International Journal of Evaluation and Research in Education (IJERE)
Vol. 11, No. 3, September 2022, pp. 1534~1543
ISSN: 2252-8822, DOI: 10.11591/ijere.v11i3.22575

The initial accountant competency of final year accounting students

Weli Weli, Almatius Setya Marsudi
Faculty of Economics and Business, Universitas Katolik Indonesia Atma Jaya, Jakarta, Indonesia

Article Info

Article history:

Received Jul 20, 2021
Revised Jun 25, 2022
Accepted Aug 1, 2022

Keywords:

Accountant competency
IES 3
IES 4
IFAC
Work readiness

ABSTRACT

The development of information technology towards the 4th industrial revolution era brought changes to business processes in various industries, which will eventually have an impact on jobs in the accounting field. Accountants must be adaptable and competent to work as accounting professionals. Therefore, this study aimed to analyze the perceptions of final-year accounting students regarding knowledge competence, soft skills, information technology capabilities, and perceptions of readiness to enter the workforce. It also analyzed whether these competencies affect students' readiness to enter the workforce. In this study, the soft skills competencies are dimensions of intellectual, personal, organizational, internal, and communication competencies, and ethics in accounting. The data was collected using a questionnaire based Google Form given to several universities in Indonesia that were willing to distribute the forms to their accounting students. A descriptive method was used for data and confirmatory factor analysis and data processing was performed with the help of statistical package for the social sciences (SPSS) and partial least squares (SmartPLS) programs. The results showed that soft skills competencies had a higher score compared to accounting and information technology competencies. Furthermore, there was a significant influence between competence and work readiness of accounting students. This study provides information in the preparation of the accounting curriculum to consider various competencies following industry needs.

Corresponding Author:

Weli Weli
Faculty of Economics and Business, Universitas Katolik Indonesia Atma Jaya
Karet Semanggi, Setiabudi, South Jakarta 12910, Indonesia
Email: weli.imbiri@atmajaya.ac.id

1. INTRODUCTION

The industrial revolution marked by the massive use of artificial intelligence (AI), robotics, and the internet of things (IoT) is revolutionizing business processes in various industrial sectors [1]. Accountants' work environments are impacted by dramatic changes in business activities, industrial digitization, and real-time transactions [2]–[7]. Moreover, the companies' practice of processing and presenting information are changing as a result of digital transformation, while manual and repetitive accounting activities are replaced by automated and real-time operations. Hence, the complex accountant jobs will be reduced, and even difficult traditional jobs become easier to do in less time.

In any case, the accounting profession's nature of work is evolving. Digitalization is an important aspect of various professions, including accounting. Therefore, adaptation is needed to keep up with the rapid technological developments. These developments affect the different skills and competence of future professional accountants [4], [8], [9], who are expected to adapt to new aspects of the business environment.

As a result of the impact of globalization, professional accountants require skills that combine accounting knowledge with technological developments. However, there was a gap between the accounting industry's requirements and the workforce's general abilities [2], [10]. These studies revealed that the availability of educated and competent personnel does not meet the industry's requirements. Further studies [3], [8], [10] supported previous findings about the differences in accounting graduates' perceptions of soft and technical skills, including industry expectations. Soft skills such as teamwork, proactivity, and public speaking are emphasized by the industry, while graduates value proficiency in accounting engineering and foreign language skills [8].

In the last few decades, the competence of skilled workforce candidates has been in the spotlight. The North Central Regional Education Laboratory [11], identified a framework for students' skills in this technological era through digital literacy, inventive thinking, and effective communication, including high productivity. In this digital era, students need to possess skills such as proficiency in science, technology, culture, including a comprehensive understanding of information. Similarly, the issue of the special competence of accounting students has been an interesting question for decades by many researchers [2], [3]. They investigated the general and other competencies required by the market and how educational institutions have attempted to provide a curriculum that adapts to the needs of the industry. Gullo's studies [12] concluded that besides accounting knowledge competence, students need to be equipped with soft skills to be ready to work [13]. Soft skills are thought to be able to bridge the competency gap between the market needs and those provided by educational institutions. Therefore, the need for soft skills competence is as important as accounting technical ability.

A study conducted by Tan and Laswad [3] on job advertisements for accounting professionals in Australia and New Zealand found that there are 13 skills that the industry expects of accounting graduates. These skills included: i) Collaborating with colleagues; ii) Presenting, discussing, and defending views; iii) Positive attitude values; iv) Using information technology; v) Meeting deadlines; vi) Understanding group dynamics; vii) Applying leadership skills; viii) Thinking and acting independently; ix) Acting strategically; x) Observing and being aware; xi) Analyzing, reasoning and conceptualizing issues; xii) Being flexible; and xiii) Solving problems and constructing arguments. Based on these several studies, universities have the opportunity to equip accounting students not only with technical, but also soft skills following current industry needs [14]. Furthermore, considering that digital technology has been massively used by the industry, information technology (IT) competence for accounting students is also an important factor to be included in the accounting curriculum [3], [9], [15].

