

## Employers' perceived competency gaps for entrants in accounting

BARBARA KARDOS<sup>1</sup> – KATALIN BALÁZSINÉ FARKAS<sup>2</sup>

### Abstract

In the field of accounting education the need for change has existed for a long time. The aim of our research is to map competencies of accounting professionals in order to explore missing competencies and thereby improve the content and methodology of accounting training in Hungary. Our empirical research is based on an international comparative research carried out in the United States and Hong Kong. In the case of entry-level chartered accountants, accounting professionals found the following competencies to be missing: foreign language communication, management, management advisory services, and tax research. Education has to focus more on these missing competencies.

**Keywords:** competency, accounting, education.

**JEL codes:** A22, A23, M40, M54.

### Introduction

The need for change is not new in the field of accounting education. The topic emerged more than fifty years ago (Gordon–Howell 1959). However, there was no consensus concerning the content of the change and there remains none at the beginning of the 21<sup>st</sup> century (Bolt–Lee–Foster 2003). In many countries, including Hungary, it has been claimed that, due to the construction of a market economy combined with the effects of globalization and information technology development, there is a need for highly qualified financial and accounting professionals. The question is whether today's accounting education can satisfy these requirements (Sztanó 2008). According to Sztanó's more recent findings (2015) there is basically no quantitative deficit in the field of accounting training nowadays.

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<sup>1</sup> PhD, professor, Budapest Business School, e-mail: kardos.barbara@uni-bge.hu.

<sup>2</sup> Instructor, Budapest Business School, e-mail: balazsinefarkas.katalin@uni-bge.hu.

However, it cannot be stated clearly that accounting education is in compliance with all the high quality requirements of the financial and accounting profession. Because of environmental changes, the content of the accounting activity as a service has expanded and changed, and this should be seen in the changing content of education (Bélyácz 2008). The supportive, information-providing role of an accounting specialist has been transformed into a managing partner/decision-maker role (becoming a part of the management). According to Brewer et al. (2014) today's accountants are integrated thinkers, who are able to take part in the decision-making process and create strategies. However, accounting education did not follow this change, education is not currently focusing on an integrated competency-based training. The results of an Australian research show in an examination of job adverts for accounting professionals over a four-year period (2006–2009) that employers placed the emphasis more on soft skills than professional ones. According to Dunbar et al. (2016), although personal and social competencies are included in the curriculum, current curricula only meet the needs of employers regarding professional requirements. The employers' need for soft skills should be emphasized to a greater extent in future curricula and education.

The same conclusion was reached by the Australian researchers Kavanagh and Drennan (2008) while examining the students' ideas and employers' expectations. They found that education is not focused on personal and social competencies. Furthermore, the biggest gap between education and employers' expectations was depicted by self-motivation, professional attitude, verbal communication and continuous learning abilities. Professional accounting knowledge was not found to have a gap, but research skills were considered deficient by employers.

According to Vas (2009) “vocational training and training in higher education institutes can be successful and effective, if it continuously follows, examines and pays attention to expectations of the labour market and converts them to the language of education”. Studies evaluating the performance of the Hungarian education system (Csermely 2009; Csehné 2012; Tóthné-Hlédik 2014) indicate that it can

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only partially adapt to the labour market requirements. According to Klein (2012) the education system would be required to promote independent thinking, responsible behaviour, efficient work and decision-making ability for important situations in everyday life. If during training we already emphasize the development of those skills required by employers and entrants after graduating and being qualified, then they could start their career with better chances of employment and the potential for greater success at work.

However, as a first step, the competencies required by employers have to be collected, bearing in mind that they are constantly evolving in response to environmental changes. A part of the expected competencies involves those that employees learn during their training, and the others are learnt after starting work, in practice (Szabóné 2006). It could be important for employers to know what kind of competencies entrants have when entering the labour market, as employers could count on these competencies already at the beginning of professional employment in accounting.

The aim of our research is to map competencies of accounting professionals in order to explore missing competencies and thereby improve the content and methodology of accounting training in Hungary. This study will also be of interest to companies employing professionals by informing them about the general picture of entrants, based upon which specialised training courses could be organised.

## **Literature review, theoretical framework**

### ***The concept of competency***

Requirements defined by employers form the basis of the competency evaluation for entrants. Real suitability is guaranteed by those behaviours, qualities, skills, abilities and personality traits, which can distinguish excellent performance from average, and can be improved on the long-run with training. These are called collective competencies (Bíró et al. 2007).

Competency is defined as a personality characteristic of excellent performers and a quality of a person that is necessary for effective

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performance in a role or in a job (Klemp–McClelland 1986). Any personal feature could be considered a competency that is measurable or reliably assessable, and significantly distinguishes between workers with effective performance and ineffective performance (Spencer–Spencer 1993). Competencies are basic skills and abilities which are necessary for high quality work (Furnham 1990, cited by Armstrong 1999) and behavioural dimensions that influence work performance (Woodruffe 1993).

Definitions stress on the word competency in connection to the behaviours and attitudes of employees during work and their effect on performance (Karoliny–Poór 2010). In Hungarian the words 'competency' and 'competence' are often used synonymously. Competency is an expression connected to a person, which relates to behavioural dimensions and supports outstanding performance, while competence is connected to a profession/work and relates to those work activities, which can be performed by a person (Bíró et al. 2007).

Most of the competency lists used by organizations contain either person-based, behavioural competencies or professional competences, connected to work or a profession. Generally, both features are uniformly called competencies. Competencies are indicated in the content of the Core Competencies required for entrant accounting professionals and defined by the American Institute of Certified Public Accountants (AICPA), where functional competencies mean technical (professional) competencies (Bolt-Lee–Foster 2003).

### ***Research results regarding the competencies of entrant accounting professionals***

In this section we will present the research results regarding the (existing or missing) competencies required by the labour market from entrant accounting professionals.

Many studies from the USA are focused on the employer's expectations from accounting entrants. According to Richards (1992), the largest factor in promotion is technical knowledge. Professional knowledge can help build a career. However, in the event that someone becomes a partner instead of a manager, the importance of technical

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knowledge falls to the third or fourth place (e.g. the communication competency overtakes it).

Public accountancy in American universities is focused on memorizing technical (professional) information and not on broader business knowledge or analytical abilities. Communication is seen as an important and missing competency which previously had not been a part of the accounting education, but should be introduced as part of a new curriculum (Stowers–White 1999; Myers 2005).

In their study, Bolt-Lee and Foster (2003) summarized the requirements for the American accounting professionals. As a starting point, the authors considered the required competencies (Core Competencies) of accounting entrants as defined by the American Association of Accounting Professionals (Appendix 1). The report by the Bedford Committee of the American Accounting Association (AAA), as presented by Bolt-Lee and Foster (2003), underlines that future professional accountants require skills for lifelong learning, critical thinking, interpersonal skills and knowledge of the Accounting Information Systems. The Big Eight accounting and audit firms also dealt with this topic and produced The Big 8 White Paper (AAA 1989), which discussed the ability to succeed in the accounting profession and the professional expectations of accounting graduates. Besides accounting and auditing skills, less traditional features like communication, intellectual and interpersonal skills, as well as general business, historical, political and ethical knowledge, were also mentioned.

The results of the research conducted by Kennedy and Dull (2008) showed that companies in the USA require accounting employees with good interpersonal skills (cooperation, team spirit, flexibility, adaptation skill, motivating others) and an ability to work in a collaborative environment. Thus, it became increasingly clear for teachers engaged in accounting education that students' cooperation skills must be developed during education in order to succeed in business.

Brewer et al. (2014) report competency crises related to accounting personnel training. They claim there is a gap between those

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competencies which are necessary to succeed in the profession and those competencies for which development is provided during education.

