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Thesis summary: The intangible assets and the valuation approaches applied for their recognition: effects, accountability and stakeholder's protection.

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INTRODUCTION

This thesis explores the valuation, reporting, regulatory framework, and accountability of **internally generated intangible assets**, with a primary focus on **research and development (R&D)**. The challenges of valuing intangible assets—such as intellectual property, patents, and software—stem from the absence of standardized methodologies, leading to inconsistencies and risks in financial reporting.

The research is structured around three key research questions:

1. *“What are the ways of evaluating R&D and what is the degree of reporting of the associated elements, within European entities?” (RQ1):*
Examines how R&D is valued and the extent of its reporting within European entities. Chapter 2 uses a **game-theory-based case study** to assess investment strategies in **R&D-intensive private micro-entities**, highlighting the signaling effect of capitalisation along with valuation and disclosure challenges.
2. *“Are the provisions of the standards in the matter sufficient to ensure R&D accountability and SH protection?” (RQ2):*
Investigates whether current professional standards (**IAS 38, IVS 210, and ISA 620**) adequately ensure R&D accountability and stakeholder protection. Chapter 3 applies **comparative similarity analysis** to assess alignment, gaps, and practical implications, particularly in mitigating risks of misrepresentation and overvaluation.
3. *“What are the determinants of biased reporting of R&D value?” (RQ3):*
Analyzes how **managerial incentives and firm characteristics** influence R&D reporting biases and financial performance. Chapter 4 employs **mixed model and binary logistic regressions** to examine correlations between R&D capitalization and key financial metrics, aiming to enhance valuation precision.

By addressing these questions, the thesis **contributes to a deeper understanding of R&D reporting** and its economic and managerial implications. Grounded in prior work by **Barker et al. (2020)**, **Aboody and Lev (1998)**, and **Penman (2009)**, this research aims to **enhance transparency and accountability in intangible asset valuation**. The findings have the potential to **inform stakeholders and improve accounting standards**, promoting more reliable financial reporting practices.

CHAPTER 1: INTERNALLY GENERATED INTANGIBLE ASSETS VALUATION – DEBATE AND LITERATURE REVIEW

This chapter explores the valuation and accounting treatment of **internally generated intangible assets (IGIAs)**, particularly **R&D investments**, through a detailed literature review. It highlights key debates on **capitalization vs. expensing**, the role of accounting standards, managerial incentives, regulatory influences, and investor reactions.

INTANGIBLE ASSETS VALUATION AND KEY DEBATES

Internally generated intangible assets (IGIAs) must meet specific criteria to be recognized as assets. They need to be identifiable, capable of providing future economic benefits, and have costs that can be reliably measured (Mirza et al., 2008; Negkakis, 2015). Unlike acquired intangible assets, which derive their valuation from transaction costs, IGIAs pose greater challenges in assessment due to their lack of observable market prices.

Accounting standards provide distinct approaches to IGIA recognition. Under IAS 38, development costs can be capitalized if they meet specified criteria, whereas U.S. GAAP generally requires immediate expensing, with the notable exception of software development costs, which may be capitalized under specific conditions (Lev, 2008; Clausen & Hirth, 2016). The choice between capitalization and expensing significantly influences financial reporting. Capitalization increases total assets and enhances reported profitability, while expensing directly reduces net income.

Even for acquired intangible assets, determining fair value is not always straightforward. Market prices may not accurately reflect intrinsic value, leading to discrepancies in financial reporting. Studies highlight that transaction costs alone do not guarantee a fair valuation of intangible assets, as price determination often involves subjective assessments and future earnings projections (Su & Wells, 2015). Consequently, differences in accounting treatment for IGIAs affect financial statement comparability, influencing stakeholders' perceptions of a firm's value and performance, capitalization increases total assets, while expensing reduces net income.

