

Adapting to the Digital Era : Transformations in the audit profession and the emergence of new skills.

S'adapter à l'ère numérique : Transformations dans le métier d'audit et émergence de nouvelles compétences.

LAHSINI Hind

Doctorante

Ecole Nationale de Commerce et de Gestion

Université IBN TOFAIL - Kénitra

Laboratoire de Recherche en Sciences de Gestion des Organisations

Maroc

TAOUAB Omar

Enseignant chercheur

Ecole Nationale de Commerce et de Gestion

Université IBN TOFAIL - Kénitra

Laboratoire de Recherche en Sciences de Gestion des Organisations

Maroc

Date submitted : 16/11/2023

Date of acceptance : 18/02/2024

To cite this article:

LAHSINI. H. & TAOUAB O. (2024) «Adapting to the Digital Era : Transformations in the audit profession and the emergence of new skills.», Revue Internationale des Sciences de Gestion « Volume 7 : Numéro 1 » pp : 882 - 897

Abstract

Digital transformation is fundamentally reshaping the professional landscape of auditing, with the emergence of technologies such as artificial intelligence, data analytics, and blockchain. This study explores the impact of this digital revolution on the auditing profession, shedding light on the new skills required for auditors and the adaptations made by audit firms. Through an in-depth literature review and interviews with experienced auditors, we examine how digital transition enhances efficiency while influencing the nature of audit work. Our findings indicate that, although technology transforms audit processes, it also reinforces the essential role of auditors by preserving subjectivity and professional judgment. Practical implications of this study include recommendations for auditors to continuously adapt to digital changes and the importance of educational institutions adjusting training programs. This research contributes to understanding the evolution of the auditing profession in the digital era, emphasizing the significance of ongoing adjustment and the acquisition of diverse skills.

Keywords : Digital Transformation, Audit, Digital Skills, Artificial Intelligence.

Résumé

La transition digitale redéfinit profondément le paysage professionnel de l'audit, avec l'émergence de technologies telles que l'intelligence artificielle, l'analyse des données, et la blockchain. Cette étude explore l'impact de cette révolution numérique sur le métier d'audit, mettant en lumière les nouvelles compétences requises pour les auditeurs et les adaptations des cabinets d'audit. À travers une revue de littérature approfondie et des entretiens avec des auditeurs expérimentés, nous examinons comment la transition digitale améliore l'efficacité tout en influençant la nature du travail d'audit. Nos résultats indiquent que, bien que la technologie transforme les processus d'audit, elle renforce également le rôle essentiel des auditeurs en préservant la subjectivité et le jugement professionnel. Les implications pratiques de cette étude incluent des recommandations pour l'adaptation continue des auditeurs aux changements numériques et l'importance pour les institutions éducatives d'ajuster les programmes de formation. Cette recherche contribue à la compréhension de l'évolution du métier d'audit dans l'ère numérique, soulignant l'importance de l'ajustement constant et de l'acquisition de compétences diversifiées.

Mots clés : Transition digitale, Audit, Compétences numériques, Intelligence artificielle.

Introduction

The digital transition, propelled by major technological advances such as artificial intelligence, data analysis and blockchain, has brought about profound transformations in various sectors of society. Among the professions affected, auditing has seen new challenges and opportunities emerge from this digital revolution. Auditors, at the heart of this evolution, are faced with the need to adapt by acquiring new skills in order to maintain the quality and relevance of their services.

This study aims to explore the impact of the digital transition on the auditing profession. Through an in-depth literature review and semi-structured interviews with experienced auditors, we will seek to answer some crucial questions. What are the essential skills that auditors now need to master in order to thrive in an increasingly digitized environment? How are audit firms, as key players, adjusting their practices and investing in training to adapt to this transition? Finally, what are the implications of this digital revolution for the future of the audit profession?

To answer these questions, we start from three central hypotheses: the need for auditors to acquire skills in digital technologies and data analysis, the investment made by audit firms in training their teams, and the expected positive impact of the digital transition on audit efficiency and quality.