Accounting professionals must constantly train themselves and future generations of accounting professionals in order to uniformly increase the number of required competencies, which are demanded by today's dynamically changing organizational environment. According to Brewer et al. (2014) there is a need for integrated thinkers, who are able to take part in decision-making and strategy development and go beyond only having accounting knowledge. The joint working group of the AAA and the Institute of Management Accounting (IMA) in 2010 worked out curriculum recommendations for accounting education. The working group's first report included an integrated competency-based framework according to which accounting education should focus on long term career expectations; the values of accounting should be widened, should contain creating strategy, analysis, planning and implementation (corporate performance management), i.e. accounting competencies should be taught using an integrated educational pedagogy.

Siegel and Sorensen (1994) published the result of a research project that measured the required skills of entrants in the field within American companies. The survey mentioned 15 Accounting Knowledge and Skills Areas (AKSA) selected from the taught university courses and primary topics found in professional exams. Using the results of their survey, they set up the hierarchy of the most important AKSAs for the profession – areas which are not handled by the accounting programs. The study found a gap between company requirements and the knowledge and skills of the accountant graduates. For example, the results highlighted a lack of knowledge in planning, product pricing and cost calculation, and an excess of focus on individual income tax, governmental and nonprofit accounting.

The Accounting Education Change Commission (AECC) was founded by the AAA and existed between 1989 and 1996. The AECC emphasized the role of professors and instructors in this change. In the

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Committee's ability profile, there were eight skills and fields of knowledge presented which prepare the students to become professional accountants, but, nevertheless, are not making them professionals when starting a job (Bolt-Lee–Foster 2003).

In their study, Simmons and Williams (1996) reported on how the state and industry experts evaluate the professionals' performance and which of their skills are considered important. They summarize that entrants in the accounting field lack the appropriate knowledge to understand new technologies, are under-qualified in communication skills, business ethics, business globalization and lack a qualification for business decisions and multi-pronged approaches. Students are under-qualified in the following areas: written communication skills; oral communication skills (language communication), knowledge of accounting programs (using accounting softwares), general tax knowledge, the ability to answer the specific tax issues knowledge of the business environment, management and management consultancy skills (decision-making, management consulting services) and IT skills (computer skills). The priority of the gaps here being: 1. communication skills (oral, written); 2. management consulting services; and 3. knowledge of accounting programs.

Using the research results of Simmons and Williams (1996), Chen (2013) examined the differences between the accounting professionals' competencies and competency expectations in America and Hong Kong.

Chen used a three-way approach in the Hong Kong survey: he asked about entrants and curriculum the Big-4 consulting firms, nine universities in Hong Kong and professionals at the Hong Kong Association of Accounting Professionals. He prepared a short Likert-scale questionnaire regarding the nine fields required for entrants in accountancy determined by Simmons and Williams (1996). Overall, Chen (2013) identified very similar expectations of entrants and similar gaps to the US studies. In both countries, all of the nine examined competencies were diagnosed to be necessary but missing amongst entrants in accounting. The three most important expectations – and

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also deficiencies – were identified in oral and written communication and management consultancy skills (decision-making).

### **Research hypothesis**

Firstly, we wanted to find out whether there was any difference in the assessment of competencies for accounting professionals with different educational levels from Hungary. The accounting professional training of different (secondary, tertiary) levels in Hungary have almost the same professional content, but the curriculum content to be acquired in depth is significantly different. This is also shown by the differences in entry requirements related to the various levels of accounting training, in length of training and the different expectations outlined in output requirements. Our hypothesis stipulates that young (tertiary level) graduate accounting professionals have more complex knowledge than entrant accountants with lower (secondary level) qualifications and entrants who have finished administrator-level training have the least competencies. In higher education, there are more opportunities to improve the necessary skills; universities are better at preparing accounting professionals to meet the expectations of the labour market. According to this, we formulated our first hypothesis as follows:

*H1: The more qualified the entrants are, the less they lack the relevant skills.*

The respondents from our sample were – according to their professional qualification – administrators (the lowest level of qualification), accountants, tax advisors and auditors (the highest level of qualification). They work in different fields of the economy and have to meet different expectations as accounting professionals. Based on our assumption, professionals with a tax consultancy qualification work at medium-sized or big companies, and expect more complex and in-depth knowledge from entrant accounting professionals. Accountants typically work at small enterprises, doing less complex accounting activities, therefore, we assume the competency expectations of entrants to be different. Our second hypothesis comes from the above assumption:

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*H2: The respondents with various qualifications have different opinions regarding missing competencies.*

The accounting expert training, like other specialist trainings in the field of economics, has changed continuously over the past 20 years due to environmental, technological and economic changes, as it has been adapted to the labour market needs. We assume that the opinions of the respondents are influenced by the length of their work experience. Also, the time when the respondent finished his/her education influenced the assessment of required and missing competencies related to entrants to the accounting profession. According to this, we formulated our third hypothesis:

*H3: The opinions of respondents with differing length of working experience differ with respect to the missing competencies.*

### **Research methodology**

Nowadays, due to business globalization, entrants in the field of accounting do not necessarily work in their home country. Therefore, collecting the employers' expectations from different geographical areas can help vocational training institutions to prepare a curriculum which supports entrants' professional careers regardless of where they wish to begin working (Chen 2013). The study involving a comparative analysis of different market participants and cultural environments in the USA and Hong Kong (Chen 2013) presented in our literature review seems to be an appropriate basis for conducting a similar empirical research in Hungary.

The competency list used in our research contains 16 competencies and was prepared based on the results of the Hong Kong and American empirical research examining nine competencies (see Table 1, competencies 1-9), expanded with seven other (Table 1, competencies 10-16). Our reasoning behind this expansion is as follows: we wanted to know to what extent entrants to accountancy have the professional competencies discussed (accounting knowledge, analytical thinking), to what extent their education prepares them for such technical skills and how satisfied employers are with the quality of accounting

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education. Provided that foreign language knowledge remains a missing skill amongst a significant proportion of the Hungarian population (according to Eurostat (2011) 63.2% of the Hungarian population does not speak any foreign language), we wanted to determine whether this was a missing competency among entrants to the accounting field as well, and thus required development. We think the effects of globalization and the expansion of the accounting services' content has caused the profession to require language skills for workers in the accounting field as well. The question is whether foreign language knowledge is a competency that is equally necessary on all three levels of accounting training.

We think that a lifelong learning skill is a particularly important competency for workers in the accounting field, considering the ever-changing regulatory environment of the accounting profession, technological changes and the expansion of services.

Ethical behaviour skills were given greater emphasis after the domestic and foreign broker scandals. Among the causes for thousands of companies failing is that of accounting irregularities – intentional inaccuracies – such as distorted reports, false profit statements, revenue tampering, hiding corporate debt and misleading accounting (called creative accounting).

Accounting gives a picture of the companies' income, property and financial situation. These accounting statements, as per Kane (2004) play a key role in creating and maintaining investor confidence. Creative accounting involves accountants bowing to pressure from management and results in false reporting, a variant of false informing. Such actions may be compliant with the law, but do not respect the rule of law (Szász 2007). According to Trotman (1993) the aim of such practices that are on the verge of legitimacy is the embellishment by the accountant of the corporate financial position with economic and financial information. In Naser's (1993) phrasing this activity refers to taking advantage of gaps in the rules to manipulate information, and structuring transactions in a way to obtain a desired accounting result.

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Szász (2008) says that the global economy, the rapid technical and technological changes all provide unique economic opportunities in the accounting profession, however at the same time from a professional and ethical point of view, accounting practitioners have a huge responsibility towards the general public, as individuals' savings and the value of the retirement plans depend on the value of the company stock.