Thus, the problem of this research is how the perception of accounting students related to their competence in the field of accounting, soft skills, and the ability of IT. Then whether the perception related to competence concerns the perception of their readiness to enter the world of work. So, the aims of this study to analyze the perception of the final-year accounting students' perception related to competence in the field of accounting, soft skills, IT capabilities and perceptions of readiness to enter the workforce. It also analyzes whether all these competencies affect the readiness of students to enter the workforce.

2. LITERATURE REVIEW

In 2003, the North Central Regional Education Laboratory identified a framework for learners' skills in the technological era through digital literacy, inventive thinking, and effective communication, including high productivity [11]. Previous studies [2], [3], [12], [16], [17] supported that in addition to accounting knowledge competence, students should be equipped with IT, and soft skills to be ready to work. Furthermore, mastery, and readiness to use IT and soft skills are thought to be able to bridge the competency gap between the market needs and those provided by educational institutions to keep pace with technological developments. Therefore, the need for mastering IT and soft skills is considered important accounting technical abilities.

Competencies for prospective accountants were previously formulated in International Federation of Accountants (IFAC's) International Education Standards (IES) 3 and 4 [2], [18]. The IES 3 framework was a standard for initial professional skills consisting of four types of competencies that early accounting professionals must possess, namely intellectual, interpersonal and communication, personal, and organizations [18]. Meanwhile, the formulation of initial professional values as described in IES 4 specifically defines competence in accounting/business ethics [2]. Based on these two standards, Mallak, Tan, and Laswad [2] developed competency measures for accountants such as ethical, intellectual, personal, interpersonal, and communication, including organizational and business management competencies for final-year accounting students in Saudi Arabia.

Another study formulated on the accountants' competence emphasized the soft skills aspect rather than just accounting technical skills. Day [15] identified four competencies that were highly perceived by certified public accountants (CPAs), including communication, coaching and mentoring, motivating and

inspiring, as well as negotiating and decision making. Furthermore, there are several studies related to the new era such as facing the 2015 ASEAN Economic Community conducted in Indonesia and Thailand [19], [20]. A study conducted by Steelyana [20] showed the need to develop several specific competencies for aspiring accountants in Indonesia such as English speaking, leadership, teamwork, social community projects, and ASEAN cross-cultural knowledge. Meanwhile, Suttipun [19] described five measures of soft skills and technical skills, namely ethical, knowledge, capability, relationship, and analysis competencies. The latest study on the accountants' readiness in the 4.0 industrial revolution environment was performed by Marx *et al*. [10]. They formulated industry 4.0 accountants' competency measures in three dimensions, consisting of: i) Organizational skills (leadership, professionalism, verbal communication, teamwork, and influencing others); ii) Personal and interpersonal skills (time management, listening, and writing), and iii) Intellectual skills (problem-solving, strategic thinking, critical thinking, ethical awareness, creativity, and emotional intelligence).

Besides, the studies focused on the importance of mastering soft skills, several others emphasized IT competencies. These competencies are important and need special attention by accountants, especially in the era of industrial revolution 4.0. Business and Information processing accountants were required to interact with digital devices. Their readiness and mastery of IT is a major concern when they enter the business workforce which is closely related to the use of digital technology [16], [17], [21], [22]. Although accounting was the first business domain to adopt IT widely, Damasiotis' study [17] showed that there was still a gap between IT mastery and industry needs for prospective accountants.

Some basic IT competencies are unchanged, such as the accounting package, spreadsheet package, word-processing package, and knowledge of communication software [17], [23], [24]. Several IT competence studies reaffirmed in IFAC [25] that digital literacy for accountants is grouped into 2 dimensions, namely the ability to obtain information and to process information using digital technology. In this digital era, the ability to obtain information cannot be separated from the ability of web-based communication applications. This is important because the web is a very large information resource, hence it requires skills in searching and judging the quality and relevant sources according to the needs of increasingly complex tasks. The second accountants' competency was the ability to collect, develop and process information using several tools such as word processing, presentation, spreadsheet, and accounting packages. They are expected to be proficient in mastering the features of related software applications appropriate to their tasks.

Based on the previous study, the competence of prospective accountants formulated in the IES 3 framework can be used as a reference in assessment. This study examines perceptions based on IFAC's IES 3 and 4 framework. Considering the importance of mastery of IT by accountants, the developed study model forms a dimension of IT competence and separates it from organizational competence as formulated in the study [2], [5]. The resulting level of competence indicates the readiness of students to enter the world of work as early accounting professionals [2], [5], [19], [20]. Furthermore, accounting competence is also a separate dimension by following the framework built on Pincus' research [4] as presented in Figure 1.

Therefore, this study examined the competency model of accounting final-year students by considering soft skills and hard skills as depicted in Figure 1. Based on the model presented in Figure 1, the research hypothesis can be formulated as: i) Students' perceptions of competence in accounting affect their work readiness; ii) Students' perceptions of soft skills affect their work readiness; and iii) Students' perceptions of mastery of IT affect their work readiness.

