students so that they become more engaged with and use available career services. Based on the results, four distinct need-based segments of students are identified. Suggested strategies are provided to meet the needs of each segment as a means of increasing the effectiveness and use of career development services on college campuses.

Keywords: career service centers, higher education, need-based segments, maximum difference scaling, placement, marketing



## Introduction

One of the more notable trends in higher education in recent years has been the transformation of university career services centers (UCSCs) from merely being the coordinators of on-campus placement into full service centers of career development (McGrath, 2002; Patterson, 1995; Rayman, 1999; Snow, 1995; Thompson, 1999). While UCSCs continue to have primary responsibility for coordinating placement activities, most of these centers now also provide students with a wealth of additional career development services. These include: mock interviews, resume critiquing, informational databases on employers, career counseling, internship and externship placement assistance, assessment testing, resume books/postings, job listings and job search training (McCorkle, Alexander, Reardon, & Kling, 2003; McGrath, 2002; Thompson, 1999).

This expanded menu of services has been funded by universities in an effort to make their students more marketable to employers (McCorkle et al., 2003). This goal is important; not only in terms of helping colleges and universities achieve their mission of contributing to the success of their students, but also because an effective career development program will help postsecondary institutions improve their placement rates (Combs, 2001; Gigliotti, 1994). Improving this metric is highly desirable because it is often a key performance indicator in the strategic plans of universities, used by a variety of publications as a main criteria in their college rankings, and many college applicants use placement rates as a measure of educational quality and value (Bednowitz, 2000; Howard-Vital, 2006; Maringe, 2006; McGrath, 2002).

Unfortunately, merely offering career development activities to students does not guarantee that they will take advantage of these opportunities. While these services are essential to developing “career savvy” students, research suggests that many college students make little use of the services provided by their university’s career center (McCorkle et al., 2003; McGrath, 2002; Patterson, 1995). Obviously, for career development initiatives to be successful, colleges and universities need to get as many of their students as possible to not only register with career services but to actively participate in the career development activities that are available. To help achieve this end, a number of researchers have recognized the need for career services to be more effective in marketing their services so that students become more engaged with and actually use the career development services available to them (Bullock and Brooks, 1994; McCorkle et al., 2003; Patterson, 1995; Priessler, 1994; Rayman, 1999; Thompson, 1999).

## Study Purpose

The purpose of this study is to investigate the different underlying needs and preferences that drive student usage of career services. Such an understanding of student needs, regarding job search preparation, can provide a foundation upon which marketing campaigns to increase the level of student participation can be developed.

The methodological approach used in this study seeks to accomplish this purpose by identifying different need-based segments (i.e., groups of students who share a common need profile) and developing specific strategies designed to raise the career services participation rate within each segment. This segmentation-based approach is consistent with most strategic marketing frameworks implemented today and avoids the pitfalls associated with viewing a

diverse and complex market as a single homogeneous group (Best 2005; St. Clair and Tschirhart, 2007).

This segmentation approach is based on the underlying belief that if the goal is to increase the career services participation rate of students, then a one-size fits all marketing strategy is unlikely to be effective. To accomplish the study purpose, the following research questions will be addressed:

- What career services attributes are most important for driving student participation?
- What need-based segments exist and what is their nature?
- What background characteristics describe each segment?

## Literature Review

### *Environmental factors pressuring universities to improve UCSC effectiveness*

A number of factors within the environment are exerting strong pressure on universities to improve the effectiveness of their career service centers. These factors include: (1) tighter job markets, (2) more competition among schools for applicants (3) higher tuition and “return on investment” expectations (4) less on-campus recruiting and (5) volatility in the economy.

#### *Tighter job markets.*

Continual increases in the number of college graduates combined with a slowing economy has meant that merely getting a degree does not guarantee students will land a good paying job (McGrath, 2002). As a result, universities have sought to improve the marketability of their graduates. One strategy postsecondary institutions are using to improve student marketability is to provide them with access to more extensive career development services (McCorkle et al., 2003). Research suggests that there has been “a paradigm shift in career services that focuses on the comprehensive delivery of services to students for the duration of their undergraduate education,” (Nell, 2003, p.184). Failure to provide an effective career support system could cause universities’ placement results to decline which would put them at a disadvantage when competing for applications with other universities (McGrath, 2002).

#### *More competition among schools for applicants.*

Public and private universities are facing increased competition for applicants from the influx of both for-profit colleges and on-line and off-campus programs delivered by formerly out-of-market universities (Howard-Vital, 2006). For example, Stokes (2005) forecasted that the number of distance students enrolled in online certificate or degree programs would rise from 1.2 million in 2005 to 1.8 million in 2007. As a result, colleges and universities have had to work harder in order to maintain enrollment quantity and quality (Domino et al., 2006; Maringe, 2006). Part of this effort has been directed toward expanding career development services because doing so can serve the dual purpose of providing benefits that can be promoted to potential applicants as well as a means for improving placement rates, a metric commonly used by applicants and their parents as a selection criterion (Harris & Jones, 1999). Additionally, the need to improve in these areas is further intensified because of the entrance of new and “unconventional” competitors. These new sources of competition actively promote a more

vocational oriented appeal that targets non-traditional students who tend to place higher value on placement related issues (Howard-Vital, 2006; Veloutsou, Lewis, & Paton, 2004) and expect a greater return on their educational investment (Harris & Jones, 1999).

#### *Higher tuition and return on investment.*

Steadily decreasing government funding for education has forced public colleges and universities to rely on annual tuition increases in order to balance their budgets (Snow, 1995). As a result, the cost of higher education continues to increase at a rate substantially higher than the rate of inflation (McGrath, 2002). These increased costs have caused applicants and their parents to not only more strongly consider tuition as a factor in their school choice but also the long term financial consequences of obtaining a particular degree (Harris & Jones, 1999). This means more consideration is being given to a university's placement record as applicants try and calculate the potential financial return on their educational spending (Domino et al, 2006; McGrath, 2002; Rayman, 1999). Delivering an effective career services program is seen as one way to help justify the rising costs of education.

