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# TREATING THE DIGITAL PATH: EXPLORING TECHNOLOGICAL PERSPECTIVES IN FORENSIC ACCOUNTING THROUGH CONTINGENCY THEORY

# TRILHANDO O CAMINHO DIGITAL: EXPLORANDO AS PERSPECTIVAS TECNOLÓGICAS NA PERÍCIA CONTÁBIL ATRAVÉS DA TEORIA DA CONTINGÊNCIA

# TRATANDO EL CAMINO DIGITAL: EXPLORANDO LAS PERSPECTIVAS TECNOLÓGICAS EN LA CONTABILIDAD FORENSE A TRAVÉS DE LA TEORÍA DE LA CONTINGENCIA

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## ABSTRACT

Forensic accounting is a technical and complex practice, essential in resolving disputes, but it faces challenges in the adoption of technologies. This study aims to analyze the impact of contingent factors on the use of technology in forensic accounting, based on the perspectives of professionals in the field. The research, which is applied and qualitative in nature, adopts an exploratory and descriptive approach. Data collection was carried out through semi-structured interviews with forensic accountants selected based on convenience and until the point of saturation. Data analysis followed the content analysis methodology proposed by Laurence Bardin, categorizing responses into themes aligned with Contingency Theory. The goal was to identify barriers and facilitators in the adoption of technologies in forensic accounting. The results indicate that the technological factor significantly influences the adoption of digital tools, highlighting the need to overcome resistance and challenges related to adapting to new technologies.

**Keywords:** Technology. Expert. Contingent.

## RESUMO

A perícia contábil é uma prática técnica e complexa, essencial na resolução de litígios, mas enfrenta desafios na adoção de tecnologias. Este estudo tem como objetivo analisar o impacto de fatores contingenciais no uso de tecnologia na prática pericial, com base nas

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perspectivas de profissionais da área. A pesquisa, de natureza aplicada e qualitativa, adota uma abordagem exploratória e descritiva. Para a coleta de dados, foram realizadas entrevistas semiestruturadas com peritos selecionados por conveniência e até o ponto de saturação. A análise dos dados seguiu a metodologia de análise de conteúdo proposta por Laurence Bardin, categorizando as respostas em temas alinhados à Teoria da Contingência. O objetivo foi identificar barreiras e facilitadores na adoção de tecnologias na perícia contábil. Os resultados indicam que o fator tecnológico exerce influência significativa na adoção de ferramentas digitais, ressaltando a necessidade de superar resistências e os desafios relacionados à adaptação às novas tecnologias.

**Palavras-chave:** Tecnologia. Perito. Contingencial.

**RESUMEN**

La contabilidad forense es una práctica técnica y compleja, esencial para la resolución de disputas, pero enfrenta desafíos en la adopción de tecnologías. Este estudio busca analizar el impacto de los factores contingentes en el uso de la tecnología en contabilidad forense, desde la perspectiva de profesionales del sector. La investigación, aplicada y de naturaleza cualitativa, adopta un enfoque exploratorio y descriptivo. La recopilación de datos se realizó mediante entrevistas semiestructuradas con contadores forenses seleccionados por conveniencia y hasta el punto de saturación. El análisis de datos siguió la metodología de análisis de contenido propuesta por Laurence Bardin, categorizando las respuestas en temas alineados con la Teoría de la Contingencia. El objetivo fue identificar barreras y facilitadores en la adopción de tecnologías en contabilidad forense. Los resultados indican que el factor tecnológico influye significativamente en la adopción de herramientas digitales, lo que resalta la necesidad de superar la resistencia y los desafíos relacionados con la adaptación a las nuevas tecnologías.

**Palabras clave:** Tecnología. Experto. Contingente.

## 1 INTRODUCTION

The intersection between Accounting and Forensic Accounting reveals the importance of a specialized and essential discipline in the professional field. Accounting Expertise, according to NBC TP01 (Brazilian Accounting Standards), consists of technical and scientific procedures to guide decision-making bodies (CFC, 2020). Its purpose is to provide the necessary elements to support fair decisions in litigation or in the contracting of services. The performance of accounting expertise is essential to ensure impartiality and transparency in accounting matters (CFC, 2020).

Accounting Expertise has a specific object, purpose, scope and procedures, configuring itself as a singular branch within accounting. Its essence lies in the issuance of a technical statement that evidences facts that require technical perception and expert knowledge to prove it (Crepaldi, 2019).

With the advancement of information technology, the use of technological resources in Forensic Accounting has become indispensable. Certification and digital signatures ensure the authenticity of electronic documents, providing security and agility. Expert reports can be sent quickly, allowing real-time access to technicians, lawyers, and judges, saving time and costs, however, the adoption of technology requires cultural change, and it is crucial that professionals are trained to use it safely and effectively (Gomes, 2023).

However, it is important to note that, even with the technological support available, accounting expertise still requires specialization and specialized knowledge to deal with the complexities of financial analysis. Technology is a powerful tool, but it is essential to strike a balance between the use of these tools and the human ability to ensure the accuracy and quality of results. Forensic accounting continues to require professionals with specialized knowledge and professional skills.