This analytical journey will be articulated through the various sections of this article. We begin with a literature review to shed light on the context of digital transition in the auditing sector, followed by a detailed exposition of our methodology. The results of our research will then be presented and discussed, highlighting the trends, challenges, and opportunities that emerge from this survey. In conclusion, we will synthesize the main findings, highlighting the impact of the digital transition on the audit profession and outlining recommendations for both practice and research. This in-depth exploration is intended to make a significant contribution to understanding the current evolution of auditing in the digital age.

1. Literature review

The relentless dynamics of digital technology are profoundly influencing the professional landscape, shifting established paradigms and creating new challenges and opportunities. Dengler and Matthes (2018) attest to this impact, noting the increase in employment in specific sectors.

Data from the OECD (2016) sheds further light, estimating that almost 9% of jobs are at high

risk of automation, affecting more than 70% of tasks, while 25% of jobs will be significantly altered by automation, impacting more than half of their tasks. These findings underline the urgency of understanding the specific impact of the digital transition on crucial professions, among which the auditing profession occupies a prominent position.

Auditing, as a profession demanding research, analysis and communication skills, is directly affected by the digital transition. The digital revolution can automate certain auditing tasks, freeing auditors to focus on more complex activities such as risk analysis and decision-making. At the same time, the advent of digital technologies such as artificial intelligence and data analysis can create new skill requirements for auditors.

In this evolving context, this literature review aims to synthesize current knowledge on the specific impact of the digital transition on the auditing profession. Structured in three sections, it explores the transformation of the auditing process, the changing nature of auditors' work and the development of the auditor-auditee relationship, as well as perspectives on the use of artificial intelligence, possible auditor replacements, and emerging professions in auditing. By analyzing these crucial aspects, this literature review aims to shed light on the implications of the digital transition for the audit profession, and to formulate forward-looking recommendations for its adaptation to this new and dynamic era.

1.1. Transforming the audit process

The transition to a digital age is accompanied by an inevitable revolution in auditing, fundamentally reshaping traditional processes. Brynjolfsson and McAfee (2014), Ford (2015), and Frey and Osborne (2013) converge in their forward-looking vision, suggesting that a broad spectrum of professions will be computerized in the future. This perspective finds a particular echo in the field of auditing, where automation appears as a potential catalyst for the evolution of the auditing process.

Studies such as Charles et al (2013) and Jaimovich and Siu (2012) point to a continuing decline in manufacturing and other routine jobs, attributing this trend to the codification of well-defined, repetitive tasks in manufacturing occupations. Acemoglu and Autor (2011) add that the nature of the tasks central to these jobs makes them easily codifiable in software, paving the way for their execution by computers. This transformation has a direct impact on auditing efficiency by freeing auditors from routine tasks, offering significant potential for improving productivity.

Frey and Osborne (2013) take this thinking a step further by predicting, based on task

characteristics, a 94% probability of automation in accounting and auditing jobs. This prediction, while raising questions about the future role of auditors, underlines the inexorable march towards greater automation in the field.

In the context of auditing, Mancini et al (2017) highlight a significant influence of digital technology on accounting, management control and audit information systems. This interconnection between digital technology and information systems offers a platform conducive to improving the efficiency and accuracy of auditing processes.

The rapid development of technology and digitalization have also enabled an updating and transformation of the auditing profession. These advances, as mentioned by Mancini et al. (2017), reduce auditors' workload by facilitating and accelerating the repetitive actions that characterized traditional methods. Thus, the transition to computerized environments offers auditors more time to devote to more in-depth data analysis, enhancing the quality and relevance of their contribution.

In September 2016, the International Audit and Assurance Standards Board (IAASB) working group issued crucial recommendations to auditors, urging them to actively embrace digital technologies, including artificial intelligence systems and big data analytics tools, with the aim of "improving audit quality and minimizing the risk of detection" (Yakimova, 2020). This recommendation underlines the compelling need for the audit profession to move towards digitization and incorporate new digital tools such as artificial intelligence, blockchain and big data analytics. This transformation offers a promising prospect for improving audit performance, strengthening its ability to deliver quality results while reducing the risks involved in detecting irregularities.