#### *Less on-campus recruiting.*

For reasons of cost efficiency, many employers have been cutting back on their on-campus recruiting (McCorkle et al., 2003; McGrath, 2002; Rayman, 1999; Snow, 1995). As a result, students have had to become more proactive in their job searches in order to fully exploit available employment opportunities (McCorkle et al., 2003). Thus, universities have recognized the need to provide students with more extensive career development training in areas such as job search skills including resume building, and networking (McCorkle et al., 2003). Maintaining placement success necessitates that schools get more students to participate in career development programs that will improve their job search capabilities.

#### *Volatility in the economy.*

Increased volatility in the economy due to radical shifts in technology and globalization have increased the responsibility on universities to prepare their students to enter a work environment in which they will likely have to change careers multiple times over the course of their lifetime (Rayman, 1999). According to Peterson (1995), career counselors estimate that college graduates will have from three to five careers and eight to ten jobs. To meet this challenge, postsecondary institutions need to deliver effective career training to as many of their students as possible. These environmental factors have exerted pressure on colleges and universities to better prepare their students to succeed in an increasingly dynamic and competitive job market (McCorkle et al., 2003).

### **Research on Student Usage of Career Services in Higher Education**

Previous research has examined a number of influences on student usage of UCSCs and strategies for raising participation. Variables such as issues related to the design and use of the WWW and other connecting technologies (e.g., What are "appropriate" career services for a website?) in UCSCs (Davidson, 2001; Menkhoff, Loh, Chiang, & Wah, 2005; Packard, 2003;

Sampson, Carr, Panke, Arkin, Minvielle, & Vernick, 2003; Venable, 2007), the effectiveness of parents and career services staff jointly motivating students to make use of career services (Harris & Jones, 1999), men's reasons for and for not seeking career counseling and other career-related services (Rochlen & O'Brien, 2002), advertising career counseling services to men (Rochlen, Blazina & Raghunathan, 2002), and stronger UCSC embedding within postsecondary institutions, e.g., the curriculum model (making career services part of course provision) (Watts, 2006).

A study that provides a good illustration of both the need for career services and the problem of getting students to participate in UCSCs is McCorkle et al. (2003). These researchers examined the extent to which marketing students have "self-marketing" skills, i.e. are able to apply what they have learned about marketing to their own job search process. First, despite their superior knowledge of marketing, they found that marketing majors were no better prepared for their job search than other business majors. Second, with the exception of networking with potential employers, less than 50% of junior students actually participated in available job-search activities such as seminars on résumé writing, trade or professional club organizations and seminars on job search techniques. Third, seniors, for the most part, were better prepared for job search than juniors (e.g., many had greater knowledge of jobs/career fields) with one notable and disturbing exception—use of career services. The authors found that seniors are using career services slightly less than juniors. Drawing on interviews and other qualitative data, they conclude that many senior-level students are "do not consider the career services to be of much assistance," (McCorkle et al., 2003, p. 202) and most "business schools would likely be appalled to find the proportion of their students who fully use the career development resources at their career services offices," (McCorkle et al., 2003, p. 204-5).

In summary, prior studies have focused on ways of using information communication technology to increase the effectiveness and student use of UCSCs, gender-specific psychological reasons for and for not using career services, the treatment effects of advertising brochures, and options for more tightly embedding UCSCs on campuses. What are missing from the literature are empirical studies that investigate the different underlying needs and preferences that drive student usage of career services.

One exception is Sampson et al., (2003) who examined need-based Internet websites in career services and thus is particularly relevant to the current study. Their research suggests the motivation for a website user to continue using a website is based on the degree of success a user has navigating that website for resources and/or services (Sampson et al., 2003). As such they advocate a website development process focusing more on meeting specific user needs and site content rather than on application of technology. In order to effectively implement this process, they indicate site designers need to be able to answer the following three questions, "Who should the website serve? What are the needs of the users? What resources are available (or should be available) to meet user needs?" (Sampson et al., 2003).

Unfortunately, in regards to "who" the website should serve, organizations have a tendency, for the sake of efficient service delivery, to lump their users together (e.g., students, parents, professionals, etc.) based upon some similar characteristic (e.g., age income, occupation, etc.). Therefore, the organization may not focus on the specific needs of specific user groups. Sometimes an organization is unaware of the process by which it distills the complexity of the population they serve into simple categories (Sampson et al., 2003, p. 9). Thus, these authors advocate the use of primary (focus groups, and surveys) and secondary research to help identify an organization's users, their needs and the resources needed to satisfy their needs.

The current study extends the Sampson et al. (2003) approach by applying it to the entirety of USCSs in general not just USCS websites. Specifically this study seeks to identify different segments of UCSC “customers” based on similarity in need profile and then presents custom-crafted marketing strategies for promoting career services to the members of each segment in order to facilitate increased UCSC participation within each segment.

## Research Methodology

The research method seeks to answer the following research questions:

- What career service attributes are most important to students?
- What need-based segments exist and what is their nature?
- What background characteristics describe each segment?

A maximum difference scaling (MDS) web-based survey was administered to a sample of college students. In this section, an overview of MDS is provided, followed by a discussion of survey design and data collection. After that, the results will be presented.

