# THE IMPACT OF IT LEVEL OF KNOWLEDGE ON WORK-READINESS FROM THE ACCOUNTING GRADUATE PERSPECTIVE: EVIDENCE FROM GREECE

Dimitra Karagiorgou<sup>\*</sup>, Dimitra Seretidou<sup>\*\*</sup>, Antonios Stavropoulos<sup>\*\*</sup>

\* Corresponding author, Department of Applied Informatics, University of Macedonia, Greece Contact details: Department of Applied Informatics, University of Macedonia, N. Egnatia Str.156 54006, Thessaloniki, Greece \*\* Department of Applied Informatics, University of Macedonia, Greece



How to cite this paper: Karagiorgou, D., Seretidou, D., & Stavropoulos, A. (2019). The impact of IT level of knowledge on work-readiness from the accounting graduate perspective: Evidence from Greece. Journal of Governance & Regulation, 8(2), 41-48.

http://doi.org/10.22495/jgr\_v8\_i2\_p4

Copyright © 2019 The Authors

This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0). https://creativecommons.org/licenses/by/ 4.0/

ISSN Print: 2220-9352 ISSN Online: 2306-6784

**Received:** 23.03.2019 **Accepted:** 12.06.2019

**JEL Classification:** I25, M15, M41 **DOI:** 10.22495/jgr\_v8\_i2\_p4

# Abstract

The current reality of the business world, commands that economists and especially accountants include in their daily routine contemporary and advanced information systems with which it is considered necessary that economists and accountants be familiar and well trained. IT knowledge and skills are increasingly important for graduates to enter the accounting job market. Over the last years, the persistent discrepancy between IT skills provided by job candidates and expectations of employers has triggered many scholars and research centers to focus on the graduate skills gap. The lack of education of business schools comprises an obstacle to the normalization of new circumstances as there is no defined standard of necessary knowledge and the appropriate lessons learning technologies are not included in the curriculum.

The purpose of this paper is to investigate the influence of graduates' IT knowledge on their perceived readiness to enter the accounting job market. A self-administered survey conducted and a sample of 363 questionnaires was gathered for the purpose of the study. Principal components analysis supported four components of IT tools which were used in hierarchical regression analysis as determinants of the perceived work readiness of graduates. During the analysis satisfaction with the teaching and learning processes were taken into consideration as well as the type of the institution graduates attend.

Research findings indicate that educators must give attention to specific accounting IT tools and applications so as to enhance graduates' level of knowledge. Satisfaction with learning and teaching experience and the type of institution are important causal elements for graduates' work-readiness.

**Keywords:** Readiness, Accounting Information Systems, Knowledge Economy, Education

### **1. INTRODUCTION**

In recent decades, the development of information systems has had a huge impact almost all over the world. Technology has been defined as one of the decisive factors of change affecting the modern enterprise dramatically and rendering the traditional accounting model anachronistic and obsolete (Albrecht & Sack, 2000). Several studies demonstrate that corporate entrepreneurship has significant consequences for firm survival, performance, and growth. According to CareerBuilder's annual job forecast (2016) information technology and accounting/finance are among the top recruitment market segments in the U.S. (O'Bannon, 2016). However, over the last decades, accounting education has come under criticism for failing to



meet the increasing demands and constant changes in the business environment (Awayiga et al., 2010).

There is a discrepancy between the technical and professional skills graduates possess and the expectations of requirements by the employers. The skills gap creates extended job vacancies which are costing to U.S. companies almost \$1 million per year (CareerBuilder, 2017). There is evidence that accounting graduates do not have the required skills to move into the workplace (Altarawneh, 2016) and that there is a mismatch between accounting education and knowledge requirements of the accounting job market (Albrecht & Sack, 2000; Awayiga et al., 2010; El-Dalahmeh, 2017). Although graduates who equipped with soft skills are of great value to organizations (Warwick & Howard, 2015), technical skills remain important as ever (Adel, 2016).

In Greece, a study made by the Foundation for Economic and Industrial Research found that the fiscal deficit of 2018-2014 had little influence on youth unemployment rates (FEIR, 2018). Findings also demonstrate that the basic determinant of youth unemployment is their inefficient training at all levels of education. What is absent is not job vacancies in the labor market but rather the suitably qualified staff to cover them. The study also highlights the inelasticity of the Universities to respond promptly to the new demands of the market. Also, Universities are charged for being cutoff from the real needs of the labor market and that the educational system is rather anachronistic and therefore is natural to bring forth graduates unable to find jobs.

