

## Professional Knowledge and Skills Required for Accounting Majors Who Intend to Become Auditors: Perceptions of External Auditors

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**Abstract:** *This research aims to ascertain the professional knowledge and the skills/attributes that are considered important by external auditors for a graduate who intends to be an auditor. For this purpose, we conducted a survey on external auditors in Turkey. The research has two dimensions: skills dimension (twenty one items) and professional knowledge dimension (twenty four items). The results indicated that all skills except “knowledge of accounting software” are perceived to be important or very important for the auditing profession. Among the most important skills that graduates are expected to possess are ethics, teamwork, and honesty. The results also demonstrated that some courses are perceived to be extremely necessary, e.g. Auditing, Microsoft Office Programs, Accounting and Financial Reporting Standards, Financial Statement Analysis, Financial Accounting, Capital Market Board Regulations, Cost Accounting, and Managerial Accounting. In addition, cross analyses indicated that there are significant differences among subgroups based on gender, education, auditing firm, experience, and job title.*

**Keywords:** Accounting education, Auditing, Skills, Professional knowledge, External auditors

**JEL Classification:** M41, M42

### 1. Introduction

Educational institutions prepare their students for real life by equipping them with up-to-date information and necessary skills. Survival of educational institutions in today's rapidly changing and dynamic business environment depends on meeting the expectations of the business world. This is true for the accounting discipline as well as others. The traditional scorekeeping role of accountants is no longer sufficient in modern global business models (Lange, Jackling and Gut, 2006). This reality forces educators to learn what the business world demands from graduates for successful performance in their future careers. Old curricula and teaching methods are insufficient to meet the demands of employers. Hence, their needs must be uncovered first, and the required curriculum changes must be made next. In addition, graduates are required to have certain skills/attributes to be competitive in the workplace over and above their professional knowledge.

Furthermore, corporate accounting scandals that happened in recent years have proved that some skills and attributes, such as ethics and honesty, and awareness of responsibilities are very important. Professional knowledge alone is not sufficient and is unable to fill the gap emerging from the absence of these attributes.

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Moreover, changing business environments, and developments in accounting and financial reporting standards are other forces that affect and shape accounting curricula. For example, adoption of International Accounting Standards by many countries is a motivation for accounting curriculum changes. In addition, technological developments necessitate incorporation of new technology into classic curricula. It is clear that changing conditions are affecting both the personal skills and knowledge levels required of accounting graduates.

Some other specific motivations may be added to the above-mentioned general motivations for this study. Firstly, previous studies have largely been conducted in developed countries. The subject needs to be investigated in developing countries, too. Secondly, most of the earlier studies investigated the perceptions of respondents for skills, but rarely for professional knowledge. This study encompasses both personal skills and professional knowledge. Thirdly, the research is fortified by some in-depth cross analyses according to the demographic characteristics of the respondents. Lastly, the scope of most of the previous studies was the accounting profession in general. Further investigation is needed for sub-accounting professions (e.g. financial accounting, managerial accounting, tax accounting, and auditing) since skills and knowledge requirements of each accounting area may be different. Hence, this study investigates the skills and professional knowledge requirement of the auditing profession.

In short, we investigated what skills and attributes does an accounting graduate need from the perspective of auditing discipline. In order to find out the answers to this question, we conducted a questionnaire survey on external auditors in Turkey.

In the next section, the literature review is provided. In the third section, scope and methodology is presented. In the fourth section, results are analyzed. In the last section, concluding remarks are made.

## 2. Literature Review

If graduate students want to be successful in the highly fluctuating global business environment, they must exhibit a range of technical and generic skills (Lange et al., 2006). In recent decades, there has been much debate about the skills and knowledge that accounting graduates should have to enable them to pursue a career in the accounting profession. This matter is considerably important for all stakeholders, including students, academicians, and employers. Students want to equip themselves better for the work environment; academicians are expected to provide better equipped graduates to the market; and employers desire highly qualified and skilled job applicants. Therefore, researchers have conducted numerous investigations to learn the opinions of these three parties, and to help them converge for better employment of accounting graduates. Some studies have been conducted on just students to ascertain whether the messages of accounting profession have reached them (Usoff and Feldmann, 1998). Some studies have focused on graduates (Lange et al., 2006), and still others have been conducted on accounting faculty members, accounting practitioners, and users of accounting services to enable comparative analyses (Digabriele, 2008). Morgan (1997) surveyed accounting practitioners and university lecturers in the UK on the communication skills required of accounting graduates. Kavanagh and Drennan (2008) surveyed students and employers in Australia to determine skills accounting graduates need to pursue a career in the accounting profession. Lee and Blaszczyński (1999) surveyed "Fortune