In this scenario, the central problem of this study arises: how do the contingency factor of Technology and the availability of resources influence technological modernization, in the practice of accounting expertise in the view of accountant experts?

Investigating the influence of contingency factors on the acceptance of technology is essential to understand how these elements affect the modernization of forensic accounting. Despite the growing role of technology in accounting activities, there is a paucity of studies exploring its influence on forensic practice. Thus, understanding these challenges can guide solutions that improve the quality and efficiency of accounting processes.

In this context, the objective of this work is to evaluate how the contingency factor of technology influences the adoption of innovations in the accounting expert practice, from the perspective of expert accountants.

## 2 THEORETICAL BASIS

### 2.1 CONTINGENCY THEORY

The Contingency Theory began in a structured way in 1972 and is based on the principle that nothing is absolute in an organization, everything is relative and, therefore, depends on situations that the organization generally cannot control, as they are in an external environment (Oliveira, 2012).

According to Chiavenato (2021), research for the theory was done aimed at evaluating the most effective organizational structural models in certain types of companies. Its objective is to identify how effective organizations adhere to classic assumptions, such as division of labor, hierarchy, span of control, etc., and where the result is a new conception of organization: the structure and dynamics of an organization depend on its interface with the environment.

Although the term "contingency theory" was first used only in 1967, Joan Woodward's 1958 work, Management and Technology, can be considered the seminal work of the contingency approach. In this study, it was found that structural variables were directly linked to the nature of the technology of the companies surveyed. She found that companies that can align their organizational structure effectively with the specific technology they employ tend to perform better. Essentially, there is no one-size-fits-all structure; it must be contingent on the particularities of the technology that the company uses (Kewley, 1966).

Continuing Woodward's initial studies on the "technology" variable, Charles Perrow, in 1976, highlighted two important dimensions: (a) the analysis of technology and (b) the predictability or variability of work. The analysis of technology involves the breakdown and specificity of activities. Variability, in turn, refers to the number of exceptional or unpredictable cases and the degree of knowledge about the problems. The combination of these dimensions allows the technology to be classified into routine and non-routine. Routine technology is associated with a bureaucratic structure, with well-defined criteria at the technological levels and in the stages of supervision. In contrast, an organization with a more organic structure is considered non-routine (Fagundes *et al*., 2010).

Perrow developed a relevant work by arguing that technology is contingent on the organizational structure and permeates all the activities of the organization. He does not distinguish technology only by the equipment used, but also by the cognitive processing involved in performing tasks, including resources such as raw materials and necessary behaviors. According to Perrow, the relationship between technology and organizational structure suggests that the more codified the knowledge and the fewer exceptions there are in operations, the more centralized the decision-making process can be (Junqueira, 2010).

Charles Perrow's concept of "knowledge technology" addresses how individuals react to exceptions at work. When non-standard situations arise, the search for solutions depends on the degree of familiarity with the problem. Perrow points out that uncertainty is related to the nature of raw materials: when they are stable and well understood, there is less uncertainty; If they are variable or little known, the uncertainty increases, requiring a more complex search process. The type of technology used is influenced by this level of uncertainty (Lobos, 1976).

When talking about "materials technology," Perrow refers to a set of techniques chosen and applied based on the feedback that the raw material provides. In summary, the technology adopted to solve a problem depends on familiarity with the exceptions and the characteristics of the raw materials, and uncertainty results from the variability and understanding of these materials (Lobos, 1976).

In summary, the Contingency Theory shows that organizational effectiveness cannot be achieved through a single model, but rather by strategic and structural adaptation to external and internal contextual variables. Thus, an organization's ability to adjust and evolve according to the demands of its environment is crucial for its long-term survival and success.

## 2.2 ACCOUNTING EXPERTISE

Expertise is directly associated with the origin and foundation of law, which derives from the Latin directum, deriving from the verb dirigere (to direct, order, straighten), which has the etymological meaning, that which is right, that which does not deviate, according to a single direction, understanding everything that is in accordance with reason, justice and equity (Lima; Araújo, 2008).

For Sá (2019), accounting expertise consists of the analysis of information related to the specific assets and rights of a person or entity, to provide a conclusion, based on questions presented. To reach this conclusion, thorough analyses, inspections, inquiries, investigations, evaluations and, if necessary, arbitrations are carried out. These methods are applied according to the relevance to each situation in question (Sá, 2019).

Expertise corresponds to methods of proof that demonstrate the occurrence of facts without documentary evidence to prove it. It is also useful when it is necessary to present a situation related to facts that have not been fully explained. Obtain insights and conduct investigations through expert evidence in order to propose and prove the facts relevant to the dispute, the causes or consequences of these events and their explanations (Alves *et al*., 2017).

### 2.2.1 Expert Accountant

The expert is the accountant regularly registered with the Regional Accounting Council (CRC), who performs the expert activity in a personal way (Crepaldi S.; Crepaldi G., 2018). Mello (2013) mentions that the expert is a highly qualified professional with technical or scientific knowledge, who can assist justice when necessary by using his skills to prove a fact or action to carry out technical work with the preparation of expert reports within the deadlines established by the judge (Mello, 2013).