### *Maximum Difference Scaling (MDS)*

MDS is a new research method that is receiving considerable attention from academic researchers and practitioners (Chrzan & Golovashkina, 2006; Cohen & Orme, 2004). MDS is an extension of the method of paired comparisons. The method of paired comparisons has long been respected as a rigorous research method (Chrzan & Golovashkina, 2006). Whereas paired comparisons ask for the best choice, MDS asks for both the best and worst choice from a list containing multiple items. In MDS, the respondent is typically shown 4 or 5 items, with the task of selecting the most preferred/important and least preferred/ unimportant items (see Figure 1, in Appendix). The respondent is asked to choose the most important and least important items from the list. As with paired comparison, each respondent is typically asked to evaluate a number of choices that are determined using an experimental design plan. MDS requires an experimental design where each attribute is shown in the exercise a minimum of three times, with each attribute being compared to other attributes each time they are shown to respondents (Orme, 2005).

Many researchers have traditionally used *stated importance ratings* to measure attribute importance. To implement this technique, researchers ask survey respondents to rate the importance of each attribute, typically ranging from "not at all important" to "very important." Although commonly used in practice, this method has major limitations (Garver, 2003). The most significant limitation is that stated importance ratings often display a lack of discriminating power between attributes (Cohen & Orme, 2004). Typically, all attributes are “very important” to customers. Garver (2003) demonstrated, that in prior research, 78% of the attributes were "very important." Cohen (2003) concludes that if most attributes are “very important,” this method is ineffective at segmentation and research findings are extremely limited. For these reasons, this common approach was not undertaken.

MDS has a number of advantages over traditional research methods. From a researchers’ perspective, the most important advantage is that the data for each attribute typically displays much higher variance with more discriminating power compared to traditional importance rating scales. Another advantage of MDS is that it captures complicated tradeoffs in which participants

must make difficult choices. Finally, MDS provides *ratio data* and eliminates *scale use bias* (Cohen & Orme, 2004).

### *Maximum Difference Scaling and Career Services: Designing the Study*

To identify the appropriate attributes for this study, the researchers conducted a literature review and a qualitative research study. Focus groups were conducted with the target population to explore relevant attributes to students, which was used to guide survey development.

Focus groups were conducted with career service students to learn the following:

- ✓ An in-depth understanding of the student experience, in general
- ✓ Ways in which they use career service
- ✓ Primary reasons for using career service
- ✓ Primary reasons for NOT using various career services

To recruit focus group participants, a list of students who had use career service was developed. The students were invited to participate via email. As an incentive, pizza and pop were provided to students attending the focus group. A total of eight students participated in one focus group. The student sample contained an even number of males and females with a variety of different backgrounds and perspectives.

One of the researchers moderated the focus group, using an interview guide to help manage the group, yet the discussions were loosely structured and free flowing. The focus group began with general background and context style questions. Then, the students were asked questions concerning the reasons they chose to volunteer and how they got started volunteering. Probing questions were used to clarify responses and to examine the participant's perspective in more detail. (i.e., "Tell me more about that?" or "What exactly do you mean by that?"). The focus group lasted for 1.5 hours.

The focus group was videotaped, which helped facilitate data analysis. The researchers watched the focus group a number of times, taking detailed notes and using grounded theory analysis concepts. Based on the focus group results, the following key attributes were identified and used to build the attributes into MDS.

Based on the literature review, focus group results, and discussions with Career Service personnel, final attributes were formulated. The MDS web-based survey instrument was then developed and tested on a convenience sample of undergraduate students. The convenience sample was used to make modifications to the survey. The final survey was posted on a secure, password protected web site.

A large public Midwestern university supplied the researchers with a database of over 9,000 undergraduate students registered with career services. Registered students with career services were used as the sampling frame because the purpose of this study is to examine how to get students to actually use career services once they were registered. Consistent with findings from the literature, the UCSC at this university was effective at getting students to register but not effective in getting students to actually use their services. From this database, 1000 students were randomly selected to be in the sample. Each student in the sample was invited, by email, to take the survey and 244 responses were collected, for a response rate of 24.4%. While researchers always want higher response rates, the research team was satisfied with the response rate. Given the current pressures and continued pressures on survey respondents, the response rate seems reasonable (Garver, Divine, and Spralls 2009).

## Results

### *Importance Analysis – Maximum Difference Scaling.*

The researchers first cleaned the data for questionable responses. Responses with a fit statistic below 0.3 were eliminated from the sample. Researchers then used hierarchical Bayes to analyze the data, providing individual level importance scores ranging from 0 to 100. The total scores for all attributes sum to 100 with “more important” attributes having higher scores. When students interact with UCSCs, what attributes are most important to them? Looking at the overall results in Table 1 (Appendix), we can conclude the following:

- Job acquiring attributes (quality of companies to interview with (17.1), provides a variety of different types of job opportunities (14.7), and number of companies to interview with (11.1) are critically important to students, taking three of the top four spots in regard to attribute importance.
- Helping students with job search strategies (13.6) is also critically important.
- Services that prepare students to acquire the skills and knowledge to obtain a job are much lower in importance.
- The top nine attributes represent over 77% of the importance to students, while the top four attributes represent approximately 42% of the importance.

### *Career Services Need-Based Segments*

Examining the overall results can be misleading because different segments may have different importance values placed on different attributes (Garver, Williams, & Taylor, 2008). Differences among segments will often remain hidden when examining overall results.

To answer the second research question, K-means cluster analysis within SPSS was used to identify segments with similar importance scores. The top nine attributes in importance were used in the cluster analysis. The analysis suggested that four segments were most appropriate. Each need-based segment has different needs and is substantial in size (see Table 2, Appendix). The smallest segment (segment 3) represents 11% of the sample, while the largest segment (segment 2) represents 40% of the sample.

