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SCENARIO ANALYSIS FOR THE FUTURE OF AUDIT IN THE EUROPEAN UNION
–
STRATEGIC RECOMMENDATIONS FOR DELOITTE
–
SCENARIO 1: AUTOMATION OVERLOAD – NARRATIVE, STRATEGIES, AND EARLY INDICATORS

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Abstract

This project examines the future of the audit industry in the European Union using the *Intuitive-Logics School* of scenario planning, centering around the intensive collaboration with experts from Deloitte. The aim is to address uncertainties, explore plausible future events, and develop effective strategies to navigate the evolving audit landscape. Based on the two key uncertainties, *Level of talent availability* and *Extent of AI regulations*, four different scenarios were developed. Moreover, the project provides specific strategic insights and offers actionable strategies to manage potential futures and improve Deloitte's resilience in a rapidly changing environment.

Key Words: Strategic Foresight; Scenario Planning; Uncertainties; Management; Strategy; Auditing

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1. Introduction

Arthur Edward Andersen, founder of the audit company ‘Arthur Andersen LLP’, stated in the 1920s: “The thoroughly trained accountant must have a sound understanding of the principles of economics, of finance, and of organization.” (Moore and Crampton 2000), advocating a broader understanding of the auditor’s role. He argues that a public accountant’s duty should begin, not conclude, with the certification of balance sheets and statements of earnings (Moore and Crampton 2000). As a highly respected and sought-after authority in the accounting field, he was the first to strive for more insight into business operations and processes beyond merely auditing balance sheet figures to provide added value to clients (Moore and Crampton 2000).

Today, digitalization fundamentally reshapes society and the economy (Van Veldhoven and Vanthienen 2022). Consequently, it has also triggered a technological transformation in auditing (Accountancy Europe 2024). As Andersen realized a long time ago, traditional audits and mere compliance with legal requirements no longer meet business requirements, certainly not in today’s era of big data and Artificial Intelligence (AI) (Knechel 2021). Reliable, timely, and audited data is key to efficient capital markets and corporate decision-making. Providing more comprehensive and certified information, including non-traditional financial metrics and Environmental, Social, and Governance (ESG) factors, reduces the risk of errors or manipulation, thereby ensuring trust in the market (Knechel 2021).

Thus, the digital transformation of the audit industry in the wake of technological advancements and the ever-increasing flood of information poses both a challenge and an opportunity requiring continuous adaptation and enhancement of the audit approach to „the increasing expectations of audit quality, timely reporting, and business value-creation” (Elliott and Duan 2022) to remain competitive. This project analyzes scenarios for the future of audit in the European Union (EU) and derives strategic recommendations for Deloitte while addressing the

key question: ‘How can Deloitte continue to be the leading audit firm amidst disruptive technological advancements, regulatory changes, and demographic shift?’.

The *Intuitive-Logics School’s* scenario planning methodology will be applied to explore plausible futures and their implications for auditors, clients, and employees. By analyzing these scenarios in depth, Deloitte will gain strategic insights and recommendations to remain agile and forward-looking in the face of a transformative landscape.

As van der Heijden (1997) emphasizes, strategic thinking goes beyond traditional analysis by asking fundamental “what do we do if...?” questions. This creative approach considers several futures while alleviating cognitive biases inherent in any strategic decision-making process (Meißner and Wulf 2013). Scenario planning enables dynamic and proactive decision-making in the face of uncertainty while responding flexibly to shifting market parameters (Van der Heijden 1997).

1.1 Audit Industry Overview

Auditing is the independent review and verification of a company’s financial statements, internal controls, business processes, and other operations to provide assurance of a company’s information (Tuovila 2024a). Enhancing accurate financial reporting, regulatory compliance, fraud detection, and risk management, independent Audit & Assurance services ensure the integrity and reliability of financial and other corporate information, which is essential for market transparency and stakeholder confidence (Tuovila 2024a). The global audit market is dominated by the so-called ‘Big Four’, namely the market leader Deloitte, Ernst & Young (EY), Klynveld Peat Marwick Goerdeler (KPMG), and PricewaterhouseCoopers (PwC) (Bohne 2023). The rest of the market is served by medium-sized companies and smaller local players, primarily offering personalized assurance services to small and medium-sized enterprises (SMEs) (Fiolleau, et al. 2024).

The global audit industry reported revenue of around US Dollars (USD) 227 billion in 2023 and is expected to grow at an estimated Compound Annual Growth Rate (CAGR) of 4.2% to USD 302.6 billion by 2030 (Global Industry Analysts, Inc. 2024).

The dynamic growth in demand for auditing services is primarily driven by stricter regulatory requirements for transparency and compliance in financial reporting as a response to financial scandals such as Wirecard. Additionally, the increasing relevance of non-financial advisory services and audits, particularly in relation to ESG reporting, is further fueling this demand (IBISWorld 2024).

Integrating technological innovations into auditing is a game changer for performing financial audits. Technologies, such as AI or Machine Learning (ML), enable the analysis of large volumes of data and non-traditional audit evidence with a focus on high-risk and complex issues, thereby increasing the efficiency and effectiveness of the audit (Elliott and Duan 2022). As a result, companies benefit not only from increased transparency and accuracy in financial reporting but also from valuable insights into business risks and opportunities. In the ongoing digital transformation, the auditor's role is evolving from merely ticking and tying numbers to becoming a valued strategic advisor (Elliott and Duan 2022).

1.2 Introduction to Deloitte

Founded in 1845 by William Welch, Deloitte is a multinational network of independent professional services firms around the world that are members of Deloitte Touche Tohmatsu Limited (also referred to as 'Deloitte Global'), a London-based private company limited by guarantee (Deloitte n.d.c). Organic growth and strategic acquisitions have made Deloitte the world's leading professional services provider, with currently over 450,000 employees (Deloitte 2024b). Deloitte provides a wide range of services, including Audit & Assurance, Consulting, Tax & Legal, and Risk Advisory in more than 150 countries, with nearly 90% of the Fortune 500 companies as clients (Deloitte 2024b). For the financial year 2024, the

company reports revenue of USD 67.2 billion globally, corresponding to a 3.6 % increase in USD compared to the 2023 financial year (Deloitte 2024b). Audit & Assurance services strongly drive revenue with a 4.1% increase to over USD 20 billion across all regions, making Deloitte the leader in the global Audit & Assurance market (Deloitte 2024b).

One of Deloitte's most innovative departments is the Center for the Long View (CLV), which advises decision-makers on forward-looking and agile strategies based on strategic foresight and scenario planning (Deloitte n.d.a). Inspired by the success of Pierre Wack - the so-called father of scenario planning - at Royal Dutch Shell in the 1970s (Deloitte n.d.a), one of his students, Peter Schwartz, set up a consulting firm called Global Business Network in 1987. This company, which specialized in scenario planning as a business tool, was bought in 2000 by Monitor (Deloitte n.d.a), a Cambridge-based consulting firm founded by strategy expert and Harvard Business School professor Michael Porter (Healy 2012). Recognizing the potential of Schwartz's method, Deloitte acquired Monitor in 2013 and integrated scenario planning by establishing what is now called the Center of Long View in 2015 (Deloitte n.d.a).
While the approach developed by Wack focused on anticipating shifts in the global oil market, Deloitte's CLV extended the proven methodologies with state-of-the-art technologies and its global expert network (Deloitte n.d.a).

Strategic foresight is one of the cornerstones of Deloitte's continued success in assisting clients navigate an uncertain future. Focusing on innovation and resilience, Deloitte's global reach and thought leadership set the standard in auditing, enabling clients to thrive in an increasingly complex and transformative world (Deloitte 2024b).

2. Literature Review

2.1 Scenario Planning: Origin and Conceptualization

Scenario planning is a strategic tool that fosters forward-thinking and helps organizations anticipate multiple future possibilities to explore their implications (Bradfield, et al. 2005). Rather than predicting 'the right future', identifying the key drivers of change, and outlining a set of possible and plausible scenarios that challenge the prevailing status quo is exceedingly more important (Shoemaker 1995). Herman Khan, a pioneer of scenario planning, defined it as a "set of hypothetical events set in the future constructed to clarify a possible chain of causal events as well as their decision points" (Amer, Daim and Jetter 2013).

The systematic use of scenarios for thinking about alternative futures started after World War II when the United States (US) Department of Defense utilized it as a method for planning military strategies in the 1950s (Wack 1985). Subsequently, scenario planning has been used for societal forecasting, public analyses, and decision-making by diverse groups, including academics, politicians, professional futurology institutes, and educational institutions (Wack 1985). Corporations began adopting scenario planning techniques during the late 1960s and early 1970s (Wack 1985), with Shell being an extraordinary example of this application. By taking into account the planners' assessments of the global business landscape that would exist by 2000, Shell's management was prepared to navigate effectively through the 1973 oil crisis (Wack 1985). This demonstrates the value of scenario planning in preparing for significant market disruptions amid uncertainties (Shoemaker 1995).

Nowadays, scenario planning serves as a valuable strategic tool that organizations use in various fields such as healthcare, management, and social systems (Cordova-Pozo and Rouwette 2023). By applying this method, organizations prepare for uncertainties and thus improve flexibility and adaptability (Amer, Daim and Jetter 2013).

Scenario planning facilitates decision-making by presenting multiple potential futures (Bradfield, et al. 2005), encouraging strategic thinking that focuses more on long-term impacts rather than immediate challenges (Schwartz 1996). Comparing the various implications and challenges that arise in the created future scenarios provides a possibility to identify risks and opportunities (Amer, Daim and Jetter 2013). Moreover, scenario planning extends beyond conventional planning methods and is a significant pedagogical tool (Lindgren and Bandhold 2003). Engaging with scenarios facilitates a comprehensive understanding of development logic and identifies driving forces as well as key determinants (Lindgren and Bandhold 2003). Notably, scenario techniques can be an inspiration for generating opinions or a filter through which new ideas and projects can pass (Lindgren and Bandhold 2003).

Scenario planning serves four distinct purposes: strategic development, innovation, scenario learning, and evaluation. It is a key driver of strategic growth, enabling organizations to envision a range of potential futures and to experiment with various strategic responses (Schwartz 1996). In addition, scenario building promotes innovation by encouraging the development of novel ideas and concepts (Lindgren and Bandhold 2003) while improving organizational learning through a deeper understanding of the complex and uncertain external environment (Shoemaker 1995). Besides, scenario planning helps to evaluate the resilience of strategic decisions in response to diverse scenarios and conditions (Wilson 2000). As the scenario building process involves numerous stakeholders in dialogues across different organizational levels, adaptive behavior is decisively fostered (Shoemaker 1995). Identifying vulnerabilities in future scenarios further helps to develop contingency plans to address potential disruptions (Wack 1985). Therefore, scenario planning is valuable in industries where risk mitigation is critical for operational continuity as it enables institutions to prepare in advance by considering diverse scenarios and maintaining flexibility in their strategic focus (Shoemaker 1995).

2.2 Scenario Planning: Approaches

There is no standardized approach to scenario planning; instead, there are several different methodologies for generating scenarios (Amer, Daim and Jetter 2013). Therefore, some authors describe scenario planning as "methodological chaos" (Amer, Daim and Jetter 2013).
The three main approaches to scenario planning are the US-American *Intuitive-Logics School*, the *Probabilities Modified Trends* - which emerged in the UK -, and the French approach *La Prospective* (Amer, Daim and Jetter 2013).

The *Intuitive-Logics School* received most of the attention in the scenario planning literature (Bradfield, et al. 2005). This approach was first suggested by Herman Khan and later used by Pierre Wack (Bradfield, et al. 2005). According to the *Intuitive-Logics School*, most business decisions are founded on the interconnection of political, economic, social, technological, environmental, and legal factors (Wright, Bradfield and Cairns 2013). This methodology relies on expert judgment and narrative thinking to explore a range of plausible future environments, allowing decision-makers to prepare for various contingencies (Wright, Bradfield and Cairns 2013). In contrast to more data-driven approaches, such as the *Probabilistic Modified Trends (PMT)*, the focus is on qualitative insights rather than statistical predictions (Bradfield, et al. 2005). Therefore, the methodology is particularly useful when quantitative data is scarce, which is a common challenge in long-term planning (Ntsime 2024).
The *Intuitive-Logics School* is implemented through a structured, yet flexible process designed to help organizations anticipate and navigate future uncertainties (Bradfield, et al. 2005). After determining the focal issue and a specific time horizon, the school identifies the drivers of change and uncertainties that could impact the organization (Wack 1985). In addition to evaluating key uncertainties, the process progresses to creating multiple scenarios, which leads to the development of divergent narratives that explore different future environments (Wulf, Brands and Meißner 2011).

The process further involves identifying the strategic implications for each constructed scenario and establishing early indicators to understand better in which direction the future is evolving (Bradfield, et al. 2005). Throughout this process, the *Intuitive-Logics School* promotes dialogues and shares knowledge among stakeholders, fostering strategic conversations that help align organizational goals with potential future conditions (Wright and Goodwin 2009).

However, this approach has faced criticism. The reliance on subjective judgment and qualitative data can lead to overconfidence in decision-making, potentially overlooking quantitative data and limiting the approach's effectiveness in environments where detailed data is crucial (Wright and Goodwin 2009).

Despite these challenges, this method remains a versatile tool as it encourages adaptability within the organization (Bradfield, et al. 2005), making it especially useful in today's rapidly changing business environments.

The *PMT*, in contrast to the *Intuitive-Logics School*, uses a more quantitative and statistical approach. *PMT* primarily focuses on projecting existing trends into the future and assigning probabilities to possible outcomes, offering a more predictive view of future scenarios (Bradfield, et al. 2005). This scenario planning method combines two distinct methods: the *Trend Impact Analysis (TIA)* and the *Cross Impact Analysis (CIA)* (Bradfield, et al. 2005).

By relying on the projection of historical data and considering the effects of future unprecedented events, the *TIA* responds to the limitations of traditional forecasting methods (Gordon 1994). The *CIA* analyzes how different variables might interact with each other and evaluates changes in the possibility of occurrence (Gordon 1994). Although the *CIA* began as a probabilistic forecasting tool accepting expert-given probabilities, it also calculates conditional or proportional probabilities of event pairs, which allows for adjustment from initial to corrected probabilities (Godet 1987).

Due to its focus on quantitative data, the *PMT* framework tends to be over-reliant on past trends, potentially missing disruptive events or changes in patterns that do not align with historical data (Bradfield, et al. 2005).

La Prospective methodology, initially developed by a French philosopher from the 20th century named Gaston Berger, is a method for scenario planning that goes beyond simply extrapolating from past trends to predict the future (Godet, Durance and Gerber 2008).

This methodology emphasizes understanding the fundamental drivers and underlying forces that shape multiple possible futures, considering alternative scenarios to explore a range of outcomes, and considering unexpected changes, societal shifts, and human intentions (Godet 1986). Berger's work inspired the French economist and futurist Michel Godet to add a mathematical and computational probabilistic dimension to *La Prospective*, integrating tools such as the morphological analysis for scenario building, and Micmac for identifying key variables and pinpointing critical factors (Bradfield, et al. 2005). The French school focuses on creating normative scenarios, and its application is employed mainly in the public sector, guiding policymakers and stakeholders in decision-making (Godet and Durance 2011).

La Prospective is organized around four key concepts: the 'Base', an in-depth analysis of the current state, the 'External Context', which examines the surrounding environment impacting the system, the 'Progression', a historical simulation that, through current dynamics. Lastly, 'Images', projects future changes and images, which are detailed scenarios depicting possible future realities (Godet and Durance 2011). This approach incorporates certain features of the *Intuitive-Logics School*, as both scenario planning approaches use descriptive and normative scenario perspectives and consider similar time horizons between three and twenty years (Bradfield, et al. 2005). However, the process is less intuitive because it relies heavily on computer-based mathematical models, making it more complex to apply and less flexible to social changes and emerging trends (Bradfield, et al. 2005).

3. Methodology

This project used a qualitative approach based on the methodology of the *Intuitive-Logics School*. This approach was applied due to the school's ability to effectively address complex, uncertain future developments by building structured, plausible scenarios that explore the "limits of possibility" for the future, using expert input and analyzing "environmental driving forces" in detail (Wright, Bradfield and Cairns 2013). The specific application of scenarios was chosen as it provides "narratives of alternative environments", allowing for better comprehension of how today's decisions could unfold in various futures (Ogilvy and Schwartz 1997). This makes it highly suitable for tackling uncertainties and exploring external disruptions affecting the audit industry. The project's structured methodology was divided into five distinct phases: *Framing & Scoping*, *Explore*, *Synthesize*, *Act*, and *Monitor*. Figure 1 illustrates the specific activities undertaken in each phase, the tools employed, and Deloitte's level of involvement.

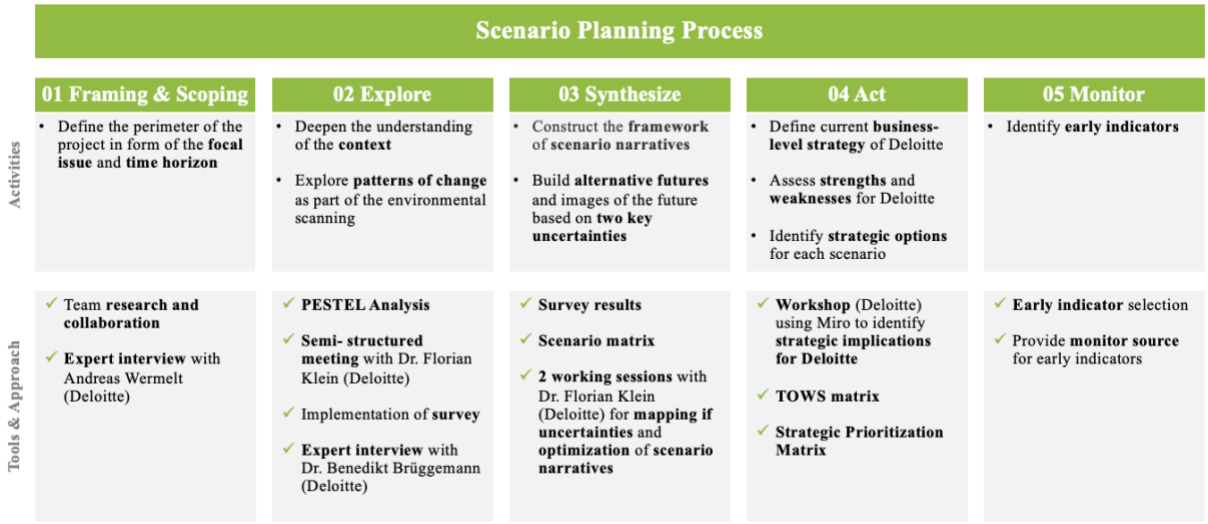

Figure 1 - Scenario Planning Process (Own illustration)

Even though the audit sector is traditionally stable, the unpredictability of external factors and potential disruptions, such as compliance requirements, advancements in technology, and changing expectations from stakeholders, could considerably influence the future direction of the audit industry (Choo, et al. 2021).

By examining these evolving influences, Deloitte can prepare for various plausible scenarios and adapt to changes that may disrupt the industry's longstanding stability. Involving industry experts from Deloitte through interviews and working sessions, as well as conducting a survey and a workshop, allowed the project to address the future challenges and opportunities of the audit sector.

The first phase, *Framing & Scoping*, was of central importance as it defined the parameters for the entire scope of the project (Wulf, Meißner and Stubner 2010). Thus, it laid the foundation for the upcoming scenario planning process by establishing the focal issue and determining the appropriate time horizon for the project (Wright and Cairns 2011). Based on extensive research and an interview discussion with expert Andreas Wermelt, the Audit & Assurance Transformation Leader at Deloitte (Appendix 3), the key topics surrounding the future of audit were explored to define several supporting questions that examined the focal issue. A time horizon until 2035 was set to capture the major changes surrounding the audit industry and to examine both emerging trends and significant long-term developments.

The *Explore* phase aimed to deepen understanding of the audit industry's external environment. In this phase, several drivers of change were identified through environmental scanning, providing insights into emerging trends and shifts that may impact the future audit profession. As part of the *Intuitive-Logics School*, this research utilized the PESTEL framework as an initial step to systematically categorize macro-environmental factors, acknowledging its limitations in capturing the complex interdependencies and dynamics influencing industries (Burt, et al. 2006). This framework allowed gathering insights into political, economic, social, technological, environmental, and legal dimensions to ensure a comprehensive understanding of external forces, which are critical for identifying patterns of change in the evolving audit landscape (Burt, et al. 2006). A comprehensive semi-structured meeting was held with

Dr. Florian Klein, Managing Director and Head of the Center for the Long View at Deloitte, to evaluate and validate the identified drivers of change. An additional expert interview with Dr. Benedikt Brüggemann, partner at Deloitte and Audit Sector Leader in power, utilities, and renewables, was utilized for assessing the identified trends and uncertainties (Appendix 4). Based on these insights, a subsequent survey was set up and sent out to more than 100 industry experts from Deloitte to evaluate the identified uncertainties regarding their level of impact and uncertainty (Appendix 6).

The *Synthesize* phase focused on constructing detailed scenarios using two key uncertainties based on the industry experts' survey results. To achieve that, the survey data was first standardized for accurate comparison, resulting in an uncertainty-impact matrix. The uncertainties in this matrix's upper right corner were characterized by high impact and high uncertainty and were, therefore, of great interest to the scenario building process. Thus, these uncertainties were categorized into thematic groups based on their interdependencies. Finally, two independent key uncertainties were selected from this pool of uncertainties to create the scenario matrix. These key uncertainties were selected based on three crucial criteria: high impact on the focal issue, high level of uncertainty regarding their occurrence, and sufficient independence between each other (Wright and Cairns 2011).

After selecting the key uncertainties, a deductive scenario development approach was chosen to construct the scenarios. This structured approach effectively examined key uncertainties and their potential impacts, providing a clear framework to explore how their combinations could shape plausible futures (Van der Heijden 1996). The scenario matrix was created by intersecting these two key uncertainties, leading to four different quadrants, each representing a plausible and distinct future scenario (Wulf, Brands and Meißner 2011). Every scenario presented a unique narrative with its own set of key challenges and contrasting dynamics, offering valuable insights how different drivers could shape the future of the audit industry (Shoemaker 1995).

In the *Act* phase, the established scenario narratives were used to derive actionable strategic recommendations for Deloitte. Therefore, a TOWS matrix was used to align external threats and opportunities identified in each scenario with Deloitte's weaknesses and strengths. By systematically combining these variables, the TOWS matrix facilitated the development of clear strategies that leverage the strengths to capitalize on opportunities, counteract threats, and overcome weaknesses regarding the internal and external world (Weihrich 1982). Serving as a vital component to this phase, the strategic implications of each scenario were examined in detail upon conducting a workshop in collaboration with five Deloitte Audit partners. A Miro board was utilized during the workshop to visually present the scenario matrix and narratives, facilitating a clear and interactive discussion framework (Appendix 8). Using Deloitte's internal knowledge and the team's analysis, the collectively developed strategies serve as informed suggestions rather than concrete instructions. To further evaluate and prioritize these strategic options, a Strategic Prioritization Matrix was introduced. This matrix categorized the strategy recommendations into three clusters: 'No Regret', Real Option', and 'Big Bets', giving Deloitte an initial sense of each strategy's priority.

In the *Monitor* phase, early indicators were identified for each scenario, enabling Deloitte to observe and anticipate potential signs of change. Monitoring sources allows Deloitte to track the early indicators' development over time. As a result, Deloitte can adapt strategies accordingly to ensure the company remains prepared for potential changes in the future.

Overall, Deloitte's close overall involvement, highlighted in Figure 17 (Appendix 10), and expertise throughout the project ensured a structured and informed approach. Integrating the company's insights during every phase allowed the scenario planning process to consistently align with Deloitte's perspectives while ensuring practical relevance.

4. Phase I: Framing & Scoping

The scenario planning process starts with the essential steps of identifying the focal issue and determining a suitable time horizon (Wright and Cairns 2011). These decisions set the strategic scope and direction for the entire project. The focal issue should align with Deloitte's core objectives, while the time horizon must be sufficiently forward-looking to account for potential disruptions and trends (Wright and Cairns 2011).

4.1 Focal Issue

The auditing profession is continuously evolving due to emerging technologies, changing regulatory landscapes (Farrell and Paquette 2023), and an increased focus on sustainability reporting (Tanguy 2024). This project explores how Deloitte can effectively navigate the future of auditing by addressing the challenges and opportunities brought by digital transformation, European regulations, and talent availability. Through the *Intuitive-Logics School* approach, this project will develop future scenarios to assess the impact of these forces on the audit industry. The focal issue guiding this scenario building process is articulated as follows:

'The Future of the Audit Industry in the EU by 2035'

Bierstaker, Burnaby, and Thibodeau anticipated audits would become predominantly paperless as early as 2001, with digital technologies - such as electronic data interchange and file transfer - revolutionizing traditional audit processes, allowing auditors to concentrate on more advanced tasks such as evaluating risks and gaining an understanding of the client's business (Bierstaker, Burnaby and Thibodeau 2001).

Today, the audit profession actively adopts advanced technologies to enhance the quality and efficiency of services (Elliott and Duan 2022). ML-powered tools, like Deloitte's Argus, rapidly process hundreds of documents and identify critical areas of interest far more efficiently than the technologies available a decade ago (Deloitte 2018). Similarly, PwC's 'Halo' tool uses ML to analyze journal entries, detect unauthorized or suspicious patterns, and enhance the speed

and quality of audit testing by focusing on high-risk outliers (Kokina and Davenport 2017). 'KPMG Clara', a cloud-based platform, combines data science, audit automation, and data visualization to provide real-time insights and enhance interactions between auditors and clients (KPMG n.d.b). Moreover, EY leverages the use of 'EY Helix' to collect and analyze large volumes of auditing data to gain deeper insights into clients' financial operations (EY n.d.).

To ensure that the audit profession continues to provide value in a world characterized by digital transformation, demographic change, and climate change, it is critical to gain a clear understanding of the future of audit (Elliott and Duan 2022). Failing to address any upcoming challenges, sticking to traditional roles, or progressing too slowly will lead to the audit profession becoming obsolete in a rapidly changing global landscape (Forbes Insights 2017).