Forward-looking studies, such as that by Macaulay (2016), anticipate a direct impact of new technologies on audit functions within the next five years. With 58% of auditors and companies sharing this outlook, it's clear that new technologies will become an inescapable part of the audit landscape, fundamentally reshaping traditional processes and approaches.

In this way, digitalization becomes a strategic means for audit firms to improve the quality and relevance of their services, while strengthening their ability to identify and mitigate fraud-related risks.

This digital transition in auditing offers several significant benefits, but it is not without its challenges. According to Krahel and Titera (2015), one of the main benefits of the digital transition is the ability for auditors to save time, enabling them to focus more on analysis rather than data collection, now managed by technology. This increased efficiency gives auditors the

latitude they need to delve deeper into their analysis, improving the quality and relevance of their conclusions.

In exploring the potential of artificial intelligence (AI) technologies, a number of researchers point to the substantial benefits they can bring to auditing. McKee and Lensberg (2002) and Pendharkar (2005) highlight AI's ability to offer clients superior data analysis, enabling more accurate identification of potential problems. From this perspective, AI becomes a powerful tool for predicting bankruptcy, as McKee and Lensberg (2002) assert, and improving the quality of financial analysis, according to Sajady et al. (2008). This ability to use AI techniques enhances the reliability of audit results, paving the way for more informed conclusions and better risk anticipation.

In addition, Krahel and Titera (2015) point out that auditing using digitization can be perceived as less intrusive by auditors and auditees. This perception can contribute to better collaboration between the parties, facilitating the audit process. What's more, megadata analysis, as part of the digital transition, enhances the relevance of auditor functions for data collection and reconciliation, thus strengthening audit credibility.

However, alongside these advantages, there are also disadvantages. The use of software can introduce biases, compromising the neutrality and objectivity of the audit. In addition, the risk of losing control over the audit is a legitimate concern, as increasing reliance on technology could result in less control over traditional auditing processes.

In conclusion, although the digital transition in auditing offers notable advantages such as speed in data collection and analysis, anomaly identification and real-time analysis, it is not without raising questions about the reliability of software, the potential loss of control and the need for auditors to continually adapt to new technologies.

1.2. Changes in the nature of auditors' work and development of the auditor- auditee relationship

Technological developments have sparked a veritable revolution in auditing, radically transforming the way auditors interact with data and information within companies (Gulin et al., 2019). The emergence of digital systems has enabled auditors to adopt innovative approaches to collecting, analyzing and interpreting financial and operational data more efficiently and accurately than ever before.

The emergence of megadata and the ubiquity of social media have revolutionized the way companies access and use information to improve their competitiveness (van den Broek & van

Veenstra, 2018). This massive data offers unique insights, enabling auditors to develop new key performance indicators to assess companies' financial and operational health. For example, social media platforms now provide actionable data on consumer preferences, offering auditors a more comprehensive view of customer relationships and market trends.

However, this transition to more advanced analysis and intensive use of data requires an adaptation of auditing practices. Advanced technologies, such as Artificial Intelligence (AI) and advanced data analytics, are crucial to extracting meaningful information from this megadata. For example, AI algorithms can rapidly analyze huge sets of financial data to spot unusual patterns or significant trends, helping auditors to identify potential risks more effectively.

However, the application of these innovative technologies in the field of auditing faces regulatory challenges. Standards and regulations dictate the auditing profession, imposing strict frameworks to guarantee quality, independence and compliance. Consequently, the integration of these technologies must be carried out while respecting these rigorous standards. Take Blockchain, an emerging technology with far-reaching implications for auditing. It offers a transparent and immutable audit trail of financial transactions, thereby implicating fraud risks and improving the reliability of financial data. However, its adoption in auditing requires a thorough understanding of the underlying protocols and mechanisms, as well as the legal and regulatory implications associated with its use.

Audit firms must therefore reinvent their business model to incorporate these revolutionary technologies. They must invest in digital solutions such as advanced analytics tools, AI platforms or Blockchain-based systems to meet growing client needs (van den Broek & van Veenstra, 2018). This evolution is not limited to the adoption of technologies, but also requires a cultural transformation and skills development within audit teams to fully exploit the potential of these innovations in their work.

