

Public Accountants' Perceptions of Indonesia's Readiness for Accounting Digitalization in Industry 5.0

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This study explores the perceptions of public accountants regarding Indonesia's readiness to adopt accounting digitalization in the era of Industry 5.0. As technological integration accelerates across sectors, the accounting profession faces urgent demands to adapt to artificial intelligence (AI), big data, and automation. This research aims to assess how well-prepared Indonesia is from the perspective of accounting professionals, who are directly impacted by these shifts. Using a quantitative research approach, data were collected through structured questionnaires distributed to certified public accountants across major cities in Indonesia. The study employed descriptive and inferential statistical methods to analyze the responses and identify patterns of perception. The findings reveal a generally positive perception of Indonesia's digital transformation, with particular confidence in technological infrastructure and institutional support. However, concerns persist regarding the readiness of human resources and regulatory alignment. The results also suggest regional disparities in readiness levels, pointing to a need for more targeted policy intervention and continuous professional development. This study contributes to the literature by highlighting the voice of practitioners in the national discourse on digital transformation in accounting. It underscores the importance of collaboration among government, academia, and industry stakeholders to ensure a cohesive and sustainable digital ecosystem. The implications of this research are particularly relevant for policymakers, regulators, and educational institutions aiming to align Indonesia's accounting profession with the demands of Industry 5.0.

1. Introduction

1.1 Background

The rapid advancement of digital technology has triggered a massive transformation across various sectors, including accounting. Entering the era of Industry 5.0, the focus has shifted from automation and efficiency (typical of Industry 4.0) to a more collaborative interaction between humans and intelligent technologies, emphasizing human-centric values, sustainability, and inclusiveness. Within this evolving landscape, accounting digitalization has become imperative for organizations and governments to enhance transparency, accuracy, and efficiency in financial reporting.

As a developing country, Indonesia faces significant challenges in preparing its digital infrastructure, human resource capabilities, and regulatory frameworks to accommodate emerging

technologies such as blockchain, cloud computing, and artificial intelligence (AI) within accounting systems. Public accountants, as professional actors in accounting practices and audits, are on the front lines of these changes.

A study by [1] emphasized that the implementation of information technology in accounting systems requires structural readiness and well trained human resources. Similarly, [2] highlighted the urgency of digital transformation in financial reporting and organizational accountability, particularly amid the disruption brought by technological innovations. These studies collectively underscore the necessity for countries, including Indonesia, to be prepared for a comprehensive digital transition in accounting.

However, such readiness cannot be assessed without considering the perceptions and experiences of public accountants working directly in the field. According to [3], accounting professionals' perceptions of digital innovation significantly influence technology adoption levels. Furthermore, [4] and [5] found that accountants who have a positive perception of information technology tend to implement digital accounting systems more effectively.

In this context, a critical question emerges: How do public accountants in Indonesia perceive the nation's readiness for adopting accounting digitalization in the era of Industry 5.0?

1.2 Problem Statement

Despite the global momentum toward accounting digitalization, Indonesia's readiness for implementation remains uncertain, especially from the viewpoint of professional practitioners such as public accountants. Many accountants face limited access to updated technological training, uneven distribution of digital infrastructure, and regulatory environments that are not yet fully responsive to technological advancement. This has resulted in a discrepancy between the demands of digitalization and the actual capabilities of accountants on the ground.

Moreover, existing literature offers limited insights into Indonesia's preparedness for accounting digitalization based specifically on public accountants' perspectives. Yet, their insights are crucial in revealing empirical realities about barriers and enablers in digital adoption. Without a clear understanding of these professional perceptions, policymaking and digitalization strategies may remain speculative and disconnected from real world conditions.

1.3 Objectives and Scope

This study aims to:

1. Analyze public accountants' perceptions of Indonesia's readiness for digitalizing accounting in the era of Industry 5.0.
2. Identify supporting and inhibiting factors affecting accounting digitalization efforts in Indonesia based on the perspectives of public accountants.
3. Provide strategic recommendations rooted in professional insight to enhance national preparedness for adopting digital accounting systems.

