1-1-2008

An Exploration of the Career Paths of Industry Accountants in a Public Accounting World

Amy R. Wolf

NORTHERN ILLINOIS UNIVERSITY

An Exploration of the Career Paths of Industry Accountants in a Public Accounting World

A Thesis Submitted to the

University Honors Program

In Partial Fulfillment of the

Requirements of the Baccalaureate Degree

With University Honors

Department of

Accountancy

By

Amy Wolf

DeKalb, Illinois

May, 2008

University Honors Program

Capstone Approval Page

Capstone Title (print or type):

An Exploration of the Career Paths of Industry Accountants in a Public Accounting World

Student Name (print or type): Amy R. Wolf

Faculty Supervisor (print or type): Dr. Linda Matuszewski

Faculty Approval Signature: Linda Matuszewski

Department of (print or type): Accountancy

Date of Approval (print or type): May 7, 2008

HONORS THESIS ABSTRACT
THESIS SUBMISSION FORM

AUTHOR: Amy R. Wolf

TITLE: An Exploration of the Career Paths of Industry Accountants in a Public Accounting World

ADVISOR: Dr. Linda Matuszewski ADVISOR'S DEPT: Accountancy

DISCIPLINE: Accounting YEAR: 2008

PAGE LENGTH: 49

BIBLIOGRAPHY:

Wolf, Amy R. An Exploration of the Career Paths of Industry Accountants in a Public Accounting World. Dept. of ACCY, NIU. 1-49

ILLUSTRATED: No

PUBLISHED: No LIST PUBLICATION: N/A

COPLIES AVAILABLE: Hard Copy

ABSTRACT:

Accounting is one of the hottest careers with many job options available to accounting graduates. Most people believe all accountants are Certified Public Accountants (CPAs) and work for public accounting firms; however, many work as industry accountants. Despite this fact, today's educational programs often focus on preparing students for public accounting careers. Through the primary research of this study, the Accountant Career Path Survey, 31 industry accountants reported their career paths and rated how well their education helped them develop a variety of skills. The respondents also rated the importance of these skills to their success in the jobs they have held since graduating. Of those surveyed, only two people started their careers in public accounting firms, which contradicts the common assumption that most accountants start in public and later move to industry. Surprisingly, 15 of these respondents obtained their CPA, despite the fact that this certification is focused on public accounting content. Finally, the results show that many accounting programs focus on skills that are not important to industry accountants' job success. These results should help students better understand alternative career paths and aid educators in improving the relevance of curricula for a broader range of students.

Accounting is considered a "hot career path." This can be seen from the fact that DePaul University reported a 37% increase in undergraduates majoring in accounting from 2005-2006 (Barlas, White, & Williams, 2006). Today and in the near future, students majoring in accounting will graduate into a diverse, high demand occupational field and should be able to use their degree to find a great job. According to the Bureau of Labor Statistics, "employment of accountants and auditors is expected to grow faster than average for all occupations through the year 2014" (U.S. Department of Labor, 2007, 6). A person graduating with a degree in accounting has many career opportunities available. Accountants can be auditors, tax preparers, or work inside organizations on financial reporting, cost management, budgeting, business acquisitions, new implementations, or internal auditing, as well as filling roles in governmental agencies and non-profit organizations.

It is important for anyone graduating with an accounting degree to be prepared for any of the positions available because it is difficult to project where a person's career will take them in the long-term. Is it reasonable to expect accounting programs to prepare accounting students for all the possible jobs they may take? If so, what should a broad curriculum look like? Since there is limited time in an educational program, educators need to balance the curriculum between the various career tracks. In order to find a balanced curriculum, should accounting programs be focused on a person's most likely first position or their career over the long-term? To answer these questions it is important to determine what types of positions accountants take in their first years out of college and how long they stay in those types of positions.

This paper seeks to contribute to the discussion of these questions by studying accountants currently working in industry, to document their career path across their first, second, and current job positions. This group is important to study because it has been noted that

accounting programs focus heavily on preparing students for careers in public accounting despite the fact that only one-third of accounting graduates actually start in public accounting (Clinton, 2007; Deines & Valentine, 2007; Hurt, 2007; Sharman, 2006). In addition, research shows that 80% of people starting in public accounting leave after receiving their CPA and pursue a career in other types of accounting jobs (Hurt, 2007). If the most common pattern is a person starts in public accounting and moves to industry, it is likely they were only prepared for the short-term and not the long-term. On the other hand, if a person started in industry, then it is possible they were not prepared on appropriate skills and content and the focus of their education was different than the type of work performed in their first job.

In addition, a second purpose of this study is to determine industry accountants' perceptions of how well their education prepared them for the various jobs they have held during their career. This study will help give accounting students a better idea of different career paths and will assist accounting students in choosing the career path that best suits them. In addition, the results will aid educators in determining appropriate curricula for today's accounting students, pursuing all types of jobs.

The Current State of the Accounting World

Many people, including students, have a false belief about the accounting profession. Most believe that if someone has a degree in accounting, they are a Certified Public Accountant (CPA) working for a public accounting firm, and that is not always the case. According to the U.S. Department of Labor Statistics, more than 90% of workers in financial roles work inside non-public accounting organizations, which means less than 10% of financial workers are public accountants (Sharman, 2006). It is important for both educators and practictioners to recognize

statistics like these to evaluate the type of skills graduates need to be successful in any type of position.

Public Accounting

First, it is important to understand what public accounting actually is. Public accountants perform tasks such as auditing, tax, and consulting for clients who are corporations, governments, nonprofit organizations, or individuals. Public accountants are either sole practitioners or work for a public accounting firm. Most public accountants achieve their CPAs by passing a uniform exam, and meeting additional requirements of a state licensing board. In fact, in many public accounting firms, the CPA certification is required to advance into senior and management positions (U.S. Department of Labor, 2007). In the accounting profession, being a CPA is a prominent designation and many people believe that if a person is an accountant, they are a CPA. Paul Sharman mentions a time when someone asked him what he did for a living and he responded, "I am an accountant." The person then responded, "Oh, you're a CPA?" and when he told the person he was not a CPA, they did not understand how he was an accountant, but not a CPA (Sharman, 2006).

In 2001 the American Institute of Certified Public Accountants (AICPA) recommended to the state licensing boards, which regulate the exam, that CPA candidates be required to have 150 semester hours before they are able to sit for the examination. The exact requirements for becoming a CPA vary by state, however a uniform exam is created by the AICPA, and administered across all states. Illinois adopted the increased education requirement beginning on January 1, 2001 (AICPA), and to date 48 states have implemented the requirement (Allen &Woodland, 2006). If a student chooses to work in public accounting and sit for the CPA exam,

they need to decide how to get approximately 30 additional hours, since most students earn approximately 120 hours in obtaining their undergraduate degree. Therefore, the increased requirements to be a CPA not only affect the decision of public accounting versus industry, but also potentially affect decisions related to educational degrees.

Alternative Certifications

In addition to the CPA, there are many other certifications accountants can obtain. The most well known include the Certified Management Accountant (CMA) certification and Certified Internal Auditor (CIA) certification. The CMA was developed by the Institute of Management Accountants in 1972 to recognize an individual's knowledge of management accounting. The requirements to become a CMA include having a Bachelors degree, being in the 50th percentile or higher on the either the Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE), or have a professional qualification, such as the CPA. Also, candidates must have at least two continuous years of professional experience in management accounting or financial management. The CMA is obtained by taking a four-part examination on the following topics: business analysis, management accounting and reporting, strategic management, and business applications (Institute of Certified Management Accountants, 2007).