**Table 1. Competency list used in the empirical research from Hungary**

Competencies examined in the international empirical research		Expanded competencies in the Hungarian research	
1.	Written communication skills	10.	Foreign language communication skills
2.	General tax knowledge		
3.	Oral communication skills (language communication)	11.	Analytical thinking
		12.	Accounting skills
4.	Ability to answer the specific tax issues	13.	Ethical behavior, professional skepticism
5.	Knowledge of the business environment		
6.	Knowledge of accounting programs (using accounting software)	14.	Teamwork, cooperation
		15.	People related skills
7.	Management consultancy skills (decision-making)	16.	Ability for continuous learning
8.	IT skills (computer skills)		
9.	Management skills		

*Source: author's own design based on Chen (2013)*

The research in the USA and Hong Kong focused on entrants to accounting who possessed a high level of qualifications. Therefore, we considered it important to conduct the study separately for all three levels of Hungarian accounting expert education: the financial and accountancy administrators (or NTR training participants), chartered accountants and graduate accounting professionals. People may qualify as accounting administrators at secondary level trainings lasting for two semesters. With this qualification they can fulfil simple tasks under the control of a chief accountant. Another two semesters long training forms chartered accountants, who, after three years of practice may prepare financial statements on their own. The third level of qualification is achievable through higher education.

University or business school students of finance and accounting specializations can become graduate accounting professionals and, based on law, after three years of practice they can become chartered accountants as well.

While smaller companies employ mainly accountants, medium-sized or larger companies require graduate accounting professionals with more complex knowledge. Accounting and finance professionals are employed by enterprises regardless of the company size.

According to our assumption, competency requirements of the labour market for professionals within the three different levels of qualification are not equal in content or priority, and the missing competencies should differ, as well.

The Hungarian labour market is typically dominated by small and medium-sized enterprises (SMEs). According to the Central Statistics Office's data, 99.9% of the enterprises are small and medium-sized and only 0.1% are large undertakings. Accordingly, our research is focused on mapping the SME sector in Hungary. In order to achieve our research goal, we were looking for a platform, which is commonly known and appropriately represents this sector and where an adequate number of responses is likely.

The questionnaire mapping the lack of competencies for entrant accounting professionals was completed by 525 participants (out of 1000), on 25 November 2015, at the Tax Navigator "Tax 2016" Conference. Since the purpose of the operation of Tax Navigator Ltd. is the professional training for accountants working at small and medium-sized enterprises and accounting professionals at accounting firms serving SMEs, the respondents fully represent the SME sector and their responses are considered relevant. Among the respondents there were auditors, tax consultants, chartered accountants and financial-accounting administrators.

The respondents were expected to give an opinion regarding the missing competencies of entrants matching their own education level, but also of entrants with higher and lower education level. The expression of opinion is subjective in all cases; the opinion related to the same educational level could be less self-critical than the opinion

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related to other education levels, so this was under particular scrutiny when processing the data.

The territorial jurisdiction of the respondents was not investigated. Although the conference took place in Budapest, this was a nationwide professional event and many of the participants came from different cities of Hungary. As there are national professional and examination requirements for both professional training and higher education, we did not see any examination of regional differences as justified. In accordance with the above we came to the conclusion that our data is sufficiently representative for carrying out a quantitative analysis.

The first part of the questionnaire contains statistical characteristics of the respondents, and the second part contains an evaluation of the competencies broken down by professional qualification (entrant administrators, accountants and graduate entrant accounting professionals).

Using a five-point Likert scale, the respondents evaluated the relevance and fulfilment of 16 competencies for accounting professionals based on their own point of view. Following the logic applied by Chen (2013) we marked relevant competencies with number one and missing competencies of entrants in accounting with number five (1. has the competency 2. rather has the competency 3. middle level competency 4. rather missing competency 5. completely missing competency). The competencies considered unnecessary were marked separately. We used the SPSS statistical program for processing the received responses.

## **Research data and results**

### ***Demographic profile of the sample***

The first part of the questionnaire contains statistical characteristics of the sample. The breakdown of respondents by jobs shows that 73.23%, of the interviewed professionals were employed as internal accounting staff (chief accountant, accountant) and only 26.77% worked as external accountants (employee and manager of an accounting office). Almost two-thirds of the respondents (65%) are accounting professionals in management positions, regardless of

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whether they work as managers in a business organization or external accountant office.

Regarding the respondents' professional qualification, 8% of all the respondents had the lowest professional accountancy degree (administrator), while 76% had an accountant qualification and 17% had a tax consultancy qualification as well. Only 7% of the respondents worked as auditors.

Based on the results of the cross examination between jobs and professional qualifications, it can be said that 11% of the internal accountants possessed an administrator qualification, 72% had an accountant qualification (4% out of them are tax advisors at the same time), 11% were only tax advisors, and 6% were auditors. Among the respondents working for accounting offices, 26% had an administrator degree, 3% had an auditor degree, and 71% had an accounting degree.

Among managers working for an accounting office or as a self-employed, 10% were trained as auditors, 78% were accountants (out of them 25% were qualified as tax advisors, too), and 2% got administrator qualifications. Considering the internal accounting staff (chief accountants), 89% possessed accountant qualification (out of them 14% were tax advisors, too), 5% were only tax advisors, 6% auditors, and none of them had an administrator degree.

Administrator degrees are connected to subordinate employee positions, while auditor qualifications are connected to chief accountants, accounting office managers, and so-called leader positions.

The composition of the sample according to the respondents' professional experience, shows that the majority of the respondents (77%) has over ten years of work experience. Surprisingly, entrants (having less than three years of work experience) attended the conference at a rate of nearly 10%.

The gender composition of the sample reflects the composition of the Hungarian accounting professionals by gender, as only 10% of the sample was represented by males, leaving an overwhelming proportion of female respondents.

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### ***Competencies considered unnecessary for accounting professionals***

We examined whether the competencies considered necessary in the international research, are also considered necessary in Hungary. Generally, it can be said that the identified 16 competencies were considered necessary by 93% of the respondents. Different competencies were considered unnecessary for entrant professionals with different qualifications. The respondents' opinions about the scope of unnecessary competencies by qualification level are summarized in Table 2.

**Table 2. Hierarchy of unnecessary competencies by qualification level**

Administrator		Accountant		Graduate	
Management consultancy skills (decision making)	7%	Management consultancy skills (decision making)	2%	Management consultancy skills (decision making)	<1%
Management skills	7%	Management skills	3%	Management skills	<1%
Foreign language communication skills	3%	Foreign language communication skills	4%	Foreign language communication skills	<1%

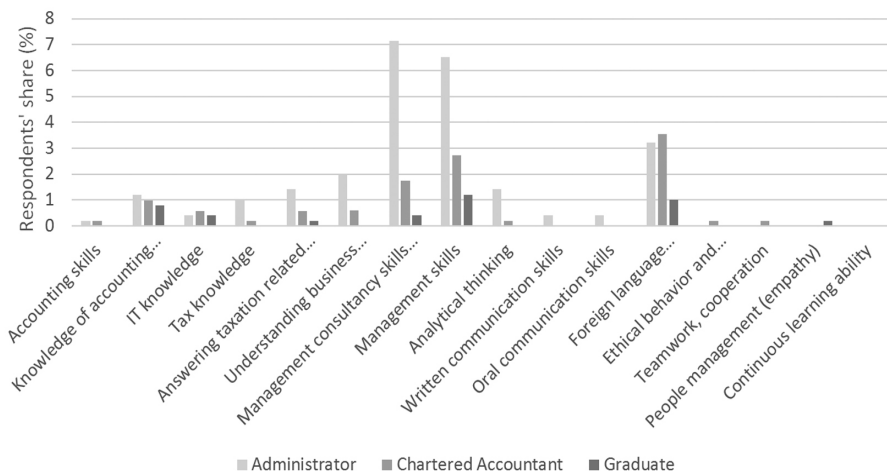
*Source: author's own design*

For administrators, 7% of the respondents considered management consultancy skills (decision making) and management skills as unnecessary competencies, but only 3% considered as unnecessary the foreign language communication skills. Related to accountants, a much smaller proportion (2-4%) of the respondents considered these three competencies unnecessary. In the case of graduate entrants, there were no unnecessary competencies identified (Table 2).