Before an in-depth explanation of each segment is given, a brief overview will be provided. Data analysis yielded four distinct segments that we have labeled: *placements* (segment 1), *best-fit techies* (segment 2), *unprepareds* (segment 3), and *high-touches* (segment 4). With regard to needs, *placements* seek a large number of high quality companies to interview with. *Best-fit techies* are looking for the right job fit using technology-mediated placement assistance. Unlike, *best-fit techies*, the *unprepareds* lack technological readiness and are primarily concerned with self-development (e.g., job seeking skills and presenting one’s self effectively) and career education (career seminars and career development courses). *High-touches* are unique in that they have a strong need for one-on-one, on-site interaction or “hand-holding” with career services personnel.

### *Attribute importance difference across segments*

Table 3 (Appendix) shows the attributes and their importance scores for each of the four segments. To determine which attributes had a significant impact upon driving segment

membership, an ANOVA test was conducted for all of the attributes. Results suggest that all nine variables are highly significant predictors (eight attributes below .01) for determining segment membership.

### *Detailed segmentation results*

*Placements* have two critically important attributes and both are directly related to acquiring a job. “Quality of companies to interview with” (42.7) and “number of companies to interview with” (25.7) are the key drivers that define this segment. Displaying lower importance scores for all other attributes, this segment primarily places importance on getting a job.

*Best-fit techies* place the highest importance on “provides a variety of different types of job opportunities” (24.9), with other attributes being aligned in a similar purpose. This segment places more importance on finding a job that is “right” for them. Supporting this conclusion, they place significantly more importance on “taking assessment tests to find the right major and potential job” (8.1) as compared to all other segments. The attribute, “seminars about potential majors and careers” was not used in cluster analysis to develop segments, yet this segment also has significantly higher importance scores on this attribute, further suggesting that they are looking for the right major and type of job.

*Best-fit techies* place significantly more importance on “helpfulness of career services website to research companies” (6.5) and “being notified of application deadlines” (5.7). *Best-fit techies* place significantly more importance on all attributes related to the career service website as compared to all other segments.

*Unprepareds* place the most importance on preparation and developing knowledge and skills for acquiring a job. The most important attributes for this segment include “usefulness of mock interviews” (24.8) and “usefulness of resume critiquing services” (21.2). *Unprepareds* realize that to land a job, they must first prepare themselves to do well in attracting companies.

*High-touches* place significantly more importance on “helping Students with job search strategies” (40.1) than other segments. Indeed, this single attribute has over 40% of *high-touches*’ importance and this segment places significantly more importance on their “interactions with career service staff” than any other segment.

### *Describing the need-based segments*

This section will examine student perceptions of UCSC usage and indicators of actual usage in order to profile each segment. Researchers have hypothesized that individual differences in demographics (i.e., gender, ethnicity, international/domestic status, full-time vs. part-time), previous experience with UCSCs, and a rough measure of Holland Code (see Holland’s, 1997 theory on personality type and vocational choice) are linked to both individuals’ perceptions and preferences for career services (Shivy & Koehly, 2002).

In contrast, this study found that the majority of traditional demographic variables used to describe student segments provided little help in describing the need-based segments, a phenomenon the researchers have experienced across a number of similar segmentation studies (Garver, Divine & Spralls, 2009). The best descriptors are students’ own perceptions, along with actual usage data provided by the university’s career service department. In Table 4 (Appendix) we provide variables that are all statistically significant descriptors of the segments. The two variables capture student perceptions regarding the extent to which they are career oriented and

make use of career services. We also provide actual UCSC data (e.g., number of interviews and Web site logins) for comparison.

In the web-based survey, students were asked about their perceptions regarding: 1) their degree (level) of career orientation and 2) the extent to which they use career services. Both of these variables are significant descriptive variables of the segments. *Placements* report the highest level of career orientation, while *unprepareds* see themselves as having the lowest level of career orientation, with the difference representing a statistically significant difference ( $\alpha = .01$ ). Concerning perceived career service usage, *placements* again see themselves as having the highest level of usage with *unprepareds* having the lowest level of usage, with the difference representing a statistically significant difference ( $\alpha = .01$ ).

Data regarding the actual usage of career services were collected from the focal university's career service department. These variables are indicators of career service usage rates including: 1) number of website logins to the student's career service account, 2) number of documents (résumés, letters, etc.) that have been posted, 3) number of applications for a requested interview, and 4) number of granted interviews. The success ratio variable is the ratio of granted interviews per the number of applications for interviews.

After analyzing the actual career service usage data, four themes emerge that shape our mental models of each segment. We find that *placements* are the "heavy users" while the *unprepareds* are "light users" of career services. *Best-fit techies* and *high-touches* tend to be "moderate users" with *high-touches* showing slightly higher usage than *best-fit techies*.

Two demographic survey questions that help describe these segments include 1) previous internship experience and 2) college enrollment (see Table 5, Appendix). Consistent with previous results pertaining to actual usage and career orientation, *placements* have the highest percentage of internship experience (67%) relative to the other three segments (40% to 45%).

Concerning the relationship between college enrollment and segment type, it is evident that best-fit techies constitute a rather sizable and consistent presence within all types of majors. Business students are most likely to be *placements* (42.9%) or *best fit techies* (38.5%) and are by far the least likely to be *unprepareds* (4.4%). Education students are most likely to be *best-fit techies* (36.4%) and feature the largest representation of *high-touches* (29.5%), while Arts and Science majors [Mike: are Arts and Science majors combined at CMU or did you combine them?] have the highest percentages of *best-fit techies* (44%) and *unprepareds* (16%) but the lowest percentage of *placements* (12%).

## Implications for Universities

Although there is a plethora of research reporting the benefits of career services education and training, with the exception of Rochlen et al. (2002), there is little literature reporting on how these benefits are, or should be, communicated to students. Drawing on service-learning promotion research, it is likely that marketing by universities offering career services can influence students' perceptions of UCSC costs (e.g., psychological, time and effort) and benefits (e.g., increased employability) (St. Clair and Tschirhart, 2007).