The CPC, Accounting Pronouncement Committee, understands that it is the responsibility of the professional accountant to accept the responsibilities assigned to him, participate in hearings to provide clarifications when necessary, provide accurate information about deadlines, maintain a high level of professional competence and knowledge of accounting standards and methods. (Vasconcelos; Frabi; Castro, 2011).

Sá (2019) mentions that the expert cannot make mistakes and must use all means at his disposal so that this does not occur. Expert work requires special care that must be adopted, especially in relation to factors such as the time allocated, work plan, demanding performance, demanding support, protection of reports, borrowed evidence, statements and price.

### 2.2.2 Technologies and Modernizations

Over the years, the job market has changed, and the post-industrial society is increasingly interconnected with technology, making professions more dependent on these innovations. In this scenario, the accounting expert is challenged to maintain flexibility and vision to keep up with the necessary transformations in the market (Bronzato, 2021).

The digital reinvention in accounting expertise has enabled a significant evolution, as new technological tools improve processes, increasing speed and security in the transmission of information. The roles of technology and accounting professionals are increasingly intertwined, resulting in positive impacts for society by reducing human errors and ensuring the integrity of information through technology (Leite, 2020).

In this context, it is possible to mention PROJUDI, which is a system developed in Java language and initially known as Prodigicon, was ceded to the CNJ on September 12, 2006, marking the beginning of the adoption of the electronic process. This system aims at the administration and management of electronic judicial proceedings in the Judicial Districts. The TJPR's computer infrastructure is used to store the files sent by users in the lawsuits (Lopes; Santos, 2015).

As well as PJe-Calc is the Labor Calculation System developed by the Information Technology Secretariat of the Regional Labor Court of the 8th Region, at the request of the Superior Council of Labor Justice, for use throughout the Labor Court as a standard tool for the preparation of labor calculations and settlement of judgments, aiming at the uniformity of procedures and reliability in the results calculated (TRT, 2024)

In the face of all these modernizations, Bronzato (2021) discusses that, despite the fears of accounting experts regarding technology and its challenges, it is crucial to reflect on the real technological benefits for the profession, especially with regard to the tools developed based on Artificial Intelligence technology. Thus, the curiosity arises to understand how professionals in the area are understanding technology in general.

## 3 METHODOLOGICAL PROCEDURES

This study was carried out through a qualitative research, using semi-structured interviews to understand how accounting experts are dealing with technological changes. The combination of exploratory and descriptive methods allowed us to investigate and detail the factors that influence the acceptance of new technologies in the forensic accounting practice.

Data collection continued to the saturation point, with an intentional sample of experienced experts. The study sought to identify the challenges of technological modernization and contribute to the improvement of knowledge in the field of accounting expertise.

For data treatment, Bardin's (2010) content analysis method was used, adopting a qualitative approach to explore the difficulties faced by forensic accounting. The initial phase consisted of a preliminary reading of the transcripts, where general impressions and possible recurring themes were noted in the interviewees' reports. This step was crucial in getting an overview of the data and identifying preliminary patterns that guided subsequent analyses.

Content analysis, according to Bardin (2010), is a set of techniques aimed at investigating communications, offering a variety of methods that can be adapted to different contexts. These techniques have been applied to examine various types of documents, serving a wide range of research objectives. The choice of analysis procedures varied according to the purpose and the material analyzed.

The data from the interviews were organized into thematic categories related to the elements of the Contingency Theory. Examples of categories and subcategories include: organizational structure, hierarchy, technology, people and skills, training and development,

and employee resistance. During this phase, we sought to identify patterns in the answers of the interviewees, which were fundamental for the categorization process.

With the coding units identified, the next step was to group this data into broader themes, representing the main topics covered in the interviews. This grouping facilitated the subsequent analysis. After this organization, inference was carried out, which involved interpreting the data grouped into themes to discover underlying meanings and relationships, transforming raw data into useful information.

Finally, the categorized data were analyzed in the light of the Technology quadrant of the Contingency Theory, allowing us to discuss how this contingency impacted the topics addressed. This analysis was essential to contextualize the results of the research and provide a deeper understanding of the role of the contingency factor technology in the adoption of innovations in forensic accounting.

## 4 RESULTS AND DISCUSSION

In this topic, the use of technologies in forensic accounting will be analyzed based on interviews with experts. The discussion will address the key tools and systems mentioned, highlighting the challenges and opportunities of adopting these technologies. The analysis will be guided by the "Technology" quadrant of the Contingency Theory, comparing the perceptions of the experts with the principles of this theory. The objective is to explore how this factor influences the use of digital tools and the performance of experts, offering a clearer view of digital transformation in the accounting forensic practice.

### 4.1 RESPONDENT PROFILE

The results of this research, obtained through interviews with eight accounting experts, and demonstrated in Table 1, Respondent Profile, aim to understand how contingency factors influence the adoption of technologies in forensic practice. The analysis revealed a diversity of perceptions about the role of technological tools in the daily activities of professionals. These observations enable a more in-depth discussion on the aspects that facilitate or hinder the integration of new technological solutions in accounting expertise, contributing to a better understanding of the dynamics involved in this process.