500” executives to determine their perceptions of the competencies necessary for the entry-level accounting graduates. Digabriele (2008) surveyed practitioners, academics, and users of forensic accounting services in the United States to investigate what skills are important for being a forensic accountant. Since previous studies have been conducted in various countries, it can be said that the matter is a common concern of academicians who strive to contribute to the solution of the matter.

In prior studies, among generally investigated skills that graduates should possess are communication skills (oral and written), interpersonal skills, awareness of ethics, problem solving, decision making, critical thinking, analytical skills, teamwork, continuous learning, self motivation, flexibility, time management and so on (Usoff and Feldmann, 1998; Lange et al., 2006; Digabriele, 2008; Kavanagh and Drennan, 2008; Morgan, 1997; Lee and Blaszczynski, 1999; Zaid and Abraham, 1994; Weil et al., 2001). Lange et al. (2006) conducted their survey on graduates. They found that graduates perceive communication- and analytical-based skills as the most important qualities required for a successful accounting career. Digabriele (2008) found that the items rated as most important were critical thinking, deductive analysis, and written communication according to overall means of respondents which include forensic accounting practitioners, accounting faculty, and users of forensic accounting services.

Although most of the earlier studies have aimed to determine skills required for the accounting profession, some have aimed to determine the professional knowledge considered important for the accounting profession. A more comprehensive study, of course, would be one which covers both skills and professional knowledge required by the profession. Tan, Fowler and Hawkes (2004) conducted such a two dimensional study to ascertain the topics/techniques and the skills/characteristics that are considered important for a graduate who intends to pursue careers in management accounting. The present study is a similar two dimensional study focusing on the auditing profession instead.

Increasingly, ethical awareness is being cited as one of the most important skills an accounting graduate should possess. Among many others, Armstrong, Ketz and Owsen (2003) cites Enron, WorldCom, Microsoft, Peregrine Systems, Rite Aid, Sunbeam, Tyco, Waste Management, W.R. Grace, and Xerox as the companies that had recent accounting and auditing failures. These scandals pointed out the importance of ethical awareness of accounting professionals once more. Due to the importance of the matter, publications related to ethics have gained momentum especially in accounting education and business ethics journals to direct the attention of educators to this dimension. These publications investigate the perceptions of the students, faculty members, and practitioners in relation to ethics in accounting, search for the ways to increase ethical awareness of the students, and other aspects of the ethics concept (Thorne, 2001; Adkins and Radtke, 2004; Bampton and Maclagan, 2005; Ghaffari, Kyriacou, and Brennan, 2008).

Similarly, as the importance of communication skills increase, some articles focus on communication skill offered in accounting education or possessed by graduates (Morgan, 1997; Zaid and Abraham, 1994; Smythe and Nikolai, 2002; Grace and Gilsdorf, 2004; Cleaveland and Larkins, 2004). In the cited literature, communication skills in various forms such as interpersonal, oral, written, and presentation skills are investigated.

Moreover, some previous studies cover a full range of skills needed by the accounting profession so that they can present a more complete and comprehensive picture (Lange et al., 2006; Gammie, Gammie, and Cargill, 2002; Lee and Blaszczyński, 1999; Kavanagh and Drennan, 2008; Lin, Xiong and Liu, 2005; Sawyer, Tomlinson and Maples, 2000). In order to obtain deeper insights, these studies have questioned whether demographic differences (e.g. gender, age, education level, and experience) lead to significantly different impacts on ethical decision making, ethical awareness, and ethical attitudes.