The findings of St. Clair and Tschirhart (2007) on the Web site promotion of service-learning programs, leads us to believe that universities' promotion of career services should center on the benefits that students find attractive instead of simply emphasizing aspects of UCSCs that career services staff, and/or administrators find appealing.

In this section, implications are discussed for universities trying to increase participation in career services. We describe ways in which knowledge of the four major student segment needs can be used to more effectively market to them. The marketing strategies we recommend are intended to raise career services participation rates within each segment. In the remainder of this section, segment preferences are summarized followed by recruiting and communication strategies that are put forth for each segment.

### *Placements*

Placements desire a large number of interviews with good companies (see Table 3). Hence, placements may believe that they know what they want and need in order to transition from the academy to the working world. Following qualitative research by McCorkle et al. (2003, p. 202) on marketing students, this “perception needs correction as most campus career services can provide far more than the desired on-campus job interviews, such as company research sources of information; mock interviewing; and skill development seminars on résumé/cover letter writing, job interviews, and other job search techniques.”

Business students are disproportionately more likely than other students to be placements (42.9 %) and the vast majority of this segment has had one or more internship experiences. An analysis of the data (see table 4) reveals that placements see themselves as more career oriented and heavy users of career services. Behavioral data from our focal UCSC provides support for this conclusion.

In general, undergraduates tend to prefer time-limited career assistance (Shivy & Koehly, 2002). This may be particularly true for placements (see Table 3) that place far less importance on: (1) getting help with job search strategies (4.3), (2) taking assessment tests (0.9), (3) participating in mock interviews (0.7) and (4) having their resume critiqued (1.7).

Based on our understanding of the needs and preferences of placements, they will likely be responsive to appeals that offer students assistance in developing networking strategies (Shivy & Koehly, 2002). Simply put, placements may need help building sufficient networks of support (Brown & Krane, 2000). Thus, appeals should focus more on networking-related benefits.

### *Placements Strategy: Promote Networking Opportunities*

There is evidence to support the notion that the philosophical orientation of UCSCs has shifted from “placement” toward networking (Baker, 1998; Casella, 1990; Wessel, 1996). Networking, a non-traditional type of mentoring, has been suggested as a replacement for the traditional model of dyadic mentoring (Packard, 2003). Networking has been called the most powerful vehicle in making the transition from the academy to the work force (Casella, 1990; Wessel, 1996). Indeed, more than 30 percent of the respondents in a recent survey of UCSC directors stated that the rationale for their department’s existence was “connecting students with employers” (Wessel, 1996). As indicated by Peterson (1995), as much as 80% of all jobs are obtained through personal contacts. The ultimate goal for UCSCs should be to foster an independent *networking orientation* in these students (Scott, 1983).

According to Brooks (1996), a networking orientation can be accomplished in at least three important ways. First, the UCSC should forge links between faculty and potential employers. Second, the UCSC should engage in on-campus college relations activities (e.g., offering company information sessions). Third, the UCSC should offer and promote off-campus

college relations activities (e.g., internships, externships, and, of course, full-time job openings). Other networking strategies include (1) establishing mentoring relationships (both face-to-face and technology-mediated, Packard, 2003) and then expanding into a personal network (Baker, 1998), and (2) relying on parents to identify possible contacts for their children as well as the children of others (Harris & Jones, 1999).

Our secondary strategy is to raise each group's perception of UCSC relevance (Rayman, 1999). Student that perceive UCSC services as relevant are more likely to use the services (Nadya, Guillen, Harris-Hodge, Henry, Novakovic, Terry, & Kantamneni, 2006). Because there are so many alternatives (e.g., students can attempt to find their own jobs, or use competing services) simple repetition of marketing messages is necessary but insufficient to make the UCSC stand for something significant to *placements*. This requires communication strategies that portray UCSC services in a meaningful way to *placements*. For example, Rochlen et al. (2002) found that gender-specific brochures may change men's attitudes toward career counseling and increase the perceived value of career services and decrease stigmas that may be attached. Perhaps, *placements* and *best-fit techies* can be reached through new and rapidly growing social networking sites such as myspace.com and facebook.com, which we discuss in more detail in the next section.

### *Best-fit Techies*

*Best-fit techies* are mostly concerned with being able to evaluate a lot of good job opportunities (24.9), and getting help with job search strategies (7.0) in order to select the best "job fit" (8.1). Based solely on student attribute importance scores, we argue, that this group, unlike the others, has a preference for online job search (6.5), and being notified of job postings and application deadlines through electronic means (5.7). Previous research on online delivery of career services has examined online/offline integration (i.e., bricks and clicks strategies) (e.g., Venable, 2007), the unique needs of some men (e.g., Rochlen & O'Brien, 2002), the unique needs of some women (e.g., Packard, 2003), and the advantages/disadvantages of online service delivery and critical issues that should be considered (e.g., Davidson, 2001).

The research on advantages and disadvantages of career interventions online is particularly relevant to this study. For Davidson (2001), the overarching advantage of career services via the Web is convenience. For students, this includes: any-time/any-place options, ownership of the process, and direct access to information while "bypassing the UCSC front desk." Researchers have found that these advantages could make it easier for UCSCs to reach men and women who may be unable or unwilling to seek out more traditional (i.e., walk-in) career counseling services (Packard, 2003; Rochlen & O'Brien, 2002). Beyond obvious concerns for privacy and confidentiality, one potential disadvantage to UCSCs of using the Web is the difficulty of tailoring services to individual needs (Davidson, 2001). We, like Davidson (2001), find that not all students have the same needs.