Accountants are involved in a wide range of roles in business and it is important for them to possess IT knowledge and skills relevant to their roles to provide competent and professional services. However, the scope of IT is broad and not all IT knowledge and skills relate to an accountant's role. This raises the questions: what kind of IT knowledge do graduates consider important to embark in the accounting workplace? Does satisfaction with teaching and learning experience contribute to the self-awareness of work readiness among graduate students? In which information tools should educators emphasize to make graduates feel well prepared so as to enter the accounting job market?

The premise objective of this study is to assess the work readiness among business and economics graduates in relation to their perceived IT specific knowledge level required to plunge into the accounting job market. To achieve this objective, graduates' perceptions of knowledge level for a number of accounting IT tools were identified and used as explanatory variables in determining their self-perception of work readiness. During the analysis, the personal characteristics of students, the type of institution graduates study at and their satisfaction of the teaching and learning process were taken into consideration.

### 2. LITERATURE REVIEW

The increasing value of knowledge placed on capable people, job complexity increase, and an abundance of information are fundamental changes, bring out the necessary knowledge management strategies and their implementation (Serrat, 2017). Studies approach the conceptualization of work readiness from different directions and perspectives. The concept of graduate's work-readiness is elusive and difficult to formulate. It is rather a multidimensional construct than a concept which encompasses an array of skills (technical and generic) and personality traits valued differently by different stakeholders (Dhakal et al., 2019). While there are many definitions and viewpoints they all concur that the elements of knowledge and job-specific skills are intrinsically linked to work-relatedness. Mason et al. (2009) placed the information technology skills among the key competencies for all new job They defined work-readiness applicants. as "possession of the skills, knowledge, attitudes and commercial understanding that will enable new graduates to make productive contributions to organizational objectives" (Mason et. al., 2009, p. 2). Cabellero et al. (2011), defined work readiness as "the extent to which graduates are perceived to possess the skills and attributes that will enable them to be prepared or ready for success in the workplace" (p. 42). This need for innovation and competitive strategies especially in a global digital economy, urge organizations to invest in information and communication technologies (Van Grembergen & Haes, 2018).

The following section focuses upon the development of accounting related knowledge and skills on information technology system in higher accounting education. Many researchers examined whether an expectation gap exists between the knowledge or skills acquired by graduates in university curriculum and those expected and preferred by employers (Albrecht & Sack, 2000). It is common among researchers the terms of work readiness, career readiness and job readiness to be used interchangeably. Employability, on the other hand, appears to refer to the soft (generic) skills which complement the knowledge and technical skills. Thus, the goal of accounting science education should be that of producing professional accountants (Wessels, 2005) adequate of supporting modern techniques and strategies (Kazanjian et al., 2017).

Burnett (2003) has conducted research seeking the views of employers of accounting graduates on the technology skills that are considered crucial and important for new graduates to possess. In his study (Burnett, 2003), refers the top four technology skills for accounting graduates as: 1) spreadsheet software; 2) windows; 3) word processing software and 4) World Wide Web. The technology skills that ranked from 5 to 10 were:

5 - information systems planning and strategy;

- 6 database software;
- 7 communications software (e.g. Outlook);
- 8 project management;
- 9 presentation software;
- 10 technology security and control.

Greenstein and McKee (2004), perform a literature review through which they concluded on the identification of 36 critical information technologies. The continuance of their survey was to study 1000 accounting information systems and auditing academics and 1000 audit practitioners in America to define their self-reported IT knowledge levels and comprehensions about the best places to learn IT skills. After performing factor analysis, they

found a relatively low level of knowledge of ecommerce and advanced technologies and audit automation constructs among both educators and practitioners but found a relatively high level of knowledge of office automation and accounting firm office automation constructs. They also designated a potential "learning gap" between educators and practitioners that may occur in five of the 36 critical technologies that they examined (Wessels, 2005, p. 94)

Awayiga et al. (2010), conducted research on knowledge and skills development of accounting graduates in Ghana and they culminated in remarkably similar results to those of the Burnett (2003) research. The study surveyed both graduates and employers of the graduates on their opinion on the importance of skills and knowledge for entrylevel accountants. Technology skills identified in order of importance included: 1) spreadsheet package; 2) database package; 3) presentation software; 4) technology management and budgeting; 5) word-processing package; 6) communications software (Outlook); 7) electronic commerce; 8) World Wide Web and 9) Windows.