The CIA designation is received from the Institute of Internal Auditors. In order to become a CIA, a candidate must have a Bachelors degree and at least two years of experience in internal auditing. The CIA is obtained by taking a four part examination on the topics of the internal audit activity's role in governance, risk and control, conducting the internal audit

engagement, business analysis and information technology, and business management skills (The Institute of Internal Auditors, 2008).

Personal Observations

It has been my observation during my four years at Northern Illinois University that there is a bias toward public accounting. Many professors at Northern Illinois University follow the trend of first working in public accounting, then moving on to industry and finally moving on to education. Many professors assume an accounting student will follow the same path as they did and many students go along with this path because they are not aware of the variety of opportunities available in the accounting field. For example, the student organizations, including Student Accountancy Society and Beta Alpha Psi, have speaker schedules that are heavily weighted with public accounting firms. In Fall of 2007, I was President-elect of Student Accountancy Society and one of my responsibilities was to create a speaker schedule for the Spring 2008 semester. Since I am interested in industry accounting rather than public accounting, I choose to pursue companies rather than accounting firms for my schedule. This task was difficult since the Northern Illinois University program has more contact with public accounting firms compared to companies employing accountants. Compared to the Spring 2007 schedule, which included three companies representing industry accounting, I was able to have five different companies speak about industry accounting. In the future, I hope that there will be more contact with companies who wish to recruit from NIU so students are better exposed to all the possible career choices they may pursue.

I began my educational career at Northern Illinois University as an accounting major aimed at getting a job working in industry. Throughout my educational career I have been

questioned as to why I am not looking to start my career in public accounting. After being questioned multiple times I wondered if I am the only accounting student looking to have a job in industry, but have found there are a few others who have the same viewpoint. My personal experiences have led me to choose a research topic that considers the bias toward public accounting and seeks to determine if there is a trend for accounting professionals to start in public accounting and move on to work in industry. I am also interested in gathering evidence that will assist accounting programs in determining the topics they should be focusing on to best prepare students for both the short and long-term.

Alternative Career Paths

As referred to above, research shows less than one-third of accounting graduates start their careers in public accounting and of those people, about 80% will leave public accounting after two or three years and pursue a career in other fields, such as corporate, governmental, or education (Hurt, 2007; Sharman, 2006). Given these statistics, accounting educators should establish curricula to help students with their long-term career goals.

Maureen Nevin Duffy in her article, *Oh, the Places You'll Go!* describes the current careers of seven CPAs who have pursued careers outside of public accounting. These people included a member of the United States Congress, an entrepreneur, accountants working at large, well known corporations, and someone working in a non-profit organization. One person who has had a successful career outside of public accounting is Rep. Collin Peterson of the United States Congress who believes that being a CPA and having the knowledge of accounting has helped him understand numbers and the business aspect of campaigning. Others described in the article believe that the skills they obtained through preparing for the CPA exam have helped

them add value to the companies they currently work for and have added to their success in the company. In the article, those with careers outside of public accounting recognize some of the important skills developed while preparing for the CPA exam. These skills include budgeting procedures, valuation skills, understanding of cost accounting, analytical and critical thinking skills, calculating financial ratios, and a general understanding of accounting principles and financial data (Duffy, 2005).

These seven accounting professionals have created successful careers paths for themselves outside of public accounting. There are endless career possibilities accounting students can choose after completing their education. It is important for students to see successful professionals like the seven described above, so they understand the career options available and are not forced into a public accounting career path.

Educational Gap

Many people, including educators, believe accounting students aspire to be public accountants; however, there are some that are looking to pursue a different type of accounting career after their education. It is interesting that most people believe accountants are practicing CPAs when five million financial workers work inside organizations. There is also a lack of education for government accounting positions, which encompasses 800,000 accountants. Ph.D. programs are also having trouble finding enough candidates to meet the increasing demand for accountants with Ph.D.s (Sharman, 2006).

Professor Doug Clinton recognizes that a "crisis" exists and proposes ways to bring the academic and business worlds closer together. In Clinton's paper, *Crisis!* he discusses the omission of managerial accounting in most accounting curriculums and questions why this

problem exists when the vast majority of accountants working inside organizations work in these types of roles. Some of the indicators of a crisis Clinton notes include:

- Cost accounting textbooks focus heavily on external reporting
- Financial accounting dominates the accounting world
- The primary funding of higher education programs comes from public accounting firms, which is hard for corporations to compete with
- Professors promote public accountants as first class and industry accountants as second class (Clinton, 2007, 27)

It is important for both educators and business professionals to recognize these problems and take corrective action in order to increase the awareness of managerial accounting.

Clinton suggests changes for academics, practitioners, and publishers to help remedy the current crisis and close the education gap. For academics, he wants educators to be more open to new ideas, remove the public accounting bias, and further support accountants working inside organizations. These changes will help educators become closer to corporations and change college programs to teach skills commonly used in managerial accounting. For practitioners, he wants them to become more involved with managers in organizations and assist them in making decisions to ensure the success of a business. He also suggests that publishers focus on effective methods rather than writing about popular methods, so articles can help those working in the business world (Clinton, 2007).

Changes in Accounting Curriculum

In his article, *Teaching What Matters: A New Conception of Accounting Education,* Bob Hurt describes a new structure for the accounting curriculum. This proposed curriculum is organized in a system of six layers. The first layer helps students learn about the different careers in accounting. This layer was developed because many students only pursue a degree in

accounting to receive the CPA designation and are ignorant of the extent to which other careers exist in the accounting field. The second layer focuses on the four essential skills needed for all professions, which include writing, professionalism and ethics, critical thinking, and information technology (IT). The third layer focuses on the foundations of accounting, including financial, managerial, taxation, information systems, and governmental accounting. These foundations help students learn the basic concepts of accounting and learn more in each specific area. The fourth layer requires two service-learning projects where students get real experience in accounting and also serve the community. The fifth layer is titled specialization and is the point in the curriculum where students can choose to build skills in the areas they are most interested in, to prepare them for the entry-level career and certification(s) they have chosen to pursue. Finally, the sixth layer includes a course about accounting and society. This course helps students understand what their role as an accountant is and how it affects other areas of society, including historical, political, economic, anthropological, and behavioral perspectives (Hurt, 2007). This proposed curriculum gives students a chance to not only learn the fundamentals of accounting, but follow their own path during the specialization level. Students are able to pursue an education and career in the field they are most interested in without the bias of public accounting and push towards careers they may not be interested in.

Hurt suggests the program:

1. Gives students sufficient time to learn and think as accountants
2. Allows students to mature academically and professionally
3. Combines general education and other business courses with accountancy courses
4. Encourages interaction with non-accounting students
5. Gives students the opportunity to investigate various career options in greater lengths than previous programs (Hurt, 2007)

Paul R. Brown believes that the traditional accounting curriculum is narrow and outdated and refers to the objectives of education as outlined by the Accounting education Change

Commission, which states "Accounting programs should prepare students to become professional accountants, not to be professional accountants at the time of entry into the profession" (Brown, 2002). In other words, Brown is suggesting that today's programs are focused on preparing students only for their first jobs in accounting and need programs to be more focused on the long-term careers of accounting professionals. In his article, *Updating the Educational Model,* he includes shocking results from a study conducted by Albrecht and Sacks related to the implementation of the CPA's 150-Hour requirement. The study showed that of those surveyed, nearly 100% of accounting educators and 79% of practitioners working in accounting would choose not to pursue a degree in accounting if they were to complete their education again. In addition, six times as many practicing accountants would choose to get their Master in Business Administration (MBA) rather than a Master in Accounting Science (MAS) (Brown, 2002). These findings show that many educators and practitioners do not see an accounting degree as valuable as other business degrees and recognize there is a gap between the education and professional worlds.