To further guide the scenario building process, several supporting questions were identified for the focal issue:

- What are the potential impacts of AI and ML within digital transformation on the future of the audit industry?
- How can public trust in technology be maintained and enhanced within the audit sector?
- How does the European Corporate Sustainability Reporting Directive (CSRD) affect audit practices, and how can audit firms adapt to the increasing importance of sustainability and ESG reporting?
- What technological advancements are expected to have the most significant impact on the audit industry by 2035?
- What skills will be most critical for auditors in the future to meet the industry's evolving demands?
- How will demographic shifts in the EU affect the labor market for audit firms?
- How will the growing data security and privacy need impact audit methodologies and practices?

4.2 Time Horizon

When developing scenarios, selecting an appropriate time horizon is essential, as it enables broader thinking, encourages consideration of diverse possibilities, and helps unpack assumptions about the future. A well-chosen time horizon fosters the mental freedom to explore changes and challenges beyond immediate planning cycles, ensuring stakeholders can navigate future uncertainties with greater clarity and purpose (Swanson 2019).

The time horizon serves as a frame of reference that shapes understanding the plausible future. While a long-time horizon might lead to speculative scenarios with limited practical relevance, a short-time horizon might overlook emerging disruption and, therefore, focus too much on immediate concerns (Wright and Cairns 2011). Consequently, it is vital to balance the strategic foresight process by aligning the focus of the time horizon with the objectives of the challenge while ensuring that scenarios provoke forward-thinking insights and guide actionable decisions (Bowers 2022).

In the strategic analysis for the audit industry, a time horizon extending to **2035** was selected. By 2035, the rise of generative AI and other technologies is expected to drive significant digital advancements (Anderson and Rainie 2023). As repetitive, time-consuming tasks can be automated, new tools and capabilities offer the audit industry the opportunity to improve efficiency and effectiveness and to ultimately strengthen confidence in the financial system (Friedlich 2024). Consequently, the audit profession must tackle ethical concerns regarding the use of these technologies as well as associated potential risks like cybersecurity emerging from extensive technology use (Rathi and Rozenblum 2022). Additionally, as technology becomes fundamental to auditing, professional standards and regulations are evolving, eventually leading to greater oversight (Friedlich 2024).

The evolving workforce dynamics, including the integration of digital natives who have grown up with and are inherently comfortable using technology (Hoyland n.d.), will further influence

the future of work (Colbert, Yee and George 2016), making forward-looking strategies that extend into the mid-2030s even more critical to successfully navigating audit's future. By 2030, tech-savvy millennials will account for 75% of the EU's workforce (European Commission 2018) and will consequently shape the future of work in the audit industry.

Lastly, the regulatory environment will likely change significantly, particularly in response to the growing importance of sustainability and ESG reporting. All 27 Member States of the EU have pledged to achieve climate neutrality within the EU by 2050 (European Commission n.d.d). As part of this goal, they have committed to reducing emissions by a minimum of 55% by 2030, compared to the levels recorded in 1990 (European Commission n.d.d). Therefore, the EU has legally binding climate targets that include all major sectors of the economy (European Commission n.d.d).

Consequently, the chosen time horizon until 2035 captures substantial shifts while allowing the development of realistic, actionable scenarios for the EU's audit industry. This allows audit companies to anticipate change, seize opportunities, and adapt their strategies effectively. It also empowers leaders to make forward-looking decisions aligned with a long-term projection, responding dynamically to the evolving audit landscape.

5. Phase II: Explore

The *Explore* phase focuses on investigating megatrends, trends, and uncertainties surrounding the focal issue. These factors have an external origin and signal change within the broader environment. Various drivers, which directly and indirectly influence the focal issue and are related to the industry's development and its surrounding nature, are scanned and identified for further examination. This approach involves using the PESTEL framework to identify and categorize the drivers of change. Figure 2 highlights the mapping of these six critical areas along the identified drivers of change that could shape the audit industry in the coming years.

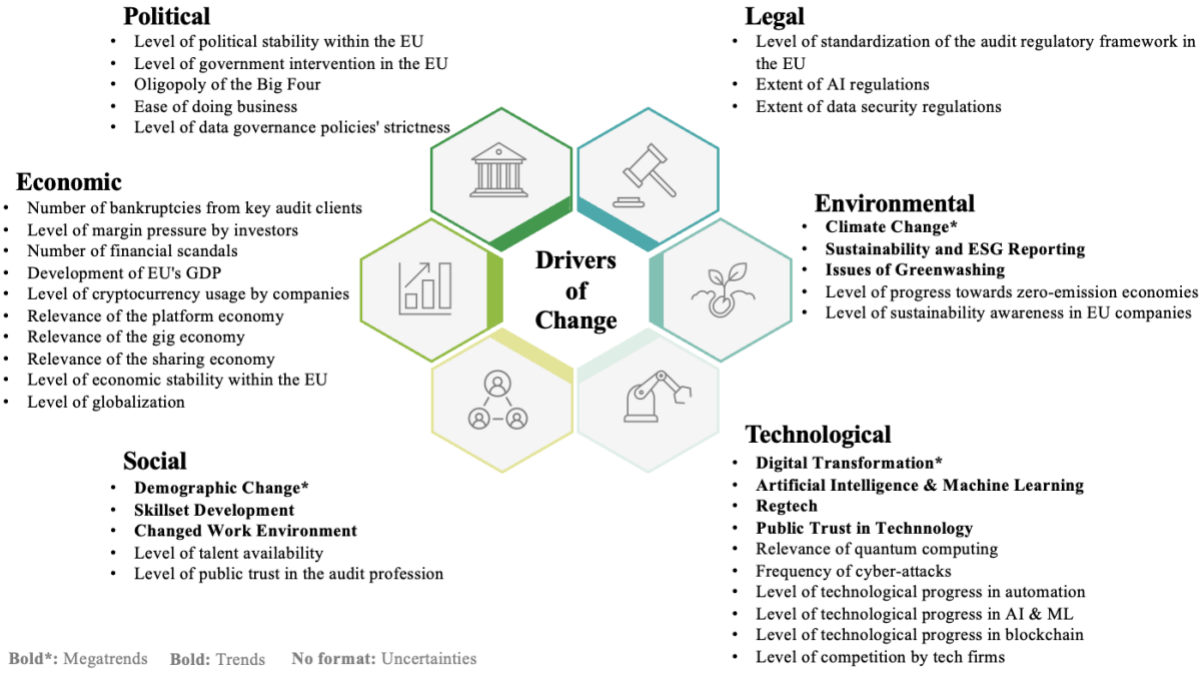

Figure 2 - PESTEL Framework of all Drivers of Change (Own illustration)

5.1 Megatrends & Trends

Megatrends and trends are two defining terms when it comes to assessing possible future developments in an industry. Megatrends are broad-based, long-term transformation processes that have a lasting impact on various aspects of society, the economy, and industry (Zukunftsinstitut 2023). These changes are generally irreversible and shape the entire development of markets and institutions (Zukunftsinstitut 2023).

5.2 Megatrend I: Digital Transformation

Individual Part – Jakob Rinschen

5.2.1 Trend: Artificial Intelligence & Machine Learning

AI has developed considerably in recent decades, particularly in the areas of linguistic, mathematical, and logical reasoning (Hoffmann and Mehta 2024). Today, AI systems can perform complex calculations and analyze large sets that exceed human capabilities (Hoffmann and Mehta 2024). ML is a form of AI in which programs learn from existing data and apply this knowledge to make predictions or perform tasks without explicit programming (Hoffmann and Mehta 2024). It involves the development and refinement of algorithms that enable computers to analyze large amounts of complex data (Hoffmann and Mehta 2024). AI and ML systems are designed to learn from data and recognize patterns, anomalies, and potential risks that could be overlooked using conventional methods (Zemankova 2019).

Together, AI and ML are becoming transformative technologies in the auditing industry, leading to significant advances in auditing. Expert Andreas Wermelt also predicts that AI will play an important role in future audit work: “Looking ahead in 10 years, we will probably have a lot more generative AI being infused into the way we do the audit” (Appendix 3). In addition, according to the KPMG ‘AI in Audit’ survey, 71% of the 210 business decision-makers surveyed expect AI to be used more widely in the next three years, representing further opportunities for the profession to expand its AI-related activities (KPMG 2023a).

One of the key benefits of AI in auditing is the ability to continuously monitor financial transactions and operational processes and enable real-time data analysis (Adelakun 2022). Auditors can assess financial transactions and controls as they occur, providing timely insights and reducing the risk of error or fraud (Al-Sayyed, Al-Aroud and Zayed 2021). ML algorithms

further enhance this process by adapting to new information and improving accuracy over time, making them increasingly effective at detecting potential irregularities (Goto 2022).

In addition, AI tools can analyze unstructured data such as emails or contracts to identify potential risks, giving auditors deeper insights into the broader context of a company's financial health (Qatawneh 2024). The ability of AI is also valuable when it comes to identifying non-financial risks such as compliance or governance issues that can impact the overall risk profile of the organization (Ehret 2023).

But AI and ML face several challenges, including privacy and security risks due to the extensive use of data that requires privacy-preserving techniques (Khalid, et al. 2023). Ethical concerns arise from biases in training data that require fairness measures (Khalid, et al. 2023). There is also a skills gap due to a shortage of qualified professionals and regulatory uncertainties due to the rapid development of AI (Morandini, et al. 2024). In addition, the implementation of AI requires significant computing resources, often supported by scalable cloud solutions (Forbes Technology Council 2023). Although the integration of AI and ML into auditing raises some concerns, their impact on the auditing profession will only increase as they can provide more strategic and predictive insights (Zemankova 2019).

5.2.2 Trend: RegTech

The development of regulatory technology (RegTech) is an important factor in the financial services sector, driven by the need to better manage growing regulatory complexity (Colaert 2018). The Financial Conduct Authority introduced the term 'RegTech' in 2015 and defined it as "a subset of financial technology (FinTech) that uses innovative and integrated technology to facilitate the delivery of regulatory requirements more effectively and efficiently than existing capabilities" (EY 2019). While FinTech focuses on using technology to deliver financial services, RegTech is about using new technologies to navigate and manage the complex data requirements needed for regulatory compliance (EY 2019). It includes

automating and streamlining processes, such as regulatory reporting, compliance monitoring, and risk management (Colaert 2018).

Following the 2008 financial crisis, financial institutions had to deal with formerly uncommon new rules aimed at protecting consumers, maintaining market stability, and increasing transparency (Colaert 2018). Global regulatory alerts increased from 8,700 in 2008 to over 64,000 in 2021, highlighting the need for technology-based solutions and the more stringent regulatory environment (KPMG 2023b). Driven by rising compliance demands and evolving consumer expectations, the RegTech market has consequently experienced rapid growth, with total global investment reaching USD 11.5 billion in 2021 (KPMG 2023b). As financial institutions introduce new services and products, leading to increased compliance costs and additional regulations, RegTech is expected to continue evolving (Teichmann, Boticiu and Sergi 2023).

By automating client due diligence and transaction monitoring, RegTech solutions enhance anti-money laundering initiatives (Rusli and Fermay 2024). RegTech also contributes to cybersecurity, protecting sensitive financial data and ensuring that companies meet compliance requirements relating to data protection laws such as the General Data Protection Regulation (GDPR) (Olaiya, et al. 2024). Furthermore, advances in AI and ML enable RegTech solutions to identify regulatory risks in real-time and take proactive rather than reactive compliance measures (Olawale, et al. 2024). These tools also promote cross-border regulatory harmonization through the standardization of compliance processes and help multinational companies streamline their operation (Olawale, et al. 2024).

Despite its benefits, RegTech faces challenges such as coping with regulatory differences between regions and the high cost of replacing legacy systems, which often do not integrate well with new technologies, making their adoption difficult (Teichmann, Boticiu and Sergi 2023). As regulatory environments become increasingly strict, its ability to drive efficiency and

reduce the compliance burden makes it an essential tool for the future of financial services. Its transformative impact positions RegTech as a critical factor of operational resilience and innovation, helping firms adapt to the evolving regulatory landscape (Johansson, et al. 2019).

Individual Part – Miguel Oliveira da Silva Justino

5.2.3 Trend: Public Trust in Technology

Individual Part – Alexander Thomas Schmitt

5.3 Megatrend II: Demographic Change

5.3.1 Trend: Skillset Development

5.3.2 Trend: Changed Work Environment

Individual Part – Sven Henrik Thiergard

5.4 Megatrend III: Climate Change

5.4.1 Trend: Sustainability and ESG Reporting

5.4.2 Trend: Issues of Greenwashing

5.5 Identification of Uncertainties

The final drivers of change to be examined in this project are uncertainties, which are elements with unpredictable outcomes (Van der Heijden 1996). Unlike trends or megatrends, uncertainties are inherently unpredictable and can shape different futures rather than indicating a single direction (Scearce and Fulton 2023). This makes them central to constructing multiple plausible futures, as their evolution can significantly influence the focal issue (Van der Heijden 1996). To derive relevant uncertainties, a thorough analysis of the audit industry and its external environment based on the PESTEL categories was undertaken.

The findings were discussed, refined, and consolidated in several team meetings to create a holistic list of uncertainties shaping the audit industry in 2035. Moreover, the research findings were discussed and validated in extensive consultation with Dr. Florian Klein. The final list of the 28 uncertainties and their extreme points are displayed below in Figure 3.

Additionally, Appendix 5 provides a detailed explanation of all identified uncertainties.

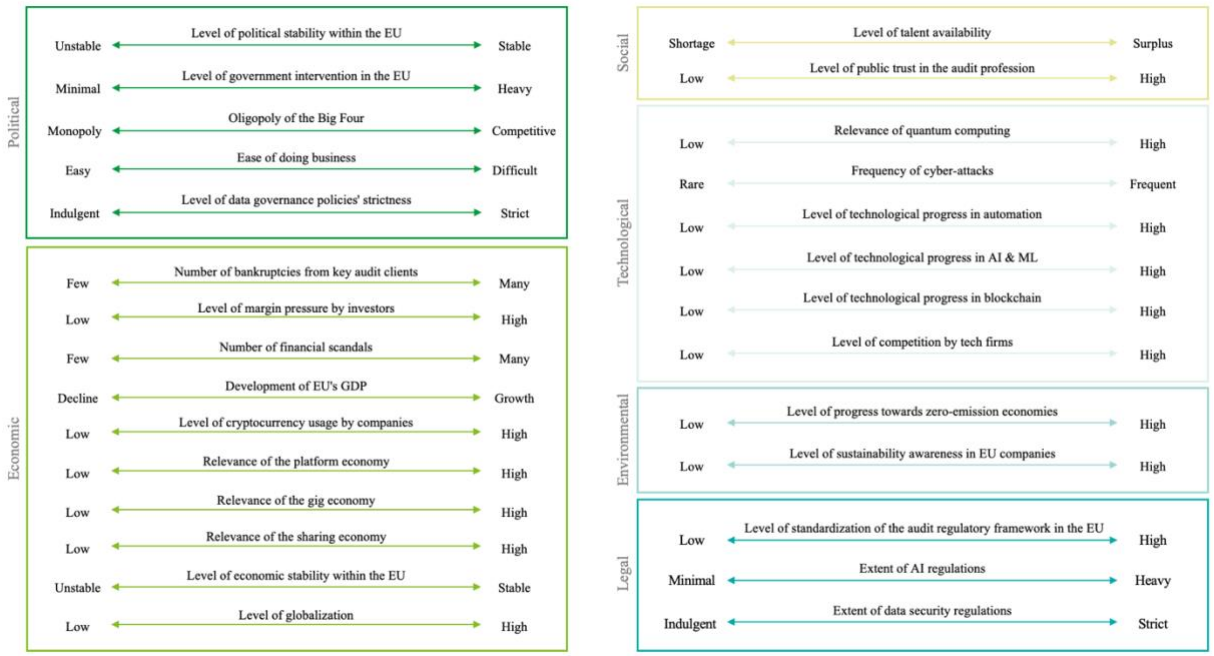

Figure 3 - Uncertainties with Configurations (Own illustration)

6. Phase III: Synthesize

The *Synthesize* phase focuses on identifying the two uncertainties with the greatest unpredictability and impact on the focal issue while being sufficiently independent from each other (Scearce and Fulton 2023). Aligned with the deductive scenario developing approach, these key uncertainties form a scenario matrix, resulting in four distinct scenarios with unique implications for the audit industry (Wright and Cairns 2011).

6.1 Evaluation and Mapping of Uncertainties

The methodological process started with a structured survey to gather insights from audit professionals and experts. In this survey, the participants were asked to rate all 28 pre-assessed uncertainties on a scale from 0 to 3 across two dimensions: level of uncertainty (from 'not uncertain at all' to 'very uncertain') and level of impact (from 'very low impact' to 'very high impact') (Figure 12 in Appendix 6). On September 26, 2024, the survey was emailed to 106 Deloitte audit professionals - out of which 32 were Partners, 51 Directors, and 23 Senior Managers. After closing the survey on October 4, 2024, 81 responses were collected, reflecting a remarkably high response rate of 76.42%. Additionally, the fact that 94% of the respondents had at least five years of experience in the audit industry (with 79% having more than ten years of auditing experience) further increased the survey result's reliability (Figure 13 in Appendix 6). After closing the survey, all responses were standardized across both dimensions - impact, and uncertainty – using Equation 1. This resulted in a weighted score between 0 and 3 across the dimensions for each uncertainty, enabling a more accurate comparison and analysis of their impact on the audit industry.

$$X'_{ij} = \left[\frac{X_{ij} - min_i}{R_i} * 2.9\right] + 0.1$$

Where X'_{ij} is the scaled final value of uncertainty X on dimension *i;*
X_{ij} is the average score of uncertainty X on dimension *i;*
min_i is the minimum value for dimension *i;*
R_i is the range of dimension *i*

Equation 1 - Standardization of Survey Results

In the next step, the axes were positioned at the median values for both impact and uncertainty to construct the uncertainty-impact matrix, ensuring that each side of the axis represented 50% of the data points while effectively splitting the dataset into quadrants for more precise analysis. Consequently, the positions of all uncertainties within this uncertainty-impact matrix can be determined, as shown in Figure 4:

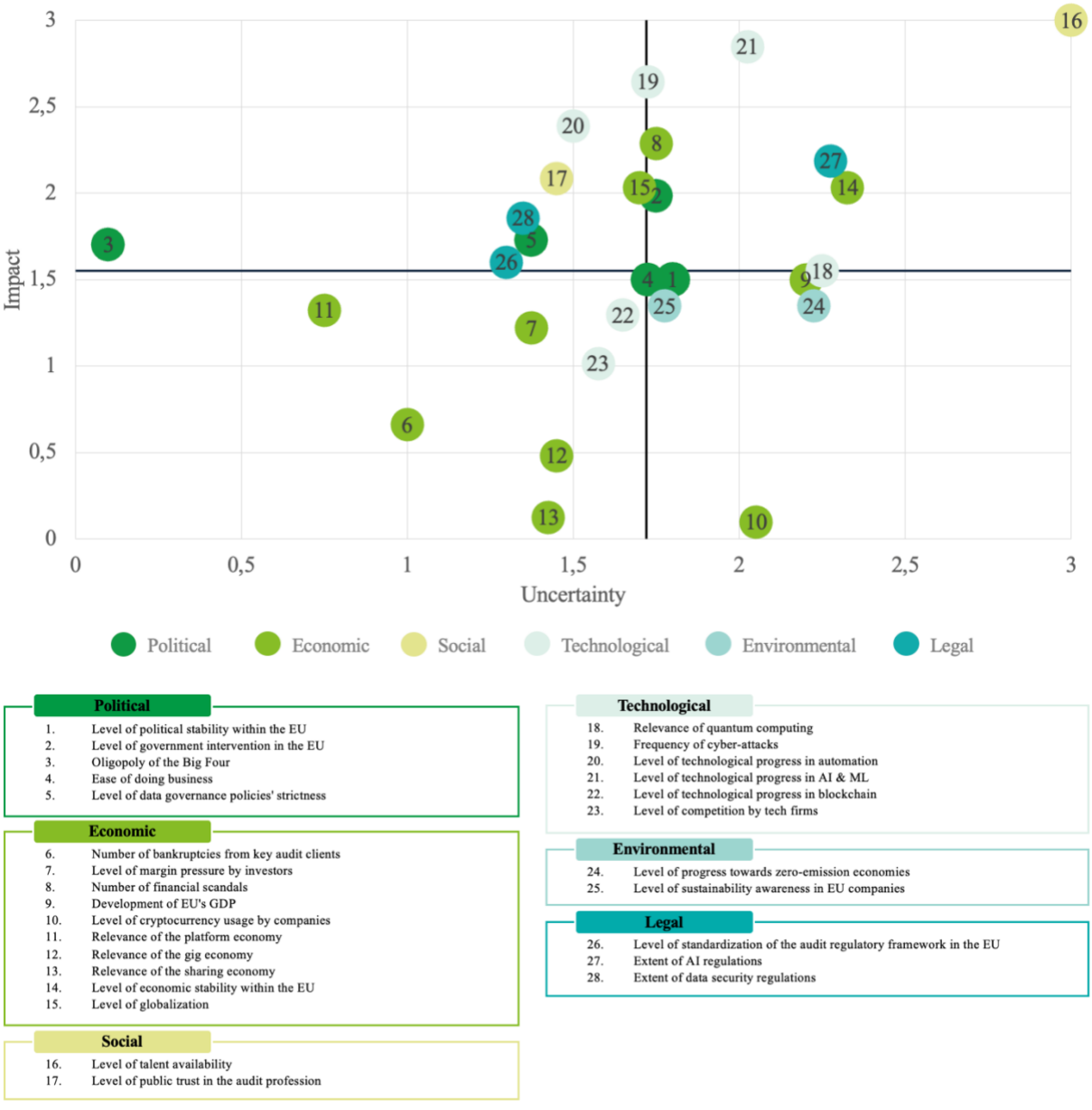

Figure 4 - Survey Results for Uncertainties (Own illustration)

The following uncertainties surpass both median thresholds and are therefore of highest strategic relevance for the scenario building process:

- *Extent of AI regulations*
- *Level of economic stability within the EU*
- *Frequency of cyber-attacks*
- *Level of government intervention in the EU*
- *Level of talent availability*
- *Level of technological progress in AI & ML*
- *Number of financial scandals*
- *Relevance of quantum computing*

6.2 Grouping Uncertainties

These uncertainties located in the upper right quadrant of the matrix were further examined for interdependencies and possible correlations (Figure 5). The goal was to aim for intercorrelated relationships by grouping the uncertainties into pools while ensuring sufficient independence between these pools. Two of the presented uncertainties focus on the economic area while demonstrating a high dependency level and can therefore be grouped together:

- *Level of government intervention in the EU*
- *Number of financial scandals*

Financial scandals frequently lead to heightened government intervention. A notable example is the Sarbanes-Oxley Act of 2002, which was introduced in the US following significant financial scandals in the early 2000s involving publicly traded companies such as Enron Corporation, Tyco International plc, and WorldCom (Kenton 2024). This legislation aimed to safeguard investors from fraudulent financial reporting by corporations and improve the accuracy and reliability of corporate disclosures (Kenton 2024).

Additionally, the following technology-focused uncertainties presented in the upper right quadrant show interdependencies and can therefore be grouped together:

- *Extent of AI regulations*
- *Frequency of cyber-attacks*
- *Level of technological progress in AI & ML*

With the surge in digital transactions and cloud-based services, the vulnerability to cyber-attacks is expected to rise (St. John 2024). Thus, the *Frequency of cyber-attacks* can determine the *Extent of AI regulations*. Also, the *Level of technological progress in AI & ML* will continue to transform the audit industry by enhancing data analysis, anomaly detection, and risk assessment capabilities, subsequently influencing the *Extent of AI regulations* within the industry (Caseware Staff 2024).

6.3 Identification of Key Uncertainties

After this grouping process, two non-correlated key uncertainties were identified to create and develop the scenario matrix containing four unique scenarios.

Key uncertainties are fundamental to understanding the future dynamics of the focal issue as they represent factors with a very high degree of unpredictability. Those uncertainties have a significant impact and potentially lead to major changes in the industry (Jester strategy n.d.). Moreover, the key uncertainties form the basis for scenario development and help define possible future outcomes (Jester strategy n.d.). To be effective, the key uncertainties must be sufficiently independent of each other to ensure that they represent different influences that shape the future in distinct ways (Jester strategy n.d.).

Level of talent availability emerged as the most prominent key uncertainty, positioned in the far upper right quadrant (Figure 5). It was logically chosen because the experts ranked it as the most impactful and uncertain driving factor.

Subsequently, an uncertainty that is independent of talent availability had to be selected as the second key uncertainty. *Relevance of quantum computing* had a low impact compared to the other uncertainties in this quadrant, and the identified group of uncertainties centering around the economy had a comparably low level of uncertainty. Moreover, as economic conditions significantly influence workforce mobility and employment opportunities (Smit, et al. 2020),

the *Level of economic stability within the EU* is not sufficiently independent of the *Level of talent availability.*

Consequently, the established group centered around technology was chosen as the second key uncertainty for the scenario matrix. Within this group, the *Extent of AI regulations* was selected as the driving force of the technological advancement pool with the highest independence to the *Level of talent availability*. Although the technological progress of AI can indirectly influence the availability of talent due to the possibility of AI replacing many jobs and reducing the need for human workers (Hazan, et al. 2024), the focus on AI regulations within that pool results in the necessary independence of these two key uncertainties.

Therefore, two distinct key uncertainties were identified: One key uncertainty is the *Level of talent availability*, while the other key uncertainty is the group centered around the *Extent of AI regulations*, *Frequency of cyber-attacks*, and *Level of technological progress in AI & ML*.