Respondents' with different educational level rated differently unnecessary competencies (see Figure 1).

### ***Necessary and missing competencies***

In order to identify the missing skills, the respondents were asked to value the missing competencies of entrant accounting professionals on a five-point Likert scale (1. has the competency 2. rather has the competency 3. middle level competency 4. rather missing competency 5. completely missing competency). Administrators, accountants and graduate accounting professionals were rated separately.



*Source: author's own design*

**Figure 1. Unnecessary competencies according to the respondents' education**

The results verify H1, according to which the more qualified the entrants are, the less they lack the relevant skills. The skills average in the case of administrators was 2.80, 2.42 in the case of accountants, and 2.04 in the case of graduate accounting professionals.

There are significant differences between the averages relating to each competency of a different level for entrance professionals. Competencies are missing the most in the case of administrators, the only exception being the foreign language communication skills, a competency the accountants lack more. This difference could be explained by the fact that markets require less foreign language knowledge from administrators.

The reviewed competencies lack the least amongst graduates (Figure 2), except for the knowledge of accounting programs, for which accountants perform slightly better (2.43) than the graduate accounting professionals (2.44).



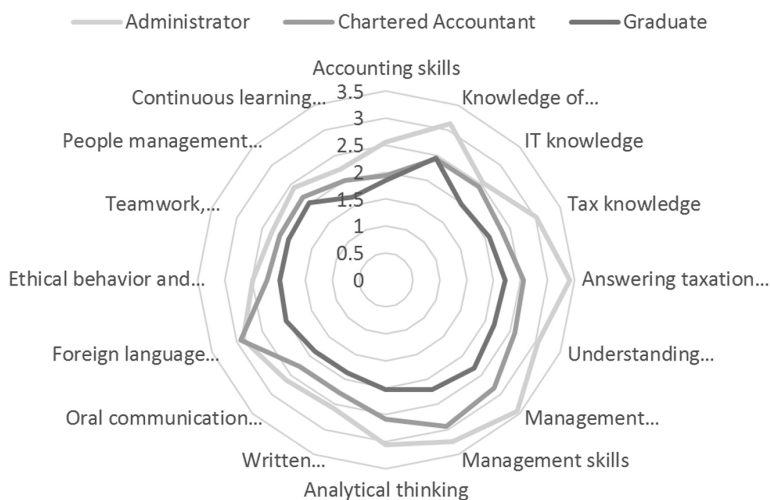
**Table 3. Evaluation of necessary and missing competencies on the examined three levels of education based on averages**

Competencies	<i>Administrator</i>	<i>Accountant</i>	<i>Graduate</i>	F	Sig.	Significant differences between the averages
Accounting skills	2.55	1.94	1.84	70.047	0.000	yes
Knowledge of accounting programs	3.13	2.43	2.44	57.025	0.000	yes
IT knowledge	2.54	2.45	1.99	43.209	0.000	yes
Tax knowledge	3.03	2.34	2.07	109.263	0.000	yes
Answering taxation related questions	3.42	2.55	2.21	153.406	0.000	yes
Understanding business environment	3.05	2.59	2.18	90.604	0.000	yes
Management consultancy skills (decision making)	3.44	2.83	2.31	121.208	0.000	yes
Management skills	3.25	2.94	2.21	132.825	0.000	yes
Analytical thinking	3.06	2.59	2.03	110.544	0.000	yes
Written communication skills	2.57	2.26	1.87	61.415	0.000	yes
Oral communication skills	2.63	2.28	1.88	68.032	0.000	yes
Foreign language communication skills	2.88	2.93	2.01	110.841	0.000	yes
Ethical behavior and professional skepticism	2.48	2.21	1.97	31.464	0.000	yes
Teamwork, cooperation	2.3	2.14	1.97	13.747	0.000	yes
People management (empathy)	2.42	2.18	2.02	19.833	0.000	yes
Continuous learning ability	2.22	1.99	1.66	37.222	0.000	yes
<b>Average</b>	<b>2.80</b>	<b>2.42</b>	<b>2.04</b>			

*Source: author's own design*

One approach to analyzing the average values is that if the average of a competency is below 2.5, then it is considered as existing, if it is above, then the competency is considered rather as a missing competency (see Table 3).

In the case of administrators, 11 competencies out of the examined 16 competencies are rated above 2.5, so they are missing competencies. The knowledge of accounting software (3.13) is an area to be improved considering the content of the training, and it is a crucial competency for administrators, too. Although in the administrators' job profile the most important word is 'contributing', as it is guided work, the analytical thinking competency (3.06) should still be developed during training.



*Source: author's own design*

**Figure 2. Evaluation of necessary and missing competencies on the examined three levels of education based on averages**

Three out of the missing competencies (understanding business environment, management consultancy skills (decision making) and management skills) were considered unnecessary by respondents to a significant extent. These competencies can be gained by financial and accounting administrators as part of career building, through experience acquired during work and in further training courses. Entrant accounting professionals are involved only in some tasks of accounting activities and for that the average knowledge (for mechanical work) can be suitable. Oral (2.63) and written (2.57) communication skills can be improved with the help of training courses and schooling provided by employers. Special usage of IT equipment (2.54) can be also learnt through internal training. In accordance with the employer's specific needs, the knowledge acquired during education can be extended with further training courses.

Chartered accountants as accounting professionals engaged in self-service activities have 10 out of the listed 16 competencies, which shows the high quality of these trainings.

Management consultancy skills (2.83) and management skills (2.94) are considered as missing competencies, which according to experts' opinion can be acquired for chartered accountants with an accredited exam (NTS) during the years spent at work. However, the changed role is a concern also for chartered accountants, as becoming a partner requires integrated thinkers, who above accounting knowledge are capable of taking part in decision-making and strategy development. Professional training is expected to therefore give a stable foundation of competencies, which could be improved during work. Education is not focused on improving foreign language communication skills (2.93). Based on the research results we can conclude that international communication is less required in the SME sector, than in large enterprises with extensive international relations.

During the chartered accountant's training, teaching methods should be strengthened to assist the development of analytical thinking (2.59). Furthermore, it should be strived for understanding the operation of the business environment (2.59) during studies and deepening the knowledge of taxation (2.55) is also a problem to be solved by professionals responsible for the revision of the training content.

The graduate accounting professionals have an average below 2.5 considering all the examined competencies, so none is considered a missing competency. Results show an average below 2 in the case of seven competencies, among these the continuous learning ability (1.66), the technical accounting knowledge (1.84) and stable written (1.87) and oral communication skills (1.88) stand out. According to experts' opinion graduates have appropriate IT knowledge (1.99), are characterized by ethical behaviour (1.97) and are capable of team work (1.97).

In the case of accountants and administrators, the five missing competencies at the beginning of the hierarchy are, based on the averages (over 2.5), indeed missing competencies. In contrast, the competencies which received the highest values amongst graduate accounting professionals have averages below 2.5, so they are not considered missing competencies (Table 4).