A Program with a Successful Change

One example of a program that has already made a change and has been very successful in removing the financial accounting bias is Kansas State University (KSU) (Deines & Valentine, 2007). In 1990, KSU received a grant from the Accounting Education Change Commission (AECC) to redesign its curriculum and the program they implemented has reduced the financial accounting bias successfully. The AECC wanted the new curriculum to

> "produce students who were technically competent and who could write well, make effective presentations, work well in team environments, think critically, conduct meaningful applied research, and be prepared to work in a wide range of professional

> accounting careers – not merely do well on the CPA exam (Deines & Valentine, 2007, 33)."

The objectives KSU set forth when designing its new curriculum was to provide students with both technical and professional knowledge and the skills to use their knowledge in the workplace. KSU used these objectives to create a five-year accounting program, four years for a Bachelors degree and one for a Master's degree. Their program does not require students to complete the fifth year, however KSU believes that the fifth year is valuable for all students, regardless of whether they want a position in public accounting and plan to sit for the CPA. KSU's program is designed to remove the financial accounting bias and provide a good education for accounting students pursuing a job in any field.

KSU's faculty analyzed the traditional curriculum, which is based on how topics appear in a balance sheet. They then took a more logical approach by sequencing the program to start with background theories and then move on to the application and analysis of accounting principles in higher level courses. They also wanted to design the curriculum to prepare all students for any type of entry-level position in accounting. The new curriculum integrates the teaching of professional skills by assigning papers, presentations, research assignments, and group work, which increase in complexity as the program progresses (Deines & Valentine, 2007).

KSU's new curriculum has been very successful since its implementation in the 1990s. The authors report that all of the accounting faculty members have embraced the new curriculum and would not change back to the traditional curriculum. Also, students are graduating with statistically higher critical thinking skills and are better prepared for any career path they choose. In addition, recruiters believe KSU's program better prepares students going into the workforce

(Deines & Valentine, 2007). Overall, KSU implemented a new curriculum that was successful in both removing the financial accounting bias and preparing students for any job they may pursue after graduation.

As stated above, many accounting educators believe there is a gap between the skills students are being taught, and those they will need to be successful in the workforce. This education gap suggests a need for change in the current accounting curriculum. Both Bob Hurt and Paul R. Brown suggest changes to accounting programs that emphasize removing the financial bias, focusing on both soft and technical skills, and giving students an opportunity to learn about the different types of jobs in the field of accounting (Brown, 2002; Hurt, 2007). The skills the Hurt article emphasizes include writing, communication, critical thinking, professionalism, as well as the basic technical skills used in a variety of accounting jobs, including financial reporting, managerial, tax, audit, and government (Hurt, 2007). Reducing the educational gap and reforming academic programs are not just thoughts people have, but are a reality at Kansas State University (KSU). KSU changed their accounting program to help reduce the financial accounting bias. This new curriculum at KSU is focused on technical and professional skills that prepare all its students for any type of entry-level accounting position (Deines & Valentine, 2007).

In the current study, I developed and administered a survey asking current industry accountants about the importance of both technical and soft skills relating to their success in the workplace. In addition, I asked them how well their education helped them develop those skills. The evidence obtained from the survey should tell us something about whether changes in accounting curricula such as those recommended by Brown (2002), Clinton (2007), Hurt (2007)

and Deines and Valentine (2007) will help close the gap between what is taught in the classroom and what is needed in the workforce.

Methodology

Research Questions

This study was designed to address the following research questions:

1. On average, how long does a person take to receive a professional certification after they complete their undergraduate degree?
2. What are the top motivations for obtaining professional certifications, such as the CPA, CMA, and CIA?
3. Do a majority of accountants currently working in industry begin their careers in public accounting?
4. What types of positions do accountants have at different levels of their careers?
5. What skills are most important at different levels of an accountant's career path?
6. Are accounting education programs developing the important skills discussed in question 5?
7. Do accounting education programs better prepare accounting students for positions in public accounting versus positions in industry?

Survey Design

The Accountant Career Path Survey was developed to answer the research questions above; please refer to Appendix A to review the survey. The first section of the survey includes questions related to demographic information such as gender, age, and education. It was important to know the respondents' educational backgrounds to determine whether there are differences in the extent to which accountants working in public accounting and industry obtain advanced degrees.

To answer questions related to the skills that are important to an accounting job, the survey asked the respondents first to indicate, on a scale of one to seven, one being low and

seven being high, how well their education prepared them for these skills. The list of skills was developed from the American Institute of Certified Public Accountants (AICPA) webpage titled AICPA Core Competency Framework for Entry into the Accounting Profession. On the AICPA's webpage they discuss important skills and competencies accountants should possess in regard to the following categories: functional, personal, and broad business perspective competencies. These discussions helped create the list of broad skill categories used in the survey. Skill categories were also developed from the general knowledge of the types of jobs accountants pursue.

The next section of the survey had questions relating to the professional certifications the respondents have obtained, when they achieved the certification(s), and what their motivations were. The three certifications that are most recognized in the accounting profession are Certified Public Accountant (CPA), Certified Managerial Accountant (CMA), and Certified Internal Auditor (CIA). The survey also included a column titled 'other' for any other certifications a respondent may have received.

The last section of the survey is related to job history and a person's first, second, and current jobs. This section was created to document the career path of a person currently working in industry. Each job section has questions asking a person's starting title, ending title, the number of years they worked at the company, a reason why they left, and what category the job fit in—public accounting, industry, or government/not-for-profit. In addition, using the skill list first identified in the education section, respondents were asked to rate how important that skill was to their success in their first, second and current job. This data allowed for comparisons between how well a person's education prepared them for each skill and how important that skill was to their success in their jobs. These comparisons will address the issue of whether the skills

taught in accounting programs are the same skills that are important to a person's success in the professional world.

Since the survey involves human subjects, approval by NIU's Institutional Review Board (IRB) was required prior to distribution. This approval was obtained on September 27, 2007. An electronic version of the survey was then created on vovici.com, which allowed for electronic distribution and result tabulation.

Survey Distribution

A convenience sample was obtained in the following way. I identified contacts at several companies through networking opportunities with Student Accountancy Society, one of Northern Illinois University's student organizations in the Accountancy Department. The following E-mail was then sent to this contact:

> My name is Amy Wolf; I am a senior at Northern Illinois University. Currently, I am working on completing my senior thesis project in order to complete my Bachelor of Science degree and University honors requirements.
>
> The purpose of my project is to document the career path for a sample of accountants currently working in industry and to determine their perceptions of how well their undergraduate education prepared them. The results of this study will assist accounting students in choosing the career path that best suits them. In addition, the results will aid accounting educators in determining the appropriate curricula for today's accounting students, pursuing careers in all types of accounting jobs.
>
> I am looking to obtain a large sample of accountants working in industry and would appreciate it if you would consider forwarding this message to as many accountants working for your company as possible, and ask them to use the following link to complete the survey by March 16. The survey takes between 15 and 20 minutes and asks questions relating to your job history in accounting and how your education prepared you for those positions.
>
> http://vovici.com/l.dll/JGs61F98350D9lmD9dU3J.htm
>
> I greatly appreciate your time and input to assist my study.

Thank you.

Sincerely,

Amy Wolf

The contacts obtained approval from their companies and then distributed the link to the survey to accountants in their company by forwarding the e-mail. Companies in which the survey was distributed included: Abbott Laboratories, BP, International Truck & Engine Co., ADM, Caterpillar Inc., John Deere, Harley Davidson, Inc., Kraft, Office Max, Robert Half, and Sun Chemical.