THE MANAGERIAL DILEMMA: CAPITALIZATION VS. EXPENSING OF DEVELOPMENT COSTS

The debate between capitalization and expensing of development costs centers on balancing transparency, financial stability, and managerial discretion. Proponents of capitalization argue that it reduces information asymmetry by providing a clearer picture of a firm's long-term investment in innovation. It also lowers the cost of debt issuance, as capitalized assets strengthen balance sheets, making firms appear more financially stable (Aboody & Lev, 1998; Lev et al., 2005). Furthermore, capitalization supports long-term valuation, as it allows firms to reflect the future economic benefits of their R&D activities. However, critics caution that capitalization can also enable earnings management if used opportunistically, as managers may inflate asset values to meet financial targets.

On the other hand, expensing offers a conservative approach that limits managerial discretion, reducing the risk of overestimating intangible asset values (Penman, 2009; Barker et al., 2020). By immediately recognizing R&D expenditures as costs, expensing prevents firms from artificially boosting profitability through capitalization. However, this approach can also have unintended consequences. R&D-intensive firms, particularly in early-stage industries, may appear financially weaker than they actually are, as their innovative activities are not reflected as assets on the balance

sheet (Ciftci & Darrough, 2015). This can distort financial statements, making it more challenging for such firms to attract investment.

The market's reaction to capitalization versus expensing is not uniform and often depends on a firm's perceived success. In financially strong firms, capitalization is generally viewed as a positive signal of future growth and innovation. However, in weaker firms, it can be seen as a potential tool for manipulation, used to mask poor financial performance (Dumas & Martinez, 2015; Cordazzo & Rossi, 2020). This divergence in market perception underscores the complexity of intangible asset valuation and the challenges of establishing a standardized approach that balances transparency with financial prudence.

SIGNALING AND BENCHMARK BEATING

Capitalization plays a significant role in signaling project feasibility, influencing financial strategies, and shaping investor perceptions. By capitalizing development costs, firms can provide a clear indication that their R&D projects are expected to generate future economic benefits. This decision not only reinforces managerial confidence in the success of an innovation but also aids in benchmark beating, allowing firms to present financial statements that meet or exceed industry performance standards (Aboody & Lev, 1998; Lim et al., 2020). Additionally, capitalized intangible assets can serve as collateral for debt financing, enhancing a firm's ability to secure funding by strengthening its balance sheet.

Investor reactions to R&D capitalization vary based on context and perceived intent. Studies indicate that investors generally reward firms with high R&D intensity, as such firms are viewed as innovation-driven and positioned for future growth (Chan et al., 2001). However, skepticism arises when firms use capitalization as a tool for earnings management rather than a reflection of genuine project feasibility (Dinh et al., 2015a). While meeting benchmarks through capitalization is often positively received, aggressive capitalization—particularly in firms with weak financial performance—raises concerns about potential financial misrepresentation. As a result, investor confidence depends on the transparency and consistency of intangible asset reporting, highlighting the need for robust disclosure practices. Benchmark beating is **positively perceived** unless it appears linked to aggressive capitalization.

THE REGULATORY FRAMEWORK: INTELLECTUAL PROPERTY RIGHTS AND ACCOUNTING STANDARDS

The legal protection of intellectual property (IP) plays a crucial role in shaping disclosure practices for intangible assets. Stronger IP rights create an environment where firms feel more secure in disclosing details about their R&D activities and intangible assets, as legal safeguards reduce the risk of misappropriation (Chen et al., 2017). However, enhanced disclosure comes at a cost, as firms must balance transparency with the need to protect competitive advantages. Better enforcement of IP rights has been found to increase the level of disclosure detail, as firms perceive lower risks associated with revealing proprietary information.

The transition to International Financial Reporting Standards (IFRS) has had a mixed impact on the valuation of intangible assets, particularly due to variations in national legal and economic environments. Some studies suggest that IFRS adoption enhances value relevance by promoting consistency and comparability in financial reporting, making intangible assets more transparent to investors (Dinh et al., 2015a). However, others highlight disparities in how different countries apply

IFRS, leading to inconsistencies in recognition and measurement practices (Gong & Wang, 2016). These differences suggest that while IFRS provides a unified framework, local regulatory and economic conditions continue to influence the treatment of intangible assets, affecting their perceived value and financial reporting outcomes.