In another study Spraakman et. al. (2015) identified the IT knowledge and skills of accounting graduates that employers required. The focus was on office automation skills (word, excel, etc.), systems of analysis and design, databases and ERP systems. The results of the field research on 35 firms in New Zealand revealed that Microsoft tools skills and ERP knowledge were the most important requirements for hiring accounting graduates. Knowledge of Excel was found to be the desired. Similar findings provided hv most El-Dalahmeh's (2017, p. 207), in a survey of the Jordanian business environment. Graduates with a low knowledge level of financial spreadsheets applications are at a disadvantage in the hiring process. Other technological skills such as general processing, ledger packages software, word flowcharting and database, financial instrument software, accounting software, audit software, ERP system software, presentation, tax preparation software, statistical analysis packages, and applications were also desired by employers. Finally, on an intriguing research Yilmaz (2017) focused on the role of e-learning readiness regarding student

satisfaction and motivation in flipped classrooms, furthering the requisiteness of technology-based techniques and necessary skills for students to enroll in business life.

## **3. RESEARCH METHODOLOGY**

A scale-based survey instrument was designed in order to gather information about graduates' perceived knowledge about current Information Technologies and Accounting Information Systems (AIS). The instrument consists of three parts. The first part contains items related to basic student demographic information and an item inquiring the institution the type of student attends (Technological Institute of Education or University). The second part consists of 28 items/statements designed to collect data on six IT knowledge domains (see Table 2). The build of the scale items was based on the studies of Greenstein and McKee (2004) and McKee (2000). Furthermore, we adopt additional technologies that were found on the Greenstein-Prosch, McKee, and Quick, (2008) information technology study and 6 additional technologies were formed on the current used Greek Accounting Information Systems.

Each item requires students to assess their level of knowledge on a 7-point Likert scale ranging from 1 (poor) to 7 (excellent). In the third part, students were asked to rate their overall readiness to work in the accounting market and their overall satisfaction with the process of learning and teaching at the institutions. The questionnaire ends with an open format question asking students in which specific domain they need more training in relation to AIS.

The target population was all the graduates studying at the University of Macedonia and the Technological Institute of Education (TIE) located in the city of Thessaloniki (Greece). Initially, a pilot study was conducted to 50 graduates in order to detect any syntax weakness and to simulate the process of the actual study. Given that 68% of students study at Universities and 32% of them at the Technological Institutions of Education (TIE), (HQA, 2017) a proportionate sampling strategy was adopted.

IT domains	No. of items	IT measurements		
Advanced Technologies 8		Workflow Technology, Test Data, Cooperative Client/Server environment, Digital Communication, firewall software/hardware, User authentication System, EDI- traditional, EDI-wed based and Wireless Communication		
Audit Automation	5	Generalized audit software, Expert Systems, Embedded audit modules, Real-Time audit modules, and simulation software		
Office Automation	7	Word processing, file and Folder Organization/File Management, Email, Electronic File Transfer and Storage, Internet search and retrieval, Image processing and electronic presentations.		
Database	3	Flowcharting/data modeling, Computer-aided systems engineering tools, and database design and installation		
Complex Systems	2	Encryption software and enterprise resource planning.		
Software	3	Electronic spreadsheets (Excel), statistical software, accounting software.		

Table1. Theoretical IT domains and their IT measurements

A total of 700 self-administered questionnaires were proportionally distributed across the two institutions. A consent form was also provided explaining the purpose of the study and assuring confidentiality of responses. The response rate was 37% for TIE students and 44% for University

students. A total of 394 completed questionnaires were returned of which 363 were usable for statistical analysis. The analysis of data included the application of principal component analysis and hierarchical regression analysis with the use of SPSS.



# 4. RESULTS

Observing the data of the present study, the total sample of respondents is 363 of which the 43.3% are male and 56.7% are females. Their educational level is categorized by graduates and students of the University of Macedonia (U1) which consist the 83.2% and the Technological Institution of Macedonia (U2) which consist the 16.8%. The majority (81%) of graduate students fall into the range of 20-25 of age, 17% into the range of 26-30 and 2% found to be over 30.

Table 2 presents the central tendency and variability of the perceived knowledge of graduates in IT systems and applications related to the accounting discipline. The last two rows contain the descriptive about graduates' satisfaction with the teaching and learning process as well as their perceived work readiness. The highest mean scores and medians appear to the office automation applications and particularly to those linked with the use of the internet where graduates perceive their knowledge as high or very high. The lowest mean scores and medians (<3) are found in audit automation modules/software and complex systems which indicates that graduates' perceived knowledge on the use of these IT tools is low and very low. This implies that graduates' skills are not up to a level to be able to execute audits in an efficient way.

Similarly, graduates assess their knowledge of database applications as low and on statistical and econometric knowledge as very low. Students considered their knowledge as high when it comes to electronic spreadsheets (e.g. Excel). Results are mixed concerning the perceived knowledge of advanced technologies. Specifically, the IT tools of digital and wireless communications receive mean score and median values that indicate a moderate to high knowledge level while application related to Workflow Technology, Test Data and Cooperative client/server environment receive a low mean score of perceived knowledge level.