Results and Discussion

Data Analysis

After all the surveys were collected through vovici.com, the data and a results report were downloaded from the website into Microsoft Excel and Microsoft Word, respectively. Certain variables were analyzed using Microsoft Excel, while others were uploaded into SPSS for statistical analysis.

Summary of Demographic Information

There were 31 responses to the Accountant Career Path Survey, of which 14 were male (45.2%) and 17 were female (54.8%). The respondents graduated with their undergraduate degree from 1969 – 2007 and the majority of the sample were in the 28-32 age group (38.7%) and 33-37 age group (16.1%). Respondents also reported their undergraduate major. In the cases of those with double majors, both majors were counted when determining the number of people with each major. Twenty-seven respondents had an accounting degree and the other majors included business administration, finance, operations management, and some non-business majors. Thirteen respondents, which is approximately 42% of the sample, have also

achieved either a Master in Accounting Science (MAS) or a Master of Business Administration (MBA) degree. In addition, one respondent has a Ph.D.

Professional Certifications

The respondents were asked to report if they had received any professional certifications related to the field of accounting. Table 1 shows the amount of people who have received each certification, as well as the corresponding percentage of the total sample. Fifteen respondents have received professional certifications and of those, three have received two certifications. These three people have a CPA and either a CMA or CIA.

Table 1: Respondents with Professional Certifications

Certification	Number of Respondents	Percentage of Total Sample
CPA	15	48.38%
CMA	2	6.45%
CIA	1	3.22%

Question 1: On average, how long does a person take to receive a professional certification after they complete their undergraduate degree?

After a person graduates they may choose to obtain a professional certification. Some people decide to obtain the certification directly after they finish their educational studies and others may obtain them later in their careers either for personal reasons or because it is required by an employer. Please refer to Table 1 in the text above to see how many respondents achieved each type of certification in this study.

Some respondents received their first certification the same year they graduated with their undergraduate degree and the longest time span was 10 years between their graduation and professional certification achievement. On average, it took respondents approximately three and

a quarter years to receive their first certification and eight and a third years to receive their second certification. All the respondents who have professional certifications obtained their CPA first and then obtained other certifications later in their career.

Approximately 50% of all respondents received a CPA certificate less than five years into their career, which shows that the CPA designation is a prominent certification that many accountants feel is important to obtain. However, other certifications such as the CMA and CIA are important in specific jobs and are more likely to be obtained later in a person's career. The two respondents who have received their CMA were accounting staff when they first began their careers, but are currently in supervisory roles. Since both people advanced to supervisory roles, this suggests that the CMA may be beneficial or even required for supervisory roles within that company, since they began their careers as accounting staff without a CMA, and after receiving the CMA advanced into a supervisory role. The person who is a CIA started their career in public accounting and after moving into industry was a financial analyst and then became a senior internal auditor. This person's career path was consistent with the order they obtained their certifications.

The time between when a person finishes their undergraduate education and obtains a professional certification may be affected by their choice to pursue an advanced degree. Prior to 2001, those graduating with a Bachelor degree in accounting would be able to obtain their CPA immediately, if they choose. Today, because of the 150-Hour requirement people must choose how to get the additional hours to be able to take the CPA exam. People can choose to either pursue a Masters degree or choose to take additional classes, but not pursue an actual degree. Table 2, on the following page, compares those people who have a CPA and an advanced degree.

Table 2: CPA and Advance Degree Comparison

		Advanced Degree?	
		Yes	**No**
CPA?	**Yes**	6	9
	No	7	9

The chart above shows that most of the CPAs in the sample do not have an advanced degree. Of the nine CPAs without an advanced degree, five of them received the CPA after the 150-Hour requirement. From the data, it is known that three people had double majors, where they could have received the extra hours, but it is unknown how the other two people received the extra credit hours. The six people who have both the CPA and an advanced degree, four people obtained their CPA prior to the 150-Hour requirement and only two obtained it after. From this data there is not a definite trend to determine how the 150-Hour requirement affected the decision of receiving an advanced degree in order to obtain the additional hours needed for the CPA exam. In addition, seven people choose to receive an advanced degree, but not pursue a CPA. It would be interesting to know more information regarding these results, and determine what types of classes those CPAs without advanced degrees pursued and why the non-CPAs with advanced degrees decided not to obtain their CPA certification.

Question 2: What are the top motivations for obtaining professional certifications, such as the CPA, CMA, and CIA?

A person may choose to obtain a professional certification for many reasons that are either personal or career driven. The respondents were asked to choose all that apply from a list of reasons why they sought a specific certification. Table 3, on the following page, shows the percentage of those with each certification that selected each reason. For example, of the 15

respondents who obtained a CPA certificate, 13 indicated that one reason they did so was for career advancement.

Table 3: Reasons for Professional Certifications

Reasons	Certifications		
	CPA	CMA	CIA
Required by employer	6.67%	100%	
Career advancement	86.67%		100%
Personal achievement	100%		100%
Salary increase	20%		
Skill advancement	40%		
Other	6.67%		

The chart above shows the top reasons a person receives a CPA is for career advancement and personal achievement. All of the CPAs in the study received the certification for personal achievement and 86.67% of the CPAs were looking for career advancement opportunities. It is interesting that so many industry accountants have received their CPA for career advancement, when the certification is focused on public accounting content. Since the CPA is the most prominent designation an accountant can receive and requires a specific amount of credit hours to achieve, many accountants may want to receive it as a signal of their general qualifications to advance in their careers, despite the fact that they do not believe the certification advances their skills. Of the 15 CPAs in the sample, eight of them received their CPA before the 150-Hour requirement was enacted and seven received it after the 150-Hour requirement. The data from this sample shows the 150-Hour requirement did not make a large impact on the number of industry accountants receiving their CPA since 50% of the sample graduated before the 150-hour requirement, which means a greater percentage of those graduating after the 150-Hour rule are receiving their CPA. Also, the results suggest that there are some people who are self-motivated to achieve this designation despite the fact that it will not advance their career.

The two respondents who did not receive their CPA for career advancement, solely received their CPA for personal achievement. It would be very interesting to know specifically what they meant by personal achievement and if the CPA did help them in their careers despite the fact that it was not their motivation for obtaining it. The person who is a CIA was also driven by career advancement and personal achievement to receive this certification. On the other hand, the two CMAs in the sample were driven only by a requirement from their employer. This requirement may be enforced for all accountants working at that particular company or may be required only for certain career levels. This information is not reported in the study.

An accounting student coming out of school today has the choice to become a CPA (if they have completed enough credit hours), CMA, CIA, or many other certifications. It is important for students to know that many professionals received their certifications for career advancement reasons. If a person currently graduating is looking to continue to grow within a company, they should consider receiving a professional certification to give them an advantage over others who may not have a certification.

Question 3: Do a majority of accountants currently working in industry begin their careers in public accounting?

I have observed, and research has shown, that many accounting majors start their careers in public accounting and choose to leave after a few years and pursue a career in industry (Hurt, 2007). The Accountant Career Path Survey has shown that this is not true for this sample. Approximately 87% of the sample reported their first job after finishing their college degree was in an industry accounting position. Of the four remaining respondents, two people started in public accounting, one person started in a non-profit organization, and one person did not report what type of job they held. If the 28 people who did not start their careers in public accounting

graduated from a program that focused heavily on public accounting they may have been taught skills that were not applicable to their jobs. Also, they may be missing the skills that are needed for success in industry positions. This will be explored further in research question six.

Question 4: What types of positions do accountants have at the different levels of their career?