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**Table 4. The ranking of missing competencies, by qualification level**

Rank	Administrator		Accountant		Graduate	
1	Management consultancy skills (decision making)	3.44	Management skills	2.94	Knowledge of accounting programs	2.44
2	Answering taxation related questions	3.42	Foreign language communication skills	2.93	Management consultancy skills (decision making)	2.31
3	Management skills	3.25	Management consultancy skills (decision making)	2.83	Answering taxation related questions	2.21
4	Knowledge of accounting programs	3.13	Understanding business environment	2.59	Management skills	2.21
5	Analytical thinking	3.06	Analytical thinking	2.59	Understanding business environment	2.18

*Source: author's own design*

Management consultancy skills (decision making) and management skills are the competencies which appeared in the first part of the hierarchy for all three levels of qualification. In our opinion, this is an important and useful piece of information for accountants and graduate entrants in accounting and should be kept in mind for the content development of professional training courses.

#### ***Existing (least missing) competencies***

Although our survey focuses on missing competencies, we think it is important to emphasize the least missing competencies, namely the five competencies with the lowest value at the appropriate educational level (Table 5).

Continuous learning ability and ethical behaviour are sufficiently acquired skills on all the three levels of qualification. In our opinion, the continuous learning ability is a very important competency as the profession is continuously changing in this legislative environment.

Learning the ethical behaviour to an appropriate level means safety for those enterprises requiring accounting services. In the case of accountants and graduate accounting professionals, the appropriate level of professional training is justified by the prominent place of accounting skills within the hierarchy.

**Table 5. The ranking of existing (least missing) competencies by qualification level**

Rank	Administrator		Accountant		Graduate	
1	Continuous learning ability	2.22	Accounting skills	1.94	Continuous learning ability	1.66
2	Teamwork, cooperation	2.30	Continuous learning ability	1.99	Accounting skills	1.84
3	People management (empathy)	2.42	Teamwork cooperation	2.14	Written communication skills	1.87
4	Ethical behavior and professional skepticism	2.48	People management (empathy)	2.18	Oral communication skills	1.88
5	IT knowledge	2.54	Ethical behavior and professional skepticism	2.21	Ethical behavior and professional skepticism	1.97

*Source: author's own design*

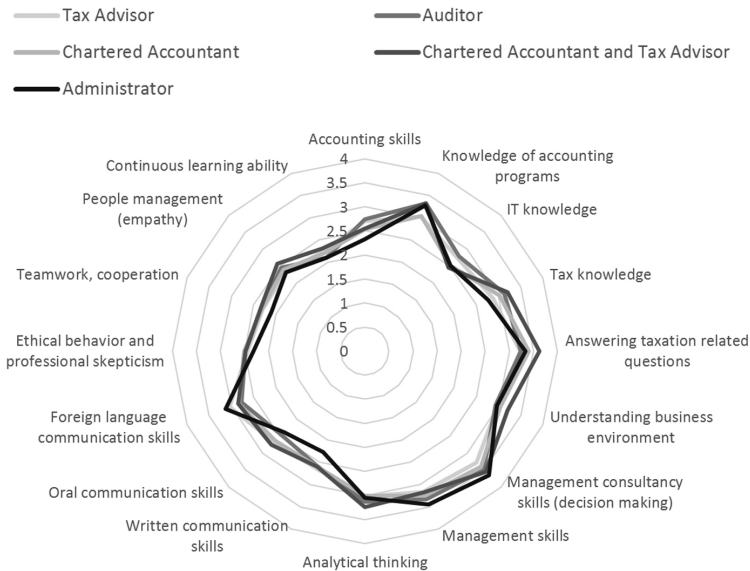
The assessments for entrant accounting professionals were examined in detail based on various characteristics of the respondents. As a first step, we investigated what role the respondents' educational level played in the assessment of the competencies required for entrant accounting professionals.

According to the respondents with chartered accountant and tax advisor qualifications, "tax knowledge" and "answering taxation related questions" are considered rather missing competencies at all levels. The biggest differences are between the opinion of graduates and respondents with other qualifications. The reason for this is that chartered accountants experienced in tax practice are often less educated, yet graduates with their theoretical knowledge of taxation are not competitive. Therefore, the content of the training related to tax knowledge should be reviewed for all levels. In addition, this group of respondents evaluated the most negatively the analytical thinking and people management competencies, for all the three levels.

Auditors do not differ from respondents with other qualifications when evaluating administrators (see Figure 3). However, in the case of chartered accountants, auditors rated management skills, understanding the business environment, IT knowledge and management consultancy skills the most negatively (Figure 4). When

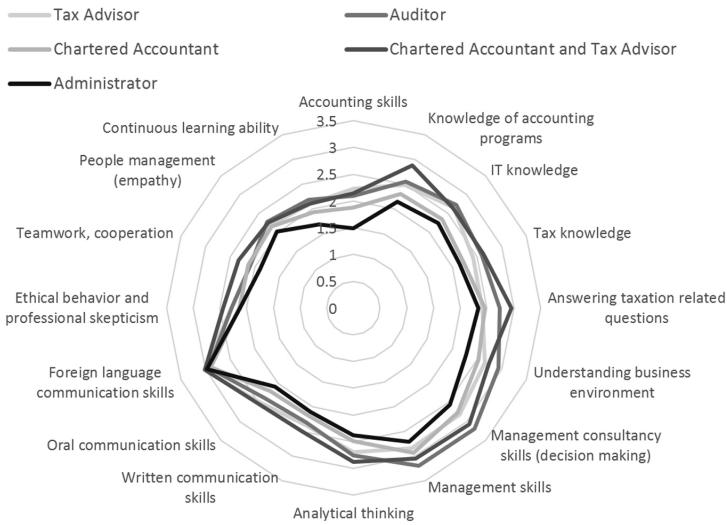
evaluating graduates, management skills, understanding the business environment and IT knowledge competencies were rated the most negatively (Figure 5). The reason for this negative evaluation could be that auditors have the most complex knowledge from an accounting professional's point of view. They rated accounting professionals with chartered accountant training and with higher education degree negatively compared to their own abilities.

Respondents with administrator education are critical when considering administrator entrants' management consultancy skills and management skills. They self-critically and objectively evaluate the two competencies required on higher level of education. They consider the foreign language skills as a missing competency for both administrators and chartered accountant entrants. Administrators rated graduates the most positively from the examined competencies' point of view, which perhaps illustrates the distance between qualifications (Figure 5).



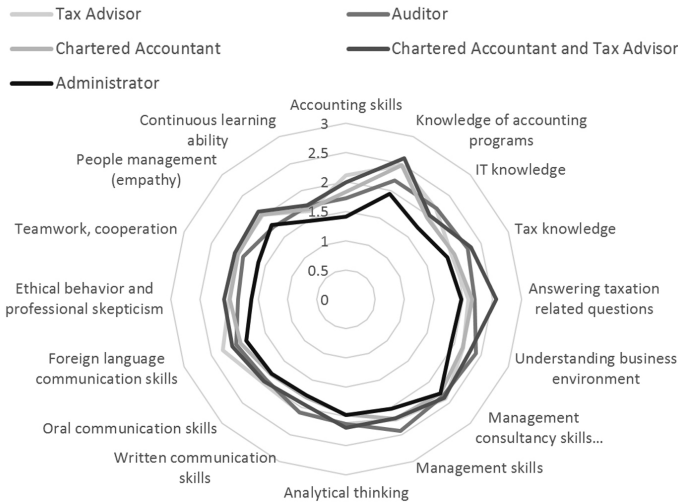
Source: author's own design

**Figure 3. Administrator's necessary competencies by the respondents' qualifications**



Source: author's own design

**Figure 4. Chartered accountant's necessary competencies by the respondents' qualifications**



Source: author's own design

**Figure 5. Graduate's necessary competencies by the respondents' qualifications**

## **Discussion**

### ***The evaluation of entrant administrators based on the respondents' qualification***

We examined the difference between the responses of the respondents with different professional qualifications and we found that professional qualifications did not influence the evaluation of competencies when rating competencies of entrant administrators. Results show minimal deviation for respondents with different qualifications (respondents with administrator qualification are the most critical when rating entrant administrators' foreign language knowledge, management consultancy skills and management skills), however differences between averages do not show a significant deviation for any competency (see Appendix 3).