Differences in ethical judgments between females and males have been a topic of great interest in previous studies. These studies have produced inconclusive results. While many studies found that females are significantly more ethical than males (Cohen, Pant, and Sharp, 1998; Persons, 2009; Borkowski and Ugras, 1992; Adkins and Radtke, 2004; Ameen, Guffey, and McMillan, 1996; Simga-Mugan, Daly, Onkal and Kavut, 2005; Ibrahim and Angelidis, 2009; Ibrahim, Angelidis, and Tomic, 2009), others revealed no significant difference (Schmidt and Madison, 2008; Das, 2005; Deshpande, 1997). Adkins and Radtke (2004) stated that females and older subjects, as compared to males and younger subjects respectively, deem ethics to be more important in accounting education.

Deshpande (1997) examined the impact of gender, age, and level of education on the perception of seventeen unethical business practices by managers of a large non-profit organization. The researcher found no significant difference in terms of gender and education level except one practice. Older subjects, however, are more ethical than younger ones in terms of five practices.

Ibrahim and Angelidis (2009) found that the females' scores were higher for ethics and interpersonal skills and lower for conceptual aptitude, strategic thinking, and leadership abilities, compared to males.

Radtke (2000) surveyed practicing accountants and found significant differences between females and males in terms of five of the sixteen ethically sensitive situations.

Borkowski and Ugras (1992) found that freshmen and juniors are more justice-oriented than MBA graduates; females express more definite ethical positions than males when assessing specific ethical behaviors; and prior ethics experience via coursework or employment did not significantly affect ethical attitudes.

The survey conducted by Schmidt and Madison (2008) on chairs of accountancy programs revealed that there are no gender-based differences in the perceived importance of ethics and communication skills (speaking, writing, listening, interpersonal communication, and technological communication); both male and female chairs believe these skills to be important. However, the same study indicated that female chairs spend significantly more actual class time on ethics than male chairs.

Persons (2009) found that female gender, accounting major, full-time work experience and the number of workplace ethics trainings have a positive influence on students' ethicality.

### 3. Scope and Methodology

In line with earlier studies, data was collected by a questionnaire form. Although traditionally questionnaires were conducted through mail, online questionnaires are increasingly being popular and utilized as a result of recent developments. Online questionnaires have some advantages over traditional ones such as being less costly, and faster. It is also more reliable than the traditional questionnaire survey since the probability of making mistakes when carrying data from the questionnaire form to Microsoft Excel or any other program is higher. However, in online questionnaire surveys, making such mistakes is almost impossible due to automatic transfer of data from online questionnaire form to Microsoft Excel or other programs. Hence, we preferred online questionnaire method.

Although some studies have investigated the skills and knowledge required for accounting profession in general, there is also a need to make investigations for specific accounting professions, such as financial accounting, management accounting, forensic accounting, tax accounting, auditing and so on. Even though some courses are compulsory for all accounting students commonly, specific accounting professions require courses peculiar to that area. Hence, this study particularly investigates the skills and knowledge required for the auditing profession from external auditors' perspectives. For this purpose, we prepared an online questionnaire and sent it to the external auditors in Turkey. A total of 39 auditors replied to the survey. The survey mainly contains three sections: "section one" includes five demographic questions; "section two" covers skills/attributes (twenty one items); and "section three" consists of the courses (twenty four items) that are likely to be taught in accounting departments. Question in the second section which covers twenty one skills/attributes were prepared based on the previous studies (Usoff and Feldmann, 1998; Lange et al., 2006; Digabriele, 2008; Kavanagh and Drennan, 2008; Morgan, 1997; Lee and Blaszczynski, 1999; Zaid and Abraham, 1994; Weil et al., 2001). The twenty four courses used in the third section were chosen from the curricula of various universities in Turkey. Hence, the three sections of the questionnaire were structured to answer the following research questions:

*RQ1: What skills do external auditors expect from accounting graduates who are interested in the auditing profession?*

*RQ2: What professional knowledge do external auditors expect from accounting graduates who are interested in the auditing profession?*

*RQ3: Are there significant differences among various subgroups (e.g. gender, auditing firm, job title, education level, experience) of the respondents in terms of perceived importance of skills?*