The respondents were asked the number of companies they worked for and to report their first job title, second job title, and current job title. Please note that some people reported the positions they held at different companies they worked for as first job, second job, and current job, while others reported different positions held within one company as first job, second job, and current job. Eighteen people, which are 58% of the sample, have only worked at one company, seven people have worked for two companies, and six people have worked for three or more companies. For each job level, the job titles were grouped into broad categories to determine which jobs were most common among each job level.

First Job.

All the respondents except for one reported their first job title at the first company they worked for. Of those people, two worked in public accounting, 27 worked in industry positions, and one person worked for a non-profit organization. Since the focus of this study is on industry accountants, this analysis will be solely on the industry accountants. Table 4, on the following page, shows the number of people and the percentage of the 27 industry accountants in each broad job category.

Table 4: Industry Accountant Job Titles in their First Jobs

Job Title Category	Number of People	Percentage of Industry Accountants
Management development program	4	14.81%
Supervisory position	2	7.41%
Internal auditor	2	7.41%
Analyst	3	11.11%
Entry level accountant	16	59.25%

The majority of the sample worked in entry level accounting positions, which include basic level positions as staff accountants, accounting clerks, cost accountants, budget accountants, and those working with general ledger and financial statement information. Internal auditing positions are also beginning level positions, but were kept separate because they are related to auditing. Other more advanced positions are analyst positions and supervisory roles with the title of manager or supervisor. Four of the respondents were in management development programs, which typically have people work in different positions related to accounting, but are also trained to become managers in the future.

Second Job.

The analysis and discussion of second job titles includes 21 of the 31 respondents, since 10 of the respondents have only worked for one company, and only reported one job with that company. Of the people who changed companies or positions there were 19 industry accountants, of which one did not report their job information. In regard to the other two respondents, one person left an industry position to pursue a career in public accounting and the other person pursued a career in a non-profit organization. Table 5, on the following page,

shows the number of people and corresponding percentage, of the 18 industry accountants who reported position titles, in each broad job category.

Table 5: Industry Accountant Job Titles in their Second Jobs

Job Title Category	Number of People	Percentage of Industry Accountants
Controller	1	5.56%
Supervisory position	4	22.22%
Analyst	8	44.44%
Entry level accountant	5	27.78%

In this table the controller category was added, which is a top level manager and a more advanced position than someone in a supervisory role. Of the 19 industry accountants who either received a different position in the same company or those who took a job at a different company, 11 people (57.89%) moved to a different company. The main reason people left their first job for another company was for career advancement. The other reasons included more job flexibility, a shorter commute to work, pursuit of an advanced degree, a job in a different job category, or a move to another state. In most cases, the positions held in a second job were more advanced than those in a first job, however as some people switched companies, they did not receive a higher position and worked as an entry level accountant. Of the 13 people who left their first job for another company (the eleven industry accountants, and the two who switched to public or non-profit), five people began the second job with an entry-level position, and the others either took a job at the same or higher level.

Current Job.

The analysis and discussion of current job titles includes 12 of the 31 respondents. Of these 12 people, one person is an accounting professor and the remaining 11 work in industry positions. Five people are working at their third or more company and six are still working for

the same company they began their career with. Table 6 shows the number of people and corresponding percentage, of the 11 industry accountants in each broad job category.

Table 6: Industry Accountant Job Titles in their Current Jobs

Job Title Category	Number of People	Percentage of Industry Accountants
Controller	1	9.09%
Supervisory position	4	36.36%
Internal auditor	2	18.18%
Analyst	3	27.27%
Senior accountant	1	9.09%

All of the positions listed in Table 5 are more advanced than an entry level accounting position. Of the 11 people above, only five people were working at a different company. The reasons cited for why these people left the previous company they worked for include better work/life balance, career advancement, company closure, and spouse relocation.

Career Path Discussion.

As expected, this analysis shows that a majority of people worked in entry level positions in their first job. At the second career level, some people received a higher position within the same company or at a different company. Some people also decided to take an entry level position with a different company because of reasons other than career advancement. Those reasons include working closer to home and trying a different type of position. In addition, in one case a company was moved to another state and the person did not want to move. Currently, people are working in different positions at the company they began their career with and others are working at a third or fourth company. These people are not working in entry level positions, but are in advanced accounting positions and some even have supervisory roles. For the sample of industry accountants in this study, most began their careers in industry and continued to

maintain the same position, advance within the same company, or take a higher position at a different company.

In planning the study, I anticipated that I would have a sample that would include people who started in public accounting (since this is a common assumption) and people who started in industry. By having two large groups, the career paths of the two groups would be able to be compared to determine how starting a career in public accounting versus industry affects a person's career in the long-term. Because of time limitations, I was only able to obtain a small sample, and unfortunately, only two respondents started their career in public accounting. Accordingly, I am unable to include valid comparisons between accountants working in public accounting and industry, and the following analysis identifies important skills and assesses the adequacy of preparation of only the accountants working in industry.

Question 5: What skills are most important at different levels of an accountant's career path?

The respondents were asked to respond on a scale from one to seven, one being low and seven being high, how well their education developed the skills important to an accounting position and also how important the skill was for their success in the workplace for their first, second, and current job. Table 7, on the following page, shows the mean score on a scale from one to seven of how the sample responded to each skill.

Table 7: Skills Important to an Accounting Career

Skill	Career Level			
	Education	**First Job**	**Second Job**	**Current Job**
Analysis and open-ended problem solving	4.97	5.86	6.50	6.75
Creativity	3.68	4.41	5.20	6.00
Understanding of GAAP	5.60	4.62	5.70	5.83
Understanding of auditing concepts	5.32	4.10	5.35	5.67
Understanding of tax concepts and practices	5.10	3.21	3.60	3.25
Understanding of cost accounting principles	5.58	4.69	5.00	5.25
Written communication skills	5.26	5.71	6.20	6.67
Spreadsheet skills	4.45	5.55	6.35	6.33
Database skills	3.35	4.21	4.55	5.17
Time Management skills	4.94	6.03	6.35	6.75
Oral presentation skills	4.87	4.76	5.16	6.42
Understanding of external financial statements and their purpose	5.65	4.45	5.16	5.75
Listening skills	4.90	5.69	6.00	6.50
Ethical decision-making skills	5.00	5.41	5.74	6.25
Teamwork skills	5.42	5.76	6.16	6.50
Stress tolerance/ability to endure and work under pressure	4.68	5.90	6.37	6.67

By taking each career level and sorting the means from largest to smallest a list of the five skills people had the highest degree of preparedness for from their education and the most important skills for success in each career level was determined. In addition the five skills people had the lowest degree of preparedness for from their education and the least important skills for success at each career level was determined. The top five skills are:

Education.

1. Understanding of external financial statements and their purpose
2. Understanding of GAAP
3. Understanding of cost accounting principles
4. Teamwork skills

5. Understanding of auditing concepts

First Job.

1. Time management skills
2. Stress tolerance/ability to endure and work under pressure
3. Analysis and open-ended problem solving skills
4. Teamwork skills
5. Written communication skills

Second Job.

1. Analysis and open-ended problem solving skills
2. Stress tolerance/ability to endure and work under pressure
3. Spreadsheet skills
4. Time management skills
5. Written communication skills

Current Job.