Domains	Items	Median	Mean Score	Std. Dev.
	1. Workflow Technology	2,00	2,70	1,65
	2. Test Data	2,00	2,62	1,44
	3. Cooperative client/server environment	2,00	2,79	1,64
Advanced	4. Digital communications	5,00	4,53	1,74
Technologies	5. Firewall software/ Hardware	4,00	3,84	1,70
	6. User Authorization Systems	3,00	3,47	1,74
	7. EDI-tradditional	3,00	3,50	1,83
	8. Wireless communications	5,00	4,39	1,81
	9. Generalized audit software	2,00	2,63	1,60
	10. Expert systems	2,00	2,49	1,44
Audit Automation	11. Embedded audit modules	2,00	2,37	1,40
	12. Real-time audit modules	2,00	2,34	1,44
	13. Simulation software	2,00	2,34	1,47
	14. Word processing	5,00	5,06	1,73
	15. File management	5,00	5,04	1,70
	16. E-mail	7,00	6,18	1,14
Office Automation	17. Transfer and store files (cloud, DropBox, Google Drive)	6,00	5,51	1,49
	18. Internet search and retrieval	7,00	6,09	1,27
	19. Image processing	5,00	5,29	1,45
	20. Electronic presentations	5,00	4,96	1,56
	21. Flowcharting/data modeling	3,00	3,52	1,71
Database	22. Computer-aided systems engineering tools	3,00	3,13	1,70
	23. Database design and installation	3,00	3,04	1,77
Complex Systems	24. Encryption software	2,00	2,27	1,59
Complex Systems	25. Enterprise resource planning	2,00	2,41	1,54
	26. Electronic spreadsheets	5,00	4,74	1,87
Software	27. Econometric Software	2,00	2,40	1,65
	28. Statistical Software	2,00	2,64	1,73
	Work Readiness	3,00	3,33	1,52
	Satisfaction with teaching and learning process	4,00	4,17	1,55

The overall view is that graduates' selfperceptions about their knowledge level, on accounting IT tools and applications, is modest. Certain knowledge shortcomings exist which can mitigate the propensity of graduates to attain a successful entrance in the accounting job market. The moderate level of perceived knowledge is accompanied by moderate levels of satisfaction.

Table 3 provides the results of the factor analysis using the extraction method of principal components with varimax rotation. The KMO statistic receives a value of 0.9 and Bartlett's Test of Sphericity is found significant (p<00.05) indicating that the sample is appropriate to conduct a factor analysis. The analysis suggested a four-component solution (eigenvalues>1) which accounted for 63.6% of the total variance. A visual inspection of the scree plot confirmed the existence of four components. All of the original 28 items retained in the components since factor loadings surpassed the threshold value of 0.4 (Hair et al., 1998). The first component includes all the items that belong to the domains of Audit Automation, Database, and Complex Systems. It also absorbed two of the eight items (Test data and Cooperative client/server environment) attached to the domain of the Advanced Technologies. Since all these items are linked exclusively with the auditing processes the first component is labeled as Audit Informatics Systems. The second component absorbed all the items contained in the Office Automation domain and therefore retained the same label. For the same reason, the third and fourth components labeled as Advanced Technologies and Software respectively.

Items	Components			
	1	2	3	4
1. Workflow Technology			0.510	
2. Test Data	0.574			
3. Cooperative client/server environment	0.507			
4. Digital communications			0.641	
5. Firewall software/ Hardware			0.656	
6. User Authorization Systems			0.685	
7. EDI-traditional			0.690	
8. Wireless communications			0.687	
9. Generalized audit software	0.659			
10. Expert systems	0.730			
11. Embedded audit modules	0.783			
12. Real-time audit modules	0.755			
13. Simulation software	0.763			
14. Word processing		0.704		
15. File management		0.623		
16. E-mail		0.735		
17. Transfer and store files (cloud, DropBox, Google Drive)		0.726		
18. Internet search and retrieval		0.781		
19. Image processing		0.777		
20. Electronic presentations		0.760		
21. Flowcharting/data modeling	0.632			
22. Computer-aided systems engineering tools	0.802			
23. Database design and installation	0.729			
24. Encryption software	0.754			
25. Enterprise resource planning	0.700			
26. Econometric Softwares				0.466
27. Statistical spreadsheets				0.686
28. Electronic Softwares				0.724
K-M-O Measure:	0.927			
Bartlett's Test of Sphericity:	0.000			
Eigenvalue:	10.726	4.045	2.000	1.037
% of Variance explained:	38.310	14.446	7.142	3.704