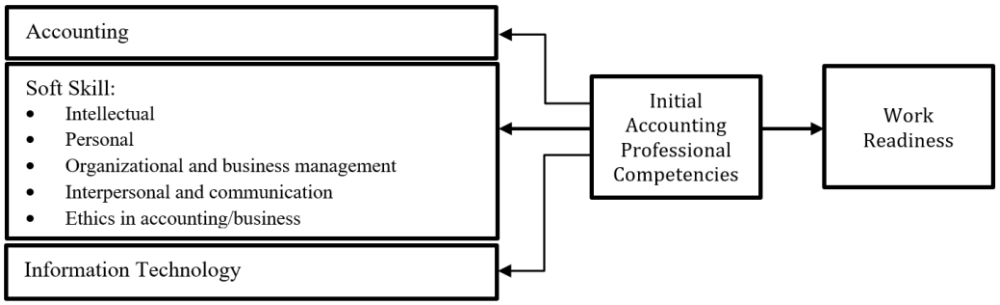

Figure 1. Initial accounting professional competencies

3. RESEARCH METHOD

This study was conducted through a survey using questionnaires distributed to final-year accounting students from several Indonesian universities. The data collection method was performed using the snowball sampling technique. Questionnaires were distributed to several universities lecturers who were willing to forward them via google form to their students.

This study analyzed the competency components of accounting students and their relationship with their perceptions for the level of work readiness. Accounting, soft skills, and IT skills were the three variables used to analyze initial accounting professional competencies. According to International Accounting Standard (IAS) 3 and 4 frameworks [2], soft skills have five dimensions, consisting of intellectual, personal, organization, interpersonal and communication, and ethics. Meanwhile, accounting knowledge and IT mastery refer to the IFAC framework [25].

The data analysis was performed descriptively and confirmatory factor analysis was used to test the hypothesis. Using the SPSS program, the descriptive analysis was performed to explain the condition of the competency level perceived by the respondents. The concept of a score interval of each indicator's mean was used to measure the perceived competency level, which was grouped into three levels, consisting of low, moderate, and high. Subsequently, the conversion value score of the 5 Likert scales was calculated by (5-1)/3=1.3. Therefore, the interval scale was a low score for a value of 1 < x 2.3, a moderate score for a value of 2.3 < x 3.6, and a high score for a value > 3.6 [26].

Model testing was performed using the partial least square-structural equation model (PLS-SEM) approach and the SmartPLS 3 program. There were three stages of testing, consisting of analyzing the measurement model/outer model, structural model/inner model, and hypothesis testing as summarized in Table 1 [27]–[30]. Further, the operationalization of variable presented in Table 2.

Likert scale measurements were used for the instruments. The scale options available in the questionnaire ranged from 1 to 5. The option 1 is indicating the low level of perceived competence mastery, while 5 representing the high perception.

Table 1. Stages of testing the study model

Stage	Test	Objective	Criteria
1	Measurement/Outer model	The validity of the model shows that the latent construct predicts block size better than other block sizes	Convergent validity: outer loadings each indicator >0.5 Discriminant validity: construct correlation with measurement items > other constructs. Fornell and Larcker Criterion Correlation: the diagonal value of the correlation between latent variables > than the other latent construct blocks.
		Model reliability	AVE>0.5; composite reliability (CR)>0.8; Cronbach's alpha>0.7
2	Structural/Inner model	Predict causality between latent variables	Collinearity assessment (VIF<5); estimation of the significance of the t-statistic value (>1.96 at ()=5%) and path coefficient.
		Predict the predictive power of endogenous variables from structural models	Coefficient determinant (R^2); Value 0.67=strong model strength; 0.33 moderate strength; and 0.19 weak strength; <0.19 no explanatory power.
		Predict the substantive effect of exogenous variables on endogenous variables	Effect size (f^2), value<0.02 no effect; 0.02 weak effect; 0.15 moderate effect; 0.35 high effect.
		To validate endogenous construct model validation	Predictive relevance (Q^2); value <0 has no predictive relevance; <0.02 the validity of the predictive relevance of the model is weak; 0.15 the validity of the predictive relevance of the moderate model; and 0.35 the validity of the predictive relevance of the strong model
3	Fit models/GoF Index	Evaluate measurement models and structural models, providing simple measurements for overall model prediction	GoF=square root of the average communality index value and the average R-Square (for SmartPLS 3.3 the communalities values are not shown because they are identical to the AVE coefficients values). ➔ GoF=root mean of AVE coefficients and average R-Square. ➔ GoF value=0.10 small, 0.25 medium, 0.36 large.
		Measure the approximate difference between the observed correlation matrix and the correlation matrix implied in the model	Standardized root means square residual (SRMR) Value<0.08 the model has a good fit or <0.10 [31]