1. Analysis and open-ended problem solving skills
2. Time management skills
3. Written communication skills
4. Stress tolerance/ability to endure and work under pressure
5. Listening skills

This analysis shows that with the exception of teamwork skills, the most important skills for a person to be successful in the work place are not the same skills emphasized in educational programs. Educational programs are focused on teaching the basic technical skills of accounting (such as an understanding of GAAP, external financial statements and cost and auditing principles) and focus less on broad soft skills. The respondents all perform a variety of jobs, however many respondents similarly believe the same skills are important to their success. Throughout all career levels the skills that were important included time management, analysis and open-ended problem solving, stress tolerance and the ability to work under pressure, and written communication skills. However, it is also interesting to note the important skills that are unique to each job level list, starting with teamwork in the first job, spreadsheet skills in the

second job, and listening skills in the current job. This progression is consistent with a person's advancement in their career over time. For example, teamwork skills are likely to be important as a new hire adjusts to the corporate environment, spreadsheet skills are likely to be important as an employee takes on greater responsibilities for analysis, and listening skills are likely to be important as an employee takes on supervisory responsibilities. In summary, many accounting programs focus heavily on accounting principles, which are vitally important to an accountant's overall understanding of their jobs, but programs should also emphasize broad based skills including written communication and problem solving skills. Time management and stress tolerance skills are difficult to teach, but programs can teach different techniques to stay organized and manage time, which may help relieve stress.

The bottom five skills are:

Education.

1. Database skills
2. Creativity
3. Spreadsheet skills
4. Stress tolerance/ability to endure and work under pressure
5. Oral presentation skills

First Job.

1. Understanding of tax concept and practices
2. Understanding of auditing principles
3. Database skills
4. Creativity
5. Understanding of external financial statements and their purpose

Second Job.

1. Understanding of tax concept and practices
2. Database skills
3. Understanding of cost accounting principles
4. Oral presentation skills
5. Understanding of external financial statements and their purpose

Current Job.

1. Understanding of tax concept and practices
2. Database skills
3. Understanding of cost accounting principles
4. Understanding of auditing principles
5. Understanding of external financial statements and their purpose

Throughout all the career levels, little importance is placed on the understanding of tax concepts and external financial statements. These results may be due to the fact that the respondents work in a variety of accounting positions, but they all work in industry where they are less likely to have responsibilities in these areas. Many education programs today are focused heavily on teaching accounting principles related to public accounting and passing the CPA examination (Clinton, 2007; Deines & Valentine, 2007; Hurt, 2007; Sharman, 2006). The results of this survey show that for a career in industry these skills are not used. However, the results of the survey also show that about half of the sample are CPAs and we know that these skills are tested on the CPA examination. This contradiction identifies the dilemma facing accounting educators. They must focus on preparing students for the CPA exam since the majority of students will take it, however students who take jobs in industry may never use the accounting, auditing and tax principles they were once taught. In addition, little importance is placed on database skills across all job levels, which is consistent with a low emphasis the development of these skills receives in education. Finally, given that these accountants are working in industry, it is surprising that the understanding of cost accounting principles appears in the list of least important skills for the second and current jobs. However, the job title analysis documented in Tables 4, 5 and 6 showed that industry accountants have a wide variety of roles beyond that of cost accountant.

Question 6: Are accounting education programs developing the important skills discussed in question 5?

The results suggest that on average education is not emphasizing some skills that are important for the success of industry accountants in the workforce. Also, educational programs are focusing on skills that are not important to industry accountants' success. Through SPSS the respondents data from the questions of how well a person's education prepared them for the important accounting skills and how important a skill was to their success at each job level were analyzed to determine how closely the two responses were related. Each relationship, otherwise known as a Pearson correlation, shows the strength of the linear relationship between the education evaluation and each job level evaluation. Table 8, on the following page, shows the Pearson correlation, significance level, and N (sample size) for the seven most important job skills from all the career levels. The seven most important job skills were taken from lists included in question five. If the skill was listed on one of the lists for either first job, second job, or current job, it was included.

Table 8: Skill Correlations between Education and Each Job Level for the Most Important Job Skills

Skills	First Job	Second Job	Current Job
Analysis and open-ended problem solving			
Pearson Correlation	.029	.170	.433
Sig. (2-tailed)	.882	.474	.159
N	29	20	12
Written communication skills			
Pearson Correlation	.036	.165	.427
Sig. (2-tailed)	.854	.487	.166
N	28	20	12
Spreadsheet skills			
Pearson Correlation	.315	.220	.195
Sig. (2-tailed)	.096	.351	.543
N	29	.20	12
Time Management skills			
Pearson Correlation	.176	-.023	.533
Sig. (2-tailed)	.362	.925	.074
N	29	20	12
Listening skills			
Pearson Correlation	.506**	.510*	.327
Sig. (2-tailed)	.005	.026	.300
N	29	19	12
Teamwork skills			
Pearson Correlation	.402*	.586*	.414
Sig. (2-tailed)	.031	.008	.181
N	29	19	12
Stress tolerance/ability to endure and work under pressure			
Pearson Correlation	.113	.291	.023
Sig. (2-tailed)	.561	.227	.945
N	29	19	12

*The correlation is significant at the .05 level (2-tailed)
**The correlation is significant at the .01 level (2-tailed)

For the most important job skills listed above, two conclusions can be made. First, if a skill has a positive correlation, there was an appropriate amount of emphasis on that item, which means the accountants' education adequately prepared them for a skill that was important to their job success. Second, if a skill has a negative correlation, the respondents were not adequately prepared for the skills that were important to their job success.

In Table 8 above it can be seen that only two of the seven skills have moderate, positive, significant correlations in at least one of the job levels. Listening skills are considered important in the current job and teamwork skills are considered important in the first job; however, there are significant correlations between the level of preparedness on these skills and importance for success at the first and second career level. One could concluded that these two skills are receiving the appropriate amount of attention in education programs for success in the short- and mid-term, therefore programs should continue their current level of emphasis on these skills.

The other five skills in the table above do not have significant correlations at any job level at the five percent confidence level. However, it is useful to point out that time management skills do have a moderate, positive, statistically significant correlation in the current position at the 10% confidence level. Since there are only 12 data sets for the current job analysis it is hard to pick up a significant correlation, due to the low power of the test. This is worth noting because time management skills were ranked as most important in the current job level and it appears that education programs are adequately preparing accountants to manage their time when they reach those types of positions in the future. The remaining skills show no significant correlations, which could be a result of a large variety of responses, especially since the respondents work in many different positions and at different companies where policies may vary. These results clearly suggest that accounting programs should place more emphasis on developing students' problem solving, written communication, time management and stress tolerance skills.

Table 9, on the following page, shows the Pearson correlation, significance level, and N (sample size) for the seven least important job skills from all the career levels. The seven least

important job skills were taken from lists included in question five and if the skill was listed on one of the lists for either first job, second job, or current job, they were included.

Table 9: Skill Correlations between Education and Each Job Level for the Least Important Job Skills

Skills	First Job	Second Job	Current Job
Creativity			
Pearson Correlation	.135	.549*	-.305
Sig. (2-tailed)	.484	.012	.335
N	29	20	12
Understanding of auditing concepts			
Pearson Correlation	.146	.696**	.221
Sig. (2-tailed)	.448	.001	.490
N	29	20	12
Understanding of tax concepts and practices			
Pearson Correlation	-.094	.565*	.451
Sig. (2-tailed)	.627	.009	.141
N	29	20	12
Understanding of cost accounting principles			
Pearson Correlation	-.149	-.143	-.455
Sig. (2-tailed)	.442	.547	.137
N	29	20	12
Database skills			
Pearson Correlation	.571**	.425	.681*
Sig. (2-tailed)	.001	.062	.015
N	29	20	12
Oral presentation skills			
Pearson Correlation	.131	.250	.086
Sig. (2-tailed)	.497	.303	.791
N	29	19	12
Understanding of external financial statement and their purpose			
Pearson Correlation	-.315	-.092	.051
Sig. (2-tailed)	.096	.707	.874
N	29	19	12

*The correlation is significant at the .05 level (2-tailed)
**The correlation is significant at the .01 level (2-tailed)

For the least important job skills, two conclusions can be made. First, if a skill has a positive correlation, there was an appropriate amount of emphasis on that item, which means that education programs did not focus heavily on the skills that were least important to a person's

success. Second, if a skill has a negative correlation, education programs are focusing too much on this skill when it is not important to a person's success.