1.3. Artificial Intelligence in auditing and new career prospects

The integration of artificial intelligence (AI) into auditing is opening up new perspectives. According to Krahel and Titera (2015), this transformation is part of a broader transition from the paper age to digital information management, marking a significant shift in audit methodology.

Previous research, including Arntz et al. (2016) and Spitz Oener (2006), indicates that past computerization was not intended to replace the accounting profession, but rather to change

the task structures within it. Thus, data analysis and Big Data do not replace the profession, but offer opportunities for accountants to exploit their existing skills in synergy with newly acquired ones. This structural evolution offers a unique opportunity to further enhance the role of accountants in the auditing process.

The exceptional proliferation of big data has created a high demand for qualified specialists (Orihuela and Bass, 2015). However, unlocking the full potential of data analytics in auditing requires people who are not only well versed in big data analytics, but also have a deep understanding of business, as McAfee and Brynjolfsson (2012) point out. This multi-dimensional skill becomes crucial as companies seek to fully exploit the benefits of AI in auditing.

Another argument in support of the assertion that the audit of financial statements cannot be easily automated is that certain parts of the audit involve a significant degree of subjectivity or professional judgment, making them naturally resistant to automation (Frey and Osborne, 2013). Auditing often involves elements of subjectivity in risk assessment and decision-making, highlighting the need for human skills in these specific areas.

Frey and Osborne (2013) ranked accounting and auditing among the activities likely to be automated due to the lack of machine-imitable skills. However, we argue that accountants possess the ability to think strategically and leverage their business knowledge to increase the value provided by big data analytics. Rather than being rendered obsolete, accountants are able to leverage their human skills to enrich the analytics provided by AI.

In conclusion, the introduction of AI into auditing, far from substituting professionals, offers new opportunities for synergistic collaboration. Human understanding of business nuances, coupled with the power of AI, becomes an essential asset for unlocking the full potential of data analysis in financial auditing.

2. Methodological framework

2.1. Methodological choice

The methodology chosen for this research combines an in-depth literature review and detailed interviews with audit professionals. By favoring a qualitative approach, our aim is to grasp the complexity of the repercussions of the digital transition on the auditing profession.

The first stage of our methodology is based on an exhaustive review of existing literature. This documentary approach explores work on the impact of digital transition on auditing, looking at the transformation of the auditing process, the advantages and disadvantages of digital

transition, as well as possible emerging professions. This phase provides us with an overview of trends, identifying gaps in existing research and outlining different perspectives on the subject.

Complementing the literature review, the second phase of our methodology involves in-depth interviews with audit professionals. These interviews allow us to gather data in the form of narratives, speeches or testimonials. This qualitative approach enables us to explore practitioners' experiences, perceptions and knowledge in depth, offering rich, contextual perspectives on how the digital transition is impacting their profession.

Qualitative methodology is particularly relevant in this context, as it enables in-depth exploration of the complex issues associated with digital transition in the auditing field. Interviews offer a flexibility that allows participants to express themselves freely and detail their experiences, contributing to a more nuanced understanding of the subject.

This approach enabled us to synthesize existing knowledge, identify emerging trends and gather valuable insights directly from key players in the auditing field.

2.2. Interview guides and data collection

Our survey sample includes experienced auditors and audit managers from audit firms of various sizes, ensuring a comprehensive representation of the sector. This variety of profiles was deliberately selected to discern global trends while examining the specificities of different organizational contexts.

Our respondents have been selected with a minimum of six years' professional experience in the audit field, guaranteeing substantial expertise and a deep understanding of the dynamics of their industry.

Data was collected through in-depth interviews, conducted using a carefully developed interview guide, structured in line with our three research hypotheses.

The questions were formulated to encourage participants to share their experiences, thoughts and perceptions on the subject.

This methodology, combined with the diversity of the participants' profiles, enriched our understanding of the implications of the digital transition for the auditing sector. The structured interview guides facilitated a systematic analysis of the responses, enabling an in-depth assessment of the impact of the digital transition on the auditing profession.