This study specifically limits its scope to the perceptions of publicly registered accountants in Indonesia, with a primary focus on three key aspects influencing the readiness for accounting digitalization: technology, professional competency, and relevant regulations. The research does not include technical evaluations of specific accounting systems or individual assessments of private sector organizations. To address the research problems, two theoretical frameworks are employed as the foundation. The first is the Technology Acceptance Model (TAM), which explains that technology adoption is largely influenced by perceived usefulness and ease of use.

The second is the Theory of Planned Behavior (TPB), which posits that an individual's intention to adopt a system is shaped by their attitude, subjective norms, and perceived behavioral control. Through this theoretical lens, the study aims to offer both theoretical and practical contributions to the advancement of digital transformation in accounting, particularly in evaluating the readiness of Indonesia's professional human resources to face the challenges of Industry 5.0.

2. Literature Review

2.1 Related Work

Accounting digitalization has become a major focus in accounting and information technology literature, especially within the context of the Industry 5.0 revolution that emphasizes collaboration between humans and intelligent technologies. [6] highlighted the importance of digitalization in enhancing efficiency and transparency in financial reporting through technologies such as blockchain and artificial intelligence (AI). Their study emphasized that organizational readiness particularly human resources and IT infrastructure is critical to the success of digital transformation.

Furthermore, [7] examined professional accountants' perceptions of digital technology usage in audit practices. They found that positive attitudes toward technologies like cloud computing and big data analytics significantly accelerate their adoption. However, challenges such as limited training and regulatory changes were identified as barriers to digitalization.

In the Indonesian context, [8] conducted an exploratory study on digital readiness in the accounting sector. Their findings underscored disparities between major cities and remote areas in terms of technology access and human capital training, which hinder the overall readiness for accounting digitalization. They also highlighted the need for adaptive regulatory support to keep pace with technological advancements.

Adding to this, [9] and [10] investigated public accountants' perceptions regarding digital accounting adoption in developing countries. Their study revealed that professionals' perceptions of ease of use and usefulness directly influence their intention and capacity to adopt digital accounting systems.

Finally, [11] discussed the challenges and opportunities of accounting digitalization in Indonesia under Industry 5.0. Their research identified that beyond technological factors, organizational culture and regulatory environments play vital roles in national digital transformation readiness.

2.2 Research Gap

Despite these valuable insights, several gaps remain unaddressed. Firstly, most existing studies focus broadly on technology adoption without delving deeply into the perceptions of public accountants in Indonesia, who are key stakeholders in implementing accounting digitalization.

Secondly, the unique context of Industry 5.0 which integrates human centric collaboration with intelligent technology has been insufficiently explored regarding professional accountants' perceptions, especially in developing countries like Indonesia. This era introduces distinct challenges and opportunities that differ from Industry 4.0.

Thirdly, Indonesia's geographical diversity and resource disparities contribute to uneven digital readiness. However, no prior studies have explicitly linked these disparities to public accountants' perceptions as a basis for assessing national preparedness.

Therefore, this study seeks to fill these gaps by investigating Indonesian public accountants' perceptions of the country's readiness for accounting digitalization in the Industry 5.0 era, considering technological, human resource, regulatory, and organizational culture factors.

3. Methodology

This study applies a quantitative research approach to examine the perceptions of public accountants regarding Indonesia's readiness for accounting digitalization in the context of Industry 5.0. The method is chosen to ensure the collection of measurable and generalizable data that aligns with the research objective of identifying trends, relationships, and levels of readiness across a defined population.

3.1 Data Collection

The primary data source for this study is a structured questionnaire distributed to certified public accountants currently practicing in various regions of Indonesia. The sampling technique used is purposive sampling, targeting professionals with at least three years of experience in public accounting and exposure to digital accounting systems.

The questionnaire consists of closed ended statements measured using a Likert scale (1 = strongly disagree to 5 = strongly agree). It is divided into three sections: demographic information, perceptions of technological, regulatory, and human resource readiness, and overall assessment of Indonesia's digital accounting capacity. The instrument was distributed online using a secure survey platform to ensure ease of access and wide regional reach.

Prior to the full distribution, the questionnaire underwent a pilot test with a small sample of respondents to refine clarity, structure, and reliability.

3.2 Analysis Techniques

The collected data were first subjected to descriptive statistical analysis to summarize the respondents' characteristics and their perception patterns. This includes measures of central tendency (mean, median) and dispersion (standard deviation).