Packard (2003) reports the usefulness UCSCC virtual chat rooms and compares them to long-distance counselors. By extension, today's students would likely be comfortable with online resume posting see Athavaley, WSJ 12/6/06, "Posting Your Résumé on YouTube"), job application and possibly interviewing. Additionally, many students have created an avatar (one's virtual world persona) and participated in interviews in virtual worlds (e.g., secondlife.com) with companies such as Microsoft and others (see Athavaley, WSJ, 6/20/07, "A Job Interview You Don't Have to Show Up For"). Based on their stated importance scores and empirical data from

extant research, this group is likely interested in conducting online job searches at Web sites such as MonsterTrak.com, a national job listing service for colleges and universities (University of California Santa Cruz Annual Report, 2004).

Going beyond online delivery preferences, we find descriptive statistics indicating that *best-fit techies* are the largest segment, light to moderate users of traditional career services (e.g., walk-in access to counseling) and are fairly equally distributed across all types of majors. Thus, it is important that UCSCs utilize the Internet (and possibly extranets) to reach this segment, thereby, freeing staff time for tasks that require human interaction (Rayman, 1999).

#### *Best-fit Techies Strategy: Use E-Marketing*

The digerati (those that are savvy regarding digital technologies) that comprise this group prefer the use of electronic networks to deliver career services (Behrens & Altman, 1998; Davidson, 2001) and information in a variety of formats (e.g., podcast and text message). Howe and Strauss (2003, p. 81), put it this way “millennial generation students expect to use technology and have the tools necessary to “streamline their educational experience.” Because research shows that this segment (44% of whom are likely liberal arts majors, see Nell, 2003) has high usage rates for Internet related media (see “Buddy Can You Spare Some Time?” Wall Street Journal January 26<sup>th</sup>, 2004), the following strategies and tactics are suggested:

- drive traffic to the UCSC Web site – even at the expense of walk-in traffic (Davidson 2001) to expose students to targeted communications
- design career-themed “blogs” (online diaries) to appeal to students in this segment
- recruit newly hired students to post videos (and other user-generated content) on sites such as youtube.com (see White, WSJ 1/2/07, “Firms Take a Cue From YouTube”)
- enable employers to initially screen student applicants in virtual career fairs (Steel, WSJ 10/23/07, “Marketers Explore New Virtual Worlds”)
- consider building and maintaining “career communities” (e.g., utilizing the groups, events and market features in facebook.com)
- allow students to register at UCSC Web sites to have text messages sent to their cell phones notifying them that employers will be on campus

Despite this abundance of opportunities, in a recent study by Nadya et al. (2006), only 34% of students were even aware of the UCSC Web site despite it being linked to the urban university’s homepage. Clearly, many UCSCs are unprepared to meet the information needs of *best-fit techies*.

#### *Unprepareds*

The *unprepareds* are primarily seeking career education and self-development (see Table 3). Although they are the smallest of the four segments (see Table 2), they require innovative and well thought out appeals to reach them. A careful review of the data (see Table 4) reveals that they have:

- lowest level of perceived career orientation and usage of career services (4.14 and 1.77)
- a poor success ratio for job interviews (0.10)
- lowest number of actual applications (0.64)
- lowest number of web site logins (28.86)

However, to get the real story on *unprepareds*, one has to examine what they are not seeking (see Table 3). Unlike *placements*, they are not ready to interact with large numbers of quality companies (1.9, 4.2). Unlike *best-fit techies*, they do not consider being able to find company/job information on the UCSC web site of importance (1.2) and they place little importance on seeing a variety of different job opportunities (2.7). They have low perceived career orientation and usage of career services (4.14 and 1.77).

Based our analysis of what *unprepareds* are seeking and not seeking, we conclude that they are lacking in job search skills. McCorkle (2003, p. 199), like Nell (2003), argues that job search skills “represent a skill set area whose development has long been neglected in many college curriculums.” As evidenced by their importance scores, this group should respond well to having career services training and skills development integrated into the curriculum (Falconer and Hays, 2006).

### *Unprepareds Strategy: Make Career Services Part of the Curriculum*

Obviously, this group should find increased opportunities for career education and self-development appealing. Research suggests that African American students, much like *unprepareds*, have low usage of career services. Indeed, “it is commonly known that ethnic minority students on predominantly White campuses have traditionally underused career services,” (Falconer & Hays, 2006, p.220). It is important to note that we are not saying that *unprepareds* are largely African American, only that the experiences of African Americans with UCSCs informs our research.

One finding is particularly relevant to this study, that is, Falconer & Hays (2006) found student support for making job preparatory courses mandatory. Thus, by extension, colleges and universities should consider including career services education (including discipline-related skills (e.g., segmentation strategy) and support skills (e.g., decision-making) in the curriculum. Support for these ideas is developed in the following paragraphs.

The European-based Harris Committee (2001, p. 15) reports that the prime function of higher education careers services should be “to help the institution produce better-informed students who are self-reliant, able to plan and manage their own learning and have sound career management skills.” Furthermore, they advocate that career services “have key roles in delivering, or helping tutors to deliver, aspects of the curriculum, for example relating to the development of student’s career management skills, arranging work experience and encouraging students to reflect on that experience (p.30).

There is U.S. support for embedding career services education in the curriculum of colleges and universities as well (Nell, 2003). McCorkle et al. (2003), define job search skills as behaviors, techniques, and attitudes necessary to obtain employment. McCorkle et al. (2003), conclude that marketing and possibly business courses in general, should in addition to traditional course content, include *behavioral learning skills*. For example, freshmen and sophomores might be required to identify marketable career skills by writing down work-related discipline skills.