Table 2. Measurement of each variable

Variable	Indicator items
Accounting, namely the perception of respondents regarding their understanding in the field of accounting [4]	Financial Statement Analysis, preparing management reports, Business Planning, Analysis, and Control, Taxation: Planning and Compliance, Business Information System, Assurance & Internal Control, Prepare financial reports according to PSAK, Audit of financial statements, Cost accounting, Business process.
Soft skills, consisting of:	Finding, obtaining, analyzing, and integrating information from various sources and perspectives
Ability: intellectual, the perception of professional accountants regarding the ability to solve problems, make decisions, and exercise professional judgment [2], [18]	Identifying and evaluating alternative solutions, applying logical and analytical thinking, applying professional judgment to reach well-reasoned conclusions, identifying the right time to consult a specialist in solving problems and reaching conclusions, having a logical and critical reason in analyzing problems, using innovative thinking to solve problems, Identifying and resolving unstructured problems, Identifying and solving multi-faceted problems.
Personal, it explains the ability of professional accountants related to personal attitudes and behavior [2], [18]	Managing to learn independently using available resources, Being responsible for work with minimal direction, Having enthusiasm for continuous learning, Having professional skepticism with questions, Assessing all information critically, Setting high work standards, Evaluating and monitoring personal performance based on feedback and reflection, Managing time to achieve professional commitment, Managing resources to achieve professional commitment, Anticipating challenges and planning potential solutions, Identifying possible opportunities, Being open to new ideas and opportunities, Being flexible in different situations or to new opportunities.
Organizational and business, it describes the ability of professional accountants to work effectively with or within the organization to obtain optimal results from the people and resources available [2], [18]	Selecting and setting priorities in conditions of limited resources, Organizing work to meet deadlines, Reviewing own work to determine whether it conforms to quality standards, Reviewing other people's work to determine if it meets quality standards, Motivating and developing others, Organizing and delegating tasks, Influencing others to work towards a common goal, Applying tools and technologies to improve efficiency and effectiveness, for example, use of the Internet, spreadsheets, and word processing, Applying information technology as a management tool, for example, computerized accounting systems.
Interpersonal and communication explains the perception of professional accountants regarding their ability to work and interact effectively with others [2], [18]	Working effectively with others, Working in harmony with others to contribute to a common goal, Communicating effectively orally and in writing according to the situation, Engaging effectively in professional discussions, Evaluating and presenting discussion results through live presentations, Communicating effectively about information, ideas, problems, and solutions to both specialist and non-specialist audiences, Being aware of cultural and linguistic differences in communication, Fluent English, Active listening and understanding, Applying effective interview techniques, Negotiating with people from different backgrounds, Negotiating things and managing conflicts, Interacting effectively and professionally with others, Presenting ideas clearly and influencing others to provide support and commitment, Speaking Indonesian formal.
Ethics in accounting/business explains the perception of professional accountants regarding their ability to behave ethically and morally in carrying out work in the accounting field [2], [19]	Using moral and ethical considerations in doing work, Understanding and being able to work following the basic principles of accountant ethics, Understanding the responsibilities of accounting professionals, Controlling emotions at work, Understanding the nature of ethics in accounting/business, Identifying ethical issues and determining when ethical principles apply, Analyzing alternative courses of action and determining their ethical consequences, Applying basic ethical principles of integrity, objectivity, professional competence, confidentiality, and professional behavior to ethical dilemmas and determining the appropriate approach.
Information technology, explains respondents' perceptions regarding their mastery of various basic technology tools [17], [23], [25]	Spreadsheet package, Word-processing package, Presentation package, Internet search and retrieval tools, E-mail, and communication software, Data management: Electronic databases SQL/Ms. Access, Data sharing and groupware tools/cloud computing, Data analytic, accounting application, Tax software, Time management and billing tools, Advanced Automation: ERP system, electronic working papers for Audit, Audit software.
Work Readiness describes the level of work readiness of the respondents [19]	Confidence that can compete among accountants, Readiness to: work under pressure, interact well in a varied work environment, compete in the world of work based on college experience, compete in the world of work based on the abilities possessed.

4. RESULTS

4.1. Descriptive analysis

The results of data collection conducted on 16 February to 22 April 2021 showed a sufficient response, namely 16 universities. Most of the respondents were females (70.3%). Details of respondent information are presented in Table 3. Furthermore, Table 4 shows the lowest perceived competencies in accounting, IT, and organization. Meanwhile, other competencies, namely intellectual, personal, interpersonal, and communication including ethics in accounting were perceived as higher. Similarly, their perceptions of readiness to work were the highest compared to all of their competency scores.