FIRM-SPECIFIC DETERMINANTS: SIZE, SECTOR, AND FINANCING STRATEGIES

Firm size and financial strategy play a crucial role in the capitalization of internally generated intangible assets (IGIAs). Large firms tend to capitalize R&D expenditures more frequently due to their greater risk tolerance and access to financial resources, whereas smaller firms, often constrained by limited funding, may be more conservative in their approach (Wu et al., 2020). The choice between debt and equity financing also influences intangible asset treatment—firms with high intangible intensity typically favor equity financing, while others leverage their intangible assets as collateral for loans (Gatchev et al., 2009; Lim et al., 2020). Startups, in particular, face significant challenges when expensing development costs, as it can distort their financial statements and make them appear less viable to investors. This practice, in turn, discourages innovation by limiting their ability to attract funding and sustain long-term growth (Clausen & Hirth, 2016).

AUDITORS' ROLE IN INTANGIBLE ASSET REPORTING

Auditing internally generated intangible assets (IGIAs) presents significant challenges due to the technical complexity of R&D projects and the reliance on managerial judgment in determining capitalization eligibility (Kuo & Lee, 2017). Given the subjective nature of these valuations, ISA 620 permits auditors to consult external experts; however, confidentiality concerns arise when sensitive proprietary information must be disclosed during the audit process. The involvement of Big 4 audit firms influences disclosure practices, as larger firms tend to provide more detailed information when audited by these entities. However, the overall quality and transparency of these disclosures remain uncertain (Agyei-Mensah, 2019). Additionally, the legal and regulatory environment plays a key role in audit-related costs—countries with stronger investor protection laws generally experience lower audit expenses linked to IGIA capitalization, as standardized practices and stricter enforcement reduce uncertainty and risk in financial reporting (Kuo & Lee, 2017).

CONCLUSIONS AND CONTRIBUTIONS

The debate over the capitalization versus expensing of internally generated intangible assets (IGIAs) remains unresolved, with strong arguments supporting both approaches. This ongoing discussion highlights the inherent uncertainty in IGIA valuation, as different financial reporting choices can significantly impact a firm's perceived stability and performance.

Market and investor reactions play a crucial role in determining the credibility of capitalization decisions. While capitalization can serve as a signal of managerial confidence and long-term value creation, it may also be leveraged as a tool for earnings management. Firms with strong financial performance tend to gain credibility when capitalizing development costs, whereas less successful entities may face skepticism from investors who suspect opportunistic financial reporting.

Beyond firm-specific considerations, regulatory and structural factors also shape intangible asset reporting. The effectiveness and implications of capitalization decisions depend on elements such as capital structure, industry dynamics, and the legal environment governing financial disclosures.

Differences in national and international accounting frameworks further complicate standardization and comparability.

Ultimately, the final judgment on intangible asset valuation is left to market participants. Regardless of whether a firm chooses to capitalize or expense its development costs, the market determines the actual worth of these assets through investment behavior, pricing mechanisms, and long-term financial outcomes.

CHAPTER 2: R&D VALUATION AND DISCLOSURE FOR EUROPEAN ENTITIES

This chapter addresses Research Question 1 (RQ1): “What are the ways of evaluating R&D and what is the degree of reporting of the associated elements within European entities?” The analysis considers the regulatory framework, managerial discretion, and investor perceptions surrounding R&D capitalization and disclosure.

A key regulatory reference is **IAS 38**, which mandates a distinction between the **research** and **development** phases of R&D expenditures. The research phase must always be expensed, while development costs may be capitalized only if specific criteria—such as demonstrating future economic benefits—are met. This distinction introduces a debate between **capitalization and expensing**, as capitalization can serve as a positive signal of project success but also presents risks of earnings manipulation.