3. Results

The in-depth interviews conducted with experienced auditors and audit managers generated

significant insights into the implications of the digital transition for the audit field. The following results provide a summary of the main observations shared by respondents.

This section is structured according to the key themes identified during the interviews, exploring the transformation of auditing processes, emerging skills, strategic adjustments by audit firms, as well as perspectives on the integration of artificial intelligence and emerging professions.

3.1 Impact of the digital transition on audit efficiency and productivity

The interviews unanimously revealed that the digital transition has had a significant impact on auditing processes. One respondent emphasized: "the digital transition has had a considerable impact on the audit process, enabling us to improve audit efficiency and productivity by automating repetitive tasks and even reducing the risk of errors and or fraud and thus freeing up more time for data analysis and thus making better decisions."

3.2 Advantages and disadvantages of using new technologies

The benefits associated with the use of new technologies in auditing are manifold, as one respondent pointed out: "The advantages of using new technologies in auditing are numerous, first and foremost the use of automated audit software enables auditors to collect and analyze data faster and more efficiently, and the integration of artificial intelligence enables auditors to identify anomalies in data that would be difficult to detect manually."

However, respondents also raised concerns about the potential drawbacks of this transition. A major risk raised was the possibility of bias in automated audit software, which could lead to erroneous conclusions. The potential loss of control over auditing due to over-reliance on digital tools was also identified as a crucial challenge.

One respondent added: "For the disadvantages, or rather the risks, that this can bring will be notably, if automated audit software is biased, it can lead to erroneous conclusions. It's important to test the software to make sure it's bias-free."

These results thus confirm the study's initial hypotheses, highlighting both the substantial benefits and the inevitable challenges associated with the digital transition in auditing.

3.3 Impact of the digital transition on the auditor-auditee relationship

When asked how new technologies are changing the relationship between auditors and auditees, respondents highlighted a number of significant changes. In particular, videoconferencing communication and collaboration emerged as crucial aspects of this

transformation. One respondent explained, "New technologies have changed the relationship between auditors and auditees in a number of ways, including videoconferencing communication and collaboration, this allows auditors and auditees to meet and collaborate remotely, which can help improve mutual understanding and facilitate the audit process."

Another aspect highlighted by respondents was the increased transparency facilitated by digitalization. More transparent access to data and information was described as a major change in the auditor-auditee dynamic. One respondent commented: "New technologies enable auditors and auditees to access data and information more transparently than ever before. This can help build trust and credibility in the audit process."

These results highlight a profound change in the nature of interactions between auditors and auditees, brought about by the digital transition. These changes seem to be in line with the initial hypothesis, suggesting that new technologies are significantly influencing the way audit professionals interact and collaborate with their clients.

3.4 Automating repetitive tasks and upgrading skills

When asked how new technologies have changed the nature of the auditor's work, respondents unanimously emphasized the profound impact of the growing use of artificial intelligence and machine learning. One revealing response was: "This trend in new technologies will have a profound impact on the auditor's work in the future, in particular, the growing use of artificial intelligence and machine learning. These technologies will enable auditors to automate repetitive tasks and concentrate on higher value-added tasks."

3.5 The changing role of the auditor

This automation of repetitive tasks is leading to a change in the skills required of auditors. Respondents pointed out that auditors now need skills in information technology, data analysis and artificial intelligence. This implies a transition to a role where the auditor becomes a provider of value-added advice and services. As one respondent put it: "We're going to see a change in the skills required. Indeed, auditors must now possess skills in information technology, data analysis and artificial intelligence, and ultimately a change in the role of the auditor. They will be called upon to provide value-added advice and services, such as data analysis and decision support."

3.6 Human - AI complementarity

To the crucial question of whether robots or artificial intelligence will replace human auditors,

the response from audit professionals underlined the belief that artificial intelligence could not completely replace human expertise. One respondent said: "I don't think robots will completely replace auditors. Auditors bring skills and expertise that robots can't replace." They emphasized the human brain's unique ability to understand the context of data, interpret it, assess the risk of error or fraud, and finally, make complex decisions and provide informed advice.