Table 3. Description of respondents

		Total	%
University	Unika Atma Jaya-Jakarta	59	15.6
	Jenderal Soedirman University	45	11.9
	Muhammadiyah Prof Dr Hamka University	6	1.6
	STIE Bank BPD Central Java	22	5.8
	Pattimura University	29	7.7
	Bengkulu University	28	7.4
	Sriwijaya University	21	5.6
	Diponegoro University	53	14.1
	Stikubank University Semarang	10	2.7
	Sanata Dharma University	27	7.2
	Atma Jaya University Makassar	24	6.4
	Saint Paul Polytechnic Sorong	16	4.2
	Cenderawasih University	31	8.2
	STIE YAI	4	1.1
	University of Technology Yogyakarta	1	0.3
	Stiepari Semarang	1	0.3
Gender	Male	112	29.7
	Female	265	70.3

Table 4. Descriptive of variables

Variable	Mean Score	Description
Accounting skill	3.46	Moderate
Intellectual skill	3.72	High
Personal skill	3.94	High
Organizational skill	3.55	Moderate
Interpersonal and communication skill	3.95	High
Ethical in accounting skill	3.96	High
IT skill	3.42	Moderate
Work readiness	4.16	High

4.2. Confirmatory factor analysis

4.2.1. Measurement/outer model evaluation

Table 5 shows that all measurements were valid and reliable. Meanwhile, the output show a good convergent validity, as indicated by the value of the outer loadings of each indicator which is greater than 0.5 [27]. It also shows an average of variance extracted (AVE) value greater than 0.5 for all constructs; the result shows the correlation of all indicators is greater in the latent construct than the other constructs implying that the model has a good Discriminant Validity; based on Fornell and Larcker Criterion the result shows diagonal value is greater than the value in the other construct blocks. The output results present a composite reliability value greater than 0.8, indicating that the model has internal consistency from the indicator to the latent variable. Furthermore, Cronbach's alpha shows a value greater than 0.7, indicating that all measurement items used had good reliability. Therefore, all measurement indicators had good validity and reliability, and the data can be used for further testing, namely the structural model.

4.2.2. Structural/inner model evaluation

The second stage evaluates the structural/inner model equations to predict causality relationships between latent variables after the measurement results showed adequate validity and reliability values. Testing of structural equations was performed in several ways as:

i) The collinearity assessment was tested by evaluating the collinearity statistic where the VIF value should be less than 5. As presented in Table 6, the VIF values for the inner model are all less than 5, indicating that there is no multicollinearity in the latent variables used.

ii) The significance of the path coefficient was tested and the value of T-statistics. Table 6 shows that all of the calculated t-values are greater than 1.96 at (α)=5%.

iii) The values of the coefficient determinant (R^2), effect size (f^2), and predictive relevance (Value Q^2) were tested. Table 6 shows R^2 of 0.378, 0.378, indicating moderate predictive power on the variability of endogenous variables by exogenous variables [17]. Also, the value of effect size (f^2) for the accounting variable was 0.023, while soft skills was 0.058 and IT was 0.034. These results indicated that all exogenous variables had a small substantive effect on endogenous work readiness variables. Furthermore, the results of the predictive relevance (Q^2) value for the latent variable soft skills and work readiness as shown in Table 5 was greater than 0.35. Therefore, the two latent variables had large predictive relevance while accounting and IT variables have moderate predictive relevance [17].

Table 5. The measurement model and Q2

Laten Variables	1st Order items	2nd order items	Loadings	AVE	CR	Cronbach's Alpha	Q^2
Accounting	A3		0.792	0.596	0.855	0.773	0.327
	A5		0.764				
	A7		0.715				
	A8		0.813				
Soft skill				0.510	0.974	0.972	0.481
	Ethics	Et1	0.702	0.687	0.939	0.924	0.578
		Et2	0.748				
		Et3	0.727				
		Et5	0.691				
		Et6	0.762				
		Et7	0.769				
		Et8	0.713				
	Intellectual	I5	0.664	0.667	0.909	0.875	0.495
		I6	0.703				
		I7	0.659				
		I8	0.679				
		I9	0.675				
	Information and	IC1	0.693	0.611	0.940	0.929	0.517
	Communications	IC2	0.690				
		IC3	0.759				
		IC4	0.729				
		IC5	0.728				
		IC6	0.727				
		IC10	0.705				
		IC12	0.684				
		IC13	0.684				
		IC14	0.695				
	Organizational	O1	0.732	0.660	0.906	0.870	0.487
		O2	0.698				
		O3	0.764				
		O4	0.730				
		O7	0.674				
	Personal	P10	0.749	0.616	0.935	0.922	0.511
		P11	0.682				
		P12	0.741				
		P13	0.705				
Information	IT1		0.781	0.550	0.858	0.793	0.324
technology	IT2		0.767				
	IT3		0.790				
	IT9		0.734				
	IT14		0.623				
Work readiness	R1		0.769	0.720	0.885	0.803	0.426
	R4		0.888				
	R5		0.883				

Item removed: loadings factor <0.5:
A1,A2,A4,A6,A9,A10, ET4,I1-I4,IC7-IC9,IC11,O5,O6,O8,P1-P9,IT4-IT8, IT10-IT13,R2,R3

Table 6. Structural model testing

Hypothesis	Relationship	Std Beta	Std Error	t-Value	VIF	f^2	SRMR
	Ethics -> SoftSkill	0.229	0.006	36.580**	3.086		0.08
	InfCom -> SoftSkill	0.299	0.007	40.819**	3.280		
Second Order	Intel -> SoftSkill	0.155	0.005	30.896**	2.572		
	Orgn -> SoftSkill	0.161	0.005	30.450**	3.791		
	Person -> SoftSkill	0.276	0.007	38.320**	4.384		
Hypothesis	Acct -> WR	0.172	0.063	2.631**	1.971	0.023	
Hypothesis 2	SoftSkill -> WR	0.291	0.069	4.253**	2.406	0.058	
Hypothesis 3	IT -> WR	0.229	0.069	3.302**	2.446	0.034	