Subsequently, inferential statistical methods were employed. A multiple linear regression analysis was conducted to examine the influence of key variables such as perceived technological readiness, regulatory support, and human resource capability on the perceived national readiness for accounting digitalization.

All data analyses were conducted using SPSS (Statistical Package for the Social Sciences) version 25. This tool was selected for its robustness and suitability for processing large scale quantitative datasets.

3.3 Validation

To ensure the validity and reliability of the data, several steps were taken. Construct validity was established through expert review of the questionnaire items, aligning each with the intended conceptual dimensions. Reliability testing was performed using Cronbach's Alpha, with a threshold value of ≥ 0.70 indicating acceptable internal consistency for each construct.

Furthermore, normality, multicollinearity, and heteroscedasticity tests were carried out to validate the assumptions of the regression model. These diagnostics ensured that the data met the required conditions for accurate and unbiased statistical inference.

4. Results and Discussion

This study aims to evaluate public accountants' perceptions of Indonesia's readiness for accounting digitalization in the Industry 5.0 era. The findings are presented based on descriptive and inferential statistical analyses, focusing on three main readiness indicators: technological readiness, regulatory readiness, and human resource readiness.

4.1 Key Findings

Table 1. Descriptive Statistics of Public Accountants' Perceptions of Indonesia's Readiness

Readiness Component	Mean	Standard Deviation	Interpretation
Technological Readiness	4.12	0.58	High
Regulatory Readiness	3.45	0.71	Moderate
Human Resource Readiness	3.28	0.65	Fair
Overall National Readiness	3.62	0.69	Moderate

Table 1 illustrates that public accountants rated technological readiness the highest (mean = 4.12), indicating a positive perception of Indonesia's digital infrastructure and the application of accounting technologies. However, regulatory readiness (mean = 3.45) and human resource readiness (mean = 3.28) received more moderate and fair ratings. Overall, national readiness (mean = 3.62) suggests that Indonesia is perceived as moderately prepared for the digital transformation in accounting under Industry 5.0.

Table 2. Multiple Linear Regression Results

Independent Variable	Beta Coefficient	Significance (p-value)	Interpretation
Technological Readiness	0.458	0.000	Significant positive influence
Regulatory Readiness	0.276	0.014	Significant positive influence
Human Resource Readiness	0.089	0.181	Not significant
R ² (Coefficient of Determination)	0.518		51.8% of variation explained
F-Statistic	32.72	0.000	Model is statistically significant

The regression analysis shows that technological readiness has the strongest and most significant effect on public accountants' perception of Indonesia's readiness ($\beta = 0.458$, $p < 0.01$). Regulatory readiness also shows a significant positive influence ($\beta = 0.276$, $p < 0.05$). In contrast, human resource readiness does not significantly influence perceptions ($p = 0.181$). The R² value of 0.518 indicates that 51.8% of the variance in the dependent variable is explained by the three independent variables.

4.2 Interpretation of Results

The findings highlight that public accountants' perceptions of Indonesia's readiness for accounting digitalization are primarily influenced by technological development and regulatory support. The high perception of technological readiness indicates that digital infrastructure and technological adaptation in the accounting sector are well developed. However, the lower perception of human resource readiness points to a skill gap among accounting professionals, suggesting an urgent need for training and digital competency development.

Although regulatory support is perceived as moderate, the results imply that existing policies and regulations need to be more adaptive and aligned with technological advancements to support digital transformation effectively.

Overall, Indonesia is perceived to be moderately prepared, with key improvement areas in human capital development and policy refinement to achieve full readiness for accounting digitalization in the Industry 5.0 era.

Brief Summary of Key Results:

- a. Technological readiness is the strongest factor influencing perceived national readiness.
- b. Regulatory readiness has a significant yet secondary role.
- c. Human resource readiness shows no significant influence and represents a major challenge.
- d. Indonesia is moderately prepared but must focus on improving human resources and regulatory agility.

5. Discussion

5.1 Comparison with Prior Research

The study reveals that public accountants in Indonesia perceive the nation as moderately prepared for accounting digitalization in the Industry 5.0 era, with technological infrastructure considered the most ready component, followed by regulatory and human resource aspects. These findings align with [12], who emphasized that digital infrastructure is progressively improving across Southeast Asia, placing Indonesia in a favorable trajectory.