Table 3.	Results of	principal	components	analysis
----------	------------	-----------	------------	----------

To test the specified research hypotheses a hierarchical regression model was estimated with the dependent variable being represented by the perceived work readiness of graduates. The four dimensions identified by PCA, together with gender, age, satisfaction with the learning and teaching process and the type of institution (TIE, University) constituted the independent variables. The four components encompassing the accounting IT tools and applications entered the model in the last step of the analysis on the theoretical grounds that they are the core predictors of the perceived workreadiness. The nuisance variables of gender and age entered the model in the first step as control variables. In the second step, the satisfaction and the type of institution were entered to account for the variance they explain in readiness. The model was estimated following the general to a specific approach. At a first step, the equation enters with all variables in the two groups and then each variable is dropped according to its own significance and its contribution to the overall fit of the model. Several tried specifications have been made with the intention of retaining the core variables into the models. The final (specific) equation with summary statistics is reported in Table 4.

Table 4. Results of hierarchical regression analysis

	Explanatory variable	b	Beta	p-value	VIF
Model 1	Constant	2.776		0.000	
	Gender	0.389	0.127	0.015*	1.000
Model 2	Constant	1.119		.015	
	Gender	0.228	0.075	0.131	1.026
	Institution	0.222	0.055	0.262	1.006
	Satisfaction	0.355	0.363	0.000*	1.028
Model 3	Constant	-0.886		0.066	
	Gender	0.150	0.049	0.267	1.115
	Institution	0.353	0.087	0.044*	1.067
	Satisfaction	0.242	0.247	0.000*	1.094
	Audit Informatics Systems	0.561	0.443	0.000*	1.220
	Office Automation	0.157	0.117	0.012*	1.248

*Note: \*Significance at p<0.05* 

Results show that among the first group variables only gender remained in the model. The department the student belongs to and the age did not have any predictive power. Although gender is found significant in the first model its explanatory power is not evident in the second model. Gender's significant but small in size (r<0.18) correlation with satisfaction and audit informatics System is an

indication that part of its explanatory power in the final equation is absorbed by these two predictors. Multicollinearity is not an issue since the VIF value for each independent variable is well below the recommended cut-off value of 10. The inclusion of gender in the final equation has slightly improved the overall fit of the model. Therefore gender retained in the final model not as a significant



variable but as a contributor with a positive relationship to readiness. Its partial correlation is small (r=0,06%) but its positive sign shows that men feel more ready than women to enter the job market.

Regarding the rest of the independent variables, the results show that the third (Advanced Technologies) and the fourth (Software) components are not significant in explaining readiness. In contrast, the first component of audit informatics Systems was positive and highly significant (p<0.01). With a relatively large beta coefficient (0.443) and with the largest partial correlation (PC) of 45% the Audit informatics Systems is found to be the most variable in determining students' influential The second component of office readiness. automation is also found significant (p<0.05) but the magnitude of its effect on readiness is smaller (beta=0,117). The positive sign the two variables receive suggests that the higher the knowledge level of students regarding Audit Informatics Systems and office automation software, the higher will be their level of readiness to embark on the accounting job market. Results also show that students' satisfaction from lectures is a positive and highly significant predictor of readiness (p<0.01). The estimated beta coefficient (0.247) and the comparatively high partial correlation (0,286) make the variable of satisfaction the second most important variable in explaining the readiness of students. Furthermore, the results from the analysis show that the type of institution students attend is positively related (p=0.044) to work readiness.

The smallest impact on readiness comes from the variable which represents the type of institutions students attend. The beta coefficient approaches the value of zero (0.09) and the estimated partial correlation is 11%. Its positive relation with work readiness implies that university graduates are more ready than TIE graduates to enter the accounting job market.

# **5. DISCUSSION**

It is evident that students are aware of rapid development regarding that of international competitiveness. The high impact of Audit Informatics Systems on the level of students' perceived readiness towards their entrance in labor market initially indicates a flare of self-criticism and rational thought stemming from the complexity of today's business processes. Specifically, as the level of processes difficulty is rising, the processes of accounting procedures, which have to be performed by businesses, organizations and respectively their accounting officers or accounting departments, are similar. Students recognizing this difficulty can look at the closest operational environment they come to contact each day and tasked with preparing them for the work environment. The results show that educational institutions have not succeeded in staffing and supplying adequate human resources and equipment equal to market levels.