**p<0.01; * p<0.05; VIF<5; R2 work readiness=0.378

After testing the structural model, the last stage was to determine the results of the evaluation of the goodness of fit (GoF) index. With an average AVE of 0.624 and an R-Square value of 0.378, the GoF value of 0.486 is obtained. Based on the convention, this model had a large GoF [27]. Furthermore, the SmartPLS output also showed an standardized root mean square residual (SRMR) value of 0.08, indicating that the model had a good level of fit [27].

4.3. Discussion

The results of the descriptive analysis showed that the average students' perceptions of accounting competence and mastery of information technology devices were lower than the students' perceptions of their soft skills competence. This indicated that the accounting study program has to re-evaluate the curriculum's learning outcomes including the use of information technology that adapts to industry needs. However, most students believe that soft skills were more adequate than their competencies in accounting and mastery of information technology. These results also indicated that the technical skills learned in lectures were not fully mastered by students. Meanwhile, higher soft skills competence indicated that the activities or learning processes were sufficient in improving their skills. Soft skills' mastery which was higher than mastery of accounting led students to believe they can compete when entering the workforce. This condition was supported by a high score on the work readiness variable, which indicated that students were confident and ready to compete both based on the conditions of ability and experience of learning outcomes during college. Furthermore, hypothesis testing provides empirical support that accounting and soft skills competence, including mastery of information technology, affects students' work readiness.

Furthermore, Figure 2 shows that based on confirmatory factor analysis, confirmation has been obtained for the measurement of each construct. Accounting competence was measured using 4 out of the 10 proposed items. These results showed that accounting competence contributed to work readiness in the applicable aspects of the general workforce. The soft skills competency adopted from IFAC's IES 3 and 4 frameworks, which describes the initial professional skills and initial professional values standards were modified. Intellectual variables indicators were reduced from 9 to 5, personal from 13 to 4, Organization from 9 to 5, interpersonal and communication from 15 to 10, and ethical from 8 to 7 indicators. Meanwhile, the information technology competence included only 5 of the 14 proposed items. This showed that the respondents' application of information technology was common and consistent with the previous studies' results [17], [23]. Based on the grouping performed by IFAC [25], the information technology competence formed falls under the information processing capabilities using digital technology, namely the ability to collect, develop and process information using various devices' applications. Therefore, the ability to obtain information using digital technology or through the use of web-based applications must be developed and socialized.

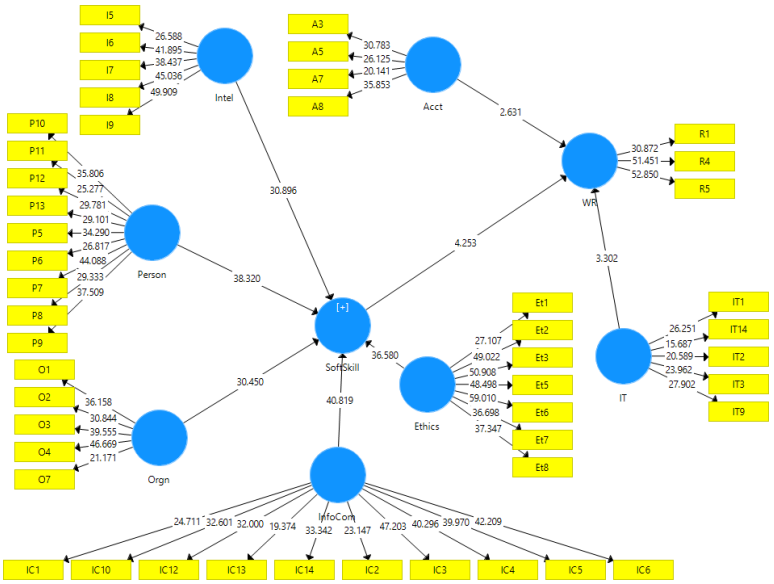

Figure 2. Structural model

Based on the results of the analysis as shown in Table 6, the entire hypothesis received empirical confirmation where accounting competence, soft skills and IT mastery perceived by students had an effect on their perception of work readiness. The results of this study generally showed that the framework of IFAC's IES 3 and 4 were made following the workforce needs. Tan and Laswad [3] conducted a study on accountants' professional competency for conditions in Australia and New Zealand. Also, previous studies [2], [12], [13], [16], [17] received support from the results of this study, where accounting graduates' work readiness was the result of contributions in accounting competence, mastery of soft skills, and IT skills.

Although, the perceived value of soft skills competence was higher than the accounting and IT fields. These results supported previous studies [12], that apart from accounting competence, soft skills play an important part in contributing to students' readiness to enter the workforce. Also, this provided empirical support for the results of previous studies that emphasize aspects of soft skills [10], [15], [19], [20].