**Table 1**

*Profile of Respondents*

| Interviewed | Training | Further training | Way of working | Area of expertise | Acting time |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 01 | Sciences Accounting and Economy | Public and private project analysis and Master's Degree in Engineering Production and Process | Autonomous | Civil | 8 |
| 02 | Accounting | Postgraduate in Auditing and Accounting Expertise | Autonomous | Labor | 10 |
| 03 | Accounting | Specialization in Labor Law and Master's Degree in Public administration | Autonomous | Labor | 10 |
| 04 | Sciences Accounting and Bachelor of Arts Administration | Postgraduate in Accounting Expertise and Auditing, Master's Degree in Accounting | Accounting Office | Civil | 8 |
| 05 | Sciences Accounting and Science Computation | Master's degree in accounting and Master's degree in Business Administration | Autonomous | Civil | 8 |
| 06 | Sciences Accounting and Mathematics | Specialist in Public Management and Specialist in Forensics and Auditing | Autonomous | Civil | 9 |
| 07 | Accounting | Postgraduate in Accounting Expertise and Auditing | Accounting Office | Labor | 12 |
| 08 | Accounting | MBA Tax Management | Autonomous | Civil | 12 |

Source: Author of the research (2024).

According to the table, the interviews made it possible to outline a diversified profile of the professionals, all with a degree in Accounting Sciences and varied complementary qualifications. This multiplicity of training evidences the commitment of the interviewees to continuous improvement, as well as the breadth of knowledge they apply in their respective areas of expertise. The professionals have advanced academic training, including postgraduate degrees, specializations and master's degrees in areas such as Auditing and Accounting Expertise, Public Management, Business Administration and Production Engineering.

Analyzing the interviewees, it is noted that most professionals work autonomously, except for two linked to accounting offices, with a predominant performance in the civil and labor areas, which suggests variation in the use of technologies according to the field of

activity. With 8 to 12 years of experience, they demonstrate professional maturity, providing in-depth insights into the challenges and opportunities in adopting technologies in forensics.

According to Pires (2000), the expert accountant is the professional responsible for carrying out the expert examination through analyses, investigations and essential diligences to reveal the truth to the parties based on documentary accounting evidence. Pires points out that the interpretation of accounting matters is crucial to ensure the discovery of the truth, making it essential that the expert is professionally qualified and has skills such as reliability, in addition to having a technical and scientific understanding of Accounting Sciences.

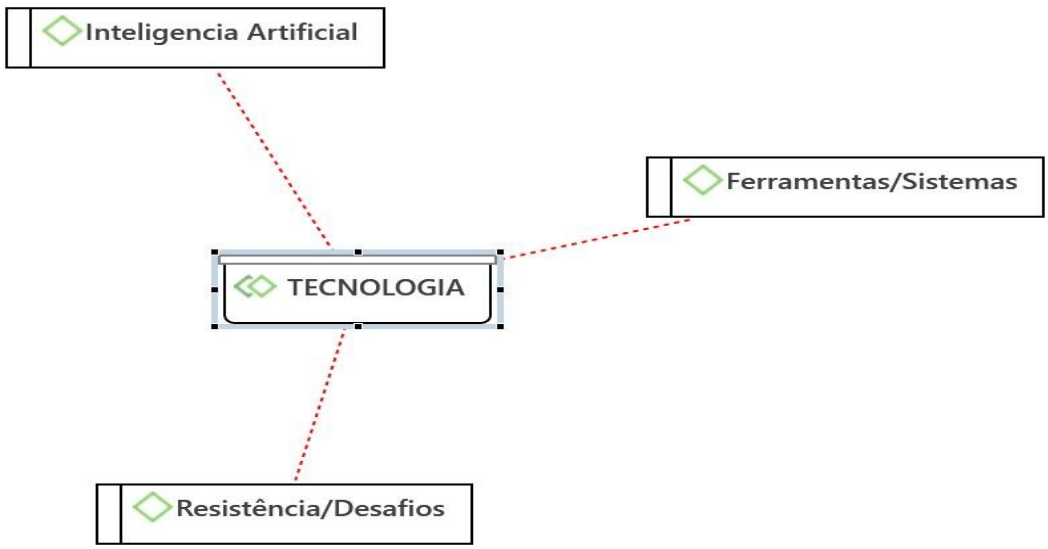
Thus, the diversity of academic backgrounds, work modalities and areas of activity of the interviewees provided a basis for a critical analysis of technological perspectives through accounting practice.

## 4.2 INTERVIEW ANALYSIS: TECHNOLOGY QUADRANT

To illustrate the perceptions of accounting experts about the impact of technology on forensic practice, we developed the "Technology Quadrant". This representation allows us to visualize how the interviewees categorize the influence of the contingency factor of technology on the adoption of technological tools. The following figure summarizes this information in a clear and objective structure.

**Figure 1**

*Technology Quadrant*




Source: Research Author (2024).