While we are studying the perceived student readiness, we cannot ignore and not use as an indicator of the fact that the levels of readiness are low to the extent of affecting their confidence. This forces the growth of accounting information systems within universities and the general education sector. This can also be seen in surveys regarding fields of accounting illiteracy, which seems to have increased. This can be explained by the present complexity of accounting processes, as in previous decades its levels did not differ to the same degree of daily processes faced by businesses and ordinary citizens.

Similar results, although to a lesser extent, have been observed by the extent to which Office Automation appears to affect readiness. It is a fact that a plethora of information support systems for open-source and day-to-day operations have been developed. A university institution faces major difficulties in adopting and learning a significant number of information systems currently in circulation on the market. At the same time, the learning time required makes it difficult to apply, as the curriculum already struggles to cover a huge amount of material and information related to new systems, studies, and applications of the respective scientific fields. The burden is often shifted to businesses forced to re-educate graduates and their current employees. It is essential to associate higher education institutions more closely with the labor market and through joint effort reduce the gap between education and entrepreneurship. At the same time, this cooperation could bring about changes and renewals of curricula and open new areas of educational and business cooperation.

Acquired knowledge and its effect on readiness the level of difficulty are significant. Furthermore, we found an increase in competition and required skills required by the labor market from young graduates. Students are aware of the difficulties they will encounter. The development of communication and information technology allowed information to increase their need for more specialized and up-todate knowledge and skills.

Each University should integrate into its strategy the continuous and significant development of the curriculum and the updating of skills that students should develop. It is necessary that such moves are applied for information systems and general technologies. Of course, these curriculums must be designed towards their continuous development and renewal in case of future technologies. This requires constant vigilance from teachers and executive staff, as well as direct contact with the labor market. Upgrading existing services and creating new ones are required. At the same within the time objectives of educational institutions, it is necessary to incorporate tactics of acquiring new resources and the latter's appropriate investment. It is vital to take into account the rules and regulations of each institution for the proper assessment of functions and staff. Through these moves, levels of satisfaction can be increased while practical knowledge and skills more adequately developed.

## **6. CONCLUSIONS**

Through this research, we attempt to better understand the level of perceived readiness in higher education students. The distributed questionnaire tried to gather the key features in which students felt weak and where they would like to improve. This effort aimed to shed light on the students' beliefs in order to clarify the tactics that educational institutions should follow in order to remain competitive and rectify their procedures and functions.

The results have shown that students regard as one of the most important issues the level of knowledge provided from educational institutions on Audit Informatics Systems. This result is particularly important as it shows not only the importance of accounting in the modern economic world as a tool to help businesses but also the considerable lack of knowledge the average student has in this particular field of science. At the same time, it is obvious that each educational institution should make significant moves to cover this shortage and encourage their students by renewing the way of learning and applying modern accounting information systems in line with the market.

Levels of student perceived knowledge they acquire have proved to be low, a result that further strengthens the need for stronger organizational processes and education quality levels equivalent to those of competitiveness in the markets. Finally, it is self-evident that, together with knowledge and specialized accounting systems, educational institutions should update the ways in which students will acquire skills of automated systems useful for carrying out their future duties.

This research clarifies important issues on student readiness while at the same time raises important questions as to how the educational process takes place. It demonstrates students' lack of self-confidence in coping with important problems that will emerge in their attempts to enter the labor market. This has the potential to initiate a significant change in academic processes, allowing incorporating pragmatic tactics and upgrading its functions, curriculum as well as re-evaluating its objectives.

Furthermore, it raises an issue of readiness in developing countries, especially for academic communities that achieve many scientific goals but also largely based on and state financial support and budget. From a scientific point of view, the question of readiness as perceived by students combines psychological, organizational and business tactics. This study highlights an important aspect of education and work-readiness that academic and business groups must focus on, especially in an era were sociological and humanitarian aspects are improved, urged and included as proposed for example by organizing frameworks of college and career readiness for students with disabilities (Morningstar et al., 2017). It could be implied that the need for the evolution of courses and even better preparation of students for their future is self-evident.

At the same time, the accounting conclusions demonstrate the significance of both the financial and the accounting sector, thus questioning the way in which accounting as a science is used adequately and to its fullest in order to more effectively facilitate business decisions.

Readiness is of grave importance in the business world. Although our study raised this issue, it was studied as perceived by students. We must take into account that students do not yet have significant interactions with the market. Thusly their answers are likely not to be fully representative and the equivalent of professionalism demonstrated in firms. Furthermore, the research utilized the collection of questionnaires, thusly adding a level of subjectivity. We could amend this case in future studies by a comparative analysis of the expectations between students and firms, in order to create an even more virtual condition of the gap between expectation and reality. This research can combining psychological, be improved by organizational and business tactics, but each subject's greater analysis would go beyond its present goals. At the same time, although data were collected from some of the major educational institutions, it came only from northern Greece. Perhaps a more detailed sample of other regions could demonstrate more complex findings.