## 4. Results

### 4.1. Descriptive Statistics

In the first section of the questionnaire, we questioned demographic properties of the respondents. The aim of asking demographic questions is to enable investigation of whether or not there are significant differences among respondents' views in relation to demographic factors. In the first section of the questionnaire, five demographic questions were asked to determine respondents' gender, job title,

auditing firm (Big-4 or non-Big-4), education, and experience. The answers given to this section's questions indicated that 30 respondents are male and 9 are female. Additionally, 12 respondents work in Big-4 auditing firms (i.e. KPMG, PricewaterhouseCoopers (PwC), Deloitte Touche Tohmatsu, and Ernst & Young), and 27 work in Non-Big-4 auditing firms. In Turkey, the "Big Four auditors" are local affiliates of the Big Four international firms (Wikipedia, 2010);

- Güney Bagimsiz Denetim ve S.M.M. A.S. - member of Ernst & Young,
- Akis Bagimsiz Denetim ve S.M.M. A.S. - affiliate of KPMG,
- Basaran Nas Bagimsiz Denetim ve S.M.M. A.S. - affiliate of PricewaterhouseCoopers
- DRT Bagimsiz Denetim ve S.M.M. A.S. - affiliate of Deloitte Touche Tohmatsu

Other demographic properties are in relation to "Title of the Auditor", "Education of the Respondent", and "Experience". The detailed statistics for all demographic properties are given in Table 1.

#### 4.2. Skills

Today, business world does not require just professional knowledge from graduates, but some skills as well. This is so in auditing profession as in other professions. Hence there are two dimensions that were investigated in the survey: skills and professional knowledge dimension. The first dimension was "Skills" dimension. In this dimension, based on the literature review, we determined twenty one skills that accounting graduates should possess. The respondents were required to rate the importance of these skills based on a Likert Scale ranging from 1 to 5 (i.e. 1=not important and 5= extremely important). The purpose of this section was to determine the most important skills and professional knowledge that graduates should have from external auditors' perspectives so that graduates will be well prepared.

Table 2 presents the relative importance of skills in descending order. As it is seen in the table, means of all skills are above or equal to 4.00 except the mean of "knowledge of accounting software packages" (mean=2.72). This means that all skills, except "knowledge of accounting software packages", are perceived to be important or very important by external auditors. Secondly, the relative importance of skills also tells graduates some important points about the auditing profession. For example, "work ethics" (mean=4.85), "teamwork" (mean=4.85), and "ethical awareness" (mean=4.79) are perceived as the most important skills for auditing profession. The means of items show how important ethics is for auditing profession. If an auditor lacks ethical awareness, he/she plays an important role in financial scandals. Even, financial scandals may end the life of the auditing firm along with the life of the business as well. Furthermore, "honesty", "continuous learning" are among the skills which have high means (4.72).

**Table 1. Descriptive statistics**

	<i>Frequency</i>	<i>Percentage</i>
<i>Gender</i>		
Male	30	76.9
Female	9	23.1
Total	39	100.0
<i>Auditing firm</i>		
Big-4	12	30.8
Non-Big-4	27	69.2
Total	39	100.0
<i>Job Title</i>		
Lead Auditor	4	10.3
Auditor	16	41.0
Assistant Auditor	6	15.4
Senior Auditor	5	12.8
Associate Auditor	8	20.5
Total	39	100.0
<i>Education Level</i>		
Faculty Graduate	34	87.2
Master Degree Graduate	5	12.8
Total	39	100.0
<i>Experience</i>		
1-5 year	16	41.0
6-10 year	11	28.2
11-15 year	6	15.4
16-20 year	1	2.6
> 20 years	5	12.8
Total	39	100.0

**Table 2. Means of skills**

	N	Min.	Max.	Mean	Std. Dev.
Work ethics	39	3	5	4.85	0.432
Teamwork	39	3	5	4.85	0.432
Ethical awareness	39	3	5	4.79	0.469
Honesty	39	2	5	4.72	0.647
Continuous learning	39	2	5	4.72	0.605
Analytical thinking	39	2	5	4.69	0.614
Interpersonal communication skills	39	3	5	4.69	0.521
Time management	39	4	5	4.67	0.478
Problem solving abilities	39	3	5	4.67	0.530
Comprehension of responsibilities	39	3	5	4.64	0.584
Oral communication skills	39	3	5	4.62	0.590
Critical thinking	39	3	5	4.59	0.549
Stress management	39	3	5	4.56	0.552
Written communication skills	39	3	5	4.51	0.556
Decision-making	39	3	5	4.41	0.637
Report writing	39	2	5	4.36	0.743
Self-motivation	39	3	5	4.31	0.655
Flexibility	39	1	5	4.26	0.850
Loyalty to the institution	39	1	5	4.15	0.875
Presentation skills	39	2	5	4.00	0.725
Mastering accounting software	39	1	5	2.72	1.255