The response clearly indicates a belief that the complexity of auditing tasks, particularly decision-making in nuanced contexts, remains an area where humans excel. Auditors see artificial intelligence as a valuable tool for certain tasks, but not as a complete substitute for analytical finesse, contextual understanding and human decision-making.

These results support the idea that, according to the auditors themselves, the relationship between artificial intelligence and human auditors is more one of complementarity, underlining the continuing value of the human in auditing.

3.7 Emergence of new auditing professions

The question on emerging new professions in the auditing field revealed clear perspectives on the skills that will become crucial in the near future. Respondents unanimously stressed the need to develop new skills, in line with technological advances. One respondent explained, "The new skills that audit firms will need in the more or less near future are without context artificial intelligence engineers, cybersecurity specialists for data protection and big data specialists given the mass of data to be processed."

The response highlights the growing importance of skills related to artificial intelligence, cybersecurity and big data. These experts of the future are seen as essential to meeting the growing challenges of data security, massive data analysis and the successful integration of artificial intelligence into auditing processes. This perspective confirms the idea that the audit of the future will require a diverse team with cutting-edge technological skills, marking a transition to an audit profession strongly imbued with the digital revolution.

4. Discussion of results

In-depth interviews with experienced auditors and audit managers clearly highlight the scale of the impact of the digital transition on the audit profession. The results reveal significant trends that merit in-depth analysis to fully understand the implications of this transformation.

Participants' responses corroborate the idea that the digital transition has considerably transformed the auditing process. Benefits such as increased efficiency, improved

productivity, and reduced risk of error and fraud were unanimously cited as tangible elements. These findings are in line with the expectations formulated in the literature, also highlighting the reduction in jobs linked to routine tasks (Brynjolfsson and McAfee, 2014; Frey and Osborne, 2013). Auditors seem to see this transformation as an opportunity to free up time for more in-depth analysis.

Our results convincingly confirm the hypothesis that the digital transition improves efficiency and productivity in the auditing process. However, the impact on the complexity of auditing work is nuanced, highlighting the need to develop new skills in parallel with the automation of routine tasks. These findings underline the need for auditors to constantly adapt to these changes and develop diversified skills.

Our findings converge with the perspectives of Krahel and Titera (2015), describing digitalization as changing traditional auditing methods. However, they diverge from the view of Frey and Osborne (2013) that auditing jobs are likely to be automated. Instead, our results suggest that human value remains crucial in aspects such as subjectivity and professional judgment, making auditors indispensable players despite the advance of technology.

For audit professionals, these results underline the need to actively embrace the digital transition, while continuing to develop specific skills related to data analysis and artificial intelligence. Audit firms need to invest in the ongoing training of their teams to ensure they remain relevant and competent in this changing environment. The implementation of manual controls to mitigate the risk of losing control over the audit is also recommended.

However, it is important to note that our study has limitations. The responses are based on the perceptions of the auditors surveyed, and there may be variations in experiences across audit firms. In addition, the study focuses mainly on the positive aspects of the digital transition, and future studies could explore potential challenges and associated risks in greater depth.

In light of these findings, we recommend that audit firms rethink their training models to include advanced digital skills. It is also essential for educational institutions to align themselves with these changing needs by updating audit training programs. In terms of research, further investigations could focus on the specific risks associated with the digital transition in auditing and further explore the emerging skills needed by auditors.

In conclusion, this discussion highlights the significant impact of the digital transition on the auditing profession. Auditors must be prepared to evolve, acquire new skills and exploit the benefits of digital technologies, while maintaining ethical vigilance. This represents an exciting new chapter for the audit profession, where technology and human expertise converge

to shape the future of auditing in the digital age.

Conclusion

The digital transition has had a major impact on the field of auditing, and this study has endeavored to explore the implications of this transformation in depth. Looking back at the key points, we find that digitalization has enabled significant advances in the auditing process, improving efficiency and productivity, and offering new analytical perspectives. Our findings, corroborated by responses from audit professionals, underline the importance of this transition in freeing up time, enabling auditors to concentrate on higher value-added tasks.