In the future, it is interesting to use studies that will be cover psychological and behavioral issues towards more accurate results. At the same time, it is necessary to consider expanding our research into larger geographic areas. Eventually, we could utilize comparative studies between states or levels institutions, thus displaying of entrepreneurship and more effectively linking them to the labor market. Respectively, exploring the same issues of business affairs could furthermore determine whether or at what level the perceived readiness of students is contradicted by the respective perceptions of business owners and the market in general.

## REFERENCES

- 1. Adel, A. (2016). Calls to change: Embedded Career Planning Process (CPP) into Accounting Programme. *Journal of Business and Management Sciences*, 4(1), 12-19. http://doi.org//10.12691/jbms-4-1-3
- 2. Albrecht, W. S., & Sack, R. J. (2000). Accounting education: Charting the course through a perilous future. In *Accounting education: charting the course through a perilous future*. Sarasota, FL: American Accounting Association. Retrieved from https://searchworks.stanford.edu/view/10002409
- 3. Altarawneh, G. (2016). An empirical evaluation of accounting graduates' employability skills from Jordanian employers' perspective. *International Business Research*, *9*(1), 55-65. https://doi.org/10.5539/ibr.v9n1p55
- 4. Awayiga, J. Y., Onumah, J. M., & Tsamenyi, M. (2010). Knowledge and skills development of accounting graduates: The perceptions of graduates and employers in Ghana. *Accounting Education*, *19*(*1–2*), 139-158. https://doi.org/10.1080/09639280902903523
- 5. Burnett, S. (2003). The future of accounting education: A regional perspective. *Journal of Education for Business*, *78(3)*, 129-134. https://doi.org/10.1080/08832320309599709
- 6. Caballero, C. L., Walker, A., & Fuller-Tyszkiewicz, M. (2011). The work readiness scale (WRS): developing a measure to assess work readiness in college graduates. *Journal of Teaching and Learning for Graduate Employability*, *2(2)*, 41-54. https://doi.org/10.21153/jtlge2011vol2no1art552
- 7. CareerBuilder (2017, April 13). *The skills gap is costing companies nearly \$1 million annually, according to a new CareerBuilder Survey* [Press release]. Retrieved from http://press.careerbuilder.com/2017-04-13-The-Skills-Gap-is-Costing-Companies-Nearly-1-Million-Annually-According-to-New-CareerBuilder-Survey