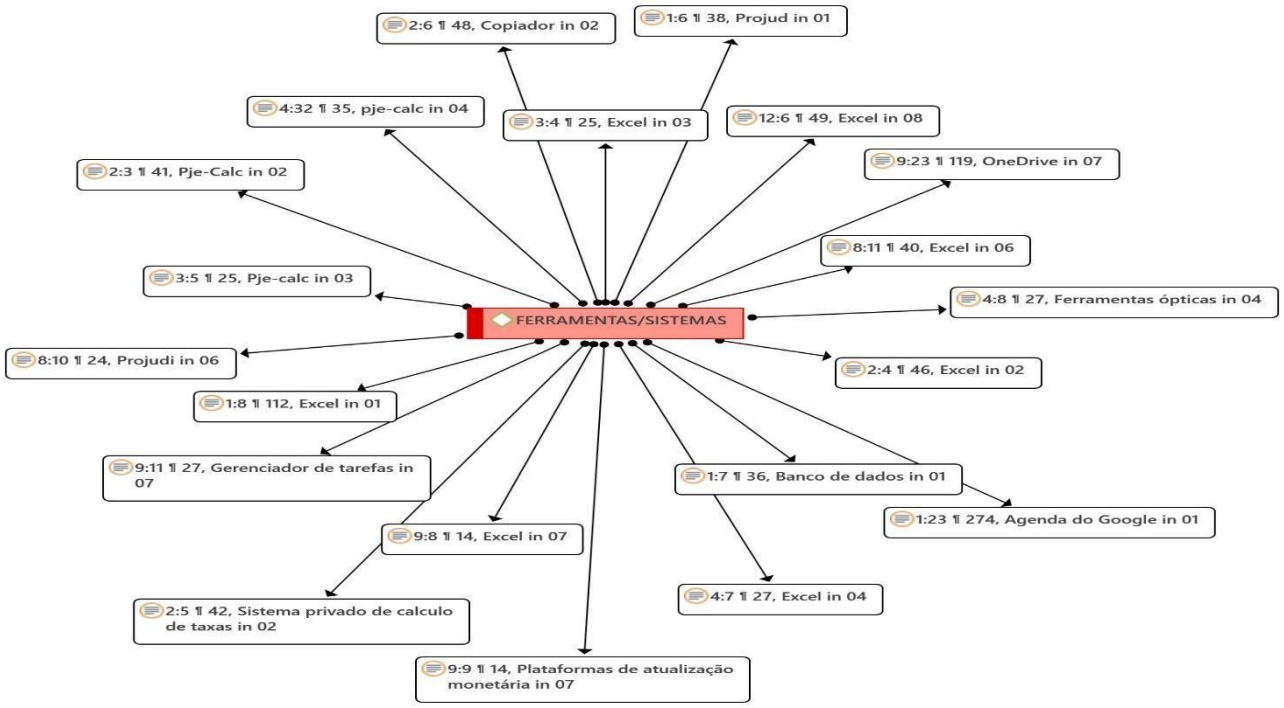
To achieve the objective of this work, the parameters highlighted in figure 1 were used, which reflect central aspects of technology in the context of forensic accounting. The analysis

covers Artificial Intelligence, specific Tools and Systems, and challenges related to resistance to the adoption of new technologies. These elements were chosen to understand how technology impacts and transforms forensic practice, covering everything from automation and data analysis to the barriers and difficulties faced by professionals when integrating technological innovations into their activities.

The following figure titled "Tools and Systems" presents an overview of the technologies and systems mentioned by the accounting experts during the interviews. It visually organizes the tools used in forensic practice, facilitating the understanding of their importance and application in the daily lives of professionals.

**Figure 2**

*Tools and Systems*




Source: Research Author (2024).

The figure presented highlights the main tools and systems mentioned by the accounting experts during the interviews. The interviewees emphasized the predominant use of Excel in their forensic practices, highlighting its versatility and effectiveness. Interviewee 01 stated that "Excel is an exceptional tool, you have the freedom to work". Likewise, interviewee 03 added: "I basically use Excel for the calculations. [...] for cost reasons, you will hire a state-of-the-art system and then you will have situations that you will need to solve in Excel". Interviewee 04 also reinforced this perspective, saying: "I think we are used to working with Excel. We never had any issues, we never needed to go further" (Interviewee 04, 2024).

Interviewee 07 corroborated this view, stating that "it is a versatile tool that allows you to do anything with it" (Interviewee 07, 2024).

In addition to Excel, other systems and tools were mentioned by the interviewees. The Pje-Calc, for example, was highlighted by several interviewees as an essential tool for calculating procedural values (Interviewees 02, 03, 04 and 05). Interviewee 04 reinforced this idea by stating: "Look, we already have Pje-Calc that helps a lot those who are in the labor market". Projudi was also mentioned as an important system for access to electronic processes.

PJe-Calc is the Labor Calculation System developed by the Information Technology Secretariat of the Regional Labor Court of the 8th Region, at the request of the Superior Council of Labor Justice, for use throughout the Labor Court as a standard tool for the preparation of labor calculations and settlement of judgments, aiming at the uniformity of procedures and reliability in the results calculated (TRT, 2024).

PROJUDI is a system developed in Java language for the administration and management of electronic judicial proceedings in the Judicial Districts. The TJPR's computer infrastructure is used to store the files sent by users in the lawsuits (TJPR, 2024).

Other tools cited include the use of a private fee calculation system and monetary update platforms. Productivity tools, such as Task Manager and Google Calendar, were mentioned for helping to organize forensic work. In the interviews, cloud storage such as OneDrive was mentioned as a practical solution for sharing and storing documents.