### 4.3. Professional Knowledge

In the second dimension (i.e. professional knowledge dimension) of the investigation, we provided a list of courses, which are taught in Business Departments and Accounting Departments of the Vocational Schools and Faculties of Economics and Administrative Sciences. The respondents were required to rate the necessity of these courses for auditing profession based on a Likert Scale ranging from 1 to 5 where 1=not necessary and 5=extremely necessary.

Table 3 demonstrates means of twenty four professional knowledge items. The respondents evaluated the necessity of these courses for the auditing profession. The results show that "Auditing" course has the highest mean (4.85) as could be expectedly. Surprisingly, "Microsoft Office Programs" has the second highest mean surpassing other accounting courses. This means that graduates should learn to utilize Microsoft Office Programs, such as Word, Excel, and Power Point, very well since auditors are likely to prepare documents and reports on the Microsoft Word, present these reports by using Microsoft Power Point, and work with some tables on the Microsoft Excel. In addition, other courses which have means above 4.00 are common courses taught in most of the Business Administration and Accounting Departments of various universities. These courses are "Accounting and Financial

Reporting Standards”, “Financial Statement Analysis”, “Financial Accounting”, “Capital Market Board Regulations”, “Cost Accounting”, and “Managerial Accounting”. Therefore, graduates have to take these courses during their undergraduate years, and are expected to familiar with the contents of these courses at graduation. Attention must also be paid to the courses which have the lowest means. According to the external auditors, these items are not perceived to be important for the auditing profession. Actually, these courses are not commonly taught courses; they are related to contain specific sectors; and cover accounting practices in relation to those sectors. These courses are “Computerized Accounting”, “Construction Accounting”, “Bank Accounting”, “Foreign Trade Operations Accounting”, “Inflation Accounting”, “Insurance Accounting”, “Hospitality Accounting”, and “Public Sector Accounting”.

**Table 3. Means of professional knowledge items**

	N	Min.	Max.	Mean	Std. Dev.
Auditing	39	4	5	4.85	0.366
Microsoft Office Programs (Word, Excel, ...)	39	3	5	4.77	0.485
Accounting and Financial Reporting Standards	39	3	5	4.74	0.549
Financial Statement Analysis	39	3	5	4.59	0.637
Financial Accounting	39	3	5	4.46	0.555
Capital Market Board Regulations	39	2	5	4.41	0.850
Cost Accounting	39	3	5	4.41	0.677
Managerial Accounting	39	2	5	4.00	0.889
Ethics of Accounting Profession	39	1	5	3.90	1.142
Corporate Accounting	39	1	5	3.90	1.021
Tax Regulations	39	1	5	3.85	1.065
Finance	39	1	5	3.69	0.893
Business Law	39	1	5	3.59	1.117
Accounting Information System	39	1	5	3.56	0.968
Business Mathematics	39	1	5	3.44	1.142
Statistics and Quantitative Methods	39	1	5	3.31	1.195
Computerized Accounting	39	1	5	3.21	1.105
Construction Accounting	39	1	5	3.18	1.097
Bank Accounting	39	1	5	3.15	1.136
Foreign Trade Operations Accounting	39	1	5	3.15	1.089
Inflation Accounting	39	1	5	3.10	1.252
Insurance Accounting	39	1	5	2.92	1.036
Hospitality Accounting	39	1	5	2.90	0.995
Public Sector Accounting	39	1	5	2.85	1.040

#### **4.4. Cross Investigations**

Several studies have investigated the existence of significant differences among subgroups (Langer et al., 2006; Digabriele, 2008) previously. Hence, in addition to the basic analyses given in the previous sub-sections, some cross-investigations have been conducted to investigate whether there are significant differences among subgroups in terms of the perceived importance of the skills. In this study, subgroups were defined according to gender, auditing firm, education level of the respondents, experience, and title of auditors.