- Cytron, S. H., & Tie, R. (2001). A CPA's guide to the top issues in technology. *Journal of Accountancy*, 191(5), 71– 77. Retrieved from https://www.journalofaccountancy.com/issues/2001/may/acpasguidetothetopissues intechnology.html
- El-Dalahmeh, S. M., (2017). Information Technology (IT) competencies desired in new accounting graduates: A survey in Jordanian business environment. *International Journal of Business and Management*; 12(5), 202-208. https://doi.org/10.5539/ijbm.v12n5p202
- 10. FIER (2018, July 9). *Education and the labour market in Greece: Impact of the crisis and key challenges.* Retrieved from Foundation for Economic & Industrial Research website: http://iobe.gr/research\_dtl\_en.asp?RID=163.
- 11. Godfrey, R. A. J., & Tam, T. (2012). An integrated model for the delivery of IT content in an accounting curriculum. Retrieved from http://aut.researchgateway.ac.nz/handle/10292/4872
- 12. Greenstein, M., & McKee, T. E. (2004). Assurance practitioners' and educators' self-perceived IT knowledge level: An empirical assessment. *International Journal of Accounting Information Systems*, *5(2)*, 213-243. https://doi.org/10.1016/j.accinf.2004.04.002
- 13. Greenstein-Prosch, M., McKee, T. E., & Quick, R. (2008). A comparison of the information technology knowledge of United States and German auditors. *The International Journal of Digital Accounting Research, 8*(14), 45-79. https://doi.org/10.4192/1577-8517-v8\_3
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis*. New Jersey: Prentice Hall. Retrieved from https://www.abebooks.com/9780138948580/Multivariate-Data-Analysis-5th-Edition-0138948585/plp
- 15. HQA, (2017). Annual report of Hellenic Quality Assurance and Accreditation Agency on quality of higher education. Retrieved from https://enqa.eu/wp-content/uploads/2018/06/ENQA-2017-Annual-Report.pdf
- Kazanjian, R. K., Drazin, R., & Glynn, M. A. (2017). Implementing strategies for corporate entrepreneurship: A knowledge-based perspective. In M. A. Hitt, R. D. Ireland, S. M. Camp, D. Sexton (Eds.), *Strategic entrepreneurship: Creating a new mindset* (pp.173-199). Retrieved from https://www.wiley.com/enus/Strategic+Entrepreneurship%3A+Creating+a+New+Mindset-p-9780631234104
- Mason, G., Williams, G., & Cranmer, S. (2009). Employability skills initiatives in higher education: What effects do they have on graduate labour market outcomes? *Education Economics*, 17(1), 1-30. https://doi.org/ 10.1080/09645290802028315
- 18. McKee T. E. (2000). Accounting/auditing in Norway: An investigation of the Norwegian accounting/auditing professions knowledge and views on information technologies. *Oslo, Norway: The Norwegian Institute of Public Accountants.*
- 19. McMahon, J., Gardner, J., Gray, C., & Mulhern, G. (1999). Barriers to student computer usage: Staff and student perceptions. *Journal of Computer Assisted Learning*, *15(4)*, 302-311. https://doi.org/10.1046/j.1365-2729.1999.00105.x
- 20. Miller, G. (1955). The magical number seven, plus or minus two some limits on our capacity for processing information. *Psychological Review, 63(2),* 81-97. http://dx.doi.org/10.1037/h0043158
- 21. Morningstar, M. E., Lombardi, A., Fowler, C. H., & Test, D. W. (2017). A college and career readiness framework for secondary students with disabilities. *Career Development and Transition for Exceptional Individuals*, 40(2), 79-91. https://doi.org/10.1177/2165143415589926
- O'Bannon, I. (2016, January 4). 5 hiring trends to watch in 2016. CPA Practice Advisor: Today's Technology for Tomorrow's Firm. Retrieved from http://www.cpapracticeadvisor.com/news/12157028/5-hiring-trends-towatch-in-2016.
- 23. Papageorgiou, E. (2014). The integration of computerised accounting in the accounting curriculum as an educational learning curve for students entering the business world. *South African Computer Journal*, *52*, 71-81. https://doi.org/10.18489/sacj.v52i0.191
- 24. Van Grembergen, W., & De Haes, S. (2018). Introduction to the minitrack on IT governance and its mechanisms. *Proceedings of the 51<sup>st</sup> Hawaii International Conference on System Sciences* (pp. 4877-4879). https://doi.org/ 10.24251/HICSS.2018.611
- 25. Senik, R., Broad, M., Mat, N., & Kadir, S. A. (2013). Information technology (IT) knowledge and skills of accounting graduates: Does an expectation gap exist? *Jurnal Pengurusan*, *38*, 87-100. Retrieved from https://ukm.pure.elsevier.com/en/publications/information-technology-it-knowledge-and-skills-of-accounting-grad
- Spraakman, G., O'Grady, W., Askarany, D., & Akroyd, C. (2015). Employers' perceptions of information technology competency requirements for management accounting graduates. *Accounting Education*, 24(5), 403-422. https://doi.org/10.1080/09639284.2015.1089177
- 27. Serrat, O. (2017). Notions of knowledge management. In *Knowledge Solutions* (pp. 291-304). Springer, Singapore. https://doi.org/10.1007/978-981-10-0983-9\_120
- 28. Stoner, G. (2009). Accounting students' it application skills over a 10-year period. *Accounting Education*, *18*(1), 7-31. https://doi.org/10.1080/09639280802532224
- 29. Strong, J., & Portz, K. (2015). IT knowledge: What do accounting students think they know? Do you know more than I do? An exploratory study. *The Review of Business Information Systems*, *19(2)*, 39-50. https://doi.org/10.19030/rbis.v19i2.9500
- Warwick, J., & Howard, A., (2015). A note on structuring employability skills for accounting students. International Journal of Academic Research in Business and Social Sciences, 5(10), 165-174. https://doi.org/ 10.6007/IJARBSS/v5-i10/1860
- 31. Wessels, P. l. (2004). Information technology and the education of professional accountants. *Meditari Accountancy Research*, *12(1)*, 219-234. https://doi.org/10.1108/10222529200400012
- 32. Wessels, P. L. (2005). Critical information and communication technology (ICT) skills for professional accountants. *Meditari: Research Journal of the School of Accounting Sciences*, 13(1), 87-103. https://doi.org/10.1108/10222529200500006
- 33. Yilmaz, R. (2017). Exploring the role of e-learning readiness on student satisfaction and motivation in flipped classroom. *Computers in Human Behavior*, *70*, 251-260. https://doi.org/10.1016/j.chb.2016.12.085

VIRTUS