Investor perception of risk plays a crucial role in shaping financing decisions related to R&D investments. Capitalization can influence investor confidence and funding strategies, leading to different risk-based investment responses. These responses can be broadly categorized as **high-risk (equity financing)**, **medium-risk (long-term debt financing)**, and **low-risk (short-term debt financing)**.

To empirically assess these dynamics, the chapter conducts a case study on three private European R&D-intensive entities. By applying **game theory**, the study evaluates how financial statement disclosures influence investor behavior and optimal investment strategies. The analysis provides insights into the signaling power of capitalization, the extent of financial disclosure practices, and the broader implications of intangible asset reporting for stakeholders.

ANALYSIS OF FINANCIAL STATEMENTS & GAME THEORY RESULTS

Key Findings from Financial Data Analysis

In Hudol Ltd’s case, capitalization correlated with higher equity investments and long-term debt increases, Investors appeared to interpret capitalization as a positive signal and the optimal strategy was Medium risk (long-term debt). In Hudol Thermal Ltd’s case short-term debt was the dominant funding source, there were no patent filings, potential project failure; the optimal strategy was low risk (short-term debt). In Dyfodol Energy Ltd’s case there was extremely high leverage (Debt-to-Assets ratio > 1,400%), a patent was published but not granted and the Optimal strategy: was Low risk (short-term debt). The interpretation of the results is as follows, when firms successfully capitalize costs, it attracts long-term debt and equity investments, failure to deliver innovation reduces confidence and entities without successful patents (Hudol Thermal Ltd) attracted mainly short-term debt financing.

Final Outcomes (2021 Data)

Entity	Game Result	Matrix	2021 Status	Assets (2021)	Debt-to-Assets (2021)
Hudol Ltd	Medium risk (LT-debt)	risk (LT-debt)	Active	£102,456	231.81%
Hudol Thermal Ltd	Low risk (ST-debt)		Dormant restructuring	(after) £1,500	0% (after restructuring)
Dyfodol Energy Ltd	Low risk (ST-debt)		Active but heavily leveraged	£16,513	1,412.32%

Hudol Ltd fared best financially, confirming the accuracy of the game matrix recommendation for medium risk (long-term debt). **Hudol Thermal Ltd underwent financial distress and restructuring**, justifying its low-risk (short-term debt) classification. **Dyfodol Energy Ltd's extreme leverage validated the game matrix's low-risk investment recommendation**. No equity investments were suggested for any entity, avoiding catastrophic losses.

CONCLUSIONS & CONTRIBUTIONS

There is no definitive conclusion that capitalization influences **investor confidence and risk allocation in these cases**, however it is **highly probable**, firms with patents (Hudol Ltd) attracted **higher-risk investments**, firms without patents (Hudol Thermal Ltd) relied on **short-term debt**, indicating weaker investor trust.

The study **developed a game theory model** to estimate optimal investment strategies based on **historical financial data**, which offers a **simple yet effective tool** for investors in **high-risk R&D ventures**. The findings contribute to **understanding R&D valuation** and its effects on investor behavior. The study sets the foundation for **examining managerial incentives and biases in R&D capitalization** in Chapter 4. The following limitation are present; the method relies on past data, limiting **predictive accuracy**, the model applies primarily to **private, R&D-intensive micro-entities** and the study relies on **abbreviated financial statements**, requiring external verification (e.g., patent filings).