##### **4.4.1. Gender**

The t-test results indicated that there are significant differences between male auditors (30 respondents) and female auditors (9 respondents) with respect to the following skills (Table 4):

- Oral communication skills (significant at 0.05 level)
- Work ethics (significant at 0.05 level)
- Interpersonal communication skills (significant at 0.01 level)
- Ethical awareness (significant at 0.01 level)
- Teamwork (significant at 0.05 level)
- Comprehension of responsibilities (significant at 0.001 level)
- Flexibility (significant at 0.05 level)
- Honesty (significant at 0.01 level)

The means of all above-listed skills are higher for females than for males. Hence, these skills are perceived to be significantly more important by females than by males.

##### **4.4.2. Auditing Firm**

The respondents were classified according to the auditing firm by which they are employed. For this purpose, the firms were classified as Big-4 (12 auditors) and non-Big-4 (27 auditors). The results of the t-test demonstrated that Big-4 auditors perceive the following skills to be more important compared to non-Big-4 auditors (Table 4):

- Interpersonal communication skills (significant at 0.05 level)
- Teamwork (significant at 0.05 level)

In addition, "report writing" is perceived by Big-4 auditors to be less important compared to non-Big-4 auditors.

##### **4.4.3. Education**

The respondents were classified according to their education as those with BA and MBA/MA degrees. Although the number of master degree graduates is very few (5 respondents), the t-test results demonstrated some significant differences among subgroups. The means of the following items are higher for master degree holders than for those with BAs (Table 4):

- Interpersonal communication skills (significant at 0.01 level)
- Problem solving abilities (significant at 0.001 level)
- Analytical thinking (significant at 0.01 level)
- Ethical awareness (significant at 0.01 level)
- Time management (significant at 0.001 level)
- Stress management (significant at 0.001 level)
- Decision-making (significant at 0.001 level)
- Continuous learning (significant at 0.01 level)

#### **4.4.4. Experience**

The subgroup analysis has also been conducted in terms of experience of the respondents in the auditing profession. 10-year experience in auditing profession was used as a cutoff point. According to the results of the t-test, more experienced auditors perceive the following skills to be significantly more important than those with less experienced (Table 4):

- Knowledge of accounting software (significant at 0.01 level)
- Oral communication skills (significant at 0.05 level)
- Honesty (significant at 0.01 level)
- Loyalty to the institution (significant at 0.05 level)

#### **4.4.5. Title of Auditors**

Furthermore, respondents were categorized according to job titles, such as assistant auditor, auditor, senior auditor, lead auditor, and associate auditor. In order to investigate the existence of significant differences among these auditor types, the One-Way ANOVA test was conducted. This test indicated that there are significant differences among auditor types in the following skills (Table 5): knowledge of accounting software (significant at 0.01 level), self-motivation (significant at 0.01 level), and loyalty to the institution (significant at 0.05 level). Along with ANOVA test, Duncan's post hoc test was conducted to determine homogeneous subsets (Table 6). The first skill for which subset was obtained is "knowledge of accounting software". According to the results, associate auditors perceive "knowledge of accounting software" significantly more important compared to other subgroups of auditors. Other skills for which subsets were obtained are "self-motivation" and "loyalty to the institution".