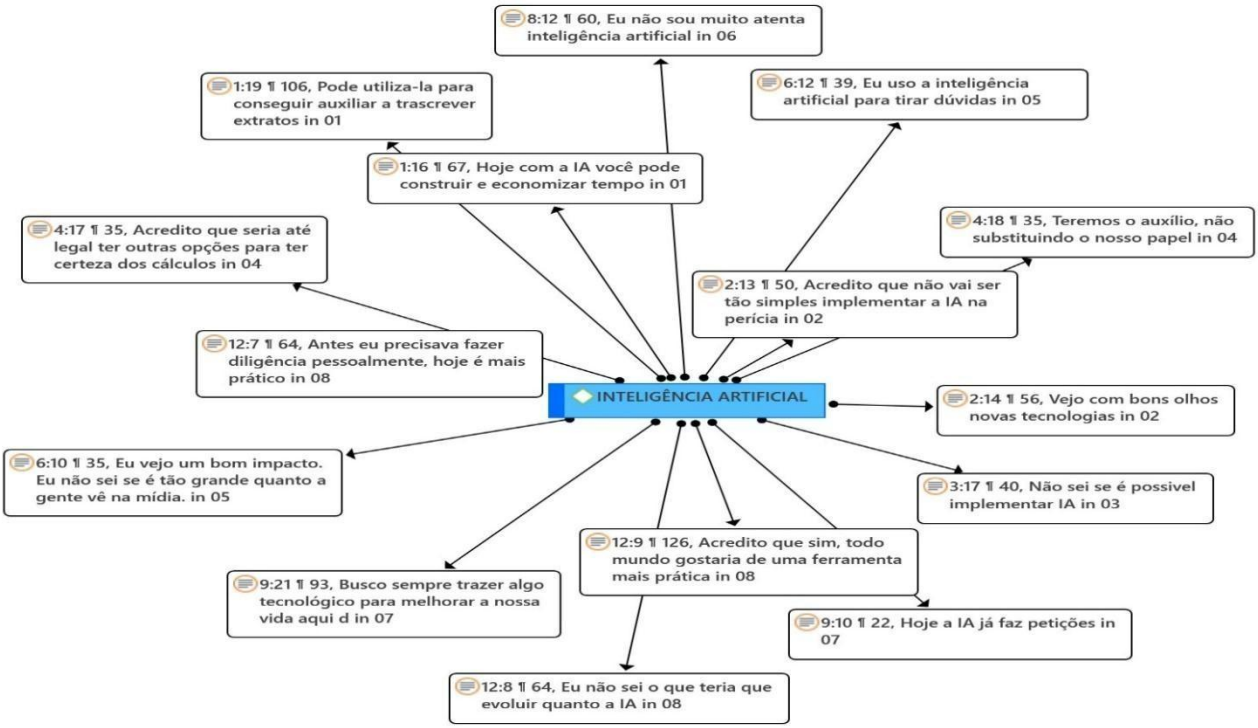
Additionally, Interviewee 01 highlighted the importance of databases in forensic practice, while Interviewee 04 addressed the use of optical tools. This information was only cited by the experts, without a detailed explanation of its uses.

The following image shows a diagram titled "Artificial Intelligence," which organizes several interconnected statements, reflecting a variety of opinions and perspectives. The diagram highlights different points of view, bringing together speeches that address the use of AI in varied contexts. Each statement is related to the central theme, highlighting the various ways in which Artificial Intelligence is perceived and discussed

Figure 3 entitled "Artificial Intelligence" presents an overview of the perceptions of accounting experts on the use of artificial intelligence in forensic practice. The diagram organizes the diverse opinions of respondents on the impact, opportunities, and challenges of implementing AI in the field of forensics, highlighting their perspectives on this technology.

**Figure 3**

*Artificial Intelligence*




Source: Research Author (2024).

The analysis of the interviews revealed different perceptions about the use and implementation of artificial intelligence in the legal environment, highlighting its benefits and challenges. The responses indicate that, despite the recognition of the technology as a useful tool, there are still concerns about its applicability in more complex areas, such as forensics.

One aspect emphasized is the ability to optimize routine tasks, allowing for greater work efficiency. Interviewee 01 mentioned: "Today with AI you can save time, write reports, map summaries...". This point highlights the use of innovation to automate processes and increase productivity. Likewise, Interviewee 05 stated: "I use artificial intelligence to answer my questions", pointing out the practical use in quick consultations and resolution of technical issues.

However, even with the benefits identified, there is a consensus that technology will not completely replace human labor. Interviewee 04 highlighted: "I believe that, in general, we will have the help, not replacing what we do", reflecting the view that the tool will act as a complement, rather than a full substitute for professionals. This point is essential, especially in areas where intellect is indispensable.

One of the biggest challenges mentioned is the implementation of technology in more technical areas such as forensics. Interviewee 02 observed: "So I imagine that it will not be so simple to implement AI in forensics" showing concern about the difficulties of integrating

this innovation into processes that require detailed and subjective analysis. This doubt is reinforced by Interviewee 03, who said: "I don't know if it's possible... For example, calculation of non-issuance of invoices, so are you going to make a system for that? I don't know if it's possible," suggesting limitations in creating systems to deal with very specific situations.