### ***The evaluation of chartered accountants based on the respondents' qualifications***

The difference in the respondents' professional qualification indicates significant deviation for nine competencies. The respondents with an administrator degree rated generally more positively (existing or missing to a lesser extent) the examined competencies for entrant chartered accountants. The respondents with an auditor qualification are the least satisfied with the existence of accounting skills ( $p < 0.001$ ) and IT knowledge ( $p < 0.01$ ). Those respondents having chartered accountant qualification see the biggest deficiency in the knowledge of accounting programs competency ( $p < 0.001$ ) for entrant chartered accountants.

The respondents with auditor and chartered accountant qualification consider a lower existing competency in tax knowledge, answering taxation related questions, analytical thinking and oral communication skills ( $p < 0.05$ ). According to the respondents with an auditor qualification the two competencies of understanding business environment and management consultancy skills (decision making) ( $p < 0.05$ ) are the least existing competencies for entrant chartered accountants (see Appendix 4).

### ***The evaluation of graduates based on the respondents' qualifications***

Examining the differences in responses according to various professional qualifications, it could be stated that as per administrator

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respondents, the graduates have the most suitable knowledge in the examined areas, i.e. administrator respondents gave the lowest average value. The reason could be the difference in the content of the two levels of education, i.e. between the administrator and graduate education.

In case of accounting skills ( $p < 0.01$ ), the knowledge of accounting programs ( $p < 0.05$ ), tax knowledge ( $p < 0.05$ ) and answering taxation related questions ( $p < 0.01$ ) competencies, the deviations of the respondents' averages by qualification are significant. The most critical respondents were the auditors (in case of the accounting skills competency) and those having chartered accountant and auditor qualification when rating the graduates' existing competencies. In our view, the area of taxation and the practical knowledge of accounting programs are indeed areas for improvement in current accounting graduate education (see Appendix 5).

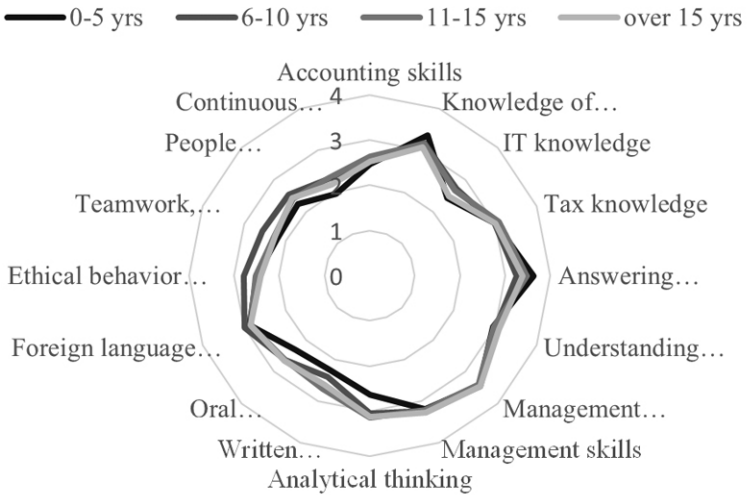
Based on the above results it can be stated that our second hypothesis (H2) can be accepted, so there are competencies, the judgment of which depends on the respondents' professional qualification.

### ***The evaluation of entrant accounting professionals based on the respondents' work experience***

We analyzed in detail, what role the differences in the respondents' professional experience played in the assessment of competencies required for entrant accounting professionals.

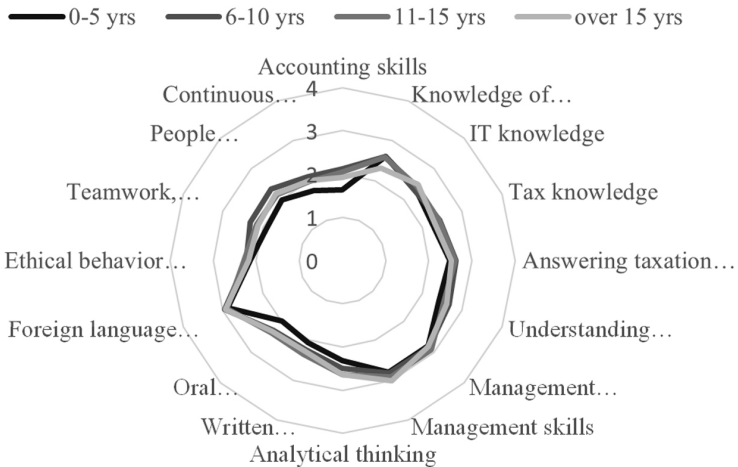
Respondents having relatively short work experience rated more positively the existence of a competency at almost all levels and for all competencies, than the respondents having more work experience. The reason is that the respondents closer to entrants in age answered with some apparent bias when assessing the competencies. The only exception in case of entrant administrators are the competencies of knowledge of accounting programs and answering taxation related questions, where the most negative was the rating of respondents with no more than five years of working experience. Respondents with more working experience assessed the existence of competencies almost the same way for all categories of entrants (Figures 6-8).

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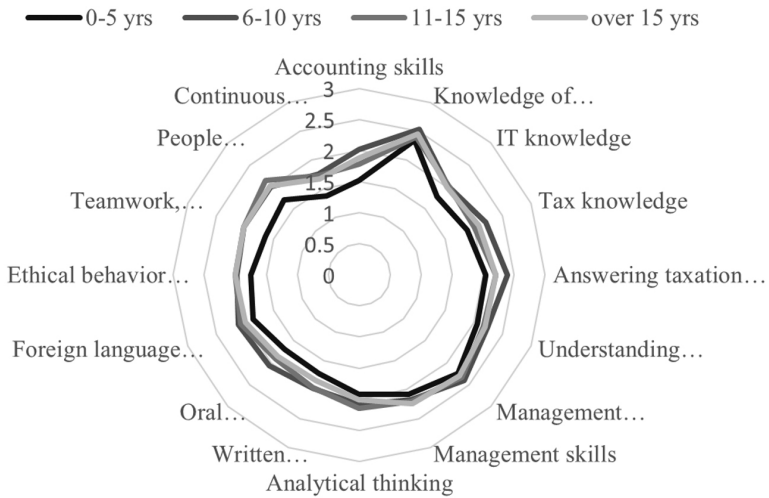
Source: author's own design

**Figure 6. Administrator's necessary competencies according to the respondents' work experience**



Source: author's own design

**Figure 7. Chartered accountant's necessary competencies according to the respondents' work experience**



Source: author's own design

**Figure 8. Graduate's necessary competencies according to the respondents' work experience**

***The evaluation of entrant administrators based on the respondents' work experience***

In case of the analytical thinking and written communication skills, work experience affects perception of the administrators' competencies. Average differences are significant in the case of both competencies ( $p < 0.05$ ). In both cases, according to the least experienced respondents (0-5 yrs) entrant administrators have most of the mentioned competencies (see Appendix 6).

***The evaluation of entrant chartered accountants based on the respondents' work experience***

The assessment by the respondents' professional experience was examined separately, to see if the averages show any significant digression. The least experienced respondents rated most positively the entrant chartered accountants for almost all competencies. However, only for one competency (accounting skills) there is significant digression between averages ( $p < 0.05$ ), the least experienced

respondents consider that chartered accountants generally have this competency (see Appendix 7).