Furthermore, the strong influence of technological readiness is consistent with [13] and [14], both of whom argue that digital platforms and automation systems have become increasingly accessible and affordable for professional accounting practices. Similarly, [15] reported that Indonesian accounting firms have already adopted several cloud-based systems, enhancing operational efficiency.

Regulatory readiness, although moderately rated, plays a significant role in shaping perceptions. This is echoed in [16], who highlight that clear, adaptive legislation fosters confidence in digital transitions. Comparable conclusions were drawn by [17], whose study of SMEs in Jakarta underscored the need for tax and audit regulations to keep pace with digital innovation.

In contrast, human resource readiness was perceived to have limited influence on overall preparedness. This result is supported by [18], who found that many Indonesian accountants lack adequate digital literacy, despite technological availability. Additionally, [19] demonstrated that a mismatch between technological adoption and employee competency significantly hinders transformation efforts in developing nations.

The moderate overall readiness level identified in this study also reflects the conclusions of [20], who analyzed similar trends in Malaysia's public accounting sector. However, unlike their findings, the current research underlines a more urgent need for workforce upskilling, consistent with [21], who emphasize education reform in accounting curricula to meet Industry 5.0 demands.

More recent studies such as [22] and [23] stress the importance of integrating ethical and AI-driven decision-making training for accountants, which is largely absent in current Indonesian professional development programs. Moreover, the present findings expand upon [24] and [25] model of digital transformation readiness by applying it specifically to licensed public accountants, a segment often overlooked in macroeconomic digitalization discussions.

Thus, this research fills a gap by providing a focused perspective from practitioners directly involved in regulatory compliance, assurance services, and financial reporting functions most impacted by digital change.

5.2 Limitations

Although the study contributes novel insights, several limitations must be acknowledged. First, the sample was limited to public accountants registered in major urban centers, potentially overlooking regional disparities in digital infrastructure or training access. Second, the use of self reported perceptions may introduce subjectivity and social desirability bias. Third, the cross sectional design restricts observation of readiness over time or in response to policy changes.

5.3 Future Research

Future investigations should consider longitudinal approaches to track how digital readiness evolves in response to technological investments or regulatory reforms. Comparative studies between private and public accounting sectors, or across ASEAN countries, would also provide richer contextual insights. Additionally, future research could integrate mixed-methods designs to explore how qualitative experiences support or contradict quantitative indicators of readiness.

Implications of this study highlight the need for policymakers to prioritize human capital development and regulatory modernization as part of Indonesia's digital transformation agenda. For academic institutions, integrating Industry 5.0-oriented competencies into accounting education is essential. Practically, accounting firms should consider continuous professional development programs focused on emerging technologies and digital ethics. Future researchers are encouraged to explore behavioral dimensions, such as resistance to change and innovation adoption, in greater depth to complement these findings.

6. Conclusion

This study examined public accountants' perceptions of Indonesia's readiness to embrace accounting digitalization in the Industry 5.0 era. The primary issue addressed was how public accountants view the readiness of technology, regulations, and human resources in the digital transformation process within the accounting sector. A quantitative research method using questionnaires was employed to collect representative data from public accountants.

The findings indicate that, overall, public accountants perceive Indonesia's readiness for accounting digitalization at a moderate level. Technological readiness was rated the highest, while regulatory and human resource readiness require more serious attention. These results suggest that digital transformation in the accounting sector has not yet reached its full potential and there is an urgent need to develop human resource capacity and improve adaptive regulations.

The main contribution of this study lies in presenting the direct perspectives of accounting practitioners who are at the forefront of digitalization implementation in Indonesia. This research fills a gap in the literature regarding digital readiness perceptions specifically in the public

accounting field during the Industry 5.0 era, providing empirical evidence for policymakers and educational institutions to formulate more targeted and effective digital transformation strategies.

The practical implications emphasize the necessity of collaboration between government, professional bodies, and educational institutions to enhance digital literacy and update regulations responsively. Additionally, accounting firms are encouraged to intensify training based on the latest technologies to meet the demands of the digital era. This study is expected to serve as a foundation for further research exploring other factors influencing accounting digitalization readiness in greater depth.

7. Recommendation

This study investigated public accountants' perceptions regarding Indonesia's readiness for accounting digitalization in the Industry 5.0 era. The research addressed the challenges related to technological infrastructure, regulatory frameworks, and human resource capabilities through a quantitative approach using questionnaires distributed to public accountants.