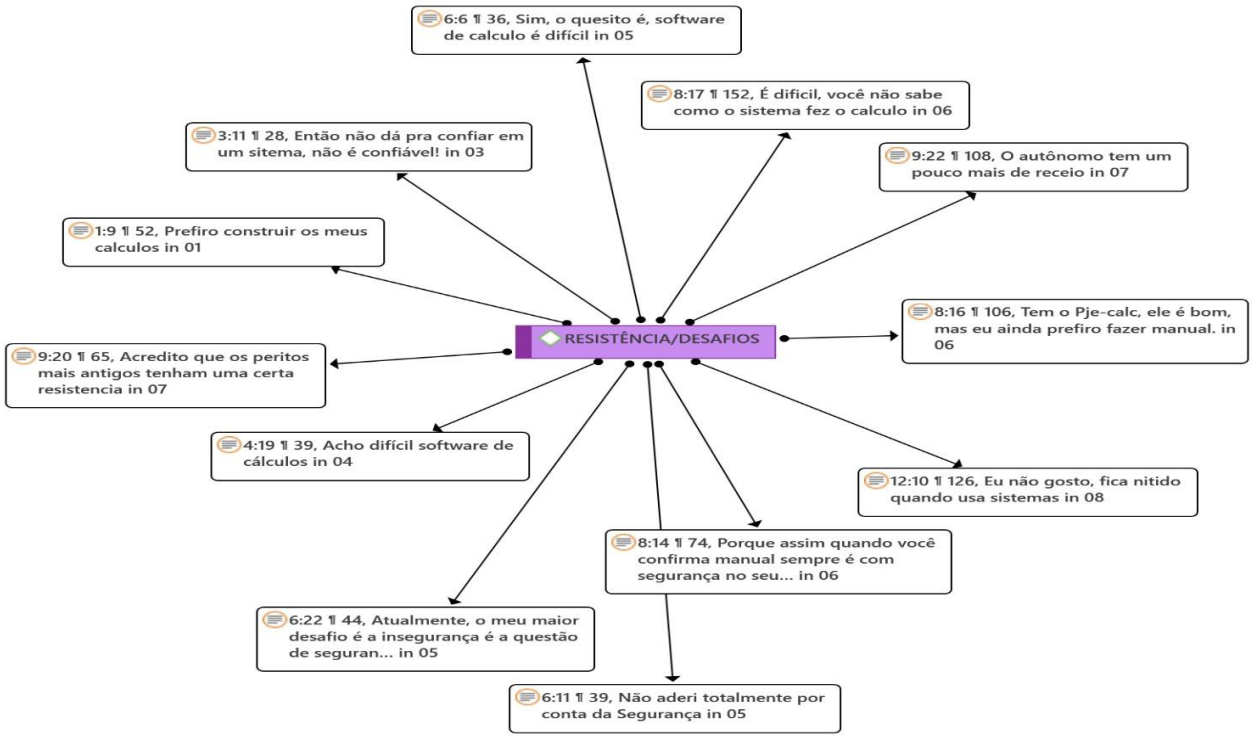
Despite these uncertainties, there is optimism about the positive impact that the

Artificial Intelligence can bring to legal work. Interviewee 05 commented: "I see a good impact. I don't know if it's as big as we see in the media today, but I see it as a very positive impact," acknowledging that, although beneficial, the effect of technology may not be as significant as portrayed by the media. Interviewee 02 also showed enthusiasm for innovations, stating that "I see a new technology with good eyes, because everything that adds up will add to the work to facilitate the work", showing the expectation that these tools can simplify daily tasks.

Figure 4 below shows a diagram titled "Resistance/Challenges," which organizes several interconnected statements, reflecting different perspectives on the difficulties and resistances faced in a given context. Each statement is aligned with the theme of the survey, gathering insights on specific challenges such as trust in systems, difficulties with calculation software, and security-related concerns.

**Figure 4**

*Resistance and Challenges*




Source: Research Author (2024).

The interviews reveal significant resistance from accounting experts to the use of automated systems and calculation software, emphasizing a preference for manual methods due to mistrust and security concerns. Interviewee 1 categorically stated: "I prefer to build my calculations", highlighting a personal preference for doing the calculations manually, without depending on technological systems.

This distrust is reinforced by Interviewee 3, who declared: "So you can't trust a system, it's not reliable!", evidencing skepticism about the reliability of automated systems. Similarly, Respondent 4 expressed his difficulty with these tools: "I find it difficult to have calculation software," indicating that, in addition to a lack of trust, the usability of the systems can also be a barrier to adoption.

The issue of security is a recurring theme in the interviews, as demonstrated in the statements of Interviewee 5: "I did not fully adhere because of Security" and "Currently, my biggest challenge is insecurity, it is the issue of security". These statements reflect a constant concern with data protection and the accuracy of the results obtained through digital systems. This hesitation was also highlighted by Interviewee 6, who stated: "Because this way, when you confirm manual, you are always safe in your work", suggesting that manual review brings a sense of control and guarantee over the calculations performed.