According to the table above, three of the seven least important skills have moderate, positive, significant correlations for at least one job level. The skills that have a significant correlation between education and only one job level include creativity, understanding of auditing concepts, and understanding of tax concept and practices. These skills are not important to success in an accounting position and education programs are giving the adequate amount of preparedness for these positions, but are not over-emphasizing these skills. The table above shows a significant correlation for both the first job and current job levels. Database skills are not important to accounting positions and educators are not overemphasizing database skills, but on average are giving students enough information..

For the three remaining skills, understanding of cost accounting principles, oral presentation skills, and understanding of financial statements and their purpose there are no significant correlations; therefore it is difficult to determine a conclusion. Because understanding of external financial statements and cost accounting principles both appear on the top five list for emphasis in education and the bottom five list for importance to job success, we might expect to see a negative correlation. However, the sample size for this study is rather small and it is possible that with a larger sample additional conclusions could be made. For example, if the sample was larger, the results may show significant negative correlations for these skills, which would indicate that accounting education programs are overemphasizing skills that are not important to a person's career as an industry accountant.

Question 7: Do accounting education programs better prepare accounting students for positions in public accounting versus positions in industry?

The anticipation of this project was to receive responses from accountants currently working in industry who started their careers in either public accounting or industry so the two groups could be prepared. However, since only two of the thirty one responses started their careers in public accounting there is not a significant amount of data to make comparisons. These results were surprising since it has been perceived that most accountants start their careers in public accounting and in the long-term work in industry positions.

Conclusion

It is evident that there is a gap between the educational world and professional world. Many students are receiving the message throughout their education that most industry accountants begin their careers in public accounting, when this does not appear to be the case. Through the Accountant Career Path Survey I was able to show that there are many people starting their career in industry and advancing either with one company or receiving better positions in another company. By sharing the results of this study, I hope to make educators more aware of the frequency of this alternative path to encourage them to consider whether academic programs need to be altered to prepare students for these types of positions.

Accounting education programs are currently focusing heavily on developing students' skills in understanding external financial statements, GAAP and auditing concepts, which is consistent with my perception that there is a bias toward public accounting. I believe that many accounting professors may be unaware of the bias. That is, they believe they are giving students a background in all areas of accounting, but need to be informed from the outside that there is a bias toward public accounting so they are aware and can take appropriate actions to remedy it. It is important not to leave out classes that give students a general background in all the areas of

accounting, but accounting programs should also give students information about the variety of careers available and more choices to pursue advanced classes related to the type of career they would like to pursue. In addition, the results of the study show that greater emphasis should be placed on enhancing students' analysis, open-ended problem solving, time management, listening and written communication skills, as well as their ability to manage stress and work under pressure, since these are the skills that accountants consider most important to their success on the job. When making suggestions for changes in the accounting curriculum, Hurt emphasizes the importance of teaching both technical and professional skills, especially related to writing, professionalism and ethics, critical thinking, and information technology (Hurt, 2007). The survey responses suggest that today's industry accountants agree with Bob Hurt. More specifically, they believe the most important skills are related to written communication, stress management, and open-ended problem solving. This data show that changes need to take place in educational programs to help bridge the educational gap and give accounting students a strong professional and technical background. Doug Clinton, a Northern Illinois University professor, says it best when he states, "It's time for academics to reject the unacceptable dominance by the financial accounting requirements of our programs, our advice to students, and our behavior" (Clinton, 2007).

Surprisingly, the results of this study also show that although the majority of accountants currently working in industry do not start in public accounting, many are still becoming CPAs. Even more surprising is that many of these CPAs did not indicate skill advancement as a reason they obtained the certification. The CPA is a powerful certification that many people recognize, but are people overlooking the importance of other certifications such as the CMA or CIA? Only 9.67% of the sample had a either a CMA or CIA in addition to their CPA. Paul Sharman states

that the CPA is good for those working in auditing functions, but for 90% of the professionals in finance functions, the CMA is a more applicable certification (Sharman, 2006). Through education programs, students should be made aware of the benefits of alternative certifications, like the CMA and CIA. If students are more informed about the varying possibilities as an accounting major and the benefits of having certifications beyond the CPA they may benefit earlier in their careers.

This study was designed to study accountants working in industry to look at their education and job history. Through the results, it can been seen that there is an evident educational gap, which needs to be remedied. Many people choose not to pursue a career in public accounting, so the next question to ask is, why are educators blind to the fact that some accountants do not want to work in public accounting? Also, are accounting students following the current educational path without questioning educators? I believe that students should have a voice and should reflect to educators that a bias exists. In turn, educators can be aware of this bias and try to fix the problem, which will help all accounting students in the future to be prepared for the jobs they are most interested in pursuing.

BIBLIOGRAPHY

Allen, A., & Woodland, A. M. (2006). The 150-Hour Requirement and the Number of CPA Exam Candidates, Pass Rates, and the Number Passing. *Issues in Accounting Education, 21*(3), 173-193.

American Institute of Certified Public Accountants. (2006). *How to Prepare*. Retrieved April 2, 2008, from The Uniform CPA Examination: http://www.cpaexam.org/cpa/how_prepare.html

American Institute of Certified Public Accountants. (n.d.). *The 150-Hour Requirement*. Retrieved March 21, 2007, from http://www.aicpa.org/Becoming+a+CPA/CPA+Candidates+and+Students/Students/The+Profession+and+You/FAQs/150+Hour+Requirement.htm

Barlas, S., White, L. R., & Williams, K. (2006). Accounting Is Still Hot. *Strategic Finance*, *87*(8), 21.

Brown, P. R. (2002). Updating the Educational Model. *The CPA Journal*, *72*(8), 22-23.

Clinton, B. D. (2007). Crisis! *Strategic Finance*, *88*(,7), 24-30.

Deines, D., & Valentine, E. (2007). A Career-Neutral Accounting Curriculum. *Strategic Finance*, *88*(7), 31-39.

Duffy, M. N. (2005). Oh, the Places You'll Go! *Journal of Accountancy*, *200*(4), 59-66.

Hurt, B. (2007). Teaching What Matters: A New Conception of Accounting Education. *Journal of Education for Business*, *82*(5), 295-299.

Institute of Certified Management Accountants. (2007). *Welcome to the CMA Program.* Institute of Certified Management Accountants.

Sharman, P. A. (2006). A Bridge Over Troubled Water. *Strategic Finance, 88*(4), 8-10.

The Institute of Internal Auditors. (2008). *Certified Internal Auditor (CIA) Exam Content.* Retrieved April 2, 2008, from The Institute of Internal Auditor: http://www.theiia.org/certification/certified-internal-auditor/cia-exam-content/

The Institute of Internal Auditors. (2008). *Certified Internal Auditor 2008 Candidate Handbook.* The Institude of Internal Auditors.

U.S. Department of Labor. (2007). *Occupational Outlook Handbook, 2006 - 2007 Edition, Accountants and Auditors.* Retrieved July 18, 2007, from http://www.bls.gov/oco/ocos001.htm

APPENDIX A: Accountant Career Path Survey

Survey's Informed Consent

The purpose of this study is to determine the typical career path for an accountant working in industry.