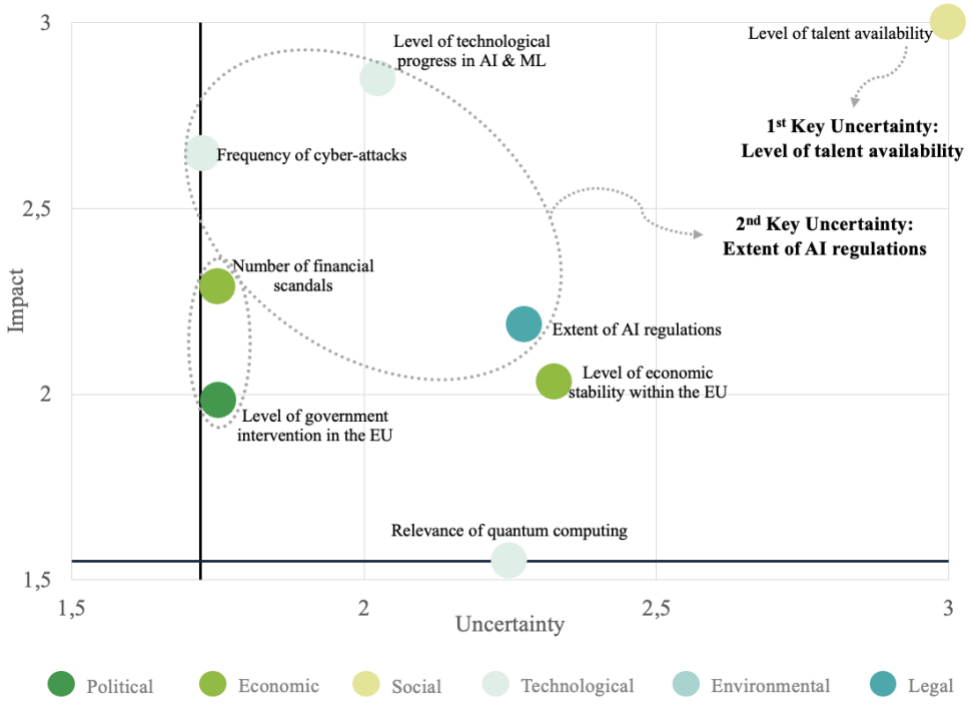

Figure 5 - Grouped Uncertainties and Identified Key Uncertainties (Own illustration)

6.4 Selected Key Uncertainties

The selected key uncertainties, the *Level of talent availability,* and the *Extent of AI regulations* emerged as pivotal factors and are further examined and deepened in the following section.

1st Key Uncertainty: Level of Talent Availability

The audit industry experiences major transformations driven by heightened client expectations, changing regulations, and the rise of AI (Thomson Reuters 2024a). Therefore, the *Level of talent availability* within the audit sector impacts the capacity of audit firms to adapt to the industry's ongoing revenue growth of 4.2% to USD 302.6 billion by 2030 (Global Industry Analysts, Inc. 2024), leading to the need to attract top talent skilled in new key areas (Thomson Reuters 2024a).

Several factors, such as a decline in college graduates or the complex certification requirements, have driven a talent shortage. The audit profession is now seen as less attractive, innovative, and exciting (Tomazin 2023). As a shortage of skilled auditors compromises the audit quality and efficiency, firms may assign inexperienced staff to complex audits, raising concerns about maintaining financial reporting standards and accountability (Mason n.d). Additionally, upskilling is vital for auditors as their required skills constantly change due to technological advancements and the increase of ESG reporting. A study conducted by Forbes Insights backs this as it shows that the need for technology skills for auditors rose from 40% in 2014 to 67% in 2016, communication skills increased from 41% to 60%, critical thinking from 52% to 65%, and investigative financial skills rose moderately from 52% to 59% (Forbes Insights 2017).

Moreover, standardized tasks with a focus on bookkeeping and data entry are expected to decline (Thomson Reuters 2024b), with 65% of information and data processing to be performed by machines by 2027 (Di Battista, et al. 2023), showcasing the ongoing evolution of the audit profession toward automation (Brown, et al. 2018).

The population within the EU is forecasted to peak in 2026 before gradually starting to decrease (Eurostat 2023a). This demographic shift will likely reduce the available workforce, making lifelong learning opportunities inevitable to increase talent levels (Scheijgrond and Donovan 2024). Therefore, these transformational processes in the job market demand a workforce able to leverage technology and perform more complex tasks. However, as of 2023, 44% of

EU citizens aged 16-74 lack basic digital skills. This is concerning since nine out of ten jobs will require digital competency skills (Teigland 2020).

2nd Key Uncertainty: Extent of AI Regulations

The *Extent of AI regulations* significantly impact the audit industry in the EU and will determine how companies adopt, deploy, and monitor AI technologies (European Court of Auditors 2024). The EU AI Act set standards for transparency, data security, ethics, and accountability (European Commission n.d.b). This regulation shapes the development of AI-driven tools, defines the scope of automation, and establishes the compliance processes that audit firms are required to follow (Adelakun 2022). These requirements have far-reaching implications for operational efficiency, as automation streamlines audits but requires robust oversight to ensure accuracy and reliability (Adelakun 2022). At the same time, the EU's restrictive AI policy harbors the risk of overregulation and high compliance costs, potentially jeopardizing innovation. Furthermore, the scope for interpretation of many provisions of the new act, along with potential further AI regulatory constraints, creates considerable uncertainty for companies (Deloitte 2024c). Additionally, the European Commission is promoting organizations' volunteer adoption of the AI Acts' standards through the AI Pact (European Commission 2024a). Over 130 companies have already joined it, to prepare for the implementation of the AI Act (SAS 2024). Conversely, limited regulations could enable AI's rapid adoption but increase privacy and ethics risks (Bird, et al. 2020). Thus, the balance of AI regulation impacts not only operational practices but also customer trust, public perception, and the long-term resilience of the industry in a technology-driven landscape (Mökander 2023). The *Level of technological progress in AI & ML* further complicates this challenge. As AI and ML capabilities advance quickly, auditing firms must continuously update their knowledge and tools to correctly assess these increasingly sophisticated systems (Mökander 2023).

The high uncertainty surrounding AI regulations presents a major challenge as the regulatory environment is still evolving, with unclear details regarding implementation and enforcement (Walter 2024). Audit firms face uncertainty both as users of AI in their processes and as providers of assurance on their clients' AI systems. The *Frequency of cyber-attacks* adds to this uncertainty, since the integration of AI increases the risk of cyber threats, putting additional pressure on compliance and security (Weitzman 2023). Auditors must assess the resilience of AI systems to cyber threats while adapting their methods to a dynamic regulatory landscape. This unpredictability, combined with fluctuations in industry-specific AI adoption and potential regulatory revisions (EY Global 2024), underscores the high level of uncertainty.

6.5 Development of Scenario Matrix

By intersecting the two key uncertainties *Level of talent availability* and *Extent of AI regulations*, the scenario matrix was created. The matrix, whose axes are each divided into two opposing configurations, leads to the conceptualizing of four distinct and plausible future scenarios for the audit industry in the EU by 2035 (Figure 6).

Crucially, creating the scenarios goes beyond just the intersection of two key uncertainties, incorporating external factors such as the identified megatrends, trends, and uncertainties, while offering a comprehensive view of forces shaping the industry's future. The deliberate focus on four scenarios ensures a balanced exploration of diverse futures. This approach ensures sufficient depth without the complexity that arises from managing an excessive number of scenarios. Furthermore, it enables extensive stakeholder engagement, fostering meaningful discussions and collaboration. In contrast, handling numerous scenarios would rely on a data-driven approach requiring computational resources, which can hinder strategic dialogue.

For the first axis, *Level of talent availability*, the 'Surplus of Talent' configuration represents an excess of highly skilled professionals, particularly in areas such as AI, data analytics, and ESG. This suggests that companies have access to the expertise required to meet the

technological and operational needs of the industry. In contrast, the 'Shortage of Talent' configuration indicates a lack of available professionals with the required skills, suggesting a more constrained talent market that could make it more difficult for companies to meet their evolving needs. On the second axis, *Extent of AI regulations*, the 'Heavily Regulated' configuration suggests a landscape where AI is governed by strict regulatory frameworks emphasizing control, transparency, and safety standards. On the other hand, 'Minimal Regulated' implies a more permissive environment with fewer restrictions, allowing for greater flexibility in the development and use of AI technologies without extensive oversight. Consequently, the scenario matrix was set up (Figure 6), leading to the following four scenarios: *Sky is the Limit*, *People in Control*, *Bottleneck Audit*, and *Automation Overload*. These scenarios showcase various unique relationships and interconnections of external and internal factors within the audit industry. Although the scenarios portray extreme and divergent worlds, they are nevertheless plausible and explicitly centered around the focal issue.

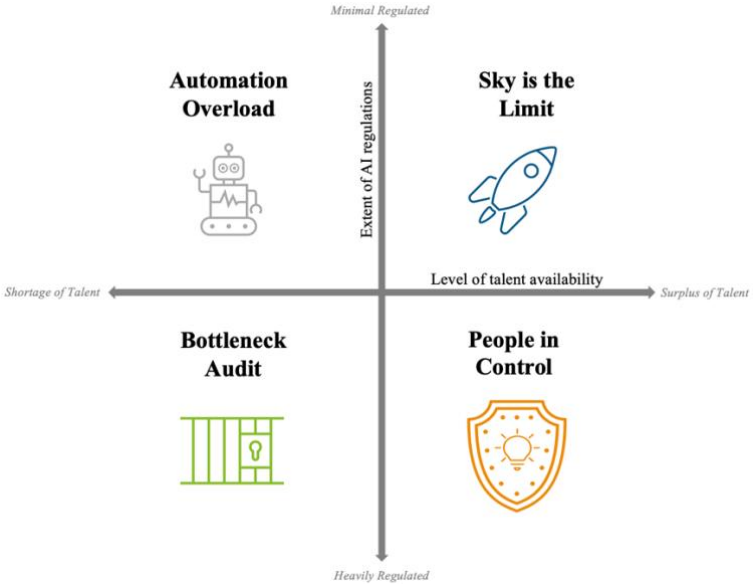

Figure 6 - Scenario Matrix (Own illustration)

6.6 Scenario Narratives

Based on this scenario matrix, a clear storyline, divided into a contextual and transactional analysis, was established for each of the four scenarios to provide clarity and depth.

The previously identified megatrends - digital transformation, demographic change, and climate change - along with the associated trends, are crucial for constructing coherent scenario narratives as they serve as foundational forces shaping each scenario's contextual and transactional dimensions. The contextual part of each narrative involves analyzing the six external PESTEL factors, while the transactional part focuses on the audit industry, its workforce, and clients. This structured approach resulted in four distinct scenario narratives, offering critical insights essential for strategic recommendations and informed decision-making.

Individual Part – Sven Henrik Thiergard

6.6.1 Scenario 1: Sky is the Limit

Individual Part – Miguel Oliveira da Silva Justino

6.6.2 Scenario 2: People in Control

Individual Part – Alexander Thomas Schmitt

6.6.3 Scenario 3: Bottleneck Audit

Individual Part – Jakob Rinschen

6.6.4 Scenario 4: Automation Overload

This is a world in which the EU is shaped by minimal AI regulation and a persistent talent shortage, driven by a business-friendly focus on competitiveness over oversight. Rapid adoption of AI boosts productivity but raises ethical concerns, widens the economic divide, and strains the talent pool due to demographic changes and outdated education systems. Limited interest from younger professionals in automated fields highlights the challenge of balancing productivity with social considerations in this high-tech, talent-scarce landscape.

Contextual Analysis

The political landscape in the EU is characterized by a largely open and supportive government stance on AI, with minimal regulatory intervention. Across the EU, there are few AI regulations that prioritize rapid adoption and economic competitiveness on the global stage alongside leading AI countries such as the US and China. Policies such as the EU AI Act focus mainly on ethical and security standards with limited guidance on strategic AI applications. This reflects a collective emphasis on flexibility that enables companies to adopt AI with fewer restrictions, supporting productivity and addressing talent shortages. Decision-making increasingly centers on economic stability to meet the demands of a digital economy, though political tensions persist as policymakers differ in balancing AI integration with societal needs. Disparities over tech investments (Alonso, Kothari and Rehman 2020) and talent availability (Ünal 2022) deepen the economic divide between wealthier and poorer member states. Additionally, resource disparities foster innovation hubs in well-funded regions, leaving rural and underserved areas economically stagnant (Joint Research Centre 2024). Strong emphasis on tech progress sees most resources directed at tech-heavy sectors, creating political friction between regions thriving on tech investment and those lagging. These underfunded regions seek more public investment to prevent their economies from falling further behind, adding to the EU's unity challenges. The emphasis on tech also raises cybersecurity concerns across sectors, with increased focus on data privacy and protection of sensitive information (GOV.UK 2024), but it also escalates geopolitical tensions as member states aim to safeguard national interests.

With limited political intervention, AI becomes a central pillar of economic and workforce strategy in the EU. Europe continues to lag the world leaders in terms of the supply, adoption, and penetration of digital technologies (Bughin, Seong, et al. 2019). Still, AI and automation are necessary across most sectors, replacing roles that can no longer be filled. Entire job categories, especially those with low and medium qualifications, are becoming redundant due

to highly efficient AI systems (OECD 2023). Basic occupations in data entry, retail, transportation, and even finance will be eliminated as AI performs these tasks at a speed and cost that cannot be matched by humans (Manyika, et al. 2017). As a result, it is unprofitable for companies in Europe to maintain traditional employment levels, accelerating the offshoring of jobs. The limited workforce available is increasingly shifting from traditional roles to positions that require more human judgment, such as AI oversight, cybersecurity, and caregiving, which rely on skills that AI cannot fully replicate. The economic gap between wealthier and poorer EU countries widens as skilled workers migrate to tech-focused hubs, leaving underserved regions with limited growth prospects (Lowell and Findlay 2001). This economic polarization concentrates technology-driven wealth in selected urban areas and creates highly automated, specialized regions. In contrast, rural regions and traditional industries face decline and rising unemployment, amplifying socio-economic divides.

Europe's talent shortage is worsened by social and demographic shifts, with an aging workforce retiring and birth rates in decline (European Union 2023). Education systems lag in adapting to AI and automation needs (Abdelaziz 2019), as schools and universities struggle to produce graduates skilled in AI, data analysis, and automation. The skill gap disrupts EU industries, causing frustration as automation replaces jobs and workers struggle to adapt (Nissim and Simon 2021). Traditionally stable jobs in sectors like finance are disappearing, leaving many workers struggling to transition to new roles. Calls for stricter AI regulations and transparency are growing, but policy responses remain limited. The unequal digital infrastructure across urban and rural areas exacerbates social tension, as access to AI-related education and job opportunities is uneven (Lomba, Jančová and Fernandes 2022). This widening economic gap fuels public dissatisfaction and a push for fairer resource distribution and political reforms. Meanwhile, the workforce is shifting towards remote and hybrid models, which provide flexibility but challenge traditional office culture and long-term employee retention.

Additionally, an increasing reliance on contract work further reduces company loyalty, making it even more difficult to retain talent (International Labour Organization 2016).

With minimal AI regulation, technological progress is advancing rapidly, making automation and AI prevalent in almost every sector (Rashid and Kausik 2024). While businesses benefit from improved efficiency, ethical and safety concerns about unregulated AI are growing (Krishna 2024). As AI systems take over tasks traditionally performed by human professionals, there are growing concerns about minimally supervised AI capabilities. The line between human and machine expertise is blurring, heightening societal concerns about technological dominance. Quantum computing, a cutting-edge technology leveraging the principles of quantum mechanics to execute complex calculations at unprecedented speeds (Schneider and Smalley 2024), has started to find applications in cybersecurity. It is primarily used to enhance encryption and protect sensitive data and can quickly process vast amounts of information to detect and prevent cyber threats (Hivenet n.d.). However, this technology requires substantial investment in both infrastructure and skilled professionals, making it inaccessible to less wealthy EU nations.

Environmental pressures grow as climate change intensifies with rising sea levels, extreme weather, and resource scarcity impacting industries (Lindsey 2023). However, economic stability and growth are prioritized over environmental reforms, intensifying public frustration. Sustainability and net-zero goals are required across the EU (D'Aprile, et al. 2020), but a lack of skilled professionals hinders effective ESG compliance. AI systems assist with ESG reporting (European Institute of Management & Finance n.d.), yet without skilled human oversight, the data lacks depth and reliability, leading to a gap between reported metrics and actual impact. Many companies prioritize economic stability over sustainable operations, meeting only the minimum requirements. Consequently, the EU’s broader environmental goals face obstacles, as companies balance between compliance and financial viability.

Despite public calls for legislative action in the form of stricter AI requirements, the EU avoids extensive regulations. This deregulated environment allows AI systems to dominate industries with minimal requirements, increasing public skepticism towards technology. Trust in AI is declining as regulators fail to consider ethical concerns, privacy risks and potential misuse (Chakravorti 2024). This approach helps companies reduce costs through automation, which becomes essential for maintaining competitiveness in global markets. However, the lack of skilled talent to manage and improve AI tools creates a fragile economy, with AI advancements doing little to resolve underlying economic stagnation. Limited legal safeguards further erode public trust, with both companies and regulatory bodies viewed with skepticism.

Transactional Analysis

Industry: In the audit industry, AI and automation now manage most operational tasks, significantly reducing the need for human intervention. While this increases efficiency, it also introduces quality control issues, particularly for tasks requiring ethical or complex judgment. Major audit firms like the Big Four benefit from AI's efficiencies and expand its market share, as smaller firms struggle with the high costs of advanced technology adoption (Yang, Blount and Amrollahi 2024). However, as tech firms increasingly enter the audit space, offering AI-driven, cost-effective, and specialized solutions, competition intensifies. These tech firms leverage their expertise in automation and data analytics to challenge traditional audit firms, pushing the latter to innovate to remain relevant. Furthermore, the growing reliance on AI-driven auditing creates new challenges in data management and cybersecurity, which smaller firms often find difficult to meet, impacting compliance and client trust. AI's pervasive role has made auditing less appealing to young professionals, as many perceive the field as overly automated, offering limited opportunities for human input. The reduced demand for traditional auditing skills weakens the field's attractiveness as a stable and long-term career, making it

harder for firms to recruit and retain skilled talent, which poses a threat to labor market stability in the industry.

Employees: Demographic shifts intensify the scarcity of skilled auditors, with an aging workforce and outdated education systems failing to produce tech-competent graduates. Although AI fills many roles, auditors with expertise in ethical AI, cybersecurity, and complex financial analysis are in high demand (Krakowczyk 2024) but are difficult to find. This shift appeals to some experienced auditors who see it as an opportunity to engage in more analytical work, yet others struggle to acquire the necessary technical skills. Younger professionals are largely disinterested in AI-dominated audit roles or lack the tech skills for advanced positions. Educational institutions are slow to adapt, producing too few graduates with knowledge in data science, further limiting the talent pool. Remote work expands the reach for global talent (Chang 2024), but the persistent shortage of AI expertise keeps turnovers high, leading to a remote, contract-based workforce that experiences reduced loyalty and cohesion (Schneider and Smalley 2024). As expectations in the audit industry shift, firms now prioritize candidates with backgrounds in data science, machine learning, and ethics over those with traditional audit skills alone (Kavanagh 2024).

Clients: Clients demand faster, more efficient audits but are increasingly concerned with the transparency and reliability of AI-driven processes. Limited regulatory guidance leaves clients unsure about data privacy, potential AI biases, and the accuracy of automated audit outcomes. Cybersecurity fears are also high, as customers are concerned about the security of their sensitive data when relying on AI-powered systems, and many are skeptical about whether companies are taking sufficient precautions to protect this information. Clients also expect expanded services beyond traditional financial audits, particularly in ESG, cybersecurity, and comprehensive risk management. Many clients pressure firms for cost reductions, assuming AI will lower fees, but the high costs of maintaining advanced technologies and ensuring

specialized oversight often complicate this expectation. Some clients hesitate to fully trust AI-led audits, leading to more extensive due diligence on audit firms' part to maintain client confidence. The growing demand for customized ethical audits places additional burdens on firms to ensure AI is used responsibly and transparently, straining both resources and personnel.

6.7 Scenario Analysis and Comparison

A scenario comparison was created based on relevant assessment categories regarding the audit industry. These results, shown in Figure 7, were discussed and validated within the conducted workshop (Appendix 8).

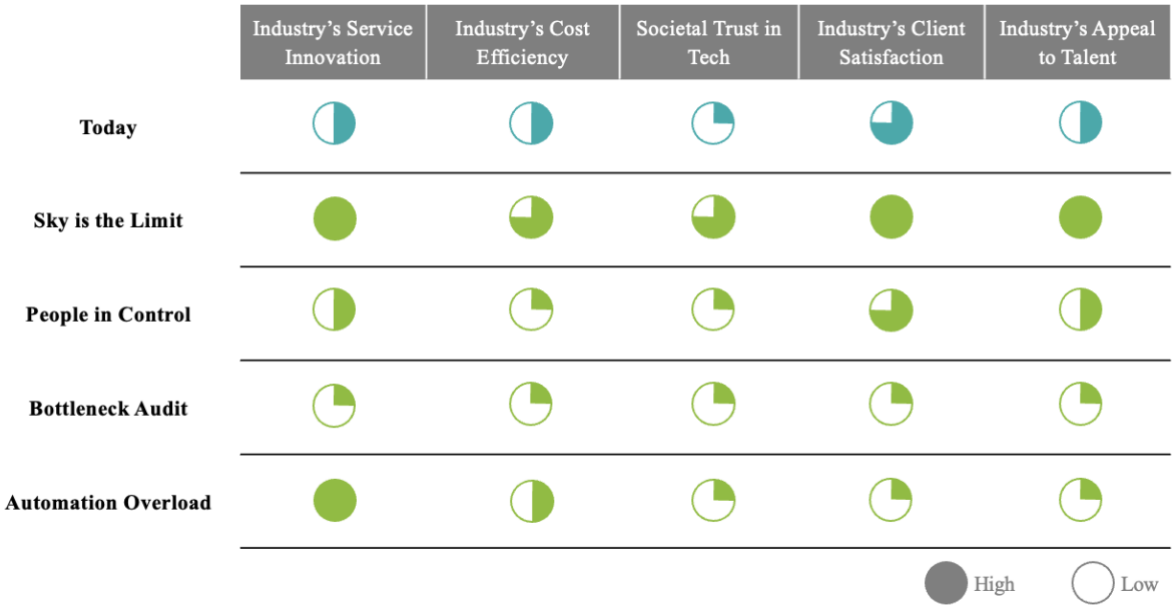

Figure 7 - Scenario Comparison (Own illustration)

This comparison enables several key findings. Firstly, service innovation and the industry's cost efficiency are expected to thrive in scenarios characterized by high levels of technological advancement and less extensive AI regulations. These conditions foster an environment conducive to disruptive innovation, marking a significant departure from today's more constrained landscape. Societal trust in technology, however, remains a persistent challenge as trust levels are projected to stay low, reflecting a continuation of current concerns and highlighting a need to address this early on.

Client satisfaction and the industry's appeal to talent appear to be closely tied to talent availability. If there is a surplus of talent, client satisfaction levels and the industry's appeal to talent are relatively high, consistent with today's standards. Conversely, scenarios with low talent availability show lower levels of client satisfaction and a lower industry's appeal to talent.

Assessing the most plausible trajectory for 2035, a scanning of recent events was used to understand ongoing dynamics: Recently, many European players across different industries announced major staff layoffs (Reuters 2024b). For example, Volkswagen plans to close plants in Germany – for the first time ever (Johnson 2024). Moreover, they announced implementing mass layoffs and cutting pay by 10% as they struggle with declining market share and profits due to mounting competition from low-cost Chinese electric vehicle makers (Johnson 2024).

Figure 14 in Appendix 7 shows the relative GDP development of China, the EU, India, and the US between 1980 and 2024. It highlights that the EU's share has experienced a gradual decline, decreasing from 28.6% in 1980 to a projected 17.3% in 2024. While China's economic ascent is notable, with its share of global GDP rising from a mere 2.7% in 1980 to an estimated 16.9% in 2024, India is experiencing a steady rise (Lu 2024). These projections are further exemplified by the ongoing demographic change, as a declining population and shrinking workforce (European Union 2023) are set to strain economic productivity further.

Amid worsening economic projections, nationalistic movements are surging (Green 2024).

Moreover, the recent development of AI technology is changing our future in an unprecedented way (Meier and Spichiger 2024). To ensure the trustworthy use of these systems, the EU has demonstrated its willingness to apply a stricter regulatory framework on AI. In August 2024 the EU Act's was emitted, ensuring extensive rules are being implemented prohibiting the use of AI, which it says poses an unacceptable risk. The European Commission is also promoting organizations' volunteer adoption of these standards through the AI Pact (European Commission 2024a). Over 130 companies have already joined the pact, helping stakeholders prepare for the implementation of the AI Act (SAS 2024). This showcases the EU´s position on restricting the use of AI.

These pressures collectively point toward economic decline, political fragmentation, and a growing inability to address structural challenges, making scenario 3, *Bottleneck Audit*, the most plausible for 2035.

7. Phase IV: Act

In the *Act* phase, the scenario narratives' implications of the previous phase were converted into strategic recommendations for Deloitte (Luther and Ali 2022). After outlining the company's current business-level strategy, its strengths and weaknesses were examined in detail, followed by the development of recommendations for each scenario through a TOWS matrix, which considers external threats and opportunities arising in 2035 for each scenario. A workshop with Deloitte experts further refined these strategies, leveraging their industry expertise to craft tailored recommendations for emerging challenges and opportunities (Appendix 8).

7.1 Business-Level Strategy of Deloitte Audit & Assurance

As the world's largest professional services network (Deloitte 2024b), Deloitte aims to become the global "scale and growth leader" (Deloitte n.d.f) in all Deloitte businesses, strengthening its global market position through sustainable organic growth and strategic acquisitions, primarily in tech companies (Tracxn 2024). The Deloitte Audit & Assurance business pursues quality leadership, focusing on the highest audit quality and technology innovation through alliance and technology relationships with leading tech companies such as Google, AWS, and NVIDIA to build an AI-powered organization (Deloitte 2024b). Committed "to maximize the value of tech-driven transformation" and responsible business practices, the company´s emphasis is on high-quality, customized services that prioritize quality over pricing, positioning the firm as a premium provider in auditing (Deloitte 2024b). Deloitte has built a reputation for delivering sustainable, long-term value through "advanced technologies, sector depth, and expertise in critical business functions" to serve clients and society (Deloitte 2024b). Moreover, the company takes a 'think global, act local' approach by aligning its service standards and technological solutions globally, while tailoring strategies to the unique demands of regional markets (Deloitte n.d.c).