CHAPTER 3: PROFESSIONAL STANDARDS' PROVISIONS, R&D ACCOUNTABILITY, AND STAKEHOLDER PROTECTION

This chapter explores whether existing professional standards sufficiently ensure accountability for Research & Development (R&D) expenditures and protect stakeholders. As intangible assets become increasingly central to corporate value creation, harmonized accounting, valuation, and auditing standards are crucial. Prior research has shown that variations in accounting practices across jurisdictions complicate the standardization of R&D reporting, impacting investors, creditors, employees, suppliers, customers, and regulatory bodies differently. Key issues in intangible asset reporting include, valuation challenges, auditor roles, Intellectual property protection, managerial discretion in capitalizing R&D costs. The chapter employs **two methodological approaches** to analyze the similarities and differences among three key standards, **automated Textual Analysis**: Principal Component Analysis (PCA) using Voyant Tools (2023) and **manual content analysis**: Categorizing key elements of the standards and performing statistical similarity measures using SPSS. By comparing **IAS 38 (Accounting)**, **IVS 210 (Valuation)**, and **ISA 620 (Auditing)**, the study seeks to identify gaps in financial reporting and improve guidance for R&D accountability.

CONCLUSIONS AND POTENTIAL CONTRIBUTIONS

The key findings from the **automated and manual analysis** are that **IAS 38 and IVS 210 align well** on recognition, measurement, and valuation, **ISA 620 lacks specific guidance** on intangibles but aligns with the other standards in audit considerations. The following **gaps in standards are identified**, IAS 38 allows **too much managerial discretion**, increasing earnings manipulation risks, IVS 210's use of **discount rates** adds valuation subjectivity, ISA 620's **expert reliance raises confidentiality risks** and audit costs and the **lack of harmonized global standards** creates inconsistencies in intangible asset valuation.

CHAPTER 4: DETERMINANTS OF BIASED REPORTING OF R&D VALUE

This chapter explores the potential earnings management strategies employed by managers to enhance the financial standing of R&D-intensive entities, addressing the third research question: **What are the determinants of biased reporting of R&D value?** As discussed in previous chapters, the literature suggests the existence of biases in R&D reporting, often driven by managerial incentives such as earnings management, misleading stakeholder representation, personal financial gains, or delaying punitive measures (Dinh et al., 2015a; Clausen & Hirth, 2016).

A key ambiguity in managerial decision-making within this context involves the **capitalization of development costs**, which depends on uncertain estimates of future economic benefits tied to one or more intangible assets. Historical cases, such as the Theranos scandal (Carreyrou, 2018), highlight the potential for earnings manipulation and the exploitation of accounting frameworks, particularly in R&D-intensive industries.

The International Accounting Standards Board (IASB, 2022) acknowledges that R&D activities primarily generate knowledge-based assets, which, despite sometimes having a physical presence (e.g., prototypes), derive their true value from embedded intellectual property. The **World Intellectual Property Organization (WIPO, 2024)** defines a **patent** as an exclusive right granted for an invention, providing legal protection that benefits both the inventor and the broader market. This legal framework underpins the financial treatment of internally generated intangibles.

The **capitalization of R&D expenditures under IAS 38** requires managers to determine when the development phase begins and whether the likelihood of future economic benefits exceeds **50%**. However, this criterion remains **vague and subjective**, opening the door to potential misrepresentation and earnings manipulation. The decision to capitalize specific expense categories, such as salaries or equipment amortization, adds another layer of complexity, often leading to **overlapping or inaccurate financial reporting** (Hunter et al., 2012).

This study aims to **empirically examine the determinants of biased R&D reporting**, particularly focusing on financial leverage, profitability measures, and external factors such as regional economic conditions and auditor rankings. By applying statistical methodologies—including **correlation analysis, mixed model regressions, and binary logistic regressions**—this research seeks to assess whether intangible asset capitalization decisions are influenced by financial distress, managerial incentives, or other economic factors.

Additionally, the study incorporates a **Net Present Value (NPV) approach** to assess whether the capitalized value of intangible assets is justified by future cash flows. The ambiguity surrounding the **“high likelihood (>50%) of future economic benefits”** criterion in IAS 38 is explored by benchmarking **NPV-to-capitalized value ratios** across multiple periods, applying a compare-means analysis to different categorical factors such as auditor type, country of domicile, and regional economic development.