Table 4. Comparison of skills' means of subgroups by independent samples t-test

Skills	Auditing firm		Gender		Education level		Experience	
	Big-4 (N=12)	Non-Big-4 (N=27)	Male (N=30)	Female (N=9)	Faculty (N=34)	Master D. (N=5)	<=10 years	>10 years
Knowledge of accounting software	2.50	2.81	2.73	2.67	2.68	3.00	2.30	3.67
Oral communication skills	4.75	4.56	4.53	4.89	4.62	4.60	4.56	4.75
Written communication skills	4.58	4.48	4.50	4.56	4.50	4.60	4.44	4.67
Work ethics	4.75	4.89	4.80	5.00	4.82	5.00	4.78	5.00
Interpersonal communication skills	4.92	4.59	4.60	5.00	4.65	5.00	4.70	4.67
Problem solving abilities	4.67	4.67	4.67	4.67	4.62	5.00	4.70	4.58
Critical thinking	4.67	4.56	4.57	4.67	4.56	4.80	4.63	4.50
Analytical thinking	4.58	4.74	4.67	4.78	4.65	5.00	4.67	4.75
Ethical awareness	4.67	4.85	4.73	5.00	4.76	5.00	4.74	4.92
Teamwork	5.00	4.78	4.80	5.00	4.85	4.80	4.89	4.75
Presenting skills	3.83	4.07	4.07	3.78	3.94	4.40	3.89	4.25
Time management	4.58	4.70	4.60	4.89	4.62	5.00	4.67	4.67
Stress management	4.67	4.52	4.50	4.78	4.50	5.00	4.63	4.42
Self-motivation	4.17	4.37	4.27	4.44	4.26	4.60	4.26	4.42
Decision-making	4.33	4.44	4.37	4.56	4.32	5.00	4.52	4.17
Continuous learning	4.42	4.85	4.73	4.67	4.68	5.00	4.63	4.92
Report writing	3.92	4.56	4.33	4.44	4.32	4.60	4.41	4.25
Comprehension of responsibilities	4.75	4.59	4.53	5.00	4.62	4.80	4.63	4.67
Flexibility	4.50	4.15	4.10	4.78	4.21	4.60	4.30	4.17
Honesty	4.58	4.78	4.63	5.00	4.74	4.60	4.59	5.00
Loyalty to the institution	3.83	4.30	4.13	4.22	4.15	4.20	3.93	4.67

\*Significant at 0.05 level; \*\*Significant at 0.01 level; \*\*\*Significant at 0.001 level.

**Table 5: One-way ANOVA results for auditors' titles**

Skills	Assistant Auditor (N=6)	Auditor (N=16)	Senior Auditor (N=5)	Lead Auditor (N=4)	Associate Auditor (N=8)	F
	Mean	Mean	Mean	Mean	Mean	
Knowledge of accounting software	2.33	2.19	2.40	2.75	4.25	5.955**
Oral communication skills	4.83	4.44	4.60	5.00	4.63	0.994
Written communication skills	4.50	4.38	4.60	4.75	4.63	0.513
Work ethics	5.00	4.69	4.80	5.00	5.00	1.144
Interpersonal communication skills	4.83	4.63	4.80	4.75	4.63	0.254
Problem solving abilities	4.50	4.75	4.60	4.50	4.75	0.389
Critical thinking	4.83	4.50	4.40	4.75	4.63	0.620
Analytical thinking	4.83	4.50	4.80	4.75	4.88	0.673
Ethical awareness	5.00	4.63	4.80	5.00	4.88	1.069
Teamwork	5.00	4.81	4.80	4.50	5.00	1.144
Presenting skills	3.50	4.00	4.00	3.75	4.50	1.962
Time management	5.00	4.56	4.40	4.75	4.75	1.472
Stress management	4.50	4.63	4.60	4.25	4.63	0.395
Self-motivation	4.67	4.25	3.60	4.00	4.75	4.063**
Decision-making	4.33	4.56	4.20	4.00	4.50	0.825
Continuous learning	4.83	4.50	4.80	4.75	5.00	1.039
Report writing	4.67	4.31	4.20	4.25	4.38	0.328
Comprehension of responsibilities	4.67	4.69	4.20	4.75	4.75	0.829
Flexibility	4.50	4.19	4.40	3.75	4.38	0.552
Honesty	5.00	4.38	4.80	5.00	5.00	2.267
Loyalty to the institution	4.33	3.69	4.40	4.00	4.88	3.356*

\*Significant at 0.05 level; \*\*Significant at 0.01 level

**Table 6: Homogeneous subsets**

Knowledge of accounting software	1. Assistant Auditor, Auditor, Senior Auditor, Lead Auditor, 2. Associate Auditor
Self-motivation	1. Auditor, Senior Auditor, Lead Auditor 2. Assistant Auditor, Auditor, Lead Auditor 3. Assistant Auditor, Auditor, Associate Auditor
Loyalty to the institution	1. Assistant Auditor, Auditor, Senior Auditor, Lead Auditor, 2. Assistant Auditor, Senior Auditor, Lead Auditor, Associate Auditor

## 5. Conclusion

The present study presents the results of a questionnaire survey conducted on external auditors to learn their perceptions about skills and professional knowledge that an accounting graduate should possess for the auditing profession. Hence, the study aims at providing guidance for students to equip themselves better for their future auditing profession.