### ***The evaluation of graduates based on the respondents' work experience***

For all competencies, the least experienced respondents rated the most positively the graduate accounting professionals. However, only for one competency (accounting skills) there is significant digression between the averages ( $p < 0.05$ ), the least experienced respondents consider that the graduate accounting professionals have that competency on the whole (see Appendix 8).

Based on the above results we can accept our hypothesis that for some competencies the appropriate performance judgement depends on the respondents' professional experience.

Taking into account the different characteristics of the respondents, we can say that the assessment of entrant accounting professionals' competencies is influenced by the respondents' qualities. Managers are more critical when assessing the administrators' existing competencies; the least experienced and younger respondents rated more positively some of the examined competencies. The chartered accountants' competencies are rated more positively by administrators with lower qualifications, younger respondents and those having less work experience. Auditors, tax advisers, and chartered accountants were more critical when assessing existing competencies. The entrants' knowledge of accounting programs was the only competency rated more positively by respondents above 50 years (thus assuming their own deficiencies) than by younger respondents. The accounting graduates' existing competencies were rated most positively by respondents with the lowest qualifications, respondents below 30 years and by the least experienced, who themselves could be considered entrants.

Accounting office managers rated ethical behaviour, teamwork and cooperation competencies as least existing.

### **Conclusions**

We conducted a survey for identifying missing competencies amongst entrant accounting professionals, taking into consideration the

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characteristics of the Hungarian accounting training. Therefore, we separated the three most typical training levels: administrators, accountants and entrant graduate accounting professionals.

Our first hypothesis, that “the more qualified the entrants are, the less they lack the relevant skills,” was accepted. Based on the competency averages, it was ascertained that with the increase of qualification, competencies are perceived as increasingly possessed by entrants. The examined competencies were missing the most for the administrators’ education level.

The averages show a better result for chartered accountants, while the examined competencies are missing least in case of the graduates, except for the knowledge of accounting programs, which is explained by the fact that bookkeeping is part of the chartered accountants’ professional exam, while in the case of graduates it has less importance.

In case of the examined professional, communicational and social competencies, a higher degree indicates a higher competency level.

We consider our second and third hypothesis to be accepted based on the completed analysis. The opinions of the respondents with different qualifications and work experience differ in relation to some of the missing competencies.

The respondents in management positions expect professionals with higher competencies for administrator jobs. The respondents with lower degrees assessed more positively competencies of entrants with higher degrees. Young and less experienced respondents assessed more positively entrants’ knowledge. Highly educated practitioners were the most critical, they expect practical knowledge immediately from entrants. Professional training should react with more practical curriculum development.

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## **Appendices**

### **Appendix 1. Core Competency Framework**

#### **Functional competencies**

Functional competencies refer to technical skills which are the closest to the accounting profession.

- Decision making
- Risk analysis
- Assessment
- Reporting
- Research and analysis
- Using technology, develop and strengthen the technological

competencies

#### **Personal competencies**

Personal competencies refer to behaviors and practices. Developing these personal competencies improves the ways professional relationships are handled and helps individual learning and personal development process.

- Professional behavior
- Problem solving and decision making
- Cooperation
- Management
- Communication
- Project management
- Using technology, develop and strengthen the personal competencies

#### **Extensive business competencies**

Extensive business competencies relate to the environment where accounting professionals provide their services. Those professionals willing to enter the profession must take into account both internal and external business environments and the fact that their contributions determine their success or downfall. They must be fully aware of the business environment.

- Strategic and critical thinking
- Industry, sector prospects
- International, global prospects
- Resource management
- Legal, regulatory prospects
- Marketing, customer focus
- Using technology, develop and strengthen the extensive business

competencies

*Source: Bolt-Lee and Foster (2003)*

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### Appendix 2. Explanation of competencies

1.	Written communication skills	The correct and comprehensive writing ability, knowledge of spelling
2.	General tax knowledge	Knowledge of tax laws, the appropriate use of standards
3.	Oral communication skills (language communication)	The spontaneous use of language, the grammar and spelling rules, linguistic intensity. Ability to choose appropriate form of statement, adequate to the speech situation. Verbal communication includes listening to different opinions and the establishment of discussion skills.
4.	Ability to answer the specific tax issues	Answering general and specific questions arising during professional work.
5.	Knowledge of the business environment	Basic knowledge of economics, forms of business, basic knowledge of rules.
6.	Knowledge of accounting programs (using accounting softwares)	Familiar with the possibility of computer-aided accounting, understand different software interfaces.
7.	Management consultancy skills (decision-making)	The ability to prepare the necessary information for management decisions.
8.	IT skills (computer skills)	Applies text editor and spreadsheet at user level
9.	Management skills	Knows how to make a success of the target, how to achieve the intended result.
10.	Foreign language communication skills	Spontaneous use of language in a foreign language, the use of grammar and spelling rules, linguistic intensity.
11.	Analytical thinking	Thinks over specific task independently, possibly quickly, using own professional knowledge performs flawlessly.
12.	Accounting skills	Accounting professional skills, knowledge of accounting principles, knowledge of the double entry bookkeeping system and regulations of the Accounting Act
13.	Ethical behaviour, professional skepticism	Moral, social, behaviour according to appropriate behaviour standards, professional skepticism
14.	Teamwork, cooperation	Able to cooperate, work with others
15.	People related skills	Assistance, empathy, sensitivity, care, concern
16.	Ability for continuous learning	The ability to adapt to environmental changes

*Source: author's own design*

**Appendix 3. Evaluation of competencies related to administrators according to the respondents' education**

Competencies	Respondents' education					F	Sig.
	Tax Advisor	Auditor	Chartered Accountant	Chartered Accountant and Tax Advisor	Administrator		
Accounting skills	2.705	2.742	2.538	2.549	2.333	0.85	0.494
Knowledge of accounting programs	3.023	3.323	3.045	3.319	3.282	1.313	0.264
IT knowledge	2.733	2.774	2.514	2.457	2.513	0.84	0.5
Tax knowledge	2.886	3.129	3.021	3.207	2.769	1.35	0.25
Answering taxation related questions	3.222	3.241	3.406	3.63	3.333	1.387	0.237
Understanding business environment	2.977	2.935	3.038	3.211	2.974	0.761	0.551
Management consultancy skills (decision making)	3.275	3.483	3.401	3.543	3.639	0.69	0.599
Management skills	3.171	3.333	3.249	3.172	3.444	0.552	0.698
Analytical thinking	3.023	3.129	3	3.239	3.051	0.836	0.503
Written communication skills	2.636	2.581	2.592	2.598	2.275	0.954	0.432
Oral communication skills	2.667	2.452	2.634	2.742	2.375	1.099	0.356
Foreign language communication skills	3.048	2.767	2.834	2.851	3.125	0.906	0.46
Ethical behavior and professional skepticism	2.444	2.484	2.512	2.484	2.316	0.297	0.88
Teamwork, cooperation	2.289	2.323	2.314	2.348	2.103	0.421	0.794
People management (empathy)	2.311	2.452	2.395	2.571	2.325	0.747	0.56
Continuous learning ability	2.244	2.097	2.211	2.304	2.1	0.356	0.84