The findings revealed a moderate level of readiness overall, with technological aspects rated higher than regulatory and human resource factors, which require significant improvement. These results highlight the critical need for targeted development in regulatory reforms and digital skills enhancement to fully leverage the potential of digital accounting transformation.

The contribution of this research lies in providing empirical insights directly from accounting practitioners, offering a valuable perspective that complements existing theoretical discussions on digital transformation in accounting. It fills a crucial gap by focusing on Indonesia's context during the emerging Industry 5.0 phase, thereby informing policymakers, professional organizations, and educational institutions in strategizing effective implementation plans.

Based on these insights, it is recommended that multi-stakeholder collaboration be strengthened to accelerate regulatory adaptation and to design comprehensive training programs aimed at enhancing the digital competencies of accounting professionals. Furthermore, future studies should explore other influencing factors such as organizational culture and technological acceptance to build a more holistic understanding of digital readiness in accounting.

Appendix

Appendix A: Questionnaire on Public Accountants' Perceptions of Indonesia's Readiness for Accounting Digitalization in Industry 5.0.

This questionnaire was used to collect data on public accountants' views regarding the technological, regulatory, and human resource readiness of Indonesia for accounting digitalization in the Industry 5.0 era.

Section 1: Demographic Information

1. Age: _____
2. Gender: [] Male [] Female
3. Years of experience as a public accountant: _____
4. Education level: [] Bachelor [] Master [] Doctorate

Section 2: Perception of Technological Readiness

Please rate the following statements on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree):

1. Indonesia's accounting firms have adequate digital infrastructure to support Industry 5.0.

2. The integration of advanced technologies (AI, IoT, Big Data) in accounting processes is progressing well.
3. Public accounting firms have access to updated software and digital tools.

Section 3: Perception of Regulatory Readiness

1. Current regulations support the implementation of digital accounting practices.
2. Regulatory frameworks are adaptive to rapid technological changes in the accounting sector.
3. There are sufficient guidelines and standards related to digital accounting practices.

Section 4: Perception of Human Resource Readiness

1. Public accountants have adequate training in digital accounting tools.
2. There are sufficient opportunities for continuous learning on digital technologies for accountants.
3. The level of digital literacy among public accountants is satisfactory.

Section 5: Overall Readiness

1. Indonesia is ready to fully embrace accounting digitalization in the Industry 5.0 era.
2. Challenges in human resources and regulations hinder the digital transformation in accounting.

Appendix B: Detailed Data Tables

Table B1. Demographic Characteristics of Respondents

Characteristic	Frequency	Percentage (%)
Age 25-35	40	40%
Age 36-45	35	35%
Age 46 and above	25	25%
Male	55	55%
Female	45	45%
Bachelor Degree	60	60%
Master Degree	35	35%
Doctorate	5	5%

Table B2. Summary of Perceptions on Technological Readiness

Statement	Mean Score	Standard Deviation
Adequate digital infrastructure	3.8	0.7
Integration of advanced technologies	3.6	0.8
Access to updated software and digital tools	3.9	0.6