To simplify its go-to-market strategy and reduce costs, Deloitte is undergoing a significant reorganization process in the 2025 financial year, cutting its business units from five to four (Foy and Foley 2024). The new structure is designed to better tailor its "market-leading multidisciplinary capabilities" to clients' strategic issues and counteract potential silo thinking. Consequently, the company is able to better respond to client needs and market changes, while maintaining its commitment to exceptional quality (Deloitte 2024b).

7.2 Deloitte's identified Strengths and Weaknesses

As the largest service company in the world (Deloitte n.d.e), Deloitte has a very specific footprint in terms of geography and technology. Consequently, its strengths and weaknesses vary from scenario to scenario. This section highlights the key strengths and weaknesses of the SWOT analysis, which serves as the basis for developing the TOWS matrixes in the next stage. The TOWS matrix builds on the SWOT results by aligning Deloitte's internal strengths and weaknesses with external opportunities and threats, enabling the framing of targeted strategic recommendations for Deloitte.

Strengths:

Attractive to tech-oriented top talent: Deloitte emphasizes and invests heavily in its own talents, recognizing the necessity of skillful and culture-driven people. Due to current transformation processes in the audit industry, mainly driven by digital transformation, Deloitte sets itself apart by making its audit departments attractive to tech-savvy talents. This is underlined by the establishment of the Deloitte Technology Academy and the creation of the Deloitte University (Deloitte 2023). It is a vital strength in the scenario *Sky is the Limit*, as Deloitte aims to recruit top talent from the highly skilled surplus in tech-related fields.

Cutting-edge technological infrastructure and innovation capabilities: Deloitte excels in its quality of audits with its innovative mindset. Emerging technologies such as generative AI and

‘Omnia’, the first end-to-end data-driven globally integrated audit platform, are already implemented into their systems and methodology (Deloitte 2023). This strength is impactful in two of the scenarios, *Sky is the Limit* and *Automation Overload*, as both scenarios are driven by minimal AI regulations, allowing Deloitte to innovate and invest more freely.

Diverse portfolio of service offerings: Deloitte offers a rich portfolio of services, including Audit & Assurance, Consulting, Tax & Legal, and Risk Advisory, allowing them to serve various industries and clients while diversifying through different revenue streams (Deloitte n.d.g). Consequently, this enables them to continue investing and innovating in new emerging fields such as cybersecurity, AI audits, and continuous auditing in the future (Deloitte n.d.g). This strength is relevant in the *People in Control* scenario, where Deloitte capitalizes on the abundant talent pool, drawing on the availability of skilled professionals across diverse fields.

Extensive capabilities and expertise to handle diverse regulations: Deloitte saw recent success in more effectively leveraging amounts of data “for enhancing business process efficiency” and thus “ensuring regulatory and legal compliance” (Wheeler 2024). By utilizing its expertise and financial resources, Deloitte demonstrates a mindset and capabilities that allow it to navigate flawlessly through the dynamic regulatory landscape. This is a relevant strength for Deloitte in *People in Control* and *Bottleneck Audit*, as the audit industry faces a strict regulatory landscape.

Strong global reputation for audit quality and integrity: Deloitte describes its global reputation as one of the “most cherished assets” (Deloitte 2023), and is known for its high audit quality with its clients. Performing these quality audits requires independence and integrity, which Deloitte highlights at the forefront of its core values (Deloitte 2023). This strength is prevalent in every scenario and is undoubtedly the essence of Deloitte’s identity.

Substantial financial resources: Deloitte has established itself as the global service leader and has developed substantial financial resources over the years. This allows them to continuously innovate and invest in new talents and improved processes, such as the Project 120 portfolio, where USD 1.4 billion is strategically invested into new projects and initiatives that will reshape and transform the audit industry (Deloitte 2023). For the *Bottleneck Audit* scenario, this is a significant strength, as a strong financial foundation provides a critical 'safety net', enabling strategic investments and the attraction of rare talent in an unstable world.

Weaknesses:

Company structure at issue over not splitting audit and consulting: Deloitte recently announced not to split up its audit and consulting businesses (Foy and Foley 2024). While Deloitte argues that its unified structure strengthens client offerings (Accountancy Age 2023), a conflict of interest persists, potentially limiting the ability to serve audit and consulting needs for the same client. This leads to a weakness in the innovation-driven scenario *Sky is the Limit*.

Cost-intensive audit offerings for SME clients: Deloitte's cost-intensive audit offerings are only conditionally suitable for the SME market, where affordability, flexibility, and personalized service are key priorities (Hattersley 2022). This misalignment limits Deloitte's ability to build long-term relationships with smaller clients (Huck 2016) and capitalize on their growth potential (Hattersley 2022). This is especially a weakness in the *Bottleneck Audit* scenario as it hinders increased business activities with SME clients, even though this activity would be needed to ensure stable business in an unstable, declining economy.

High cybersecurity risk due to accelerating tech-related external data handling: Deloitte faces significant challenges in managing complex ESG and digital security compliance across jurisdictions, which is both resource-intensive and demanding for an organization of its scale. As a service provider to nearly 90% of the Fortune Global 500 (Deloitte n.d.e), its extensive

global operations and significant client engagement highlight its recognition of exposure to cyber threats and vulnerabilities (Deloitte 2022). As the worlds around *Sky is the Limit* and *Automation Overload* are tech-driven, this presents a significant weakness for Deloitte there.

High operational and compliance costs: Deloitte's extensive global operations, with over 450,000 employees across 150+ countries (Deloitte 2024b) demand substantial expenses in people and infrastructure. In *People in Control*, resource strain and reliance on manual processes limit flexibility in adapting to regional compliance demands. In *Bottleneck Audit*, high operational costs hinder flexible adaptability to external disruptions in a volatile environment. Moreover, in *Automation Overload*, Deloitte's position as the largest professional service provider with a vast workforce significantly burdens efficiency and automation efforts.

High talent turnover: Deloitte, like the entire public accounting sector, faces high employee turnover due to factors such as extensive working hours (Nickerson 2024). In *Sky is the Limit*, this is a weakness tied to the profession's 'boring' image, limited internal mobility, and negative views of the certification exam. In *People in Control*, it hinders retention, increases recruiting and onboarding costs, and risks brain drain. In *Bottleneck Audit*, talent shortages challenge Deloitte's ability to maintain workforce consistency and service quality.

Limited data handling capabilities: Deloitte traditionally relies on human input for data analysis. However, data handling capabilities are constrained by the data volume that humans can process (Artsyl Technologies n.d.). This is a weakness, especially in the *People in Control* scenario, which emphasizes a preference for human labor over automation due to strict regulatory oversight. The reliance on manual data processing increases the chance of errors and inefficiencies, especially in the audit industry that evolves to analyze high volumes of data.

7.3 TOWS Analysis and Resulting Strategic Recommendations

Individual Part – Sven Henrik Thiergard

7.3.1 Scenario 1: Sky is the Limit

Individual Part – Miguel Oliveira da Silva Justino

7.3.2 Scenario 2: People in Control

Individual Part – Alexander Thomas Schmitt

7.3.3 Scenario 3: Bottleneck Audit

Individual Part – Jakob Rinschen

7.3.4 Scenario 4: Automation Overload

Given the limited availability of talent and minimal AI regulations, Deloitte faces a unique landscape that requires adaptive strategies. The following recommendations address these specific uncertainties and serve as a guide for Deloitte to navigate this scenario effectively.

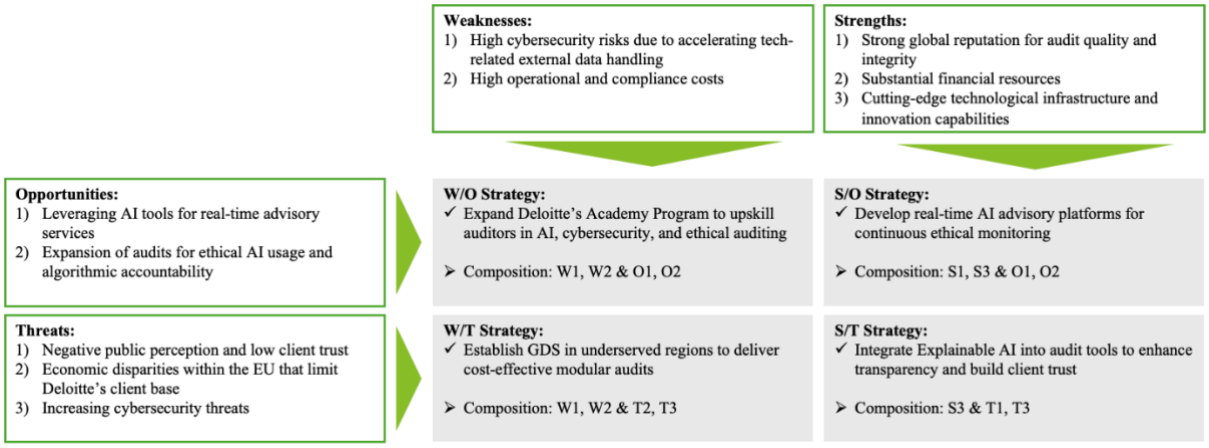

Figure 8 - TOWS Matrix for Scenario 'Automation Overload' (Own illustration)

S/O Strategy: By leveraging Deloitte's reputation for audit quality and technological capabilities, Deloitte should focus on developing AI-driven real-time advisory platforms for

continuous ethical AI monitoring and accountability assessments. Unlike traditional audits, this new approach will empower clients with an AI-powered system that evaluates their AI algorithms in real-time, ensuring they adhere to ethical standards such as fairness, transparency, and accountability (Pangavhane, et al. 2023). Through continuous data analysis and automated risk assessments, clients will receive instant alerts on potential ethical concerns, such as algorithmic biases, data misuse, or lack of explainability, enabling timely corrective actions (Akhtar, Kumar and Nayyar 2024). This service would go beyond periodic reviews, positioning Deloitte as a proactive compliance partner that is integrated into the client's daily operations. Establishing partnerships with AI-focused tech firms for transparency tools and explainability models will further enhance this offering (Davenport and Mittal 2023) allowing Deloitte to lead in ethical AI innovation. For clients facing complex challenges in ensuring responsible AI use, Deloitte's real-time advisory solutions should include customized dashboards, offering actionable insights into algorithmic behavior, compliance risks, and fairness metrics.

S/T Strategy: In response to cybersecurity threats and public skepticism about AI, Deloitte should build on its technological strengths by expanding its 'Trustworthy AI' framework. To enhance this framework, which already includes principles such as transparency, privacy, fairness, and accountability to ensure AI systems meet the ethical standards expected by clients and stakeholders (Saif and Ammanath 2020), Deloitte should make Explainable AI (XAI) a standard in all AI-driven audit tools. Instead of solely relying on AI outputs, Deloitte's tools will provide transparent explanations of AI-driven audit decisions. By developing dashboards and reports that break down the rationale behind AI-generated audit results, Deloitte can reassure clients about the reliability and fairness of their AI systems (Surkov, Srinivas and Gregorie 2022). Integrating XAI and self-check mechanisms into their AI models will provide real-time risk assessments of potential biases or inaccuracies (Ali, et al. 2023), with results that

are communicated clearly to clients. This clearly differentiates Deloitte from its competitors by addressing privacy concerns and trust in AI. Deloitte can not only strengthen client trust but also enhance its reputation in the market for the ethical use of AI.

W/T Strategy: To address economic disparities within the EU and reduce high operating costs, Deloitte should strategically establish Global Delivery Services (GDS) in underserved regions. As discussed in the workshop with the experts, these GDS are an option to close gaps in expertise in different regions and will act as centralized centers of expertise, offering cost-effective, modular audit solutions tailored to local and regional needs (Appendix 8). By focusing on economically disadvantaged areas, Deloitte can bridge the gap between underserved markets and world-class audit services, promoting inclusion without sacrificing efficiency. To offset regional economic disparities, Deloitte should work with local governments and educational institutions to establish training programs that develop specialized talent in AI oversight, cybersecurity, and ethical auditing. These initiatives will provide Deloitte with a pipeline of skilled and cost-effective talent that can support high-demand functions. The GDS should include modular service offerings that allow clients to select targeted audit services, such as cybersecurity audits, data compliance reviews or algorithmic accountability assessments, without the need for a comprehensive engagement. By incorporating local education programs and promoting transparency in AI ethics, these GDS can serve as centers of trust and innovation, demonstrating Deloitte's commitment to addressing regional challenges while maintaining operational excellence.

W/O Strategy: Considering the high cybersecurity risks and high operational costs, Deloitte should focus on transforming the role of its auditors inform of upskilling to leverage advances in automation and AI technology. Considering the insights obtained in the workshop, Deloitte should enhance its existing 'Deloitte Academy' program by expanding more specific training and lectures in line with future automation and advisory needs (Appendix 8). Industry-focused

courses will provide the necessary foundations for upskilling across the organization and ensure that employees have access to basic and advanced skills for emerging roles. In terms of cybersecurity, the program could include specialized training on AI-driven security protocols and data protection measures to enable auditors to effectively manage and mitigate external data risks. Structured in-house training in advanced areas such as ethical AI auditing, AI oversight, and real-time data interpretation will transform auditors into high-value professionals. These tech-savvy roles will not only make the profession more attractive but will also enable auditors to deliver real-time advisory services and actionable insights, making their work a higher-value interaction (Myers, Brace and Carden 2022). By intensifying the Academy's industry-specific programs in areas such as risk management and governance, Deloitte can identify pathways that align with evolving, advisory-focused audit engagements.

7.4 Strategic Prioritization Matrix

The final step of the *Synthesize* phase is to evaluate and categorize the derived strategic recommendations based on their risk and utilization level (Schühly, et al. 2019). This evaluation relies on well-educated guesses and workshop insights, as detailed in the in-depth justification of strategies in Appendix 9.

To implement strategy under uncertainty, three types of moves are relevant: 'No Regret' moves, 'Real Options', and 'Big Bets'. Consequently, these recommendations were plotted accordingly in the Strategic Prioritization Matrix, which is shown in Figure 9. 'No Regret' moves are actions that deliver value regardless of how the future unfolds. 'Real Options' allow for flexibility, enabling companies to scale investments based on market developments while balancing risks and rewards. 'Big Bets' involve large commitments with significant potential payoffs or losses depending on the scenario (Courtney, et al. 1997). This process enables Deloitte to make informed decisions about which strategies should be prioritized, and which require future developments to determine their applicability. Given the frameworks' dynamic approach, Deloitte should reassess 'Real Options' and 'Big Bets' as they can dynamically change categorization depending on how critical uncertainties unfold in the future.

#	Strategic Recommendations
1	Build expertise in innovative assurance services such as real-time audits and 'predictive auditing' (S/O Strategy)
2	Ensure responsible AI beyond regulatory compliance for competitive advantage (S/T Strategy)
3	Establish robust cybersecurity measures beyond regulatory compliance to excel in data governance (W/T Strategy)
4	Improve career mobility with digital flexibility and non-traditional career opportunities (W/O Strategy)
5	Strengthen client trust by capitalizing on global talent and multicultural work environments (S/O Strategy)
6	Reduce compliance risks and expand services by investing in employees' regulatory expertise (S/T Strategy)
7	Strengthen the focus on specialized teams of data analysts and audit professionals (W/T Strategy)
8	Promote attractive career growth opportunities in fields like ESG (W/O Strategy)
9	Expand international collaboration through audit delivery centers (S/O Strategy)
10	Strengthen public perception through value-driven community engagements (S/T Strategy)
11	Implement a holistic employee experience program (W/T Strategy)
12	Adjust audit offerings for SMEs, targeting rising-demand areas (W/O Strategy)
13	Develop real-time AI advisory platforms for continuous ethical monitoring (S/O Strategy)
14	Integrate Explainable AI into audit tools to enhance transparency and build client trust (S/T Strategy)
15	Establish GDS in underserved regions to deliver cost-effective modular audits (W/T Strategy)
16	Expand Deloitte's Academy Program to upskill auditors in AI, cybersecurity, and ethical auditing (W/O Strategy)

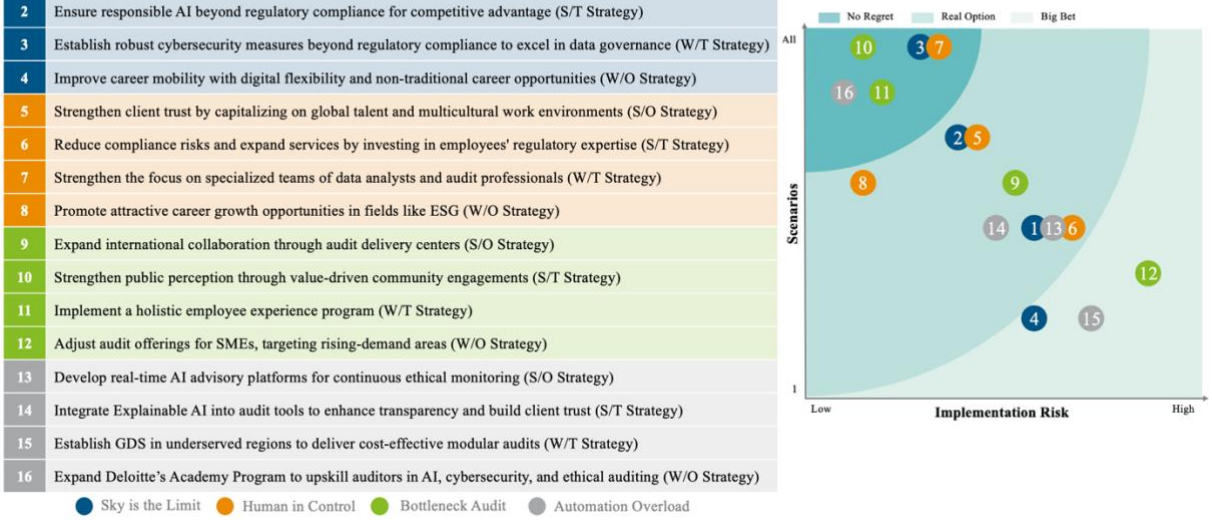

Figure 9 - Strategic Prioritization Matrix (Own illustration)

8. Phase V: Monitor

The monitoring phase is a vital part of the *Intuitive-Logics School*. It is crucial to assess the progression of the elaborated scenarios by identifying early indicators. Establishing early indicators for each scenario enables organizations to detect, ahead of competitors, the direction in which the future is unfolding (Shoemaker 1995). By identifying these early signals, Deloitte can put strategies in place to effectively respond to emerging realities (Scearce and Fulton 2023).

8.1 Early Indicators

Early indicators are often described as the 'first signs' of significant upcoming changes that could potentially influence the trajectory of the world toward one emerging scenario (Ogilvy 2022). Systematically monitoring these indicators allows Deloitte to take flexible and proactive steps in anticipation of substantial shifts in the market. The swift and agile implementation of previously identified strategies affords the company a decisive competitive advantage (Rosenberg 2019). Figure 10 displays each scenario's identified early indicators, their status quo, and sources for monitoring future developments.

Scenario	Early Indicator	Status Quo	Monitor Source
Sky is the Limit	Expansion of EU investment program (InvestEU)	USD 372 billion until 2027	InvestEU Indicators
	Revision of the EU AI Act	Initial Adoption	Global AI Law and Policy Tracker
	Increase in ratio of EU Venture Capital investment	USD 57.3 out of USD 312.3 billion (18.35%) in 2023	Dealroom.co (VC Investments)
People in Control	Increase of bilateral migration agreements	Increasing	European Migration Network
	EU Blue Card issuance growth	89.037 documents issued in 2023	Eurostat database
	Increase in EU AI Act compliance rates	Initial Adoption	EU law tracker
Bottleneck Audit	Decrease in the EU's relative GDP	USD 18,590.72 billion (17.50%) in 2023	World Bank Group
	Decrease in FDI inflow	USD 58,645 million in 2023	World Investment Report
	Decrease in EU countries' IMD World Competitiveness Ranking	Average ranking: 33.19 (out of 67) in 2024	IMD World Competitiveness Booklet
	Decrease of EU unicorns' ratio	107 out of 1,227 (8.72%) in December 2024	World Population Review
Automation Overload	Increase in EU's adoption rate of AI systems	33% in 2023	World Economic Forum
	Increase in EU's government spending on AI and automation	Around €4 billion until 2027	European Commission Reports
	Increase in EU's market size of AI-powered tools	€42.83 billion in 2024	Statista database
	Increase in deployment of autonomous systems in audit	Increasing	IFAC Reports; Big Four Reports

Figure 10 - Early Indicator Overview (Own illustration)

Individual Part – Sven Henrik Thiergard

8.1.1 Scenario 1: Sky is the Limit

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Individual Part – Alexander Thomas Schmitt

8.1.3 Scenario 3: Bottleneck Audit

Individual Part – Jakob Rinschen

8.1.4 Scenario 4: Automation Overload

When considering the possible development of this scenario, several indicators should be evaluated. An **increase in EU's adoption rate of AI systems** could accelerate this shift, which could lead to a reshaping of roles in organizations and create new challenges in terms of governance, ethics and work dynamics. It is important to track to see how European companies integrate AI into their core business models. Recent reports show that 33% of EU companies have introduced at least one AI-based application by 2023 (C. Li 2024). Monitoring this is crucial to assess how the widespread use of AI systems could contribute to the realization of this scenario. Additionally, an **increase in EU's government spending on AI and automation** would highlight the potential for a future that makes AI and automation a central theme of economic policy. It is critical as it directly influences the pace at which technologies are integrated. Tracking initiatives such as the EU's Horizon Europe program, which allocated €1.5 billion for AI research between 2021 and 2027 (Verbeek and Lundqvist 2021), provides insight into the strategic priorities of policymakers. A total of €4 billion until 2027 will be invested as part of the AI Innovation Strategy (Cooper, et al. 2024). A significant **increase in**

EU's market size of AI-powered tools reflects the increasing reliance on AI solutions and signals a shift towards automation, which needs to be tracked. It needs to be monitored as it demonstrates the rate of AI technology adoption across industries and highlights the economic potential of automation. Statista reports the European AI market is projected to reach €42.83 billion in 2024 (Statista n.d.). An **increase in deployment of autonomous systems in audit** can be another early signal in this scenario, as tracking this development helps measure the impact of automation on the profession. Reports from IFAC indicate an increasing use of AI in audit for data analysis, risk assessment, and fraud detection through autonomous systems (Takamizawa 2024). This provides a valuable insight into the evolution of audit processes and shows how quickly the profession could move towards automation and reshape its workforce.

9. Limitations and Further Research

This project was carried out in close partnership with Deloitte and provided valuable insights into the audit industry in the EU by 2035. However, it has limitations, and further research is suggested to overcome these. While choosing the *Intuitive-Logics School*, it is recommended to consider other scenario planning approaches to broaden the analytical scope.

Only two key uncertainties were selected in the scenario building process. This approach ensured a concrete focus on the four resulting future scenarios and allowed for an extensive collaboration with Deloitte experts, providing a more comprehensive yet manageable analysis. While the project focused on analyzing megatrends, trends, and uncertainties, as they were deemed most relevant to understanding the forces shaping the industry's future, other elements were not considered in scanning the external environment. Wildcards, being low-probability but high-impact events, were excluded as the project focused on more tangible drivers. Predetermined elements were omitted because they generally provide less room for strategic innovation due to their inevitable outcomes. While valuable for detecting emerging trends, weak signals were excluded due to their speculative nature and the challenge of integrating them into actionable insights within the project's time frame.

Additionally, the project derives strategic implications for Deloitte by focusing exclusively on its internal perspective without incorporating insights from other audit firms that could enrich the analysis. This approach was chosen deliberately as Deloitte is the audit industry's largest player, making its expertise and insights particularly relevant.

Moreover, the analysis focuses solely on the EU, treating it as a unified entity and not accounting for regulatory or cultural differences across EU member states. Specific national regulations and social nuances were not detailed, and financial projections specific to Deloitte in the EU were not feasible due to its EMEA (Europe, the Middle East, and Africa) structure, which complicates isolating EU-specific financial data.

10. Conclusion

The audit industry in the EU is undergoing profound changes driven by technological advancements, evolving regulatory frameworks, and demographic shifts. This project has aimed to address these shifts by leveraging the *Intuitive-Logics School* of scenario planning, creating plausible futures that inform Deloitte's strategic decision-making. By identifying and analyzing two key uncertainties – *Level of talent availability* and *Extent of AI regulations* - the project presents a framework for understanding the forces that will significantly influence the industry's evolution by 2035 and offers strategic recommendations to strengthen Deloitte's market leadership.

Technological advancements, particularly in AI and ML, are poised to redefine the audit profession. These innovations promise to enhance the speed and accuracy of audits while enabling real-time data analysis and anomaly detection. However, integrating these technologies introduces new challenges, including the ethical use of AI, regulatory compliance, and the need to maintain public trust in automated systems. The industry's ability to navigate these complexities will depend on its capacity to integrate new technologies while maintaining the highest standards of transparency and accountability.

Demographic changes further complicate the future of auditing. As the European workforce ages, the industry faces a dual challenge of attracting younger talent while retaining the institutional knowledge of seasoned professionals. This requires a focus on creating flexible work environments, fostering cross-generational collaboration, and investing in upskilling initiatives to address the growing demand for a blend of technical and interpersonal skills. Moreover, the industry must adapt to the changing expectations of the next-generation workforce, which prioritizes flexibility, purpose-driven work, and technological integration.

The regulatory landscape is also shifting, with a heightened focus on sustainability and ESG reporting. The EU's CSRD exemplifies the increasing demand for transparency in

non-financial metrics. Auditors are now tasked with verifying ESG-related disclosures, which include complex datasets such as carbon emissions, diversity metrics, and supply chain sustainability. This shift represents both a challenge and an opportunity. Firms that adapt quickly by building expertise in ESG metrics and employing advanced technologies to streamline analysis will meet regulatory requirements and enhance their value proposition to clients.

A central element of this study was a comprehensive survey conducted with Deloitte's audit professionals. Its results led to the identification of the two key uncertainties and ultimately, the development of four plausible scenarios that offer a structured way for Deloitte to prepare for diverse plausible futures. Each scenario highlights unique challenges and opportunities. The strategic recommendations derived from the TOWS analysis emphasize the importance of aligning internal strengths with external opportunities while mitigating weaknesses and threats. This project also categorizes recommendations into actionable clusters by employing a Strategic Prioritization Matrix, ensuring that Deloitte can make informed and impactful decisions across all scenarios, prioritizing identified 'No Regret' moves.