This questionnaire contains questions relating to your college education and work history in accounting. There are questions about your first, second, and current accounting job and how well your college education prepared you. There is no foreseeable risk related to the completion of this survey.

All of the information contained in this survey will be kept confidential and will not be available to anyone other than the experimenters.

Participation in this survey is voluntary and may be discontinued at any time without penalty.

If you have any questions regarded to your participation in this study, please call Amy Wolf at (630) 440-3198, or Linda Matuszewski at (815) 753-6379. Any questions about your rights as a research participant can be addressed to the NIU Office of Research Compliance at (815) 753-8588.

Please check the following box, acknowledging you have read the informed consent and agree to participate. ☐

Accountant Career Path Survey

1. Gender (Circle One):
    a. Male
    b. Female
2. Age (Circle One):
    a. Less than 23
    b. 23 – 27
    c. 28 – 32
    d. 33 – 37
    e. 38 – 42
    f. 43 – 47
    g. 48 – 52
    h. 53 – 57
    i. 58 – 62
    j. Over 62
3. The following questions relate to your college education:
    a. What year did you receive your undergraduate degree? _____
    b. What was your major? _____
    c. List any graduate degrees you hold, and the year you received them.

    _____

    _____

    _____

4. Please select the appropriate number on a scale of 1 to 7 (1=Low, 7=High) indicating the degree to which your education helped you develop this skill.

Skill/Technical Competency	**How well did your education help you develop this skill? (1 = Low, 7 = High)**
Analysis and open-ended problem solving skills	1 2 3 4 5 6 7
Creativity	1 2 3 4 5 6 7
Understanding of GAAP	1 2 3 4 5 6 7
Understanding of auditing concepts	1 2 3 4 5 6 7
Understanding of tax concepts and practices	1 2 3 4 5 6 7
Understanding of cost accounting principles	1 2 3 4 5 6 7
Written communication skills	1 2 3 4 5 6 7
Spreadsheet skills	1 2 3 4 5 6 7
Database skills	1 2 3 4 5 6 7
Time management skills	1 2 3 4 5 6 7
Oral presentation skills	1 2 3 4 5 6 7
Understanding of external financial statements and their purpose	1 2 3 4 5 6 7
Listening skills	1 2 3 4 5 6 7
Ethical decision-making skills	1 2 3 4 5 6 7

Skill/Technical Competency	How well did your education help you develop this skill? (1 = Low, 7 = High)
Teamwork skills	1 2 3 4 5 6 7
Stress tolerance/ability to endure and work under pressure	1 2 3 4 5 6 7
Other (please describe)	1 2 3 4 5 6 7

5. The following questions related to professional certification. Please indicate the year the certification was obtained and the reason(s) you obtained it.

	Certification	CPA	CMA	CIA	Other
	Year Obtained				
Motivation (Check all that apply.)	Required by employer				
	Career advancement				
	Personal achievement				
	Salary increase				
	Skill advancement				
	Other (Please describe)				

6. How many companies have you worked for since obtaining your undergraduate degree? _____
7. The following questions relate to your first, second, and current accounting job:

		First Accounting Job	Second Accounting Job	Current Accounting Job
Starting Job Title				
Job title when you left				
Number of years with the company				
Briefly describe the primary reason why you left the job				
Categorize this job as one of the following (check one)	Public Accounting			
	Industry			
	Government / Not-for-profit			
	Other-Please specify			

a. Related to your **FIRST ACCOUNTING JOB,** please circle the appropriate number on a scale of 1 to 7 (1 = Low, 7 = High) indicating how important each skill was for your success in this job.

Skill/Technical Competency	**How important was this skill for your success in this job? (1 = Low, 7 = High)**
Analysis and open-ended problem solving skills	1 2 3 4 5 6 7
Creativity	1 2 3 4 5 6 7
Understanding of GAAP	1 2 3 4 5 6 7
Understanding of auditing concepts	1 2 3 4 5 6 7
Understanding of tax concepts and practices	1 2 3 4 5 6 7
Understanding of cost accounting principles	1 2 3 4 5 6 7
Written communication skills	1 2 3 4 5 6 7
Spreadsheet skills	1 2 3 4 5 6 7
Database skills	1 2 3 4 5 6 7
Time management skills	1 2 3 4 5 6 7
Oral presentation skills	1 2 3 4 5 6 7
Understanding of external financial statements and their purpose	1 2 3 4 5 6 7
Listening skills	1 2 3 4 5 6 7

Skill/Technical Competency	How important was this skill for your success in this job? (1 = Low, 7 = High)
Ethical decision-making skills	1 2 3 4 5 6 7
Teamwork skills	1 2 3 4 5 6 7
Stress tolerance/ability to endure and work under pressure	1 2 3 4 5 6 7
Other (please describe)	1 2 3 4 5 6 7

b. Related to your **SECOND ACCOUNTING JOB,** please circle the appropriate number on a scale of 1 to 7 (1 = Low, 7 = High) indicating how important each skill was for your success in this job.

Skill/Technical Competency	How important was this skill for your success in this job? (1 = Low, 7 = High)
Analysis and open-ended problem solving skills	1 2 3 4 5 6 7
Creativity	1 2 3 4 5 6 7
Understanding of GAAP	1 2 3 4 5 6 7
Understanding of auditing concepts	1 2 3 4 5 6 7
Understanding of tax concepts and practices	1 2 3 4 5 6 7
Understanding of cost accounting principles	1 2 3 4 5 6 7
Written communication skills	1 2 3 4 5 6 7
Spreadsheet skills	1 2 3 4 5 6 7
Database skills	1 2 3 4 5 6 7

Skill/Technical Competency	**How important was this skill for your success in this job? (1 = Low, 7 = High)**
Time management skills	1 2 3 4 5 6 7
Oral presentation skills	1 2 3 4 5 6 7
Understanding of external financial statements and their purpose	1 2 3 4 5 6 7
Listening skills	1 2 3 4 5 6 7
Ethical decision-making skills	1 2 3 4 5 6 7
Teamwork skills	1 2 3 4 5 6 7
Stress tolerance/ability to endure and work under pressure	1 2 3 4 5 6 7
Other (please describe)	1 2 3 4 5 6 7

c. Related to your **CURRENT ACCOUNTING JOB**, please circle the appropriate number on a scale of 1 to 7 (1 = Low, 7 = High) indicating how important this skill is for your success in this job.

Skill/Technical Competency	**How important was this skill for your success in this job? (1 = Low, 7 = High)**
Analysis and open-ended problem solving skills	1 2 3 4 5 6 7
Creativity	1 2 3 4 5 6 7
Understanding of GAAP	1 2 3 4 5 6 7
Understanding of auditing concepts	1 2 3 4 5 6 7

Skill/Technical Competency	**How important was this skill for your success in this job? (1 = Low, 7 = High)**
Understanding of tax concepts and practices	1 2 3 4 5 6 7
Understanding cost accounting principles	1 2 3 4 5 6 7
Written communication skills	1 2 3 4 5 6 7
Spreadsheet skills	1 2 3 4 5 6 7
Database skills	1 2 3 4 5 6 7
Time management skills	1 2 3 4 5 6 7
Oral presentation skills	1 2 3 4 5 6 7
Understanding of external financial statements and their purpose	1 2 3 4 5 6 7
Listening skills	1 2 3 4 5 6 7
Ethical decision-making skills	1 2 3 4 5 6 7
Teamwork skills	1 2 3 4 5 6 7
Stress tolerance/ability to endure and work under pressure	1 2 3 4 5 6 7
Other (please describe)	1 2 3 4 5 6 7