CONCLUSION AND CONTRIBUTIONS

This chapter provides empirical evidence that **financial distress (Debt/Capital ratio) negatively affects intangible asset performance**, while **profitability (ROA, EPS) enhances NPV generation**. The findings support **conservative capitalization practices** in R&D-intensive firms and propose a **quantifiable interpretation of IAS 38’s “>50% probability” criterion**.

Future research should explore **causal mechanisms** in capitalization decisions and integrate **market-based metrics (P/E ratios)** for enhanced predictive accuracy.

CHAPTER 5: FINAL CONCLUSIONS, RESEARCH LIMITATIONS, AND CONTRIBUTIONS

This concluding chapter synthesizes the key findings of the research, critically evaluates its limitations, and highlights its contributions to the field of **intangible asset valuation and reporting**. The three core research pillars of the thesis are the following. **Capitalization vs. Expensing of Development Costs** – Examining the impact of these decisions on investor perceptions and financial reporting, particularly in private R&D-intensive entities. **Regulatory Convergence and Divergence** – Evaluating how accounting, valuation, and audit standards interact and influence stakeholder protection. **Determinants of Biased Reporting in R&D Valuation** – Identifying the financial and contextual factors that drive earnings management or prudent reporting of intangible assets. The final chapter provides a **cohesive narrative** that ties together the study’s objectives, empirical analyses, and broader implications for **accounting standards, managerial decision-making, and stakeholder interests**. Additionally, it acknowledges the methodological constraints of the study and proposes directions for **future research**.

5.1. FINAL CONCLUSIONS

This thesis has conducted a **comprehensive investigation** into the dynamics of intangible asset valuation, focusing on **R&D-intensive entities across the EU**. By employing a diverse methodological approach—including **bibliometric analysis, financial modeling, and statistical analysis**—the study provides empirical insights into **R&D value reporting and managerial discretion in intangible asset capitalization**.

Key conclusions from each chapter are summarized below:

1. Literature Review and Theoretical Frameworks (Chapter 1 & 2)

The **literature review** examined the **dual perspectives on capitalizing development costs**—as a **signal of managerial confidence** versus a **mechanism for earnings management**. **Game theory models** were introduced to analyze decision-making in **private R&D-intensive firms**, demonstrating how **investment strategies and risk assessments** influence capital allocation.

2. Regulatory Comparison (Chapter 3)

A comparative analysis of IAS 38, IVS 210, and ISA 620 revealed thematic coherence between accounting and valuation standards but **gaps in auditing standards** concerning intangible asset assessment. The research identified **ambiguities in IAS 38**, particularly the “**high likelihood (>50%) of future economic benefits**” criterion, which lacks clear **quantitative benchmarks** for capitalization decisions.

3. Empirical Analysis of Financial and Contextual Factors (Chapter 4)

Statistical analyses (mixed model regressions, binary logistic regressions, and compare-means tests) revealed **strong relationships between financial leverage, profitability, and intangible asset performance**. **ROA and EPS were positively correlated** with intangible asset performance, suggesting that **stronger profitability metrics align with more conservative capitalization practices**, **ROA was repeatedly correlated with all dependent variables and EPS only with the metric associated with internally generated intangible asset performance**. **Debt-to-Capital ratios negatively impacted** intangible asset performance, highlighting **financial distress as a key determinant** of biased reporting. **Entities in higher GDP-per-capita regions and those audited by Big 4 firms demonstrated more prudent capitalization practices**, suggesting that **regional economic conditions and audit quality influence intangible asset valuation**. The study operationalized the **IAS 38 "high likelihood (>50%)” criterion** using **NPV-to-book value ratios in a compare means framework**, providing a **quantifiable measure of economic benefits** in capitalization decisions. No evidence of **systematic overcapitalization** or aggressive earnings management was found, indicating that **entities exercised prudent discretion in their reporting of intangible assets**.

Overall Contribution

The research provides **empirical validation** that financial leverage, profitability, and regional factors significantly impact intangible asset performance. By integrating **theoretical insights with empirical evidence**, the study establishes a **strategic framework** for evaluating intangible assets, balancing **managerial discretion with stakeholder expectations**.