The contributions of this study lie in the empirical validation of the benefits of digital transition, while highlighting the need for a balance between automating routine tasks and maintaining human expertise in aspects such as subjectivity and professional judgment. This nuanced finding suggests that, although digital technologies are transforming the auditing landscape, they are not completely replacing the essential role of human auditors.

The practical implications of our findings suggest that audit firms need to invest in ongoing training, developing advanced digital skills alongside traditional ones. The implementation of manual controls is also recommended to mitigate potential risks associated with over-reliance on digital tools. These recommendations are designed to help audit professionals adapt and thrive in an ever-changing professional environment.

On a theoretical level, this study contributes to the debate on audit automation by highlighting the resilience of certain human skills in the face of technological progress. By broadening the scope of the discussion, we also integrate perspectives from the literature on work evolutions linked to the digital transition.

Avenues for future research could focus on the specific challenges and potential risks associated with the digital transition in auditing. Studies could also explore in greater depth the emerging skills needed by auditors, and analyze the ethical implications of the growing use of digital technologies in auditing.

In conclusion, this research sheds significant light on the impact of the digital transition on the field of auditing. Auditors find themselves at the dawn of a rapidly changing professional era, where the conjunction of technology and human expertise is redefining their profession. This evolution, by prompting continuous adaptation and the development of a wide range of skills, is ushering in a new and exciting chapter for the auditing profession, marked by the convergence of digital technologies and human skill.

At the same time, this transformation presents unavoidable challenges for educational institutions. Business schools and universities are being called upon to readjust their training programs, in order to respond adequately to the new demands of auditing firms. By integrating advanced digital skills into academic curricula, these institutions play a central role in preparing future generations of auditors for the dynamics of an ever- changing professional environment. This synergy between auditing practitioners, technological advances and educational structures is the key to ensuring a successful and sustainable digital transition in the auditing sector.

REFERENCES

- Dengler, K., & Matthes, B. (2018). The impacts of digital transformation on the labor market: Substitution potentials of occupations in Germany. *Technological Forecasting and Social Change*, 137, 304-316
- Frey, C. B., and M. A. Osborne. 2013. *The future of employment: how susceptible are jobs to computerisation*. Oxford Martin School: 2013.
- Ford, M. 2015. *Rise of the Robots: Technology and the Threat of a Jobless Future*. New York: Basic Books.
- Brynjolfsson, E., and A. McAfee. 2014. *The Second Machine Age: Work Progress And Prosperity In A Time Of Brilliant Technologies*. 1 edition. New York: WW Norton.
- Charles, K.K., Hurst, E. and Notowidigdo, M.J. (2013). Manufacturing decline, housing booms, and non-employment. Tech. Rep, NBER Working Paper No. 18949, National Bureau of Economic Research.
- Jaimovich, N. and Siu, H.E. (2012). The trend is the cycle: Job polarization and jobless recoveries. Tech. Rep, NBER Working Paper No. 18334, National Bureau of Economic Research.
- J. P. Krahel, W. R. Titera Published 1 February 2015 *Geology, Computer Science Accounting Horizons Consequences of Big Data and Formalization on Accounting and Auditing Standards*
- Pendharkar, Parag. C. (2005). A threshold-varying artificial neural network approach for classification and its application to bankruptcy prediction problem | *Computers and Operations Research*.
- Van den Broek, T., & van Veenstra, A. F. (2018). Governance of big data collaborations: How to balance regulatory compliance and disruptive innovation. *Technological Forecasting and Social Change*, 129, 330-338.
- Mancini, D., Lamboglia, R., Castellano, N. G., Corsi, K. (2017), "Trends of Digital Innovation Applied to Accounting Information and Management Control Systems",
- Arntz, M., et al. (2016) *The Risk of Automation for Jobs in OECD Countries*. OECD Social, Employment and Migration Working Papers, OECD Publishing, Paris.
- Alexandra Spitz-Oener (2006): Technical Change, Job Tasks and Rising Educational Demands: Looking Outside the Wage Structure, *Journal of Labor Economics*, Vol. 24(2)