In regard to self-development, one of the most important ways to attract *unprepareds* is to offer to help them sell themselves in the job interview. Based on *unprepareds*’ poor success ratio for job interviews, as well as empirical observations of the authors, it is reasonable to conclude that this group would benefit from learning metacommunication behaviors such as eye contact, firm handshake, and appropriate business attire (McCorkle et al., 2003). Furthermore,

this group would likely be interested in proven techniques for dealing with rejection (e.g., sending a carefully written thank you letter in order to qualify for future consideration) (McCorkle et al., 2003). Our fourth segment, the *high-touches*, should also respond well to targeted offers of help with job search strategies.

### *High-touches*

Clearly, *high-touches* place the most importance (40.4) on getting help with job search strategies. They likely do not believe that they can devise an effective job search strategy on their own. Although they see themselves as being career oriented (4.43) they may be at a loss to explain why they have had difficulty in landing jobs. We conclude that they are having little success at finding a job because of (see Table 4) their relatively low success ratios for interviews (.01). It simply follows, then, that *high-touches* are moderate users of career services and seek tailored job search strategies and one-on-one interaction with UCSC personnel.

### *High-Touches Strategy: Tailor Appeals to Stages of Career Decision-Making and Major*

Morgan and Ness (2003) argue that career counseling programming should be tailored more effectively to the career decision-making needs of first-year students to lessen career decision-making difficulties. For example, first-year university students ask career counselors and other service professionals things like: What career should I take? In a similar vein, McCorkle et al. (2003) found that junior marketing majors “most used job searches” differed from that of seniors. For example, seniors most used sources included “past and/or present employers, whereas juniors did not. Furthermore, research has shown that liberal arts and business majors have very different needs (McCorkle et al., 2003; Nell, 2003). Clearly, the literature suggests that students needing help with job search strategy and desiring one-to-one interaction, such as our *high-touches*, should respond well to carefully targeted and highly customized appeals.

To address the information (and understanding) needs of *high-touches*, UCSCs should provide more information about various stages of career decision-making and corresponding UCSC services offered. In this way, the process does not seem so daunting and is more akin to “hand-holding,” (Nadya et al., 2006). Additionally, communications could reduce *high-touches*’ uncertainty about the process or steps involved in ultimately landing the “dream” job. UCSCs should also provide more information about services that are targeted at various developmental levels. For example, freshmen and sophomores are likely to be more interested in services that help them decide on the right major while seniors and graduate students would be more interested in receiving information related to their job search (McCorkle et al., 2003; Morgan & Ness, 2003).

Finally, research suggests the effectiveness of college-specific career services appeals. For example, Nell (2003) finds that “many Arts and Science students have to create their own career focus because their academic degree and acquired skills can be used in a variety industries and positions,” (sic). The authors suggest a career services curriculum component and carefully planned Web site use to address some of these issues. For example, the University of Missouri at Columbia has a course named “Transitions from College to Work,” (Nell, 2003). McCorkle et al. (2003), in their study of marketing students, recommend that colleges of business start self-marketing instruction early (e.g., in the Principles of Marketing course), and strengthen ties with

career services (e.g., satellite UCSC offices) and stronger promotion of professional clubs/associations.

### Limitations

As a research limitation, the segments identified in this study may not be applicable to undergraduate students in other universities. Furthermore, the sample is more likely to get involved in career services based on their participation for this survey, which makes our sample more likely to be different from the overall population at the study university. Thus, to generalize more to the population of undergraduate students, larger samples drawn from a larger cross section of universities will be necessary. Replications of the study methodology at other campuses is needed before the presence of the four need based segments uncovered in the current study can be scientifically generalized.

As indicated herein, the purpose of this study was to examine student needs so that UCSCs could be more effective in getting students to actually use their services. Thus, students in this sample were already registered with the UCSC. Future research may want to examine the needs of students who are not registered with career services.

### Final Conclusions

This study responds to the call by Nadya et al. (2006) to investigate factors that may facilitate or hinder students from using career services. The results of the study indicate not all individuals are interested in getting the same things from career services. Student importance scores for participating in career services were analyzed and four distinct need-based segments were identified.

Specifically, it was discovered that students classified as *placements* are likely to be business majors, have the highest levels of career orientation, career services usage, and internship experience. Although *placements* believe that all they need are a large number of high quality companies to interview with, our study finds that that this group needs to see UCSCs as relevant. Additionally, this group should respond well to appeals offering help with networking strategies despite their apparent naiveté.

In contrast, *best-fit techies* want the job that is “right for them” but they want to be able to use the Internet and other connecting technologies in their job search efforts. They are moderate users of UCSCs, well represented across all majors, especially Arts and Science. E-marketing may be a key to getting this group to participate.

*Unprepareds* are least likely to be business students, have the lowest level of career orientation and the lowest level of UCSC usage. In general, *unprepareds* are unsure how to proceed with job search strategies. They both seek and need self-development and career education. This group will likely welcome the addition of one credit hour classes on job search skills to the curriculum.

Finally, *high-touches* are moderate users of career services, and actually prefer significant one-on-one interaction with career counselors and staff. To increase the participation of this group, colleges and universities should offer one-to-one interaction with UCSC staff and professionals and consider tailoring appeals to student class year, major and type of college.

It is not necessarily recommended that universities attempt to target all four segments. Which segment a school targets will primarily be a function of their mission and their budget

situation. Universities whose main objective is just to get more students more involved in career services would likely want to focus their efforts on *unprepareds*, *best-fit techies* and *high-touches*, because these are the segments most likely to yield them more “new and repeat business” for their services. On the other hand, schools who view their mission one of *increasing the overall employability of all students* may want to focus their efforts on reaching out to those students who may be less interested but likely most in need of job skills training (e.g., *placements*).