5. CONCLUSION

This study provides empirical evidence from the perspective of students regarding the level of competence in accounting, soft skills, and information technology as well as work readiness. Soft skills received the highest rating among the three types of competence, compared to accounting and information technology. Interestingly, students perceive their readiness to enter the workforce much higher than the perceived value of their competence. These results showed that students were very optimistic about their abilities and experiences during college to be able to compete in the workforce. However, their digital literacies were still limited to the types of general information technology applications, namely to process and present information. The students were not yet at the stage of finding and using web-based technology to obtain information. Hence, this indicated the need for integration of applications other than spreadsheets, word processors, presentations, accounting, and auditing applications in the accounting curriculum. Considering the increasing use of web-based technology, tools for information retrieval, data analytics, and databases have begun to be integrated into the accounting curriculum.

Taking into account the factors of soft skills and mastery of information technology, this study has practical contributions to the development of the accounting curriculum. This is particularly true in handling web-based information, which will increase in the future because technology is moving to cloud-based operations. However, this study's limitation is that the scope of the distribution was not performed evenly. Therefore, the results may not show the same conditions in all regions of Indonesia. Furthermore, this condition was an illustration from the final-year students' perspectives who have not experienced learning completely. Further study is required to determine the uniqueness or difference in scores due to geographical conditions. There is also a need to confirm the user industry of accounting graduates and evaluate the suitability of the competencies.

REFERENCES

[1] Commission on Science and Technology for Development, "Building digital competencies to benefit from existing and emerging technologies, with a special focus on gender and youth dimensions," United Nations Economic and Social Council, Geneva, 2018, [Online]. Available: https://unctad.org/system/files/official-document/ecn162018d3_en.pdf.

[2] M. A. Al Mallak, L. M. Tan, and F. Laswad, "Generic skills in accounting education in Saudi Arabia: students' perceptions," *Asian Review of Accounting*, vol. 28, no. 3, pp. 395–421, 2020, doi: 10.1108/ARA-02-2019-0044.

[3] L. M. Tan and F. Laswad, "Professional skills required of accountants: what do job advertisements tell us?" *Accounting Education*, vol. 27, no. 4, pp. 403–432, 2018, doi: 10.1080/09639284.2018.1490189.

[4] K. V. Pincus, D. E. Stout, J. E. Sorensen, K. D. Stocks, and R. A. Lawson, "Forces for change in higher education and implications for the accounting academy," *Journal of Accounting Education*, vol. 40, pp. 1–18, 2017, doi: 10.1016/j.jaccedu.2017.06.001.

[5] T. Shopova, "Digital Literacy of Students and Its Improvement at The University," *Journal on Efficiency and Responsibility in Education and Science*, vol. 7, no. 2, pp. 26–32, Jul. 2014, doi: 10.7160/eriesj.2014.070201.

[6] F. Holotiuk and D. Beimborn, "Critical Success Factors of Digital Business Strategy," *13th International Conference on Wirtschaftsinformatik*, vol. 13, 2017, pp. 991–1005.

[7] H. C. Chae, C. E. Koh, and K. O. Park, "Information technology capability and firm performance: Role of industry," *Information and Management*, vol. 55, no. 5, pp. 525–546, 2018, doi: 10.1016/j.im.2017.10.001.

[8] V. Dolce, F. Emanuel, M. Cisi, and C. Ghislieri, "The soft skills of accounting graduates: perceptions versus expectations," *Accounting Education*, vol. 29, no. 1, pp. 57–76, 2020, doi: 10.1080/09639284.2019.1697937.

[9] G. Pan and P. S. Seow, "Preparing accounting graduates for digital revolution: A critical review of information technology competencies and skills development," *Journal of Education for Business*, vol. 91, no. 3, pp. 166–175, 2016, doi: 10.1080/08832323.2016.1145622.

[10] B. Marx, A. Mohammadali-Haji, and P. A. Lansdell, "University accounting programmes and the development of Industry 4.0 soft skills," *Journal of Economic and Financial Sciences*, vol. 13, no. 1, 2020, doi: 10.4102/jef.v13i1.470.

[11] R. Mason, "Literacy in the digital age," *British Journal of Educational Technology*, vol. 37, no. 2, pp. 315–315, 2006, doi: 10.1111/j.1467-8535.2006.00602_10.x.

[12] M. Gullo, "Bridging the Gap in Accounting Education and Application through the Development and Use of Soft Skills," Senior Honors Thesis, The College at Brockport, 2019, [Online]. Available: http://hdl.handle.net/20.500.12648/6759.

[13] S. C. McCrary, "Accounting curricula: Soft skills at the expense of technical competency or a happy merger of the two?" *Journal of Education for Business*, vol. 97, no. 3, pp. 204–212, 2022, doi: 10.1080/08832323.2021.1910115.