A critical component of Deloitte's success will be its ability to anticipate and respond to early indicators of change. These indicators, identified for each scenario, provide a practical tool for constantly monitoring changes and dynamically adjusting strategies. This proactive approach enhances Deloitte's resilience and positions it as a forward-thinking leader in the audit industry.

In conclusion, the audit industry's transformation is inevitable, but its trajectory will depend on today's strategic decisions. By embracing digital transformation, adapting to regulatory demands, and addressing demographic challenges, Deloitte can continue to lead the industry with innovation and resilience. The recommendations and insights provided in this thesis equip Deloitte with the tools to navigate the complexities of the future, ensuring it remains a trusted and forward-thinking partner for its clients in an increasingly dynamic and uncertain environment.

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12. Appendix

Table of Appendices

Appendix 1 – Glossary

AI	Artificial Intelligence
Big Four	The four largest accounting firms globally, commonly referred to as audit firms or professional services networks, are Deloitte, EY, KPMG, and PwC. These Big Four firms command a significant share of the industry (Bohne 2023).
BRICS	BRICS is an acronym for Brazil, Russia, India, China, and South Africa. This group of countries functions as an organization aimed at promoting economic cooperation among its members and enhancing their economic and political influence globally (Chen 2024)
CAGR	Compound Annual Growth Rate
CIA	Cross Impact Analysis
CLV	Center for the Long View
CPA	Certified Public Accountant
CSRD	Corporate Sustainability Reporting Directive
ESG	Environmental, Social, Governance
ESRS	European Sustainability Reporting Standards
EU	European Union
EX	Employee Experience
EY	Ernst & Young
FDI	Foreign Direct Investment
FinTech	Financial Technology
GDP	Gross Domestic Product
GDPR	General Data Protection Regulation
GDS	Global Delivery Services
KPIs	Key Performance Indicators
KPMG	Klynveld Peat Marwick Goerdeler
ML	Machine Learning
PESTEL	Political, Economic, Social, Technological, Environmental, and Legal
PMT	Probabilistic Modified Trends
PwC	Pricewaterhouse Coopers
RegTech	Regulatory Technology
RPA	Robotic Process Automation
SMEs	Small and Medium-sized Enterprises
TIA	Trend Impact Analysis
UN	United Nations
US	United States
USD	US Dollars
XAI	Explainable AI

Appendix 2 – Project Timeline

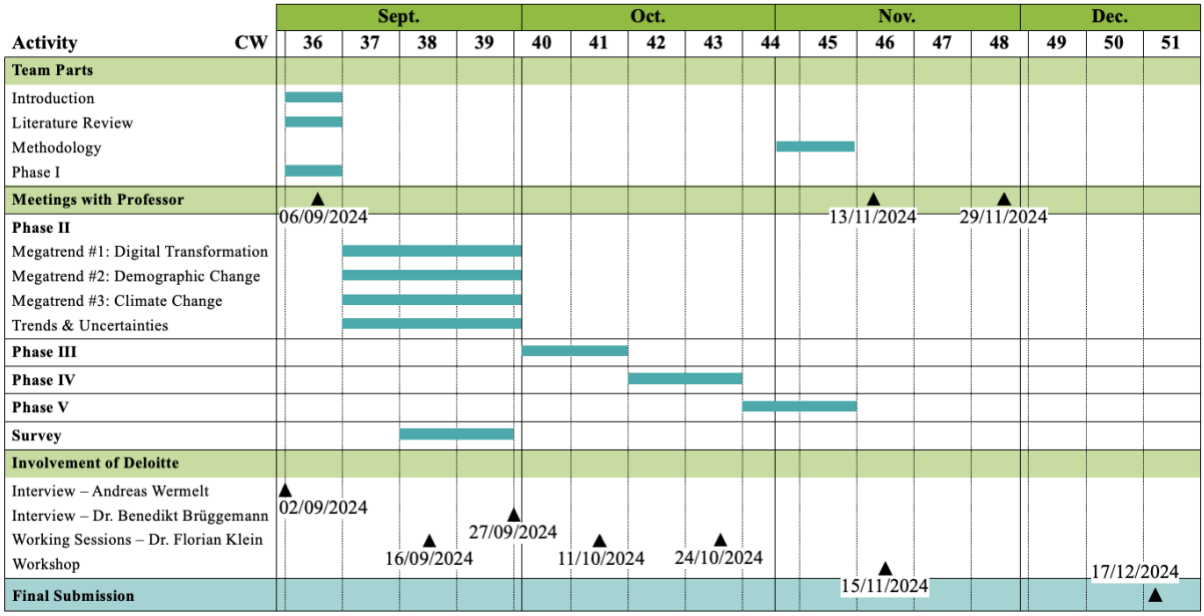


Figure 11 - Project Timeline (Own illustration)

Appendix 3 – Expert Interview (Andreas Wermelt)

Proclamation:

All transcripts have been slightly edited for clarity and readability. These changes include removing repeated words, incomplete sentences, and filler words. It is important to note that no substantive changes have been made to the script. The adjustments were made solely to improve the flow and comprehension of the dialogue and to ensure that the essence of the respondents' answers was preserved.

Interview Date: 02.09.2024

Context: Person and Background

Name: Andreas Wermelt

Position: Audit & Assurance Transformation Leader @ Deloitte

Background Information: Andreas Wermelt is responsible for all activities relating to the transformation of Deloitte's audit business and is the Audit Analytics Leader in Germany. He has more than 25 years of experience in consulting and auditing internal control, risk and compliance management systems, both for listed and owner-managed companies in various industries. Andreas Wermelt is a member of various working groups of the Institute of Public Auditors in Germany and the author of various publications on issues relating to the design and audit of corporate governance systems (Deloitte n.d.b).

Key Takeaways

In this interview with **Andreas Wermelt**, Transformation Leader for Europe in Audit at Deloitte, key insights into the future of the audit profession until 2035 were discussed. Wermelt highlighted the critical role of emerging technologies, particularly the integration of a comprehensive "technology stack" and AI, which are transforming audit processes by increasing efficiency and accuracy. Generative AI, in particular, is expected to automate routine tasks, such as drafting accounting memos and populating checklists, allowing auditors to focus on higher-level reviews. However, Wermelt emphasized that while the tools and processes may evolve, the core purpose of audit—ensuring trust in financial numbers—remains unchanged. He also addressed significant trends like sustainability and the EU's CSRD, which will require auditors to expand their competencies beyond financial metrics to areas like CO2 emissions and biodiversity. Moreover, the shift to virtual work environments post-pandemic and the use of global audit delivery centers were identified as essential efficiency drivers. Despite technological advancements, Wermelt highlighted ongoing challenges such as talent acquisition, regulatory adaptation, and maintaining public trust in the audit profession.

Transcript

Group: Hello Andreas, thank you for taking the time, we really appreciate it. We 4 are doing our master thesis right now at Nova SBE about the topic of the future of audit until 2035 in Europe and implications for Deloitte. And we thought it would be perfect to start the interview with you. It will be the first interview to get your insights and your knowledge. Whatever you have to share will be appreciated.
Did you get the e-mail with the pre-read with the questions already? Do you have any questions? Does it make sense?

Andreas Wermelt: No, that's alright.

Group: Perfect. OK. Then we can just get started if there are no other questions. So first would be interesting to hear your opinion about the vision of audit in general. What kind of leading transformations at Deloitte are you working with right now, how will that be in the future, and how do you personally think audit will look like 10 years from now? That would be interesting to start with.

Andreas Wermelt: Alright, so let me start with the key transformation initiatives that we have on the way here at Deloitte. The most important transformation is implementing what we call a "technology stack" to be used in the audit, something like the Enterprise Resource Planning system for doing an audit. That is something we are currently building, or we are in the midst of rolling out.
What's that? Doing an audit is a series of checks of procedures and you can organize that like a workflow with a lot of people being part of that workflow. You have to observe professional standards, and you have to do these things in a certain sequence. And to organize that in that

specific sequence in accordance with what the client needs and using the data of the client is a very, very complicated piece of software. And that is something we are currently rolling out. And we're not only doing it for the big ones, but we're also doing it for the very small audits as well. Which is a little bit different. However, we're implementing a huge technology stack. And that is what I'm leading from a German perspective, but also from a continent Europe perspective. So that is the key transformation initiative. That comes with using AI and all this stuff for sure.

That's the first part of the question. The second part of the question is you're asking, "How does the audit profession evolve over the next 10 years?".

I think the audit profession itself does not really change in a huge way, because if you're looking back ten years ago and you compare the odd profession 10 years ago with the odd profession today, these guys are still doing the same things. However, they are using different means to do that. They are becoming more efficient, and the setting of the audit itself is a little bit different as they are using audit delivery centers somewhere in the world. They are more sophisticated than using data from the client and external data. But in the end, the way the audit is performed doesn't really change. The idea of what an audit is doesn't really change. However, the technical means change.

So, looking ahead in 10 years, we will probably have a lot more generative AI being infused into the way we do the audit. We probably are in an area where the connection with the client is a lot more sophisticated than it is today as in, we have our data pipelines into the systems of the client and certainly, data analytics will do a lot of tricks infused by AI as well. So that's it, but I do not expect drones flying around and doing the job [laughs].

Group: Thank you very much for your explanations. It's very helpful for us to get the vision of audit, especially from an expert like you. We were starting our master thesis with some

research, of course, just to figure out what are the key trends that we see and that we saw in the past few years. And of course, we listed some of them in the pre-read. First of all, obviously digital transformation with all the specific sub-trends that we have. But we also recognize a change in work environments as well as the greater importance of sustainability and global responsibility. Therefore, we would like to ask if, according to your opinion, these are the most significant trends influencing the audit industry, or if there are other trends or megatrends that you foresee will play a key role.

Andreas Wermelt: You said sustainability, right?

Group: Yes.

Andreas Wermelt: Yes. OK. You heard about the CSRD right?

Group: Yes, yes.

Andreas Wermelt: The CSRD will have a huge impact on what we are auditing. It will enlarge the focus points. The audit of non-financial reporting isn't really different to the audit of financial reporting. However, it enlarges the footprint. So, sustainability has a huge impact on the audit profession, but not in a way that the audit profession itself changes. But it's more work, right, more stuff to do, and certainly it will ask for new competencies. Now it's not only about numbers as in dollars, but also in CO2 emissions, biodiversity impacts et cetera. So certainly, you need some other competencies of course.

When it comes to the workplace of the future: The Corona pandemic had a certain impact and that will last. During that pandemic, we figured out that a lot of work can be done virtually. We

used to be on site all the time, but nowadays you do a lot of work not being on site in a virtual setting or you gather the team in some area so that they're all together, but they're not really. They're still remote from the client, but you have them all in one place. And that has an impact on the way we organize our offices. We used to have these offices close to the proximity of the client, but that isn't that necessary anymore. Also, you are able to organize specialists in a different way. You used to have specialists in every office, and now as it becomes more obvious that you can work virtually you may have these specialists just in one place. That has an impact on the way we organize ourselves.

And when it comes to technology, AI is the big trick. That's the big thing and that is completely different, for instance, to blockchain. You got that in your pre-read. Blockchain is something which doesn't really play any role when it comes to what we audit or how we audit funnily [laughs]. A lot of talk about it, but it doesn't have any impact. As I said, technology, AI, and generative AI intelligence. I differentiate between these two. That is something which is really, really important.

Group: Do you think blockchain will play a role in 10 years or probably in the audit industry not at all?

Andreas Wermelt: Certainly not in the audit industry as in using blockchain to do audits. I don't know how that should work. There is no use case to do that. And when it comes to the client: The pharmaceutical companies in the US are using a blockchain to figure out where the pills are and who's actually having ownership of the pill in the middle of the supply chain. That might be an idea, but we haven't seen it yet. There are pilots and everybody's trying to do something with blockchain, but nothing really comes out of that, to be honest. We have not really seen that as a game-changer in our industry.

Group: OK and do you think it will require also in the future that the auditors will work more cross-functional with teams who are specialized in CSRD or do the auditors themselves have to gain more knowledge and skills about CSRD?

Andreas Wermelt: Yes, the auditors themselves have to gain the knowledge, or they have to build the knowledge or competence into their teams. If you do the audit on the impact of the company when it comes to biodiversity, you at least need to understand a bit of what the company's actually talking about. Either you know it by yourself, or you know somebody who knows it. And you have to integrate these specialists into the way you're doing the audit.

Group: Okay interesting. You said that if you compare the audit industry or the audit profession itself to the audit profession as it was 10 years ago, it didn't change that much. When we're talking about digital transformation now and we see that many different technologies are coming on the market at a faster pace than ever, would you say that creating a vision for the audit industry until 2035, so in 10 years, is a feasible time horizon, or would you say that these changes may come so fast and that in that we cannot really foresee what will happen in 10 years?

Andreas Wermelt: As I said, the change coming up for us which is maybe a bigger change than the changes we have seen in the past is the impact of AI, especially generative AI. That has a significant impact on the way we do our work. Let me explain how that works: So, for instance, in the past, you had to write up memos about some accounting questions. You had to explain why the client has accounted for in a specific situation and then you write that up. You explain why that is, et cetera, et cetera. That was labor-intensive, and you had to do some research on that. And now you use a GPT model being built on your knowledge libraries and

that thing actually produces the accounting memos. You need to review them, and you need to correct them. However, quite a lot of work can be substituted with this artificial and generative AI.

To give you other examples: When you're doing the audit work you have to check whether the notes being produced by the client as part of their financial statement are in compliance with some standards. We usually work with checklists. And what you can do now is upload the notes into that machine and then the machine is actually prepopulating the checklist. You have to do the review work. However, 70% of work being performed by professionals can be actually I wouldn't say replaced, but artificial generative AI can do a lot of that.

You could have interviews with the client explaining how processes work, and the AI is then translating that into scripts and then translates that into flow to flowcharts. That's another aspect. So generative AI is helping us do the regular work, let's call it that way.

Group: Yes, makes sense.

Andreas Wermelt: What else has a pretty big impact, to be honest, is utilizing data and looking into that data to see traces or using that data to a different extent than we probably have done in the past. I don't know whether you have heard about ESEF - European, single electronic format. Have you heard about that?

Group: I've heard about it but I'm not sure what it is exactly.

Andreas Wermelt: All the European companies with a certain size have to publish their financial statements in an electronic format and you can get hold of the data now and then you can use that data to train your AI thing, as in: Companies with a certain ratio of financial KPIs

went bust the next in the next two years, based on the data. You can use that and then it informs your risk assessment process. That's something we're working on.

Group: Interesting and probably also in terms of fraud detection, right?

Andreas Wermelt: It's a tricky one in terms of fraud detection because everybody's jumping on that and says "yes, of course, you can do something about the fraud detection". But the point is you need to understand how AI works because you have to explain to the algorithm what a fraud procedure has been. You need to have data or transactions being processed which were actually fraudulent. And then you have to tell the machine, hey, whenever something like that appears, then it's fraudulent. But you do not have that data. That data might exist, but you cannot use that to train the machine. Have you heard about Benford's law?

Group: Yes.

Andreas Wermelt: That is kind of what everybody's trying. But it's not that easy to train AI to identify fraudulent situations.

Group: OK. Interesting. And do you expect AI to evolve so that fraud detection will be possible in the future?

Andreas Wermelt: Yes, it depends on the data you have at hand. The more data you have, which actually describes a fraudulent situation, the more you can use that data to train the algorithms. But if you do not have that data on hand, you will get nowhere.

Group: Yes, makes sense. Fraud is an interesting topic.

We can then jump to the challenges and uncertainties. We would just be interested what you think are the main challenges and how does Deloitte try to prepare for these challenges and try to minimize any wrongdoings in these challenges that will occur of course with the fast-paced changing times we have right now?

Andreas Wermelt: When it comes to using AI, of course, the AI being used in performing an audit comes with some downsides. It is not always explainable and depends on the data being used. You probably have heard about hallucinations and all the downsides of using AI and of course, that holds true for us as auditors to use that as well. So, we need to make sure that the AI being used is actually quality assured, it works as it has to work, and the regulators have to tick that off as well. So that's one challenge, but that is something nice and easy.

The other challenge is people. On the one hand, we probably run out of people. We do not get the experts we would like to have. But then we probably have to train them in a completely different way than we used to train them in the past, because as I said in the past, the younger people wrote the accounting memos, and somebody was reviewing them and explaining "Hey, you need to do that way that way". And then by doing that, you learn it. But if we are getting into a situation where the machines are producing these memos, how do I train real human beings to review what the machine is producing? So that is something we need to think about as well. And then as I said, war of talent. We will disaggregate the audit work into audit delivery centers across the globe when we're talking about the big ones, the big audits. And then the real auditor of the future is somebody who is orchestrating a set of technology and a set of delivery centers and experts. But as you are orchestrating a set of specialists and technology and build it all together - How do you train the lead auditors of the future? And that is something we need

to get our arms around as well. How do we charge our clients in the future? In the past, it was quite easy because we were just ticking hours and then we were charging hours.
But today, we get into a situation where we're not charging hours anymore because we need to charge the technology being used and that is a different model as well. So that is some internal challenges we have.
Yes. Technology, people, and client interaction. These are the challenges.

Group: OK, because we can imagine closing the bridge between the client and the internal team is also probably a tough challenge. For example, explaining this complicated data that you found to the client so that it's understandable.

Andreas Wermelt: Yes, exactly. Using the client's data and external data for the purpose of the audit will be a challenge. Whoever is able to do that in the most efficient way will win the race.

Group: Do you guys or you personally with your teams in Deloitte have any initiatives or things in mind already for the future that will lead to being the most efficient so that Deloitte can also be the most efficient compared to the other audit firms and everything what is your idea there?

Andreas Wermelt: Yes, we have some workstreams here. On the one hand, we're investing very much in technology, audit technology, so that it is easy to use. Or not easy to use but so that it's a nice tool. Just to give you an idea of how much the Deloitte network on a global basis is investing in audit technology, that's something around $350 million per year. That is quite extensive.

And then we certainly have started thinking about how talent transformation has to take place. What kind of people do we really need for an audit? Who's doing what? Where do these people sit? How do we orchestrate that? How does that all interplay? And that is that's something which has just started because people are the most important thing, and we want to be an attractive employer. And that means we need to build the way we do audits maybe in a different way so that it is an attractive exercise and not something like pushing buttons on a machine, right? Because to do the audit, you really need to understand the client. You really need to understand the business models. You need to understand the economics around that. It's not only looking at data, right, it is understanding the data. And having that background needs to be trained as well, and we can't do that with just people sitting in front of screens and pushing buttons. They need to be with the client and understand what's going on, and that is something we are currently thinking about how we improve.

Group: Do you think that should already happen at the university level or do you also, for example, see that the Certified Public Accountant (CPA) exam you take will change what they require in terms of more technology-based requirements, or do you think it's really up to the company to train these people more?

Andreas Wermelt: Yes, when you were talking about the Big Four, it is more the companies or the Big Fours who are more making sure that people get the right training because the official CPA exam and the content of that be sometimes lagging behind what is actually needed [laughs].

Group: OK, interesting. And maybe then last big topic: Talking in terms of uncertainties - what do you personally think could happen that maybe we'll see something completely else, and we

go back to maybe less technology or cases like Enron or Wirecard where the playing field changes and regulators. So maybe what you personally think might be some uncertainties that can really disrupt the advancements we might see.

Andreas Wermelt: Yes, you just said it. The purpose of an audit is to bridge this principal-agent problem: Making sure that capital markets work, and people trust numbers. That's the role of an auditor - whether he's using RPA or AI, nobody gives a shit. What they want to have is somebody saying, "You can trust these numbers".
And that is the most important thing. And if we are running into a situation where we are unable to live up to that trust being put into us as auditors, the regulators will react to that. And so, one or two more Wirecards down the road could have a significant impact on the audit. Not as in we're not doing any audits anymore, but as in more regulation. Maybe turning that into a state-owned agency whatsoever, I don't know what politicians are coming up with, but the disruption happens in that public perception. If the public perception goes down the drain, then the auditors have a problem.

Group: OK. Do you think there's a fear that at some point in the future, there will be too much technology, and AI will take over and we kind of lose the people's focus that there will still be needed, or do you think the balance will always be there?

Andreas Wermelt: No, I don't think that this is the risk because, to be honest, the technology itself is not as advanced as one might think. It helps in writing up stuff and doing let's say easy work faster. But the complex work, the thinking of the assessments, the evaluations, cannot be replaced with AI. It can be supported, that's not a problem. I think the problem is the regulator acting not fast enough or too fast. Not fast enough as in not understanding what technology can

and how technology can help us do a quality audit. Or too fast, as in overregulating what we're doing. And that's something where we are already. There is a tendency for the audit itself to become more of a tick-in-the-box exercise just to fulfil the compliance requirements and you forget about the real audit, let's call it that way. You're not auditing to make sure the numbers are correct; you're auditing to convince the regulator that you have done the right stuff and that is something where we really need to be cautious that we're not forgetting about what the purpose of the audit is in our communication with the regulator.

Group: And since it will help to support to be faster and more efficient, do you think that audits might happen more frequently? So that we're not having it only annually, but maybe we have all companies now doing it every six months or even more because all this long work is now being done by AI?

Andreas Wermelt: Yes, for the bigger or for the most relevant companies we have this kind of continuous auditing already. Because we're doing the quarterly reviews, we are there all year round. So that's something we have already implemented, to be honest, yes. When it comes to the smaller ones, maybe they do not want to see the auditor every day of the year [laughs].

Group: Probably not.

Andreas Wermelt: So, for the real companies where you have public interest entities of a decent size, they all are audited more or less on a continuous basis.

Group: OK. Interesting. Do you foresee that the legal framework might change even if the public perception doesn't change? Or would you consider it to be rather stable and foreseeable?

Andreas Wermelt: That has changed recently with the Fisk, at least in Germany, because we went through this Wirecard scandal. I would say that as long as we do not get any more scandals, it's stable.

Group: OK.

Andreas Wermelt: It always becomes unstable once you're running into these scandals. Now with the implementation of the CSRD, we have a lot of conversations on going on a European basis, which keeps us busy. But other than that, once that has been implemented and we're foreseeing no scandals down the road, I would say that it is stable.

Group: OK. Do you think there will be quite a difference between the different countries in Europe or will it become more standardized across all countries in the future?

Andreas Wermelt: Yes, as long as we're talking about the EU, we're actually more or less in the same legal frame. These EU directives usually come with options to implement alternatives. You get some alternatives to do something, and member states can use these alternatives, and then you've got some deviation in practice. But that is not that big. So, all in all, at least for the EU, we have some kind of a standardized frame. And when it comes to the Big Four companies, they make sure that their audit approach is more or less standardized across the globe.

Group: A couple of minutes ago you mentioned the setup of audit delivery centers as one big change. Could you please touch a bit on this regarding potential challenges that you want to overcome with this, what kind of impact it will have on your services and how you will benefit?

Andreas Wermelt: Having audit delivery centers in place is usually something I would call an efficiency play. Either you are getting the efficiency out of so-called economies of scale or Labor arbitrage. So, if you are operating in a very standardized way, then put all the accounts payable work into an audit delivery center, those people doing this might become a little bit faster because they're then trained to do only the accounts payment stuff. That's the old tailor principle. And then you can utilize people who are not that highly paid and you probably operate in low cost-countries. And then you get the Labor arbitrage as well. So, meaning an hour in India is less expensive than an hour here in Europe. So that's the idea behind that.

And then you operate on an extended team approach. Let me explain that: That is, you do not really change the way you do an audit, but you use the opportunity to virtually integrate low-cost people from low-cost countries virtually into the team. That is something that, for instance, Deloitte US has implemented very extensively. I would say that the US audit practice has about 20,000 people being based out of India and these people are virtually integrated into the audits they're doing in the US. So, when a US team is doing an audit on a US client, they usually have 20 to 30% of hours being served out of India. And these people doing the work are not anonymous. They are dedicated people, they know them and the only thing is that they are physically not in the US, they are physically in India. They are well trained, they have the best accounting and auditing knowledge you can get and what you're doing is that you're just tapping into that labor market of India and are utilizing highly skilled and highly trained people, but you do not pay them the prices you would pay for that in the US.

That's one approach and the other approach is then what we call a task-based approach and that is something where you as a team want to send out confirmations. And then you just buy, or you order the set of confirmations being performed out of a shared service center. You just ordered that task, and that task is performed for you. You do not know who's doing that. You have to deliver the information these guys need to know to send the confirmations, they send

the confirmation, receive them and send them back to you. You just outsource tasks. That comes with standardization. And it works well in situations where you have a very stable process with the client. Whenever you're running into hiccups in terms of "Hey, I just don't get the information I need", and you have booked the ticket in the US in the audit delivery center, then you get into organizational messy situations. But it works as long as you are in a stable environment. So that's basically what we're doing. You see all sorts of variants of that across the planet. But we're heavily moving down the road into the audit delivery centers.

Group: Thank you. That's very, very interesting. Would you say that this is common in the audit industry or will become more and more common? Or is Deloitte the first company to do this?

Andreas Wermelt: Yes, it is very common. It is very, very common. And I would say that from a global perspective, Deloitte is actually lagging behind. The others are a little bit faster than that from a global network perspective. Amongst the Deloitte member firms, the US is well advanced, but the rest of the network is not as advanced as the US and I would say on average the others are probably a little bit down the road. But that is standard play, nothing spectacular. Everybody's doing it.

Group: Interesting, thank you. There are no open questions from our side, we addressed all the points we wanted to. So, thank you so much already for helping us and we appreciate it. It was really a good insight into everything and get first-hand knowledge about that. So, we'll definitely implement that.

Andreas Wermelt: All right.

Group: Yes. Thank you so much for taking your time.

Andreas Wermelt: No problem.

Group: Do you have any other questions for us or anything?

Andreas Wermelt: No, just good luck [laughs].

Group: Thank you. Bye.

Appendix 4 – Expert Interview (Dr. Benedikt Brüggemann)

Proclamation:

All transcripts have been slightly edited for clarity and readability. These changes include removing repeated words, incomplete sentences, and filler words. It is important to note that no substantive changes have been made to the script. The adjustments were made solely to improve the flow and comprehension of the dialogue and to ensure that the essence of the respondents' answers was preserved.