*Source: author's own design*

**Appendix 4. Evaluation of competencies related to chartered accountants according to the respondents' education**

Competencies	Respondents' education					F	Sig.
	Tax Advisor	Auditor	Chartered Accountant	Chartered Accountant and Tax Advisor	Administrator		
Accounting skills	2.234	2.094	1.877	2.149	1.487	4.798	<b>0.001</b>
Knowledge of accounting programs	2.489	2.563	2.304	2.882	2.154	5.196	<b>0</b>
IT knowledge	2.66	2.719	2.347	2.645	2.25	3.429	<b>0.009</b>
Tax knowledge	2.426	2.594	2.228	2.634	2.154	3.524	<b>0.008</b>
Answering taxation related questions	2.413	2.742	2.46	2.957	2.333	4.436	<b>0.002</b>
Understanding business environment	2.66	2.935	2.537	2.742	2.282	2.626	<b>0.034</b>
Management consultancy skills (decision making)	2.814	3.2	2.759	3.075	2.553	3.223	<b>0.013</b>
Management skills	2.837	3.194	2.928	3.043	2.711	1.366	0.245
Analytical thinking	2.696	2.75	2.49	2.872	2.385	2.812	<b>0.025</b>
Written communication skills	2.362	2.312	2.182	2.5	2.103	2.034	0.088
Oral communication skills	2.489	2.375	2.193	2.521	2.077	2.818	<b>0.025</b>
Foreign language communication skills	3.022	2.933	2.892	3.011	2.975	0.302	0.876
Ethical behavior and professional skepticism	2.277	2.281	2.132	2.436	2.125	1.701	0.148
Teamwork, cooperation	2.085	2.094	2.123	2.326	1.895	1.533	0.191
People management (empathy)	2.191	2.281	2.163	2.253	2.026	0.429	0.788
Continuous learning ability	2.106	2.188	1.944	2.116	1.692	1.664	0.157

*Source: author's own design*

**Appendix 5. Evaluation of competencies related to graduate entrants according to the respondents' education**

Competencies	Respondents' education					F	Sig.
	Tax Advisor	Auditor	Chartered Accountant	Chartered Accountant and Tax Advisor	Administrator		
Accounting skills	2.109	1.719	1.826	1.989	1.41	3.435	<b>0.009</b>
Knowledge of accounting programs	2.478	2.188	2.481	2.604	1.95	2.811	<b>0.025</b>
IT knowledge	2.174	2.188	1.958	2.022	1.725	1.813	0.125
Tax knowledge	1.957	2.25	2.01	2.315	1.875	2.484	<b>0.043</b>
Answering taxation related questions	2.087	2.194	2.159	2.565	1.975	3.365	<b>0.01</b>
Understanding business environment	2.174	2.406	2.152	2.293	1.95	1.244	0.291
Management consultancy skills (decision making)	2.4	2.344	2.274	2.38	2.275	0.25	0.91
Management skills	2.222	2.438	2.21	2.198	2.026	0.723	0.577
Analytical thinking	2.13	2.125	1.965	2.196	1.975	1.075	0.368
Written communication skills	2.087	2.094	1.81	1.924	1.775	1.546	0.188
Oral communication skills	2.022	1.937	1.82	1.989	1.8	0.898	0.465
Foreign language communication skills	2.283	2.032	1.955	2.112	1.846	1.463	0.212
Ethical behavior and professional skepticism	2	1.844	1.99	2.087	1.625	1.847	0.119
Teamwork, cooperation	2.022	1.906	1.997	2.055	1.625	1.644	0.162
People management (empathy)	2.043	1.75	2.042	2.121	1.795	1.476	0.208
Continuous learning ability		1.719	1.666	1.736	1.45	0.79	0.532

*Source: author's own design*

**Appendix 6. Evaluation of competencies related to administrators according to the respondents' work experience**

Competencies	Respondents' work experience				F	Sig.
	0-5 yrs	6-10 yrs	11-15 yrs	over 15 yrs		
Accounting skills	2.469	2.594	2.639	2.525	0.39	0.761
Knowledge of accounting programs	3.354	3.174	3.151	3.073	0.771	0.511
IT knowledge	2.429	2.721	2.66	2.474	1.445	0.229
Tax knowledge	3.02	3	3.093	3.018	0.129	0.943
Answering taxation related questions	3.633	3.25	3.485	3.391	1.219	0.302
Understanding business environment	2.959	3.015	2.979	3.104	0.553	0.646
Management consultancy skills (decision making)	3.426	3.458	3.404	3.45	0.04	0.989
Management skills	3.196	3.23	3.211	3.275	0.143	0.934
Analytical thinking	2.625	3.045	3.135	3.111	2.796	<b>0.04</b>
Written communication skills	2.265	2.42	2.716	2.612	2.845	<b>0.037</b>
Oral communication skills	2.327	2.638	2.646	2.667	1.501	0.213
Foreign language communication skills	2.878	2.985	2.857	2.856	0.237	0.87
Ethical behavior and professional skepticism	2.5	2.776	2.515	2.401	2.265	0.08
Teamwork, cooperation	2.204	2.559	2.292	2.261	1.704	0.165
People management (empathy)	2.245	2.536	2.412	2.42	0.76	0.517
Continuous learning ability	1.959	2.333	2.34	2.188	1.625	0.183

*Source: author's own design*

**Appendix 7. Evaluation of competencies related to chartered accountants according to the respondents' work experience**

Competencies	Respondents' work experience				F	Sig.
	0-5 yrs	6-10 yrs	11-15 yrs	over 15 yrs		
Accounting skills	1.633	2.114	2.04	1.922	2.721	<b>0.044</b>
Knowledge of accounting programs	2.612	2.614	2.577	2.31	2.563	0.054
IT knowledge	2.388	2.329	2.434	2.486	0.572	0.634
Tax knowledge	2.245	2.443	2.43	2.296	0.757	0.519
Answering taxation related questions	2.49	2.629	2.61	2.529	0.285	0.836
Understanding business environment	2.429	2.667	2.535	2.619	0.729	0.535
Management consultancy skills (decision making)	2.796	2.836	2.908	2.813	0.219	0.883
Management skills	2.796	2.821	2.919	3.004	1.046	0.372
Analytical thinking	2.306	2.5	2.64	2.636	1.48	0.219
Written communication skills	2.061	2.229	2.347	2.269	0.851	0.466
Oral communication skills	1.98	2.271	2.356	2.311	1.678	0.171
Foreign language communication skills	2.878	2.969	2.896	2.95	0.125	0.945
Ethical behavior and professional skepticism	2.143	2.239	2.287	2.187	0.32	0.811
Teamwork, cooperation	1.917	2.314	2.168	2.122	1.629	0.182
People management (empathy)	1.98	2.348	2.149	2.184	1.267	0.285
Continuous learning ability	1.755	2.1	1.98	2	1.057	0.367

*Source: author's own design*

**Appendix 8. Evaluation of competencies related to graduate entrants according to the respondents' work experience**

Competencies	Respondents' work experience				F	Sig.
	0-5 yrs	6-10 yrs	11-15 yrs	over 15 yrs		
Accounting skills	1.521	2.015	1.784	1.877	2.653	<b>0.048</b>
Knowledge of accounting programs	2.347	2.536	2.394	2.451	0.326	0.807
IT knowledge	1.776	2.029	2.031	1.996	1.014	0.386
Tax knowledge	1.878	2.206	2.01	2.085	1.174	0.319
Answering taxation related questions	2.041	2.391	2.204	2.205	1.058	0.366
Understanding business environment	2.061	2.232	2.173	2.19	0.29	0.833
Management consultancy skills (decision making)	2.245	2.397	2.33	2.293	0.22	0.882
Management skills	2.082	2.179	2.196	2.243	0.382	0.766
Analytical thinking	1.918	2.087	2.143	2.004	0.707	0.548
Written communication skills	1.714	1.971	1.959	1.845	1.077	0.358
Oral communication skills	1.694	2.058	1.908	1.852	1.473	0.221
Foreign language communication skills	1.857	2.106	2.074	1.993	0.685	0.562
Ethical behavior and professional skepticism	1.755	1.971	2	1.996	0.933	0.425
Teamwork, cooperation	1.633	2.014	2.01	2.011	2.373	0.07
People management (empathy)	1.714	2.014	2.143	2.028	2.226	0.084
Continuous learning ability	1.367	1.754	1.724	1.668	2.266	0.08

*Source: author's own design*