Despite recognizing the advantages of tools such as Pje-Calc, Interviewee 6 commented: "There is Pje-calc, it is good, but I still prefer to do it manually", reinforcing that, even with the availability of technological solutions, full trust has not yet been established. In addition, the same interviewee said: "It's difficult, you don't know how the system did the calculation", which reflects the lack of transparency perceived by some professionals when using automated systems.

Another point raised was the resistance of more experienced experts to adopt new technologies. Interviewee 7 highlighted: "I believe that older experts have a certain resistance", suggesting that adapting to technology is more challenging for professionals with more time in the market. The same interviewee also mentioned: "The self-employed are a little more afraid", referring to the caution of professionals who work independently in fully relying on technological tools.

Finally, Interviewee 8 was even more direct, stating: "I don't like it, it's clear when using systems", demonstrating a clear dissatisfaction with the use of automated systems, perhaps because he feels that they interfere with the quality or accuracy of the results.

These interviews make it clear that while there are certain advanced technological tools available to accounting experts, there is still widespread resistance to adopting them

fully, mainly due to concerns about security, reliability, and a lack of familiarity with the systems.

## 4.3 THEORETICAL DISCUSSION: COMPARISON WITH CONTINGENCY THEORY IN THE TECHNOLOGICAL CONTEXT

According to the interviewees' notes, technological and structural factors directly affect their activities in the field of forensic accounting. The absence of advanced technological tools, added to the preference for traditional methods, such as spreadsheets and manual calculations, limits efficiency and agility in the execution of tasks. To understand these issues, it is relevant to apply the Contingency Theory, particularly with regard to the relationship of the Technology quadrant.

### 4.3.1 Joan Woodward (1965): Technological Typology and Organizational Structure

Woodward was one of the pioneers to demonstrate how the type of technology used by an organization influences its internal structure and performance. She identified three main types of technologies: unitary, mass, and continuous process. Most of the forensic accounting professionals interviewed reported using tools that fall within the level of unit technology, such as spreadsheets and simple calculation software, rather than more advanced automated solutions.

This technological limitation reflects that forensic accounting is not sufficiently adapted to incorporate more complex technologies, such as calculation automation systems or integrated data analysis platforms. According to Woodward, in order for an organization to adopt more sophisticated technologies, its structure must adjust to support this transition. However, the resistance observed among accounting experts indicates that this adaptation has not yet occurred on a large scale, although some professionals are more open to the adoption of these technologies, recognizing their importance for the modernization of processes.

### 4.3.2 Charles Perrow (1967) – Variability and Technological Analysability

Perrow developed an analysis of organizational technology based on two main axes: variability (the number of exceptions or unique cases that arise at work) and analyzability (the ability to solve problems based on established and known methods). In forensic accounting practice, variability is often high, given the volume and complexity of cases that require specific and customized calculations.

However, the acceptance of the tools used by the experts is low, since most still depend on manual and non-automated systems, which increases the risk of errors and the need for rework. Perrow argues that in high-variability environments such as forensics, the use of technologies that can handle these exceptions more effectively is essential. Resistance to the adoption of more automated and sophisticated tools, such as Pje-Calc or advanced data calculation and management platforms, prevents experts from achieving greater efficiency in their analysis, although some respondents are willing to adopt new technologies that can facilitate their activities.

### 4.3.3 Integration with Woodward and Perrow's Theory

The application of Woodward and Perrow's concepts to the context of forensic accounting reinforces the idea that technological evolution is fundamental to increasing efficiency in the sector. However, the resistance to the adoption of new technologies by the experts, as highlighted in the interviews, reflects the difficulty of structural adaptation of organizations. This reinforces the importance of aligning the technologies used with organizational demands and the increasing complexity of forensic processes.

The technological factors mentioned by the interviewees, such as the preference for traditional tools and the reluctance to adopt more advanced solutions, indicate a misalignment between current accounting practice and modern requirements for accuracy and efficiency.

However, it is important to note that some professionals are more open to adopting technologies, recognizing the need for modernization, which can contribute to the transformation of the industry.

## 5 FINAL CONSIDERATIONS

The analysis of technological perspectives in the practice of forensic accounting reveals a complex scenario, characterized by the coexistence of resistance and openness to the adoption of new tools. The interviews conducted highlight that, although the professionals have advanced academic training and are committed to continuous improvement, many still rely on traditional methods, such as spreadsheets and manual calculations. This reliance on technologies limits efficiency and agility in analysis, indicating an urgent need for structural adaptation that aligns accounting practices with modern requirements.

The application of Contingency Theory, especially the contributions of Joan Woodward and Charles Perrow, highlights the need to integrate sophisticated technologies into forensic work, the high variability of cases requires tools that effectively deal with this complexity.

Despite the resistance to the adoption of new technologies, some professionals are open to innovation, recognizing its transformative potential in accounting practice. For accounting expertise to evolve and become more efficient, it is necessary to promote a culture of innovation that includes training and support for the implementation of advanced technologies, enabling professionals to adapt to the requirements of an ever-changing market.

From this research, future work can explore more deeply how organizational and cultural factors influence the adoption of technologies in forensics. Further research can focus on how training and technical support policies affect the transition to digital tools and analyze the impacts of these innovations on the efficiency and accuracy of forensic work.

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