Interview Date: 27.09.2024

Context: Person and Background

Name: Dr. Benedikt Brüggemann

Position: Partner Audit Sector Leader Power, Utilities & Renewables @ Deloitte

Background Information: Dr. Benedikt Brüggemann is a Partner at Deloitte Germany, where he serves as the Audit Sector Leader for Power, Utilities, and Renewables. His focus is on auditing International Financial Reporting Standards consolidated financial statements, with specialized expertise in complex accounting topics such as financial instruments and hedge accounting under International Financial Reporting Standards. Dr. Brüggemann also supports Mergers & Acquisitions transactions and helps companies navigate the intricacies of energy procurement and sustainability, particularly with emerging tools like Power Purchase Agreements. His professional journey includes positions in New York and Berlin; since 2013, he has been based in Düsseldorf (Deloitte n.d.d).

Key Takeaways

In this interview, **Dr. Benedikt Brüggemann**, a leader in the energy sector at Deloitte, discusses the evolving landscape of the audit profession with a focus on future challenges and opportunities. He highlights the impact of new regulations such as the CSRD, which adds complexity to audit processes by requiring audits of non-financial reports like CO2 emissions and biodiversity impacts. Dr. Brüggemann also emphasizes the increasing importance of digital transformation, particularly the use of AI, to improve audit efficiency, though he notes that human expertise will remain essential for strategic decision-making and complex assessments.

Furthermore, Dr. Brüggemann discusses challenges related to talent acquisition, particularly in Germany, where attracting skilled auditors is becoming more difficult. He notes the potential for international collaboration, particularly with teams in India, to enhance efficiency, while acknowledging the need to fully integrate these teams into audit processes. Dr. Brüggemann also touches on uncertainties around geopolitical stability, talent availability, and the future of investments in renewables, stressing that auditors will need to adapt to these trends in the coming years.

Transcript

Group: Hi Benedikt, thank you for joining us today. We appreciate your time. We've already discussed the general questions related to audit and now would love to hear your thoughts, particularly on your expertise within energy and sustainability. First, did you get the preview of the questions we sent over?

Dr. Benedikt Brüggemann: Yes, briefly, but let's go through them.

Group: OK. Perfect. Yeah, maybe we want to start kind of a little bit more broadly and kind of talk about the vision of the future in your personal opinion where auditing is heading the next 10 years, what you kind of see how the profession is going to look like, what it's going to change, maybe what kind of transformation initiatives you're leading at Deloitte with your team and how do you think they will shape the future? Maybe we can start a bit more broadly with your personal opinion just about audit and what you think it's going to look like in 10 years.

Dr. Benedikt Brüggemann: Maybe as a starting point, I would say that the audit profession has changed significantly in recent years. One major driver was the external audit rotation requirement in Europe, which means we have to quickly understand new clients, their business, processes, and associated risks. On the one hand, this makes it riskier for us when taking over because we have to understand everything within a very short time frame. However, the positive aspect is that it makes the work much more interesting because we are not serving the same client for decades, which could become rather boring. Instead, we always work with new people and new companies. The company also benefits by having fresh perspectives from a new auditor. This has led to dramatic changes in Europe.

Another major driver is the CSRD reporting requirements. For the first time, this year, we are required to audit with limited assurance, which adds more complexity to our daily work. We need to find the right balance in determining what is significant from the company's perspective and whether the assessment is reasonable. This involves a lot of judgment, and it is currently a major topic. Looking to the next 10 years, the development of CSRD will be an important factor. Digitization is also crucial. Currently, when we look at the accounting systems of our clients, they are still fragmented. It is not easy to digitize an entire company comprehensively from one day to the next; it takes time. However, there are initiatives underway that will enable us to use more digital tools in the audit. We are also seeing increased demand for talent. In particular, in Germany, some clients are struggling to fill positions in their accounting departments, which brings pressure to optimize processes and work with a reduced workforce. This also puts pressure on centralization—determining what can be done centrally, which will impact how we perform audits.

Group: OK. Interesting. Do you think the problem with the new people coming into the industry is that it is not attractive enough or what do you think is the main problem regarding the workforce?

Dr. Benedikt Brüggemann: I think the audit profession needs to work on its image. As I mentioned, there hasn't been enough focus on the external rotation requirements, which bring in new demands and require a very different skill set. From my perspective, this makes the profession much more attractive. Additionally, we are seeing fee levels increase, which also makes it more appealing. These are very positive developments, and we need to communicate this to young talent like yourselves so that these changes are recognized.

Group: Yep, for sure. OK. Thank you. And maybe also some initiatives you're leading right now in terms of your team, maybe also in terms of the energy sector, more related, how do you think the whole energy sector is going to be more integrated maybe in the audit process and how is this going to maybe change also in the next 10 years since that's a super dynamic industry?

Dr. Benedikt Brüggemann: This helps, to be honest. When you compare the fluctuation rate in my team with that of the whole company, it's much lower in my team. This is because, in the energy sector, it's quite easy to communicate the purpose of our work. At Deloitte, our purpose is 'making an impact that matters.' We don't just work to make money. I don't wake up in the morning thinking about how much money I can make today. Instead, we think about how our work impacts stakeholders, society, and shareholders. In the energy industry, topics like climate change and globalization are key.

This has certain impacts on accounting, and new topics are constantly emerging. This makes the work interesting. You can really feel that what you're doing has an impact. It's not just routine work; you need to use your brain when assessing these questions.

Group: You already touched on some trends shaping the future, like digital transformation. In your opinion, are there any other major trends that have established themselves over the past few years and will likely continue to impact the auditing industry, especially looking toward 2035?

Dr. Benedikt Brüggemann: One important topic is international collaboration, which has improved significantly over the past year. We started with shared service centers in Eastern Europe, and now we work much more closely with teams in Asia, particularly in India,

leveraging their skill sets. These colleagues are highly motivated, and a side benefit is the time zone difference. It's not 24 hours, but with the 8-hour difference, we can be more efficient and utilize our time better. From my perspective, auditing is one of the most international professions you can imagine, and this is an important factor that motivates me and makes my daily work life enjoyable.

Group: Ok. Maybe to that point, what do you think about the different laws and regulations, that of cause differ in every country, especially in Asia? Do you think it will become more standardized across the globe, across Europe or how do you deal with these different regulations maybe also for subsidiaries and everything, how to audit them?

Dr. Benedikt Brüggemann: Yes, I mean, good point. You have the International Financial Reporting Standards, which are relevant for group financial statements. Then you have statutory requirements, which can vary. For instance, in India, the fiscal year always ends on March 31st, while in Germany and the rest of Europe, it's typically December 31st. In terms of regulations, data protection and data security are important topics, especially when working in the cloud.
The hope is that we will see more international and standardized regulations, but I'm not convinced this will happen. The trend toward globalization is not as strong as it was 10 years ago, so it's not necessarily a success story.

Group: One quick question related to the workforce. You said that kind of the scarcity of talent may be a problem for the audit industry in the future and you also mentioned that due to globalization, you leverage the workforce in different countries or other countries for performing in the audit profession. We also talked to Andreas Wermelt, and he mentioned the audit delivery centers in India. So, we assume that this is a big topic. Therefore, we are

wondering how you see the skill sets: Which skills are needed in order to develop over time? So do you think that like for example, cross-cultural competencies may be more important in a couple of years than they were a couple of years back or are now or how do you see in general these competencies evolving also regarding ESG demands as well as digitization obviously.

Dr. Benedikt Brüggemann: Yes, sure. All aspects are relevant. As mentioned, digitalization is something we need to keep track of, ensuring we have a solid understanding of what it means and what the company being audited is doing in terms of digitization. Often, it's just a buzzword, but we need to understand what is actually happening, what they are doing, and assess its impact on financial reporting—and consequently on the audit.
Regarding cross-cultural competencies, the trend is toward more integrated use of global teams. I wouldn't use the term "delivery center" as we had in Eastern Europe. Now, when we look at India, our goal is to have a fully integrated team. We don't see them as a separate delivery center; they are team members. It's important to give them challenging tasks, not just small pieces of work, but perhaps a whole field, and ask them to audit it. This is crucial for their motivation and for using their skill set to its full potential.

Group: And maybe also talking more about digitalization in terms of AI, how much do you think AI is going to take over in terms of tasks it can do, and do you think it's going to evolve a lot in the next 10 years? Or do you think people are still going to be the most important impactful factor for audit or how much do you think AI is actually going to replace some of the work people is doing right now?

Dr. Benedikt Brüggemann: Yes, AI will replace some repetitive tasks. It may mean fewer people are needed, but those we do need will require higher skills. The role will be more about

understanding the bigger picture and making strategic assessments and less about mundane work. This shift makes the profession more attractive for top talent, as it becomes more intellectually challenging.

Group: OK. Do you think that, with the help of AI, audits in general will become more efficient, be completed faster, and perhaps even be done more frequently? Since some of these administrative tasks could be handled by AI instead of people.

Dr. Benedikt Brüggemann: It's interesting. Sometimes people say, "Now that we have AI and digital tools, everything will be cheaper than before." I tell them that while we can certainly benefit from economies of scale and leverage our position as the largest company within the Big Four to develop innovative tools, we also need to invest in innovation. Additionally, when you need people with a better skill set, they will earn more. So, while you may need fewer people overall, those you do need will earn more, which creates a balance in terms of costs.

Group: Ok. Maybe one last topic about digital tools. We had an interesting talk with Andreas Wermelt about blockchain and its potential impact. During our research, we read a lot about blockchain and how it could make auditing more efficient. However, Andreas believes blockchain will not have any significant impact on auditing in the next 10 years. He was really on the opposite side of what we found in our research. It would be interesting to hear your perspective on how much blockchain could impact audits.

Dr. Benedikt Brüggemann: I wouldn't say blockchain has no impact at all, but it's hard to assess how significant it will be. Blockchain could improve transparency and collaboration

between different entities, which might be useful for auditing. However, I can't say for sure how big this impact might be.

Group: Interesting. It's good you mentioned a specific use case for blockchain because that was Andreas' (Wermelts) main concern. He sees blockchain as interesting but doesn't see any use cases for how it can be used in audit. So, thank you for mentioning that example. One quick question regarding CSRD reporting and the growing emphasis on ESG—would you say that the current laws are set in stone, or do you see any major changes coming in the next few years that could impact the audit industry, especially in terms of auditing non-financial aspects?

Dr. Benedikt Brüggemann: Regarding CSRD reporting, it's a challenging topic this year. We've had many discussions with C-level executives and supervisory boards about what is really needed and relevant to stakeholders. They are often interested in CO2 emissions, which seems to be their primary focus, while other topics are less important to them. The challenge is identifying what is truly significant and ensuring the information provided is concise and to the point, rather than overwhelming. We are talking about adding 60 to 80 additional pages to the annual report, which is a lot. There is also concern that reporting on certain minor aspects could prompt critical investors to raise even more questions during shareholder meetings. Sometimes, these questions come from small investors with very specific concerns, which may not always help move the company or society forward. There is a risk that this will become a bureaucratic exercise.

From a European perspective, we also need to ensure that these requirements don't lead to a competitive disadvantage compared to the US or Asian companies. In 2025, it will be interesting because we will have the actual reports from companies across Europe, allowing us

to compare what competitors are reporting on. My hope is that this will clear up some of the current uncertainty.

Group: Interesting. And one last question related to this, sorry, because we also read a lot of things about greenwashing of course which can be a topic for many companies. We were just wondering what are the ways you use at Deloitte in order to detect and prevent greenwashing initiatives from your clients?

Dr. Benedikt Brüggemann: It's definitely a topic we are keeping an eye on. With my clients, I don't see a strong tendency towards greenwashing, to be honest. However, we do remain vigilant about it. For example, there are green certificates from China where it's questionable whether they are truly green or not. This makes the profession even more interesting. I would say that we, as a Big Four firm, have a unique position—not just Deloitte, but the others as well—to address the risk of greenwashing. We are global organizations, and we need to be present in all relevant locations to ensure a robust audit of these claims. From my perspective, it is also our duty and obligation towards society to make sure we address these issues properly.

Group: What about the risk of financial scandals like Wirecard? How does Deloitte aim to avoid these?

Dr. Benedikt Brüggemann: It's essential to minimize the risk of financial scandals, and we do this through strong cooperation between competitors to improve standards and share best practices. There's no guarantee of avoiding scandals entirely, but we must work to mitigate the risk as much as possible. Public trust is crucial and maintaining that trust means being transparent and ensuring that we do quality audits.

Group: Understood. Yeah. Thank you very much. Maybe we can jump to the topic of uncertainties. For our master thesis and project, we need to set up scenarios, and for that, we need to identify uncertainties that could have a high impact on the future of the audit industry, as well as uncertainties regarding how these factors might develop over the next few years. To start with a more general question, what would you say are the key uncertainties that the audit industry needs to prepare for? You already mentioned the availability of talent as one factor. Do you see any other changes, such as in digitization, or a clear trend regarding technological progress? What are your key thoughts on this?

Dr. Benedikt Brüggemann: You have to look at both aspects comprehensively. In the end, having the best talent is key, and we need to communicate that this is a great profession. I believe it will become easier to attract talent as earnings increase, which I'm quite confident about.

It's important to have people with the right skill sets to understand what's going on with our clients and to manage the data flow, which requires certain IT skills. We also need to ensure we always have the appropriate audit tools to perform a proper audit. From my perspective, this is the most important task for the future.

Group: Thank you. How would you consider external factors like economic and political stability within the EU? Would you say it's relatively stable, or do you see uncertainties that we need to prepare for in the future?

Dr. Benedikt Brüggemann: [laughs] I wouldn't call it stable. When you look at the situation in Germany, having a three-party coalition may not be ideal, but it's also uncertain if a two-party coalition would be better. It's not a stable situation, and you see similar circumstances in

other European countries. This is a broader issue beyond just audits—we have topics like immigration affecting many European countries. My hope is that European countries come together to address these challenges because, from a German perspective alone, it's hard to solve. Stability is crucial, as instability leads to risks in financial statements, raising questions about impairments, budget reliability, and guidance for the coming year. It's always important to have a solid understanding of what is happening to determine the impact on financial reporting. For example, I had a discussion with the CEO of an energy client who has operations near areas of instability. We talked about the upcoming US elections and their potential impact on their activities in the US. While we cannot change the outcome, it's important to think about the potential consequences.

This is also one of the benefits of audit compared to advisory work. In audit, you have a very close relationship with C-level executives—you attend meetings regularly and have consistent discussions with them. This makes auditing a highly respected profession.

Group: Hmm ok**,** we also had a question regarding the uncertainty around financial scandals, like what we saw with Wirecard and its impact on EY. What do you think about the potential for similar incidents in the coming years? Do you think the frequency of these scandals might increase? And what initiatives does Deloitte have in place to try to avoid these situations to the greatest extent possible? These scandals, like Enron a long time ago and more recently Wirecard, have had a significant impact.

Dr. Benedikt Brüggemann: I think it's important, and I don't speak only for Deloitte. There is always the intention among all of us to ensure that major scandals are avoided—this goes without saying. Therefore, it's also important to cooperate with our competitors in certain

expert groups. I'm part of an expert group working with IDW, the German Institute of Chartered Accountants, where we discuss accounting and audit topics and how to improve them.
This work also involves developing international standards for auditing. As you may know from your father, it's about having debates with competitors and finding ways to continuously improve. There is a very strong focus on preventing scandals. Does this guarantee there won't be any in the future? Probably not. But we have to make sure we do everything possible to avoid them.

Group: Ok thank you**.** Do you think public trust in the audit industry is closely related to scandals like that? Do you think public trust will improve at some point, or is it always going to be an issue? Many people believe public trust in the audit industry is quite low. What are your thoughts on this?

Dr. Benedikt Brüggemann: Public trust is really important, and it's always been about the expectation gap—what the public expects versus what we can realistically deliver. This is especially relevant with CSRD. There might be an even higher risk of misunderstandings because it's a new exercise.
For CSRD, we are currently providing limited assurance. By 2028, it will probably change to reasonable assurance. Limited assurance involves a high-level investigation and inquiries without going into as much detail as a reasonable assurance audit, like the one we conduct for financial statements. This creates a risk of differing expectations, as we will have two different opinions—one for financial statements and another for CSRD—even though CSRD is integrated into the management report in Germany.

Group: Ok, interesting, maybe one last topic**.** We have a list of uncertainties that we identified from an environmental perspective. If you could briefly share your thoughts on each, it would be much appreciated. We identified the following: the importance of natural disaster risk auditing, the level of progress towards zero-emission economies, and the level of sustainable consciousness among EU companies. Could you share one or two thoughts on each of these topics from your perspective?

Dr. Benedikt Brüggemann: One important topic right now is the significant investments in renewables. The question is whether these investments will be worth it, or if we will see impairments in the future. This is an important consideration, especially as many companies are investing heavily. It's definitely something we have on our radar.

Group: Perfect, thank you so much!

Dr. Benedikt Brüggemann: Well, thank you guys and if you have any further questions feel free to reach out!

Group: Thank you so much! We highly appreciate you taking your time and sharing your insights!

Appendix 5 – Uncertainties

Political	
Level of political stability within the EU	The unpredictable shifts in government policies, driven by economic and non-economic motives, contribute to heightened risks such as governance irregularities and regulatory change (Pástor and Veronesi 2013). The emergence of populist parties, particularly those aligned with the right wing, has been notable in recent years. Currently, seven nations of the EU have far-right parties represented in their governments (Green 2024). This increase at the national level has the potential to enhance the influence that member states exert within the Council, thereby potentially impacting migration, climate, and EU enlargement policies (Coi 2024). Moreover, member states might intensify their efforts to prioritize national processes over the EU's policy and legislative authority (Van Rij, et al. 2024). Political instability often leads to increased capital costs, as it reduces the collateral value of assets and increases the risk premiums demanded by investors due to their inability to gauge the impact of new policies (Pástor and Veronesi 2013). Additionally, as geopolitical and global trade tensions intensify, European policymakers must be ready to respond rapidly and decisively (Kalcher and Makaroff 2024). Member States must align on critical areas, such as which industries to protect and where the threats lie (Reuters 2024a). High audit quality is associated with improved government performance, including better political stability and governance metrics (Riahi-Belkaoui 2004).
Level of government intervention in the EU	Government intervention refers to regulatory actions implemented by the government aimed at bringing changes to the way financial markets or industries operate (Camebridge Dictionary n.d.). The EU AI Act of 2024 exemplifies government intervention, establishing harmonized regulations for the development and use of AI tools across the EU (European Parliament 2024). The level of government intervention in the audit industry is highlighted by the EU audit regulation 537/2014, which sets out several measures to emphasize the importance of the independence of auditors, including mandatory firm rotation, list of prohibited non-audit services, and new requirements for audit committees (Deloitte 2016). Stricter standards may increase costs and complexity for audit firms, possibly leading to consolidation in the industry. Conversely, increased transparency could improve audit quality and investor trust. Effectively managing these changes could enhance the competitiveness of audit firms, influencing their global standing and efficiency (SimpleAccounts 2024).

Oligopoly of the Big Four	The audit market's increasing concentration, dominated by the Big Four, challenges the industry's competitive dynamics (Cave 2023). This oligopolistic structure creates higher entry barriers for audit SMEs limiting their ability to compete and innovate within the market. It also allows the Big Four to exert a disproportionate influence on the development of international industry standards. This can skew practices in their favor at the expense of broader industry needs and integrity (Velte and Stiglbauer 2012). Choosing one of the major audit firms is linked to improved audit quality and reputation (Velte and Stiglbauer 2012). This connection, when reinforcing trust in the capital market, can positively influence the firm's value (Velte and Stiglbauer 2012). The concentration of market power among the Big Four extends beyond market dynamics, complicating regulatory oversight and raising concerns about the quality and independence of financial reporting and audit services (Mack 2022). Recent reports suggest that the Big Four account for over 80% of the audit market share in several EU Member States, accounting for 86% of revenue from public interest entities' statutory audits and 71% of revenue from statutory audits of other entities (European Commission 2024b). Proposals to introduce managed shared audits and joint audits are gaining traction to mitigate risks in the audit market. These reforms aim to reduce the Big Four's market power, enhance competition, and improve audit quality while maintaining the credibility of the industry (Mack 2022).
Ease of doing business	The Ease of Doing Business index, published by the World Bank, measures key parameters that define how easy it is to do business in a country or region (Cleartax 2023). A high score means that the regulatory environment is conducive to doing business, while a low score reflects some constraints created by policies to business establishment (World Bank Group 2020). Countries with more conducive business environments have demonstrated more resilient economic recoveries, highlighting the critical role of effective public administration (Directorate-General for Economic and Financial Affairs 2017). By November 2018, the European Fund for Strategic Investments had mobilized €360 billion worth of investments and provided guarantees in support of projects financed by the European Investment Bank, focusing on infrastructure, innovation, and SMEs (European Commission 2020). Around 850,000 of them are set to benefit from improved access to finance (European Commission 2020). Strict business regulations also make countries less attractive to foreign investors. The cost of enforcing contracts and the ease of paying taxes also matter. The empirical evidence points to a significant negative impact of business regulation and poor-quality public administration on FDI flows (Directorate-General for Economic and Financial Affairs 2017).

Level of data governance policies' strictness	Data governance involves the authority, control, planning, monitoring, and enforcement of policies for managing data assets (Kurniawan, et al. 2019). By ensuring that companies adhere to regulations, compliance functions can help mitigate legal and financial risks, enhancing the organization's ability to meet regulatory expectations and reduce operational errors (KPMG 2020). The rapid growth of structured and unstructured data, coupled with advancements in storage, processing power, and analytic tools, has allowed big data to become a competitive advantage for top organizations, enabling them to uncover business opportunities and drive success (The Institute of Internal Auditors 2020). However, ignorance about data security and improper data governance practices can harm business organizations financially (Kurniawan, et al. 2019). Several key regulatory areas impacting data governance pose some uncertainty about the future strictness of data governance policies: The introduction of the GDPR sets a standard for organizations to provide data privacy and transparency on the way it is used, allowing users greater control over their information (DPO Centre 2024). Furthermore, the EU AI Act of May 2024 establishes standards for AI, safeguards general-purpose AI, restricts biometric identification, prohibits social scoring, and ensures consumer rights (European Parliament 2024).

Economic	
Number of bankruptcies from key audit clients	Bankruptcy is a legal process that begins when an individual or business is unable to fulfill their outstanding debts or financial obligations (Tuovila 2024b). The number of bankruptcies among businesses in the EU has been steadily increasing, rising by 3.1% in Q2 of 2024. This goes in accordance with the previous years when bankruptcies reached in Q2 2023 the highest level since 2015 (Eurostat 2023b). Specific sectors, such as construction, financial activities, and trade, have been particularly impacted by this rise (Eurostat 2024b). Bankruptcies impact the audit profession as they determine auditing activities and highlight the growing financial instability that can complicate audit engagements and operational decision-making. An increase in the economic instability in the EU would pose some questions about the number of future bankruptcies. Furthermore, Europe's GDP per capita is expected to grow from $37,800 to around $50,950 in 2030 (European Strategy and Policy Analysis System n.d.). An analysis by the International Monetary Fund suggests that AI adoption can contribute as much as 0,8% to GDP growth, enhancing productivity (Li and Noureldin 2024), and diminishing the probability of bankruptcy occurrence. Consequently, the number of bankruptcies from key audit clients remains uncertain.
Level of margin pressure by investors	The level of margin pressure by investors refers to the increasing demand by shareholders and financial stakeholders for a higher profit margin despite economic challenges (Dollard, et al. 2023). In industries most affected by the escalating costs of materials and labor, middle-market businesses are urged to shift their strategic focus from the prevailing 'grow-at-any-cost' approach of the past decade to a more fundamental emphasis on achieving profitability (Dollard, et al. 2023). If margin pressure intensifies, more companies will reconsider their risk appetite, prioritize investments in projects that enhance productivity, and slowing down or delaying major investments with less defined returns (Dollard, et al. 2023). Organizations need to continue prioritizing innovation. Striking a balance between investing in core revenue-generating functions and focusing on operational efficiencies is crucial. Embracing new technology and being patient for returns is essential, even if it means accepting lower margins in the short term (Dollard, et al. 2023). Furthermore, high-quality audits improve stakeholder confidence in companies. This, in turn, drives investment and economic growth, creating long-term value for society (Delarue 2021). Therefore, the audit committee plays a crucial role on the board, utilizing net income, leverage, and firm value for strategic decisions to improve profit margins, while satisfying investors' appetite for higher returns (Delarue 2021).

Number of financial scandals	A financial scandal refers to an event or situation arising from the morally questionable use of financial resources, leading to significant consequences for third parties (Camfferman and Wielhouwer 2019). Since the early 2000s, several financial reporting scandals happened, including Enron, WorldCom, Tyco, and Xerox (Camfferman and Wielhouwer 2019). These scandals led to an increase in regulatory requirements, such as the introduction of the Sarbanes-Oxley Act by the US to ensure transparency and reliability in data usage (Kenton 2024). Moreover, fraud is facilitated by digitization and technology (Deloitte 2024d). Some challenges to implementing new technologies include increased anonymity, which can lead to higher gains from cheating and make it easier for fraudsters to re-enter the market (Karpoff 2021). Exercising greater control and improving audit quality is essential to prevent companies from committing fraud (Khan, et al. 2023). Auditors are essential in guaranteeing the integrity of financial statements (Khan, et al. 2023). Research from 2019 shows that 20% of Deloitte audits examined were deemed inadequate, along with 23,6% at PWC, 27,3% at EY, and 50 % at KPMG (National Whistleblower Center n.d). This reduces confidence in those firms and the whole audit industry, as the occurrence of financial scandals is uncertain.
Development of EU's GDP	The most used indicator to measure an economy's overall size is the GDP (Eurostat 2024a). The term refers to the total market value or monetary worth of all completed goods and services produced within a country during a specific time frame (Stobierski 2021). It serves as an indicator of domestic production and is often used to assess a nation's economic health (Stobierski 2021). While rising GDP indicates economic growth, a recession is shown when the GDP decreases for two consecutive quarters (Masterson 2022). As policymakers consider GDP when making decisions about interest rates, tax policies, and trade regulations, the rate of economic growth influences business conditions, investment choices, and the availability of jobs for workers (Fagan 2022). Consequently, the development of the EU's GDP highly influences the demand for audit services. Also, non-governmental organizations and institutions frequently use GDP as an important metric to inform economic policies and investment decisions (Eurostat n.d.). In 2023, the EU's GDP was valued at USD 18,590,720.06 million, which accounts for 17.50% of the global economy (World Bank Group n.d.). Even though Goldman Sachs projects the global real GDP to grow to around USD 227.9 trillion in 2050 (Daly and Gedminas 2022), climate change poses, among other factors, a significant threat to the global economy, with potential losses of up to 18% of global GDP by 2050 if average global temperatures increase by 3.2°C (Marchant 2021).