5.3. RESEARCH LIMITATIONS

While this thesis makes valuable contributions, certain limitations must be acknowledged. The literature and data constraints are the following. The **literature review** primarily focuses on **developed economies (EU, North America)**, limiting the **generalizability to emerging markets** with different **institutional frameworks and tax incentives**. The dataset is **limited to R&D-intensive sectors**, meaning the findings **may not extend to industries with different intangible asset structures** (e.g., brands, licenses, or intellectual property in service industries).

Additionally, the following methodological constraints arise, the research **relies on historical financial data**, which **does not account for future shifts in intangible asset valuation practices**, the **game theory approach in Chapter 2** simplifies managerial decision-making and **may not fully capture complex strategic considerations in high-risk R&D environments**, the **standards comparison in Chapter 3** focuses on **IAS 38, IVS 210, and ISA 620**, excluding other relevant regulatory frameworks that might influence intangible asset valuation such as intellectual property protection. **Automated content analysis (Voyant Tools)** was useful for identifying themes but **lacks contextual sensitivity** in interpreting qualitative data.

The statistical and empirical limitations are the following. The **contribution coefficient** assumes **proportionality**, which **may not fully capture the interplay between cash flows and intangible assets**. The **comparative means analysis** assumes **homogeneity within categorical groups**, potentially **overlooking**

intra-group variability. Selection bias is possible due to the exclusion of entities with incomplete financial data. External macroeconomic factors (inflation, recessions, and regulatory changes) were not explicitly accounted for, which may have impacted managerial behavior and reporting trends. In addition, the study focuses on six European countries, which limits its applicability to non-EU markets with different regulatory environments and accounting practices, while the research examines earnings manipulation and intangible asset performance, it does not explicitly assess stock market reactions to intangible asset disclosures and market relevance. To address these limitations, future research should expand the analysis to emerging markets and different intangible asset typologies (e.g., brands, patents, software), develop forward-looking models that integrate market-based indicators (e.g., price-to-earnings ratios, investor sentiment), incorporate macroeconomic indicators (quantitative easing, inflation, regulatory shifts) to assess their impact on intangible asset valuation and explore the causal mechanisms behind capitalization decisions, possibly using longitudinal studies and qualitative managerial interviews.

5.4. CONTRIBUTIONS

This thesis contributes to the **academic, regulatory, and managerial understanding** of intangible asset valuation in several ways. It provides an **integrated framework** for understanding **capitalization vs. expensing decisions** in R&D-intensive sectors, introduces **game theory models** to **analyze managerial decision-making** and investment strategies, highlights the **regulatory gaps in IAS 38**, particularly the **lack of clear guidance on probability thresholds for capitalization**. Also, it develops a **quantitative interpretation of the “high likelihood (>50%)” criterion in IAS 38**, using **NPV-to-book value ratios in a mean compare framework**, introduces the **contribution coefficient**, which provides a **simplified yet effective approach** to measuring **intangible asset performance**, employs **mixed model and binary logistic regressions** to uncover the **determinants of intangible asset reporting biases**. Additionally, provides **investors with a framework to evaluate intangible asset performance**, particularly in R&D-intensive firms, helps **managers make informed decisions on capitalization**, aligning with both **accounting standards and long-term profitability**, assists **auditors and regulators** in identifying **potential risks associated with overcapitalization or earnings manipulation** and highlights **regional differences in intangible asset performance**, supporting **policy recommendations for improving financial transparency in EU markets**. In a final reflection, this research bridges **critical gaps** in intangible asset valuation by **clarifying ambiguities in IAS 38**, developing **quantifiable performance metrics**, and **offering actionable insights for accountants, auditors, investors, and policymakers**. While acknowledging its limitations, the study lays the groundwork for **further empirical exploration of intangible asset dynamics in a rapidly evolving financial landscape**.

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