This research has identified and described four need-based segments of career services users and presented a set of customized marketing strategies designed to increase student participation within each segment. This research extends the literature on career services usage and may serve to improve the effectiveness of career services practice. By providing a better understanding of student needs, this research should allow colleges and universities to specifically target the groups identified in this study, increase their participation with career services, thereby, helping their graduates to develop the behaviors, techniques, and attitudes necessary to obtain employment.

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**Table 1.****Career Service Attribute Importance**

<b>Career Service Attributes</b>	<b><sup>a</sup>Importance Score</b>
Quality of companies to interview with	17.1
Provides a variety of different types of job opportunities	14.7
Helping Students with job search strategies	13.6
Number of companies to interview with	11.1
Usefulness of resume critiquing services	4.6
Taking assessment tests to find the right major and potential job	4.5
Helpfulness of career services website to research companies	4.1
Usefulness of mock interviews	4.1
Being notified of application deadlines	3.9
Seminars about potential majors and careers	2.9
Ease of navigating the Career Services website	2.8
Interactions with Career Service Staff	2.6
Convenience of resume critiquing services	2.2
Convenience to register with career services	2.0
Timeliness of turnaround for resume critiquing services	1.9
Process of being assigned interviews	1.9
Convenience of signing up for interviews	1.8
Ease of updating personal profile	1.7
Being reminded to update profile on a regular basis	0.7
Quality of interviewing facilities	0.6
Convenience of scheduling mock interviews	0.5
Usefulness of taking assessment tests	0.3
Convenience of taking assessment tests	0.3

<sup>a</sup>The attributes in a given study will be scaled from 0 to 100, with the entire number of attributes sharing a total of 100 points, with “more important” attributes possessing higher scores.

**Table 2.**

**Need-based Segment Size as  
a Percentage of the Sample**

Segment 1: Placements	27%
Segment 2: High-techs	40%
Segment 3: Unprepared	11%
Segment 4: High-touches	22%



**Table 3.**  
**Assessing Differences in Importance Scores Across Need-Based Career Service Segments**

Career Service Attributes	SSD @ .05	Segment 1 Placements	Segment 2 Best-fit techies	Segment 3 Unprepareds	Segment 4 High-touches
Quality of companies to interview with	Yes	<b>42.7</b>	7.7	4.2	8.9
Provides a variety of different types of job opportunities	Yes	8.5	<b>24.9</b>	2.7	9.4
Number of companies to interview with	Yes	<b>25.7</b>	7.7	1.9	3.9
Helpfulness of career services website to research companies	Yes	1.3	<b>6.5</b>	1.2	4.7
Helping students with job search strategies	Yes	4.3	7.0	5.6	<b>40.4</b>
Taking assessment tests to find the right major and potential job	Yes	0.9	<b>8.1</b>	3.8	2.9
Usefulness of mock interviews	Yes	0.7	1.5	<b>24.8</b>	3.1
Usefulness of resume critiquing services	Yes	1.7	3.2	<b>21.2</b>	2.7
Being notified of application deadlines	Yes	3.5	<b>5.7</b>	1.4	2.1

**Table 4.****Description of Segments Using Perceptual and Behavioral Data**

<b>Descriptive Variables</b>	<b>SSD @.1</b>	<b>Segment 1 Placements</b>	<b>Segment 2 Best-fit techies</b>	<b>Segment 3 Unprepareds</b>	<b>Segment 4 High- touches</b>
Perceptions of Career Oriented	<sup>a</sup> .079	4.58	4.33	4.14	4.43
Perceptions of Usage of Career Services	<sup>c</sup> .006	2.88	2.65	1.77	2.51
Actual Number of Logins	<sup>a</sup> .053	61.02	34.65	28.86	50.60
Actual Number of Documents	<sup>c</sup> .010	3.04	1.42	1.18	1.32
Actual Number of Applications	<sup>c</sup> .000	5.63	1.05	0.64	2.26
Actual Number of Interviews	<sup>c</sup> .000	2.37	0.37	0.27	0.57
Actual Success Ratio for Interviews	<sup>c</sup> .000	0.39	0.16	0.10	0.10

<sup>a</sup>Significant at an alpha level of .1, <sup>b</sup>Significant at an alpha level of .05, <sup>c</sup>Significant at an alpha level of .01

**Table 5.**

**Percentage of Each Segment with Internship Experience**

<b>Segment Membership</b>	<b>Segment 1 Placements</b>	<b>Segment 2 Best-fit techies</b>	<b>Segment 3 Unprepareds</b>	<b>Segment 4 High- touches</b>
Internship Experience	67%	40%	41%	45%



**Table 6.**  
**Distribution of Segment Membership Within Each Type of Major**

Type of Major	Segment 1 Placements	Segment 2 Best-fit techies	Segment 3 Unprepareds	Segment 4 High-touches
Business Majors	42.9%	38.5%	4.4%	14.3%
Education Majors	20.5%	36.4%	13.6%	29.5%
Arts and Science Majors	12.0%	44.0%	16.0%	28.0%



**Figure 1.**  
**Screenshot illustrating the on-line MDS data collection method**

Preview

How important are the following attributes when using Career Services at CMU.

Considering only these 5 attributes, when using career services, which one is the Most Important and which one is the Least Important?

Most Important		Least Important
<input type="radio"/>	Quality of companies to interview with	<input type="radio"/>
<input type="radio"/>	Ease of updating personal profile	<input type="radio"/>
<input type="radio"/>	Provides a variety of different types of job opportunities	<input type="radio"/>
<input type="radio"/>	Helping Students with job search strategies	<input type="radio"/>
<input type="radio"/>	Helpfulness of career services website to research companies	<input type="radio"/>

Click the 'Next' button to continue...

Next