Level of cryptocurrency usage by companies	Cryptocurrency is a form of digital or virtual currency that utilizes cryptographic techniques to ensure security (Crypto.com 2024). Unlike government-issued currencies, cryptocurrencies function based on blockchain technology and are decentralized. This decentralization implies that no single authority, such as a central bank or government, has control over them (Crypto.com 2024). In 2024, the global cryptocurrency market was valued at approximately USD 5.7 billion, with forecasts predicting a CAGR of 13.1% from 2025 to 2030 (Grand View Research 2024). Companies' use of cryptocurrency introduces significant challenges for auditors, particularly regarding transparency, security, and regulatory compliance. The pseudonymous nature of transactions complicates the verification of ownership and authenticity, while the decentralized framework makes traditional audit procedures less effective (The Ohio Society of Certified Public Accountants 2024). A survey by PYMNTS and Bitpay found that 85% of businesses with $1 billion in annual revenue are adopting crypto to reach new customers, while 82% of all surveyed merchants cited the removal of middlemen as a reason for accepting it (Reguerra 2022). Additionally, 77% of merchants are drawn to crypto's lower transaction fees, averaging around 1%, compared to the 1.5% to 3.5% fees of credit cards (Reguerra 2022). Despite the positive outlook, 68% of merchants not yet accepting crypto cited technical challenges at checkout as a barrier (Reguerra 2022). Therefore, the level of cryptocurrency usage by companies remains uncertain.
Relevance *of the platform economy*	The platform economy is a modern economic model driven by digital platforms that connect users like e.g., consumers, service providers, and developers (Talin 2023). Examples include Uber linking drivers and riders, Airbnb connecting hosts and guests, and Amazon matching sellers with buyers (Talin 2023). In 2022, over 28 million workers in the EU engaged in platform work, expected to rise to 43 million by 2025. Particularly assessing the employment status of platform workers (self-employed vs. employed) and ensuring compliance with evolving labor laws such as the transparent and predictable working conditions directive (European Council 2024b), introduces complexities for the audit industry. Revenues in the EU's platform economy have surged from around €3 billion in 2016 to €14 billion in 2020, reflecting significant growth in the sector (European Council 2024c). However, since the total EU economy had a GDP of €13,400 billion in that year (Eurostat 2021), it still accounts for only a minor share of the EU's overall economy. Since these platforms are often linked to rapid growth and the potential for market dominance, driven by winner-takes-all dynamics due to network effects between the supply and demand sides (Hagiu and Wright 2015), uncertainty about the relevance of the platform economy in 2035 is prevalent.

Relevance of the gig economy	The gig economy is a labor market focusing on short-term, flexible work arrangements (The Investopedia Team 2024a). In this model, workers earn income by offering services or completing tasks on demand. Individuals engage in temporary, freelance, or contract-based jobs rather than traditional full-time employment (The Investopedia Team 2024b). Jobs in the gig economy are diverse, encompassing activities such as managing short-term rentals, offering tutoring services, writing software, driving for ride-sharing platforms, delivering food, or creating freelance content (The Investopedia Team 2024b). It is estimated that there will be 43 million gig workers in the EU by 2025 (Gill 2023). These workers often juggle various sources of income, manage a wide range of expenses, and face regulatory requirements, which puts pressure on conventional auditing practices (Reddy 2024). The EU has implemented new regulations to provide clarity on the employment status of around 28 million workers in the gig economy (Espinoza 2024). However, each member state can implement these laws individually, and companies like Uber have raised concerns about potential cost increases which may result in higher service prices (Espinoza 2024). The future of the gig economy is uncertain, as these new regulations could change the employment status of millions of workers, potentially slowing the sector's growth. While EU officials aim to make the gig economy fairer, platforms fear impacts on their business models and increase costs (Haeck 2021).
Relevance of the sharing economy	The sharing economy is a peer-to-peer economic model in which individuals can acquire, provide, or share a wide range of goods and services (The Investopedia Team 2024a). Although this concept has existed throughout history, it has recently experienced a revival, primarily driven by the growth of online platforms that enable community-based exchanges (The Investopedia Team 2024a). The value of the worldwide sharing economy is estimated at approximately USD 150 billion and is forecasted to rise to USD 794 billion in 2031 with a CAGR of around 32% (Bohne 2024). Platform companies seek to reduce their responsibility toward providing social security benefits, such as health insurance and pensions for their workers (Murillo, Buckland and Val 2017). At the same time, they attempt to expand their control over workers' privacy through increased surveillance and monitoring (Murillo, Buckland and Val 2017). This leads to regulatory and tax challenges (Washington State University n.d.). As digital platforms expand, they often prompt the creation of new rules and regulations to address emerging issues. For instance, in October 2016, New York Governor Andrew Cuomo enacted a law enforcing penalties for advertising home rentals that violated the state's short-term rental regulations (Washington State University n.d.). As these changes can also happen in the EU, the importance of the sharing economy in the EU by 2035 remains uncertain.

Level of economic stability within the EU	Economic stability occurs when an economy experiences consistent growth, low levels of unemployment, and controlled inflation (Market Business News n.d.). In such a stable environment, businesses can plan with greater confidence, individuals feel secure in their employment, and governments can more accurately forecast tax revenues and allocate resources efficiently (Market Business News n.d.). Economic stability is closely linked to audit quality because, during periods of instability, auditors face challenges such as increased information asymmetry and the risk of financial misreporting (Persakis and Tsakalos 2024). There is growing uncertainty about the EU's economic future due to several external factors, such as the ongoing conflicts near the EU and the instability in global politics, especially with elections on the horizon (Sabol and Loi 2024). According to the International Monetary Funds' 2024 World Economic Outlook, inflation in some EU member states remains above target levels, creating challenges for economic recovery (International Monetary Fund 2024). However, inflation in the euro area is expected to decline gradually but still poses risks to growth and stability (International Monetary Fund 2024).
Level of globalization	Globalization describes the increasing interconnectedness of national economies, encompassing the cross-border exchange of financial products, goods, technology, information, employment opportunities, and cultural interactions (Fernando 2024). It significantly influences contemporary accounting practices by adding layers of complexity, necessitating expertise in international standards, and prioritizing transparency in financial reporting (Stanmore School of Business 2024). The 'Trade Openness Index' is a measure calculated by taking the sum of global exports and imports and dividing it by the world's GDP (Ortiz-Ospina, Beltekian and Roser 2024). Thus, it reflects the extent to which the global economy is engaged in international trade. Over the past decades, the index rose from 24.98% in 1970 and 45.61% in 1998 to 62.56% in 2022, indicating increasing globalization (Ortiz-Ospina, Beltekian and Roser 2024). Recent trade data indicates economic decoupling between the US and China. However, flows from their geopolitical allies show no clear division into rival blocs (Altman and Bastian 2023). Still, growing nationalistic movements focusing more on the homebased economy rather than trading internationally make the level of globalization uncertain. During his campaign trail, Donald Trump has consistently stated that if he were elected, he would impose higher tariffs (Payne 2024). This would include a significant increase to 60% on Chinese exports to the US and a 10 to 20% surcharge on exports from other countries around the globe (Payne 2024). His reelection as president of the US (Grumbach 2024), therefore, poses additional uncertainty about the level of globalization in 2035.

Social	
Level of talent availability	According to a study by the Thomson Reuters Institute, 58% of participants identified the industry-wide shortage of professionals as the most significant challenge currently faced by audit firms (Thomson Reuters 2024b). Contributing factors include a decline in qualified graduates, a more complex certification process, and reduced appeal of the profession compared to other industries (Tomazin 2023). As a result, many students are opting not to pursue auditing careers, viewing the field as less innovative or exciting (Tomazin 2023). Additionally, the number of working-aged people within the EU will decline (Eurostat 2023a), further strengthening the uncertainty related to talent availability over the next decades. As of 2023, 44% of EU citizens aged 16-74 do not have basic digital skills (Eurostat 2024c). This is especially alarming, as projections indicate that 9 out of 10 future jobs will demand individuals to have digital skills (Teigland 2020). Also, the audit industry is expected to become more and more digitized (Tiberius and Hirth 2019). To address this, the EU has set a target that at least 80% of its population have basic digital skills by 2030 (Eurostat 2024c). To address talent shortages, audit firms should enhance digital training, improve compensation and work conditions, and deepen business understanding. This will make the profession more appealing and relevant (Lombardi, Bloch and Vasarhelyi 2014). However, there is high uncertainty about the level of talent availability in the future, as expert Andreas Wermelt also pointed it out as one of the significant challenges that currently exist in the audit sector (Appendix 3).
Level of public trust in the audit profession	Public trust in auditing refers to the general confidence of the public, including investors and other stakeholders, in the integrity, objectivity, and reliability of the audit process (Ardelean 2013). Events such as the collapse of major firms, like Enron and WorldCom in the early 2000s in the US, due to insufficient auditing oversight have raised skepticism about the profession (World Bank 2019). This growing mistrust has increased regulatory scrutiny, with calls for greater transparency and accountability across the industry (European Court of Auditors 2014). Consequently, regulatory reforms and independent oversight bodies were introduced to address conflicts of interest and improve audit reliability (World Bank 2019). To restore confidence, audit firms must enhance quality and implement stricter standards, as public trust in financial reporting is crucial for transparency, investment, and economic stability. Expert Dr. Benedikt Brüggemann highlights: “Public trust is crucial and maintaining that trust means being transparent and ensuring that we do quality audits” (Appendix 4). Given the multidimensional complexity of the trust dimension, the level of public trust in the audit profession by 2035 remains uncertain.

Technological	
Relevance of quantum computing	Quantum computing is a multidisciplinary field that integrates computer science, physics, and mathematics, and uses quantum mechanics to solve complex problems more efficiently than classical computers (Schneider and Smalley 2024). It has the potential to revolutionize data processing and security within the auditing industry, providing far greater speed and efficiency in handling large datasets (KPMG n.d.a). Currently, its ability to process vast amounts of information faster than traditional computing methods is still under development, but once mature, it could significantly enhance the accuracy and depth of audits (Akbar, Khan and Hyrynsalmi 2024). At the same time, quantum computing's capacity to break traditional encryption methods raises cybersecurity concerns, which could result in new regulatory demands (KPMG n.d.a). For instance, audit firms may need to implement entirely new security frameworks to protect financial data. The relevance of quantum computing in 2035 is uncertain as the timeline for its adoption remains unclear. Yet its arrival could disrupt established audit practices and introduce more stringent security measures (KPMG n.d.a).
Frequency of cyber-attacks	As the world becomes more connected and dependent on digital technologies, cybercrime is also rising (European Council 2024a). The EU's cybersecurity chief highlights a "significant increase" in disruptive cyber-attacks, particularly those traced to Russia-backed groups, with incidents doubling between late 2023 and early 2024 (Euronews 2024). Alongside traditional threats like ransomware, the agency identifies AI-enabled disinformation as an emerging risk, emphasizing the need for digital security to become an ingrained societal habit (Euronews 2024). An increasing frequency of cyber-attacks poses a growing threat to the audit industry, particularly as audit firms become more reliant on digital infrastructure and remote work (Jang-Jaccard and Nepal 2014). With the surge in digital transactions and cloud-based services, the vulnerability to cyber-attacks is expected to rise, putting client data at risk (Munich Re 2024). A notable example includes the growing threat of ransomware attacks, which could halt auditing processes and compromise sensitive financial information (Federal Office for Information Security n.d.). There is also a growing emphasis on cybersecurity, with firms focusing on protecting systems to limit the extent to which cyber-attacks can damage data (Bassett 2023). Any breach of client data not only damages reputations but also leads to potential legal and regulatory consequences (St. John 2024). Therefore, auditors must continuously adapt to evolving cybersecurity risks and update their knowledge and audit practices (Accountancy Europe 2024).

Level of technological progress in automation	Automation is the use of technology to automate workflows, processes, or systems (IBM n.d.). Advances in automation are revolutionizing industries, including the audit sector, which is increasingly using such technologies for efficiency and accuracy (Fiolleau, et al. 2024). Automation is already streamlining tasks such as data entry and analysis, allowing auditors to focus on more complex areas (Cassels, et al. 2019). However, uncertainty remains regarding the pace and scope of advancements in AI and ML, which could lead to a further reduction in human involvement (Patel, et al. 2023). Future breakthroughs in automation may not only enhance the accuracy of audits by detecting anomalies and predicting trends but also transform audit practices altogether (KPMG Switzerland n.d.). This development would require organizations to invest in the continuous education of their employees to remain relevant and competitive (Alles, Kogan and Vasarhelyi 2008). At the same time, companies must adapt their internal processes to exploit the potential of automation fully, striking a balance between innovation and maintaining audit quality and ethical standards. The potential societal and ethical implications of heavy reliance on automated systems, such as transparency, avoidance of bias, and accountability, add to the complexity of this uncertainty (Bird, et al. 2020).
Level of technological progress in AI & ML	AI is a broad field that focuses on the development of technologies to create intelligent machines and computers, while ML, a subset of AI, enables systems to learn and adapt (Zemankova 2019). AI and ML continue to transform industries, including auditing, by improving data analysis, anomaly detection, and risk assessment capabilities (Zemankova 2019). These technologies may tackle even more complex tasks in the near future, such as analyzing large amounts of unstructured data or making strategic decisions based on predictive models (Patel, et al. 2023). For example, AI could be used to detect discrepancies in financial reports that human auditors could easily miss (Patel, et al. 2023). However, the pace of these advances is uncertain and will be influenced by factors such as regulatory frameworks, technological breakthroughs, and market adoption rates (Patel, et al. 2023), making it difficult for firms to predict the extent to which AI and ML will transform the auditing profession. The competitive landscape will also depend on how quickly the various stakeholders adopt and integrate these technologies, which may lead to a gap between top innovators and others (Banholzer, et al. 2023). In addition, ethical considerations, such as ensuring transparency and fairness in AI-driven audit processes, will play a crucial role in the development and use of these tools (Adelakun 2022).

Level of technological progress in blockchain	Blockchain is a specific technology for data storage in decentralized distributed networks, such as networks that are not managed by a central authority (Elommal and Manita 2022). Uncertainty about the degree of technological advancement in blockchain relates to its ability to evolve beyond its current functionality, such as creating transparent, immutable records of financial transactions and enabling sophisticated applications such as real-time audits (Gökoğlan, Cetin and Bilen 2022). Future advances could improve the efficiency, scalability, and integration of blockchain into audit tools. Furthermore, it could enable continuous monitoring and verification of transactions without periodic reviews (Elommal and Manita 2022). These developments could redefine audit processes, enabling automated anomaly detection and creating a dynamic audit ecosystem. Such progress would require audit firms to innovate significantly, transitioning from traditional practices to blockchain-driven systems and transforming the audit profession (Elommal and Manita 2022).
Level of competition by tech firms	Tech companies that might never have considered entering the audit market, will pay close attention to the significant ongoing changes (Canadian Accountant 2019). This uncertainty arises from multiple factors, including the ability of tech firms to penetrate the market by integrating advanced technologies with core audit processes, which have traditionally relied heavily on human expertise and professional judgment (Canadian Accountant 2019). These tech companies use advanced AI, ML, and data analytics to provide innovative, cost-effective, and highly automated audit solutions that could disrupt traditional business models. The Big Four's capacity to swiftly adapt and incorporate cutting-edge tools into their services could mitigate the competitive threat (Canadian Accountant 2019). Furthermore, client preferences are a critical variable, while businesses increasingly value innovation, established relationships and concerns about risk may slow the adoption of technology firms as audit providers (Canadian Accountant 2019). The uncertainty lies in how quickly these technology companies will expand their offerings and penetrate deeper into the core areas of audit services. While technology companies attract top AI talent (Aura Intelligence 2024), established audit firms benefit from regulatory expertise, industry knowledge, and strong client trust (Mack 2022). Ultimately, it remains unclear whether technology firms will gain a substantial foothold in the industry or if traditional firms will leverage their expertise and reputation to sustain their dominance. Still, potential competition is relevant as tech firms' continued expansion into financial services could disrupt the audit landscape, forcing traditional firms to invest heavily in innovation (Cong, Du and Vasarhelyi 2018).

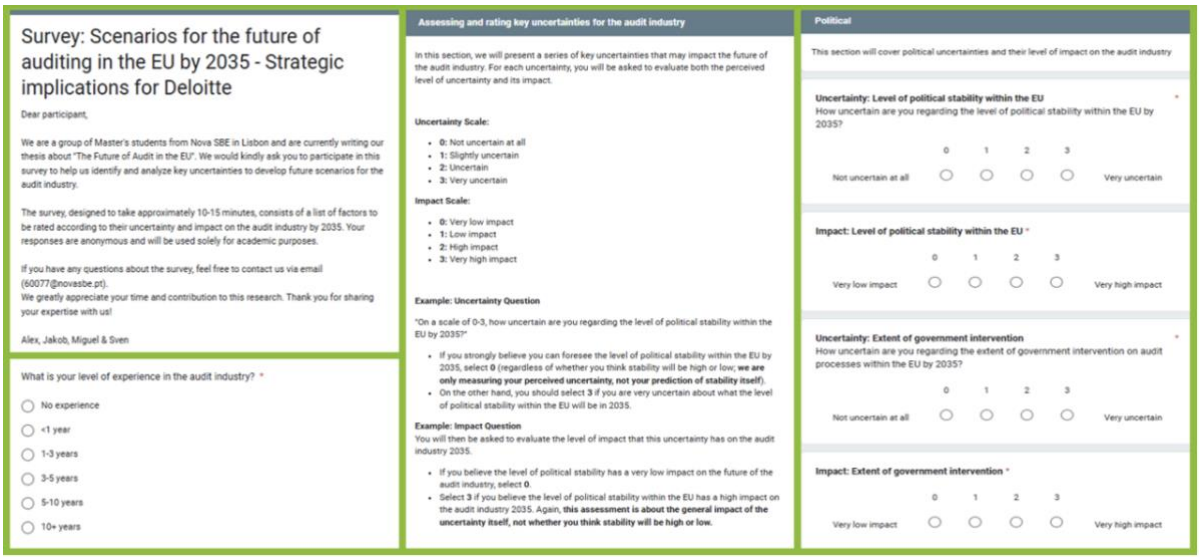
Environmental	
Level of progress towards zero-emission economies	Net zero is defined as the compensation of carbon emissions by absorbing an equivalent amount from the atmosphere (National Grid 2023). The global drive towards net-zero emission economies shows mixed effectiveness. While more than 100 countries proposed or are considering a net zero target, many lack the frameworks for genuine accountability (Mooldijk, et al. 2021). So far, eight small countries, but no EU member state, declared net zero, although many have announced ambitious targets (World Population Review n.d.). The EU has embedded efforts to promote sustainability within its overarching climate-neutrality goals (European Commission n.d.a). In June 2024, the Net Zero Industry Act was adopted, setting the regulatory framework for future low-carbon industrial production (European Union 2024). In addition, as part of ESG reporting, the CSRD requires companies to draw up a net-zero transition plan setting out a roadmap for decarbonization by 2050, for the company's climate targets and for the corresponding milestones for achieving them. Without an effective external audit to ensure accountability, ambitious net zero pledges risk becoming empty promises, open to accusations of greenwashing (De Vries 2023). The effectiveness of EU efforts remains uncertain, as changes in government have the potential to reshape national and global climate programs significantly (Payne 2024).
Level of sustainability awareness in EU companies	Corporate responsibility for a sustainable future is increasingly urged by consumers, investors, and regulators alike. Despite the many global challenges, sustainability has moved into the mainstream and is a top priority for companies: 85% of companies have significantly stepped up their investments in sustainability and 70% foresee climate change affecting their strategic planning (Deloitte 2024a). Similarly, according to PwC's 2024 Consumer Survey, 85% of consumers "report experiencing firsthand the disruptive effects of climate change" (Durand-Hayes, Gooding and Crane 2024). An issue with this growing interest in more sustainable consumption is the tendency of companies to market products as green, even if they are not, capitalizing on greenwashing (Warren 2023). Genuine, transformative sustainability, as opposed to mere cosmetic commitments, is driven not only by the constant tightening of regulatory requirements but also by companies' own interests as a strategic imperative. Further-reaching transformation towards sustainability has the potential to create added value. In addition to strengthening the brand, many climate actions come with direct economic benefits, potentially increasing business resilience in the long term. In the uncertainty of an ever-changing world, companies are challenged to tackle the rapidly shifting conditions and seize the transformation towards sustainability as an opportunity (Deloitte 2024a).

Legal	
Level of standardization of the audit regulatory framework in the EU	In 2016, new EU audit legislation on statutory audits became effective. It aimed at enhancing "transparency by further harmonizing the legal minimum requirements" on audits and the independence of auditors, as well as opening the market for smaller audit firms (European Commission n.d.c). The new legislation stipulates mandatory firm rotations, prohibited non-audit services, and requirements for national audit committees (Deloitte 2016). Despite efforts towards harmonizing the EU regulatory audit framework, the various member state options in many key provisions lead to significant discrepancies in the national implementation of this legislation, such as in the reporting obligations of audited companies and the scope of audits. Thus, companies face compliance risks and growing complexity, posing challenges for auditing international, cross-border companies (European Commission 2022). In addition to the potential withdrawal of originally exercised options of the audit legislation, such as in Germany through the Financial Market Integrity Strengthening Act (BDO Deutschland n.d.), the evolving regulatory framework under other recent EU legislation, such as the CSRD, adds further uncertainty for both companies and auditors. The CSRD also provides member states explicit flexibility in transposition into national law, allowing for adjustments to align with existing legislation and compliance frameworks, which may result in varying national provisions and additional compliance requirements for businesses operating across the EU (Timmons, Harris and de Wal 2024). An in-depth study of the EU audit legislation by the Centre for European Policy Studies reveals that, given the regulatory complexity, almost all audit firms surveyed see the need "to increase EU-wide harmonization" (European Commission 2022). However, despite the EU audit reform, further harmonization of national frameworks remains uncertain on account of the different economic structures in the member states (European Commission 2022).

Extent of AI regulations	The AI Act was approved in March 2024 and will be fully applicable by August 2026, promoting the development of human-centered and trustworthy AI while addressing the potential risks and unintended consequences of highly powerful AI systems (European Commission n.d.b). The world's first comprehensive legal framework on AI establishes EU-wide harmonized regulations, applying to AI developers and users in the EU. It sets standards for transparency, data security, ethics, and accountability, focusing on high-risk AI systems with stringent compliance requirements across the value chain (European Commission n.d.b). However, the EU's restrictive AI policy harbors the risk of overregulation and high compliance costs, potentially jeopardizing innovation (Deloitte 2024c). Furthermore, the interpretative scope of many provisions and potential additional AI regulations creates significant uncertainty for companies, including audit firms (Deloitte 2024c). Conversely, international companies are faced with the often-fragmented AI regulatory landscape of other countries, such as the common-law approach of the US and the UK, increasing complexity but also uncertainty as to the future development of legislation (Donegan, et al. 2024). The European Commission is promoting organizations' voluntary adoption of these standards through the AI Pact (European Commission 2024a). 130 companies have joined the pact, assisting stakeholders in preparing for the AI Act's implementation (SAS 2024). However, some major tech industry players declined to participate, leaving uncertainty about whether this stance will persist (Haeck and Pollet 2024).
Extent of data security regulations	Data is key to AI, and its breakthrough across the board involves large amounts of data, posing new challenges, especially in the handling and safeguarding of personal information (Sullivan 2023). In 2018, the GDPR came into effect as "one of the strictest privacy laws to date", governing the processing and use of personal data with severe penalties for violations (Sullivan 2023). The GDPR requires a systematic classification of data in terms of sensitivity and relevance, with appropriate data security measures for the different categories of data (Sullivan 2023). However, the GDPR still entails significant regulatory uncertainties. Companies face diverging legal views from the respective data protection authorities and discrepancies between the GDPR and other EU data regulations. Moreover, the legal consequences of non-compliance, such as compensation claims, are still unresolved and thus hardly quantifiable for companies. In international business, missing EU adequacy decisions allowing data exchange with a third country hamper international data transfers in many parts of the world, potentially leading to liability risks and further legal uncertainty (German Chamber of Commerce and Industry 2024).

Appendix 6 – Survey

Survey Setup and Distribution



Survey: Scenarios for the future of auditing in the EU by 2035 - Strategic implications for Deloitte

Dear participant,

We are a group of Master's students from Nova SBE in Lisbon and are currently writing our thesis about "The Future of Audit in the EU". We would kindly ask you to participate in this survey to help us identify and analyze key uncertainties to develop future scenarios for the audit industry.

The survey, designed to take approximately 10-15 minutes, consists of a list of factors to be rated according to their uncertainty and impact on the audit industry by 2035. Your responses are anonymous and will be used solely for academic purposes.

If you have any questions about the survey, feel free to contact us via email (60077@novasbe.pt).
We greatly appreciate your time and contribution to this research. Thank you for sharing your expertise with us!

Alex, Jakob, Miguel & Sven

What is your level of experience in the audit industry? *

- No experience
- <1 year
- 1-3 years
- 3-5 years
- 5-10 years
- 10+ years

Assessing and rating key uncertainties for the audit industry

In this section, we will present a series of key uncertainties that may impact the future of the audit industry. For each uncertainty, you will be asked to evaluate both the perceived level of uncertainty and its impact.

Uncertainty Scale:

- 0: Not uncertain at all
- 1: Slightly uncertain
- 2: Uncertain
- 3: Very uncertain

Impact Scale:

- 0: Very low impact
- 1: Low impact
- 2: High impact
- 3: Very high impact

Example: Uncertainty Question

"On a scale of 0-3, how uncertain are you regarding the level of political stability within the EU by 2035?"