[14] W. H. Black, "The activities of the Pathways Commission and the historical context for changes in accounting education," *Issues in Accounting Education*, vol. 27, no. 3, pp. 601–625, 2012, doi: 10.2308/iace-50091.

[15] K. C. Day, "CPA Perceptions of Human Skills for Professional Competency Development Needs," D.B.A. Dissertation, Northcentral University, 2017.

[16] H. H. K. Alkhaffaf, K. Md. Idris, A. Abdullah, and A.-H. Al-Aidaros, "The influence of cognitive factors on information technology competencies among accountants in civil conflict environment," *Indian-Pacific Journal of Accounting and Finance*, vol. 2, no. 2, pp. 51–64, 2018, doi: 10.52962/ipjaf.2018.2.2.48.
[17] V. Damasiotis, P. Trivellas, I. Santouridis, S. Nikolopoulos, and E. Tsifora, "IT Competences for Professional Accountants. A Review," *Procedia - Social and Behavioral Sciences*, vol. 175, pp. 537–545, 2015, doi: 10.1016/j.sbspro.2015.01.1234.
[18] International Accounting Education Standards Board, *International Education Standards (IES) 3: Initial Professional Development – Professional Skills (Revised)*. The International Federation of Accountants (IFAC), 2014, [Online]. Available: http://www.ifac.org/publications-resources/ies-3-initial-professional-development-professional-skills-revised.
[19] M. Suttipun, "The readiness of thai accounting students for the ASEAN economic community: An exploratory study," *Asian Journal of Business and Accounting*, vol. 7, no. 2, pp. 139–157, 2014.
[20] W. Steelyana, "Preparing Indonesia skilled labor in the field of accounting, finance and capital market for ASEAN Economic Community 2015," *1st International Conference on Business, International Relation and Diplomacy (ICOBIRD)*, 2012, [Online]. Available: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2193026.
[21] S. Mustafa EL-dalahmeh, "Information Technology (IT) Competencies Desired in New Accounting Graduates: A Survey in Jordanian Business Environment," *International Journal of Business and Management*, vol. 12, no. 5, p. 202, 2017, doi: 10.5539/ijbm.v12n5p202.
[22] J. Chen, D. Damtew, J.-M. Banatte, and J. Mapp, "Information Technology Competencies Expected in Undergraduate Accounting Graduates," *Research In Higher Education Journal*, vol. 3, pp. 1–7, 2010.
[23] S. Sithole, "Information Technology Knowledge and Skills Accounting Graduates Need," *International Journal of Business and Social Science*, vol. 6, no. 8, pp. 47–52, 2015.
[24] C. B. Lee, H. Tang, K. M. Sam, and G. Xiong, "Spreadsheet Proficiency: Which Spreadsheet Skills Are Important ?" *Journal of Information Technology Management*, vol. XXIX, no. 3, pp. 35–44, 2018.
[25] International Federation of Accountants (IFAC), *An Illustrative Competency Framework For Accounting Technicians*. International Federation of Accountants, 2019.
[26] H. Umar, *Research Methodology for Business Thesis and Thesis*. Jakarta: Rajawali Pers (in Indonesian), 2014.
[27] G. Kurian, "Partial Least Squares," in *The Encyclopedia of Political Science*, CQ Press, 2014, doi: 10.4135/9781608712434.n1137.
[28] I. Ghozali, *Structural Equation Modeling Metode Alternatif dengan Partial Least Square*. Semarang: Badan Penerbit Universitas Diponegoro, 2006.
[29] M. Sarstedt, J. F. Hair, C. M. Ringle, K. O. Thiele, and S. P. Gudergan, "Estimation issues with PLS and CBSEM: Where the bias lies!" *Journal of Business Research*, vol. 69, no. 10, pp. 3998–4010, 2016, doi: 10.1016/j.jbusres.2016.06.007.
[30] I. Ghozali, *Partial Least Squares Concepts, Techniques and Applications Using SmartPLS 3.0 Program For Empirical Research*. Semarang: Badan Penerbit Universitas Diponegoro (in Indonesian), 2008.
[31] J. Henseler *et al.*, "Common Beliefs and Reality About PLS: Comments on Rönkkö and Evermann (2013)," *Organizational Research Methods*, vol. 17, no. 2, 2014, doi: 10.1177/1094428114526928.

BIOGRAPHIES OF AUTHORS

Weli is currently a lecturer at Department of Accounting, Faculty of Economic and Business, Atma Jaya Catholic University of Indonesia. Her main research directions are Accounting Information System; using technologies in teaching. Relating to her research area, she has written and published 4 books, over 30 articles in international journals, and proceeding of international conference. She can be contacted at email: weli.imbiri@atmajaya.ac.id.

Almatius Setya Marsudi is currently a lecturer at Department of Accounting, Faculty of Economic and Business, Atma Jaya Catholic University of Indonesia. His main research directions are Management Accounting; Accounting Information System; using technologies in teaching. Relating to his research area, he has written and published 32 articles in journals and proceeding of international conference and 3 articles published in international journals. He can be contacted at email: almatius.marsudi@atmajaya.ac.id.