The research has two dimensions: skills dimension (twenty one items) and professional knowledge dimension (twenty four items). The results indicated that all skills except “knowledge of accounting software” are perceived as important or very important for the auditing profession. Of course, the relative importance of these items is also important although twenty of them are perceived to be important or very important. For example, among the most important items are ethics, teamwork, and honesty. Along with these vital attributes of an auditing professional, continuous learning, communication skills, analytical and critical thinking, stress and time management, self-motivation, and flexibility are some of the other important attributes.

The results demonstrated that some courses are perceived critical such as “Auditing”, “Microsoft Office Programs”, “Accounting and Financial Reporting Standards”, “Financial Statement Analysis”, “Financial Accounting”, “Capital Market Board Regulations”, “Cost Accounting”, and “Managerial Accounting”. According to the external auditors, some items are not perceived as important for the auditing profession such as “Computerized Accounting”, “Construction Accounting”, “Bank Accounting”, “Foreign Trade Operations Accounting”, “Inflation Accounting”, “Insurance Accounting”, “Hospitality Accounting”, and “Public Sector Accounting”. Actually, these courses are not commonly taught courses, and are related to some specific sectors. These courses are offered as optional rather than compulsory.

Moreover, cross investigations indicated that there are significant differences among respondents. For instance, auditing firm size has significant impact on the perceptions of respondents. Big-4 auditors perceive “interpersonal communication skills” and “teamwork” significantly more important than non-Big-4 auditors. This can be explained by the fact that those Big-4 auditors are likely to have more staff and more customers, and they are engaged in more teamwork. Hence, they tend to communicate more and to work in teams. This increases the importance of communication and teamwork related skills. Surprisingly, “report writing” is perceived by Big-4 auditors to be less important than non-Big-4 auditors. This may be due to “report writing” being a formal and structured process compared to the other skills.

Another cross analyses showed that gender plays important role in the perceptions of the respondents. The results proved that female auditors perceive certain skills to be significantly more important than their male counterparts; these skills comprise communication skills, ethical awareness, teamwork, comprehension of responsibilities, flexibility, and honesty.

Education level also has positive significant impact on the perceptions of auditors. Those with masters’ degree place higher importance on some skills compared to those with BAs.

Experience as measured by years in the profession, also plays a significant role in the perceptions of skills such as “knowledge of accounting software”, “oral communication skills”, “honesty”, and “loyalty to the institution”. Job title of the respondents also has significant impact on the perceptions of skills such as “knowledge of accounting software”, “self-motivation”, “honesty”, and “loyalty to the institution”.

The findings of the paper have important implications for accounting students. They need to prepare themselves for the demands of the business world. Since curriculum development is not in the power of students, there is little they can do. However, when choosing elective courses, they may take research findings into consideration. On the other hand, they can do more in skill development. They may engage in extra-curricular activities, participate in team work, practice time and stress management, and improve both oral and written communication skills.

There are implications for educators and academicians who work in other accounting and non-accounting business disciplines. Certain courses should be mandatory for all students during the education. Sector-specific accounting courses may be taught electively. In order to determine the needs of employers and marketplace, and equip graduates better, they may conduct similar research studies by customizing the survey of the study. For example, as technology developed, production processes are getting modernized and more machine-intensive and less labor-intensive. This is more likely to change the cost structure of the company, and the ways and methods used in cost determination of the products. Hence, students need to be aware and prepared for such changing production environments. Similarly, standard-setters publish new accounting and reporting standards or revise existing ones frequently. Graduates who desire to work financial accounting area should be knowledgeable about these developments. Doing so will enable graduates find easier job, get adapted to the job faster. Determining the employment needs of business world and customizing curriculum considering their needs will make them more satisfied and align two parties. Otherwise, complaints of business world about graduates will soar increasingly. This will cause enlargement of the gap between universities and marketplace.

For future research, a more comprehensive survey could be conducted on practitioners, educators, and students to investigate the possible perception differences.

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