- If you strongly believe you can foresee the level of political stability within the EU by 2035, select 0 (regardless of whether you think stability will be high or low; we are only measuring your perceived uncertainty, not your prediction of stability itself).
- On the other hand, you should select 3 if you are very uncertain about what the level of political stability within the EU will be in 2035.

Example: Impact Question
You will then be asked to evaluate the level of impact that this uncertainty has on the audit industry 2035.

- If you believe the level of political stability has a very low impact on the future of the audit industry, select 0.
- Select 3 if you believe the level of political stability within the EU has a high impact on the audit industry 2035. Again, this assessment is about the general impact of the uncertainty itself, not whether you think stability will be high or low.

Political

This section will cover political uncertainties and their level of impact on the audit industry

Uncertainty: Level of political stability within the EU *
How uncertain are you regarding the level of political stability within the EU by 2035?

0 1 2 3
Not uncertain at all — Very uncertain

Impact: Level of political stability within the EU *

0 1 2 3
Very low impact — Very high impact

Uncertainty: Extent of government intervention *
How uncertain are you regarding the extent of government intervention on audit processes within the EU by 2035?

0 1 2 3
Not uncertain at all — Very uncertain

Impact: Extent of government intervention *

0 1 2 3
Very low impact — Very high impact

Figure 12 - Survey Excerpt (Own illustration)

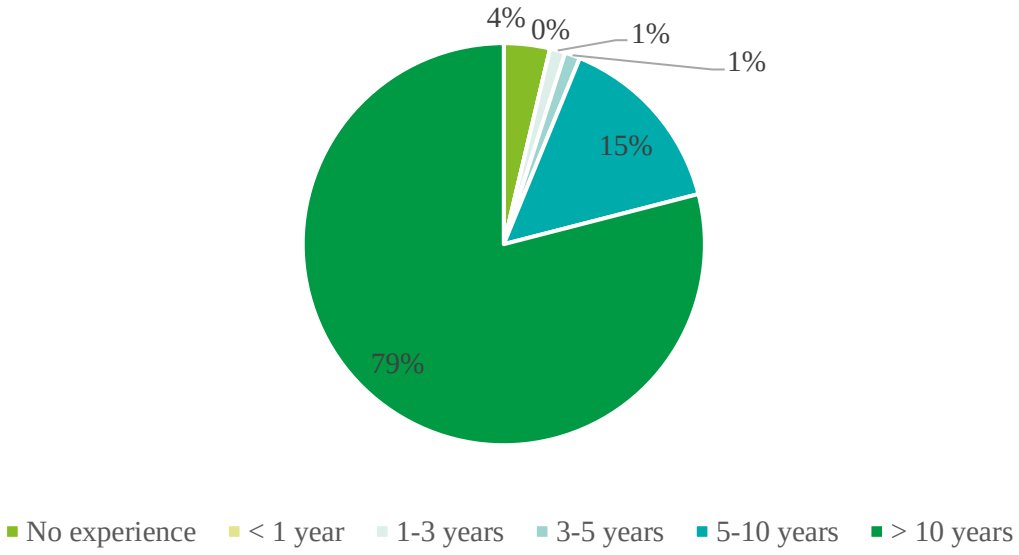


Figure 13 - Audit Experience of Survey Respondents (Own illustration)

Appendix 7 – Justification Bottleneck Scenario

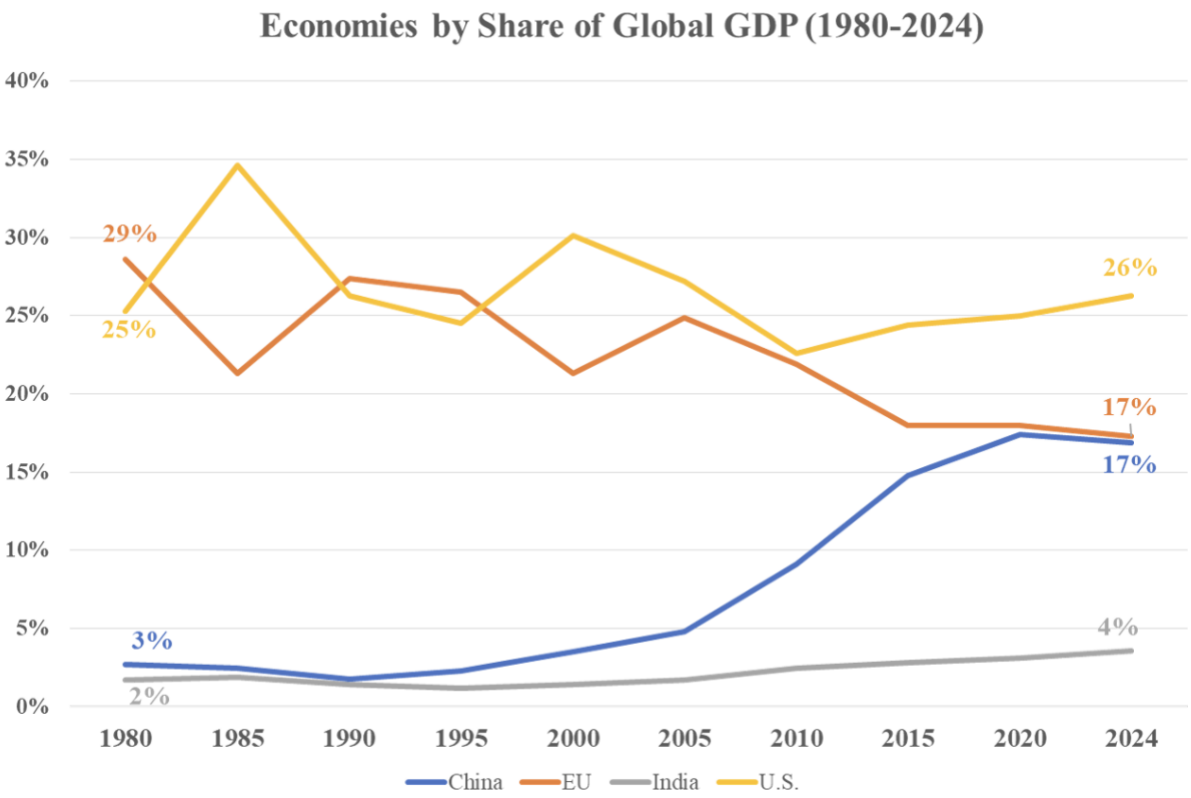


Figure 14 - Economies by Share of Global GDP (Own illustration, based on (Lu 2024))

Appendix 8 – Workshop

Workshop Date: 15.11.2024

Name	First Name	Role
Braun	Wolfgang	Partner | Audit & Assurance
Brüggemann	Dr. Benedikt	Partner | Audit & Assurance | Sector Leader Power, Utilities & Renewables
Conrad	Andreas	Partner | Audit & Assurance
Dorissen	Stefan	Partner | Audit & Assurance
Wendlandt	Patrick	Partner | Audit & Assurance | Audit Transformation
Oliveira da Silva Justino	Miguel	Nova SBE Work Project Team
Rinschen	Jakob	Nova SBE Work Project Team
Schmitt	Alexander Thomas	Nova SBE Work Project Team
Thiergard	Sven Henrik	Nova SBE Work Project Team

Figure 15 - Workshop Participants (Own illustration)

The workshop with Deloitte was conducted to discuss strategic options for Deloitte based on the four scenario narratives developed. By capitalizing on Deloitte's extensive knowledge, the workshop facilitated the derivation of strategic recommendations tailored to address emerging threats and opportunities. This process ensured that the proposed strategies were practical and aligned with Deloitte's operational realities and strategic outlook. In addition, the workshop served as a platform for validating the scenario analysis comparison and initial insights for the Strategic Prioritization Matrix to ensure consistency and robustness of the results. Figure 15 highlights the participants who contributed their insights during the workshop while Figure 16 illustrates the methodology used, showcasing the use of a Miro board to facilitate interactive discussions and collaborative brainstorming throughout the session.

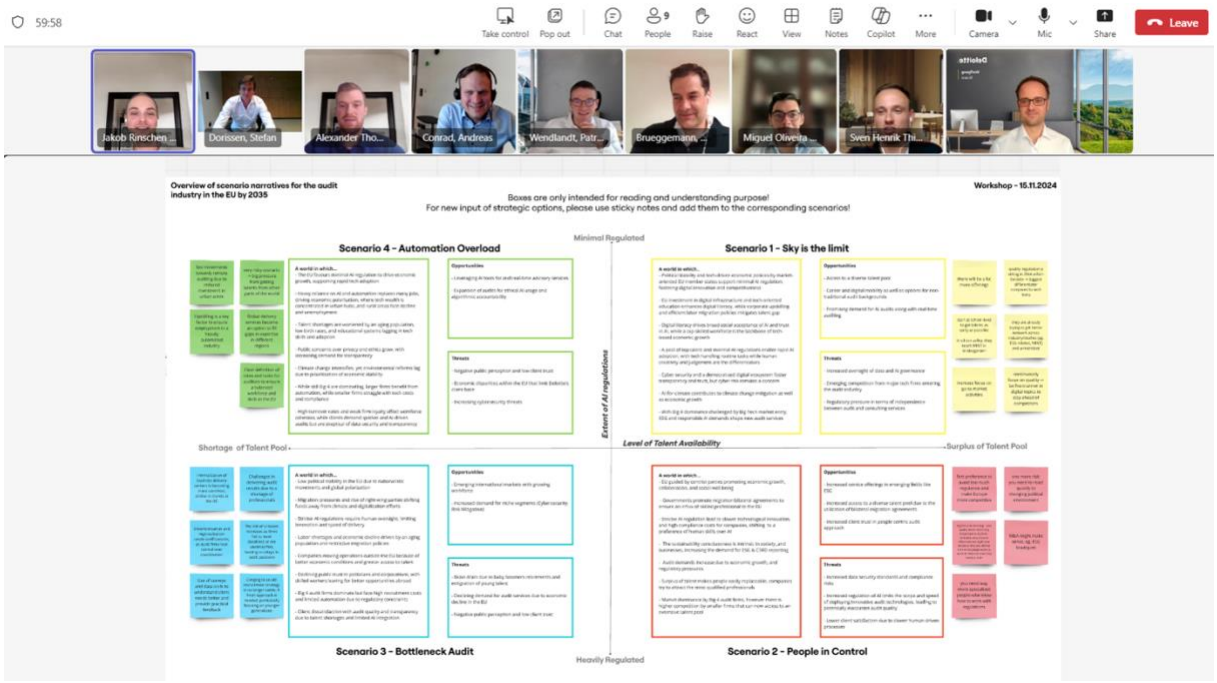


Figure 16 - Miro Board from Workshop (Own illustration)

Appendix 9 – Justification for Prioritization Categorization

#	Strategy	Justification for Categorization
1	Build expertise in innovative assurance services such as real-time audits and 'predictive auditing' (S/O Strategy)	This strategic recommendation is categorized as a **Real Option**, as it balances high growth potential with manageable implementation risks. Expertise in innovative assurance services, such as real-time audits and predictive auditing with blockchain integration, meets market demand for timely and forward-looking insights with evidence-based data security. Deloitte's 2019 Global Blockchain Survey highlights that 53% of respondents prioritize blockchain, with 83% identifying compelling use cases (Deloitte n.d.h). As blockchain adoption gains momentum across industries, Deloitte has the opportunity to expand into additional assurance services, such as auditing the governance of blockchain and the underlying logic of smart contracts (Kontozis 2022). Direct competitors like PwC provide benchmarks with audit tools such as "GL.AI", further driving the competition for innovative audit techniques (PwC n.d.). However, the strategy carries medium risk due to challenges such as lack of accounting standards, data privacy concerns, and adaptability issues, resulting in higher costs and delayed ROI. This strategy aligns with scenarios characterized by advanced digitalization, minimal regulation, and a robust technology infrastructure.
2	Ensure responsible AI beyond regulatory compliance for competitive advantage (S/T Strategy)	This strategic recommendation is categorized as a **Real Option**, as it balances growth potential with privacy and regulatory risks. By focusing on responsible AI governance and the integration of AI with blockchain technology, the strategy offers strong growth potential with a medium risk level. The global impact of AI and blockchain, projected to add USD 20 trillion to the economy by 2030, underscores the competitive pressure and resource demands (Financial Times n.d.). While addressing challenges like data security and transparency, the strategy involves compliance uncertainty and significant investment required to integrate AI and blockchain, delaying ROI (Kacker 2024). Privacy concerns, such as GDPR's "right to be forgotten", challenge blockchain's transparency, but are mitigated by cryptographic techniques which allow for secure validation while concealing data (Galis 2024). This strategy aligns with scenarios of high AI adoption along with privacy concerns, with Deloitte standing out for its focus on responsible governance, trust building, and success in a digital, minimally regulated environment.

3	Establish robust cybersecurity measures beyond regulatory compliance to excel in data governance (W/T Strategy)	This strategic recommendation is categorized as a **No Regret** move, as it addresses growing cybersecurity threats while enhancing stakeholder trust. The average cost of a data breach, amounting to USD 4.35 million in 2022, underscores the financial and reputational significance of prioritizing cybersecurity (Gadient 2023). Deloitte's proactive investment in measures such as strict access controls, encryption protocols, and model isolation leverage existing infrastructure and governance frameworks (Deloitte AI Institute 2023). By focusing on governance enhancements rather than developing or acquiring new technologies, the strategy is both low-risk and low-investment. This approach ensures manageable risks while adapting processes to meet heightened cybersecurity demands. Deloitte's proactive approach to responsible AI reassures both the public and regulators of its commitment to integrity, while reinforcing Deloitte's position as a security-focused industry leader. This strategy fits all plausible scenarios as a low-risk, high-priority initiative, as all scenarios require addressing AI adoption and cybersecurity concerns to varying degrees.
4	Improve career mobility with digital flexibility and non-traditional career opportunities (W/O Strategy)	This strategic recommendation is categorized as a **Big Bet**, as it requires significant investments in technology infrastructure and organizational adaptations to meet the growing demand for career mobility and workplace flexibility. A supportive, flexible work culture is favored by 60% of Generation Z, who will represent the majority of the workforce by 2035 (Sinha 2024). Initiatives such as rotational programs, technology-focused reviews and flexible remote work opportunities are designed to attract and retain top talent, including from non-traditional backgrounds, while relying on a robust digital infrastructure and inclusive corporate culture for effective implementation. These efforts involve non-traditional career opportunities such as freelance work within the company, skills-based project assignments and entrepreneurship incubators that address the shifting expectations of the workforce. The strategy carries a high level of risk due to financial and operational challenges, including managing a dispersed workforce, labor compliance and potential workflow disruptions (Hall n.d.). This strategy aligns with a scenario characterized by innovation and adaptability as well as sufficient financial resources.

5	Strengthen client trust by capitalizing on global talent and multicultural work environments (S/O Strategy)	This strategic recommendation is categorized as a **Real Option,** as leveraging global talent and fostering multicultural work environments balances moderate implementation risks with the potential for enhanced client trust and innovation benefits **(DEMARS N.D.)**. The financial costs of recruiting global talent and fostering inclusive work environments are significant **(DEMARS N.D.)**. However, the long-term benefits make the costs manageable. A report by McKinsey found that companies that foster diversity, equity, and inclusion outperformed companies that don´t have this multicultural environment by 36% in profitability **(DIXON-FYLE, ET AL. 2020)**. Furthermore, according to the latest statistics from Korn Ferry, 80% of the World's Most Admired Companies create diverse teams to improve creativity, making better decisions than homogenous teams 87% of the time and being 70% more likely to capture new markets **(SOLOMONS AND POLONSKAIA N.D.)**. This strategy aligns with scenarios of increasing global connectivity and diversity acceptance, differentiating Deloitte through its commitment to multicultural work environments which fosters innovation and builds trust.
6	Reduce compliance risks and expand services by investing in employees' regulatory expertise (S/T Strategy)	This strategic recommendation is categorized as a **Real Option**, addressing regulatory complexities with balanced investments in a heavily regulated environment to enhance compliance efficiency and adaptability. In 2021 organizations spent an average of USD 1,280 per employee on training and development initiatives (ATD Research 2022). Even with a significant initial investment in providing employees with regulatory expertise through certifications and tools to ensure compliance, the benefits of enrolling in these programs provide long-term benefits by minimizing risks of penalties and reputational damage (Palmer 2024). Training programs provided by specialized training providers (Credly Team 2023), should be carefully chosen to be aligned with the organizational needs. Organizations often struggles to maintain compliance due to misalignment between their staff training programs and changing regulations (Woolard, Saidenberg and Goyne 2023). This underlines the moderately high implementation risk due to the constantly changing environment of global regulations. Organizations can mitigate these risks with carefully chosen partnerships and ongoing monitoring (Bauman 2024). This strategy aligns with scenarios of increasing regulatory demands and stricter compliance standards, differentiating Deloitte by enhancing its regulatory expertise and adaptability.

7	Strengthen the focus on specialized teams of data analysts and audit professionals (W/T Strategy)	This strategic recommendation is categorized as a **No Regret** move, as it addresses critical challenges that audit companies face when managing large-scale data and audit processes. The risk of this strategy is moderately low due to the industry's need to deal with larger data sets and provide more accurate audits. Deloitte is currently adopting data analytic solutions into audits amidst a more demanding environment (Deloitte n.d.c), diminishing the risk of strategy failure. Organizations with dedicated analytics teams demonstrate a 55% higher deployment of advanced analytics use cases compared to those without such teams (Agarwal, et al. 2022). Furthermore, 47% say that data and analytics have significantly or fundamentally changed the nature of competition in their industries in the past three years, highlighting the growing tendency towards the integration of data analytics into business processes. While this indicates we're still in the early days of the shift, it increased 38% since the previous survey (Agarwal, et al. 2022). This strategy aligns with all plausible scenarios due to the growing necessity for robust data management in the audit sector, setting Deloitte apart by enhancing its capabilities to handle large-scale data and improve audit accuracy.
8	Promote attractive career growth opportunities in fields like ESG (W/O Strategy)	This strategic recommendation is categorized as a **Real Option** due to the potential to address Deloitte's challenges in retaining top talent while leveraging its existing leadership in ESG auditing. The implementation risk of this strategy is low because Deloitte already has a strong foundation in ESG auditing, established systems for employee development (Deloitte n.d.f) and a growing market demand with an increasing relevance for auditors (Bell 2021). Furthermore, this strategy involves moderate financial costs, with expenses including certifications in sustainability reporting, such as the Fundamental of Sustainability Accounting by the Standards Board certification, and career growth opportunities that require investment in, e.g., training programs. Adding to this, the cost of not investing in the growth and development of your employees far outweighs the cost of providing training opportunities (D. Cohen n.d.) yielding long term benefits. Furthermore, in today's workforce, employees seek purpose-driven roles, such as those in ESG, which create a workplace culture that fosters loyalty and dedication (Mui 2024). This strategy aligns with scenarios where high demand for ESG audits persists, distinguishing it by capitalizing on a market trend towards sustainability.

9	Expand international collaboration through audit delivery centers (S/O Strategy)	This strategic recommendation is categorized as a **Real Option**, as it allows Deloitte to maintain flexibility and adapt its resource allocation based on how market and operational dynamics evolve. The experts highlighted, that by expanding international collaboration through audit delivery centers, Deloitte can reduce costs, enhance scalability, and access specialized talent pools in lower-cost regions, ensuring that it remains competitive while mitigating risks associated with fluctuating client demands. This process enables around 20-30% of audit hours to be performed remotely (Appendix 3). Even though Deloitte US already uses this model extensively, leading to sufficient internal knowledge on operating such delivery centers (Appendix 3), this strategy is associated with risk since opening a new location and establishing new networks requires sufficient financial and personnel resource as well as local market expertise. Therefore, establishing a new location is always connected to some risk. This strategy aligns with scenarios, in which talent shortages in the EU persist. However, if this talent is sufficiently available, a strong focus on international delivery centers is not necessarily needed as Deloitte can deliver high quality audit service while relying on the local workforce.
10	Strengthen public perception through value-driven community engagements (S/T Strategy)	This strategic recommendation is categorized as a **No Regret** move, as it strengthens Deloitte's reputation, builds trust, and fosters meaningful stakeholder relationships, which are critical across all future scenarios. The associated risks are relatively low, as such initiatives require minimal financial, and personnel investments compared to other strategic recommendations (Barker 2022). At the same time, their outcomes - enhanced public perception, strengthened stakeholder connections, and increased goodwill - offer significant long-term benefits, irrespective of economic or market conditions (Barker 2022). Furthermore, this strategy enables Deloitte to mitigate reputational risks and showcase its commitment to societal progress, increasingly valued by stakeholders and the public. By aligning purpose-driven initiatives with core business goals, Deloitte strengthens stakeholder loyalty and maintains a positive global image (Deloitte n.d.f). This strategy aligns with all plausible scenarios, as it reinforces stakeholder loyalty, maintains a positive public view of the world's largest professional services company, and delivers consistent value by creating goodwill, mitigating reputational risks, and demonstrating a tangible commitment to societal progress.

11	Implement a holistic employee experience program (W/T Strategy)	This strategic recommendation is categorized as a **No Regret** move, as implementing a holistic employee experience program addresses fundamental organizational needs that lead to tangible benefits across all scenarios. A Gallup meta-analysis of 183,806 business units, encompassing over 3.3 million employees across 347 organizations, found a strong link between employee engagement and business performance. Business and work units in the top quartile of employee engagement significantly outperformed those in the bottom quartile. Top-quartile units had a 23% increase in profitability, and a 78% decrease in absenteeism (Harter, et al. 2024). Turnover rates also showed remarkable differences: high-turnover organizations (with over 40% annualized turnover) saw a 21% reduction, while low-turnover organizations (with 40% or less annualized turnover) experienced a 51% reduction (Harter, et al. 2024). Additionally, high engagement drove a 70% increase in employee wellbeing and a 22% rise in organizational citizenship (Harter, et al. 2024). Furthermore, top-quartile units achieved a 10% improvement in customer loyalty and engagement (Harter, et al. 2024) – critical success factors for any service provider. This strategy aligns with all plausible scenarios, as it allows Deloitte to stay at the forefront in the war of talent and attract and retain highly skilled professionals.
12	Adjust audit offerings for SMEs, targeting rising-demand areas (W/O Strategy)	This strategic recommendation is categorized as a **Big Bet**, as it relates to high risk. Deloitte's audit services are only partially aligned with the needs of the SME market, which prioritizes affordability, flexibility, and personalized service (Hattersley 2022). To counteract this, Deloitte entered in 2016 UK's SME market with a £2.5m investment in Propel, a cloud-based accounting and analytics service tailored to SMEs, offering real-time insights and a subscription model to meet the needs of small business owners (Simpson 2016). However, on 30 September 2022, Deloitte sold Propel to the Jeffreys Henry Group (Hattersley 2022). FinTech watcher Nick Levine commented on this business decision as follows: "For the Big Four, the brand is everything. So, in reality, I don't think any of the Big Four could really provide that high level of service at the very low price point they're going to market within." (Hattersley 2022). This strategy aligns with a scenario of declining economic activity among major EU players, enabling Deloitte to diversify revenue streams and reduce dependency on large, conventional clients. However, as the Propel example shows, the high risk of adjusting offerings for SMEs requires thorough preparation and careful examination of lessons learned to overcome launch hurdles successfully.

13	Develop real-time AI advisory platforms for continuous ethical monitoring (S/O Strategy)	This strategic recommendation is categorized as a **Real Option**, as it positions Deloitte as a proactive compliance partner. KPMG's report highlights that "the development of an AI-enabled auditing platform is not a distant future" and that over 60% of financial reporting leaders see a variety of benefits (KPMG International 2024). Those benefits include trend prediction, real-time risk insights, improved data-driven decisions, and enhanced data accuracy (KPMG International 2024). However, developing real-time AI advisory platforms requires substantial investment in advanced technologies to ensure ongoing assessments of fairness, transparency, and accountability in client systems (Bughin, Hazan, et al. 2017), while also navigating high implementation risks stemming from the complexity of AI development, regulatory compliance, and client concerns about privacy and bias (Certa 2024). This strategy aligns with scenarios where ethical AI and regulatory requirements are important, which further emphasize technological innovation and societal trust. However, in scenarios where non-technological approaches dominate, it may have limited relevance.
14	Integrate Explainable AI into audit tools to enhance transparency and build client trust (S/T Strategy)	This strategic recommendation is categorized as a **Real Option**, as it provides Deloitte with the flexibility to adapt to client requirements and regulatory changes. According to a McKinsey survey on the state of AI in 2024, 40% of respondents mentioned explainability as the main risk in the implementation of AI, while seeing trust as the foundation for it (Giovine, et al. 2024). However, the integration of XAI into audit tools requires significant financial efforts to ensure that AI-driven decisions are transparent, interpretable, and compliant with ethical standards (Bernardo 2023). Implementation risk emerges, as "they require considerable resources both in the development of the AI system and in the way it is interrogated in practice." (Bernardo 2023). Further compliance with evolving regulations on AI transparency and dealing with potential client skepticism about AI-driven audits adds complexity. This strategy aligns with scenarios, where trust, transparency, and ethical AI usage are important. This flexibility in addressing transparency concerns in highly regulated markets, client demands for trustworthy AI, technology-driven industries, and heightened ethical expectations makes it a valuable option for Deloitte while being adaptable to changing industry dynamics.

Appendix 10 – Involvement of Deloitte

Name	First Name	Role at Deloitte	Involvement
Braun	Wolfgang	Partner | Audit & Assurance	Survey & Workshop
Brüggemann	Dr. Benedikt	Partner | Audit & Assurance | Sector Leader Power, Utilities & Renewables	Expert Interview, Survey & Workshop
Conrad	Andreas	Partner | Audit & Assurance	Survey & Workshop
Dorissen	Stefan	Partner | Audit & Assurance	Survey & Workshop
Klein	Dr. Florian	Managing Director | Head of Center for the Long View	Overall collaboration including participation in the survey and three working sessions
Wendlandt	Patrick	Partner | Audit & Assurance | Audit Transformation	Survey & Workshop
Wermelt	Andreas	Partner | Audit & Assurance | Transformation Leader	Expert Interview & Survey

Figure 17 - Involvement of Deloitte (Own illustration)