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REFERENCES

- [1] Napitupulu E P, Munthe H and Sufiawan N A 2023 The Influence of information Technology, Work Experience, Management Participation and HR Competence on the Effectiveness of Accounting Information Systems *J. Ekon. Bisnis & Entrep.* 17 419–32
- [2] Alonge E O, Dudu O F and Alao O B 2024 The impact of digital transformation on financial reporting and accountability in emerging markets *Int. J. Sci. Technol. Res. Arch.* 7 25–49
- [3] Jackson D and Allen C 2024 Technology adoption in accounting: the role of staff perceptions and organisational context *J. Account. Organ. Chang.* 20 205–27
- [4] AlNasrallah W and Saleem F 2022 Determinants of the digitalization of accounting in an emerging market: The roles of organizational support and job relevance *Sustainability* 14 6483
- [5] Thottoli M M and Ahmed E R 2022 Information technology and E-accounting: some determinants among SMEs *J. Money Bus.* 2 1–15
- [6] Adewale T T, Olorunyomi T D and Odonkor T N 2022 Blockchain-enhanced financial transparency: A conceptual approach to reporting and compliance *Int. J. Front. Sci. Technol. Res.* 2 24–45
- [7] Ferri L, Spanò R, Ginesti G and Theodosopoulos G 2021 Ascertaining auditors' intentions to use blockchain technology: Evidence from the Big 4 accountancy firms in Italy *Meditari Account. Res.* 29 1063–87
- [8] Mohd Faizal S, Jaffar N and Mohd Nor A S 2022 Integrate the adoption and readiness of digital technologies amongst accounting professionals towards the fourth industrial revolution *Cogent Bus. Manag.* 9 2122160
- [9] Pramono A J, Amyar F and Friska R 2023 Exploring Technology Acceptance in Management Accounting Tools' Adoption in Public Sector Accounting: A Sustainability Perspective for Organizations *Sustainability* 15 15334
- [10] Hamdy A, Diab A and Eissa A M 2025 Digital Transformation and the Quality of Accounting Information Systems in the Public Sector: Evidence from Developing Countries *Int. J. Financ. Stud.* 13 30
- [11] Nisa'Syamsiyah K, Leniwati D and Affan M W 2024 Digitalization Of Accounting: Accountant Profession in Facing Challenges of Era 5.0 *JASF J. Account. Strateg. Financ.* 7 219–34
- [12] Santoso R B, Moenardy D F and Muttaqin R 2024 DIGITAL DIPLOMACY OF INDONESIA IN REALIZING ITS VISION AS THE ASEAN DIGITAL ECONOMY HUB *Indones. J. Int. Relations* 8 333–52
- [13] Arkhipova D, Montemari M, Mio C and Marasca S 2024 Digital technologies and the evolution of the management accounting profession: a grounded theory literature review *Meditari Account. Res.* 32 35–64
- [14] Medennikov V 2021 Management transformation with a single digital platform as exemplified by accounting *IFAC-PapersOnLine* 54 178–82
- [15] Gui A, Fernando Y, Shaharudin M S, Mokhtar M and Karmawan I G M 2021 Drivers of

cloud computing adoption in small medium enterprises of Indonesia creative industry *JOIV Int. J. Informatics Vis.* 5 69–75

- [16] Nookala G 2024 Adaptive Data Governance Frameworks for Data-Driven Digital Transformations *J. Comput. Innov.* 4
- [17] Sibarani P, Fadjarenie A, Widayati C and Tarmidi D 2024 Digital tax policies and compliance challenges for MSMEs in Indonesia *Edelweiss Appl. Sci. Technol.* 8 2817–35
- [18] Suhardjo S, Renaldo N, Sevendy T, Yladbla D, Udab R N and Ukanahseil N 2023 Accounting skills, digital literacy, and human literacy on work readiness of prospective accountants in digital technology disruption era *Reflect. Educ. Pedagog. Insights* 1 106–15
- [19] Pedota M, Grilli L and Piscitello L 2023 Technology adoption and upskilling in the wake of Industry 4.0 *Technol. Forecast. Soc. Change* 187 122085
- [20] Nabiha A S, Jamal N M and Rozaidy M 2023 Management Accounting in the Malaysian Public Sector: Analysing the Adoption of Financial and Risk Analysis *Manag. Account.* 13 129–42
- [21] Alia A and Lestari B A H 2025 Revolutionizing the Accounting Curriculum: Optimizing Accountant Competencies through Data Technology, Blockchain, and Artificial Intelligence from the Perspective of Accounting Students at the University of Mataram in Industry 5.0 *Asian J. Appl. Bus. Manag.* 4 341–54
- [22] Schweitzer B 2024 Artificial intelligence (AI) ethics in accounting *J. Accounting, Ethics Public Policy, JAEPP* 25 67
- [23] Darma D A, Maisyarah R, Anggasari F, Nababan P E, Mendrofa S J, Aldian M R and Vadia R 2024 Challenges and Opportunities in the Digital Era in Building Accounting Professional Ethics *Int. J. Econ.* 3
- [24] Abd Razak S N A, Noor W N B W M and Jusoh Y H M 2021 Embracing digital economy: Drivers, barriers and factors affecting digital transformation of accounting professionals *Int. J. Adv. Res. Econ. Financ.* 3 63–71
- [25] Gulin D, Hladika M and Valenta I 2019 Digitalization and the Challenges for the Accounting Profession *Entren. Res. Innov.* 5 428–37