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An Analytical View on the Theranos Fraud and the Way Forward – An Accounting Perspective

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Abstract

This case research paper was developed as an assessment as part of an undergraduate accounting course taught at a United States university and illustrates how other faculty members could integrate a similar project into their course. This study focuses on the accounting regulation for intangible assets in the private industry by exploring the case of Theranos. The main findings indicate that additional regulation is needed as well as the introduction of appropriate intangible asset accounting standards. The study contributes in several ways. First, it recommends that the FASB (Financial Accounting Standards Board) adopts the IAS 38 accounting standard used by the IASB (International Accounting Standards Board) for the capitalization of internally generated intangible assets. Another suggested improvement in the regulation of the private industry is to mandate private companies involved in research and development activities and the internal generation of intangible assets, to provide users with timely audited financial statements.

Keywords: Theranos, Intangible asset, Research and development, Accounting regulation, Fraud

1. Introduction

This study presents an analytical view on a fraud in the accounting field. This analysis is specific to the recent news headlines concerning the company Theranos and its senior executive management – the CEO, Elizabeth Holmes. This case study research commenced at a university in the United States as an individual class project in a taught undergraduate accounting course to help students to develop and to enhance learning of accounting concepts and to recognize and to solve pertinent issues that the accounting field is facing today. This was an individual piece of coursework which contributes toward the overall module mark.

Each student offering was required to select a company such as Theranos in the case of this particular student. With reference to the relevant and appropriate accounting theory, the students were required to prepare an academic conference poster or power point presentation to be orally presented in class that identifies and critically discusses the main accounting issues and financial reporting implications of their chosen accounting scandal based on their chosen entity's most recent published financial statements. Their analysis should also include the suggestions regarding the way forward. The grading of each student's class project was assessed mainly on its focus, synthesis, soundness, clarity of structure, presentation and mechanical soundness.

This research is an undergraduate scholarly project and a collaborative effort by both the student and the faculty member that emerged from the individual class project. The student solely conducted the research and worked under the mentorship and supervision of the faculty member over a period of five months from January 2022 to May 2022. During this period and as an independent work study, the student researched and developed the individual class project into a research paper for intended publication in an academic journal.

The main focus of this research is the need for the development of additional accounting standards pertaining to internally developed intangible assets for United States companies. Currently, companies are not required to show proven technology as an internally generated intangible assets on the balance sheet. This means that research and development for incomplete technology can be reported to the public as an intellectual property asset therefore overstating their true financial position and actual technological capability. This lack of an appropriate accounting standard for internally generated assets has allowed companies such as Theranos the opportunity to defraud investors by falsifying financial statements that contain materially misleading statements and inadequate disclosures. To further buttress these points, authoritative sources of facts and figures are provided as supporting

evidence. In addition, there will be a focus on the technology that Theranos claimed to have developed over the life of the company, the falsified financial information, and the way the technology was hidden from government agencies, investors, doctors and patients.

Theranos was a privately held healthcare technology company based in Silicon Valley. The company claimed it could run over two hundred tests by only using a few drops of blood sample taken from an individual. The machine required only a few drops of blood and provided test results within a few hours (Zaw, 2022). These tests were intended to provide an easy and affordable way for everyone to have access to healthcare. Theranos claimed to have created this technology in the form of a machine called Edison, named after Thomas Edison, the famous American scientist and inventor.

As fantastic as this claim sounded, there was a significant and pertinent shortcoming that no one had knowledge of, except Theranos. The shortcoming was that Edison did not work and not only that, it also had several mechanical issues. The first salient issue was that Edison could not regulate temperature or successfully transfer fluids. It would often freeze up, spill blood, and or pieces of the machine would fall off during testing (Machkovech, 2019). Another major issue was that since part of the idea behind the technology included only taking a small amount of blood, the samples had to be diluted to have enough to run several tests. This dilution considerably skewed the results and provided false information (Gibney, 2019).

During its period of operation, Theranos had obtained over $700 million (Seven Hundred Million US dollars) from well-known investors (Zaw, 2022). Some of these investors included the head of software at Apple, the founder of Oracle, the Walton family (Wal-Mart), Rupert Murdoch, and the New England Patriots owner Robert Kraft (Alexander, 2022). These investors were all blindly sold on the expectation that Theranos would successfully create this new technology.

However, the investors were unfortunately not given enough information to make an informed decision. An audited balance sheet that supported the capitalization of internally generated intangible assets based on the IASB 38 Intangible Asset standards published by the International Accounting Standard Board (IASB) would have shown that the technology was not anywhere close to working (Deloitte, 2022).

The significance of this study is that by examining Theranos, there are significant takeaways that benefit the accounting community, companies and the researchers by understanding the vital importance of omitted financial information and how this problem can be corrected and addressed in the future.

The aim of this study is to gain a clearer understanding of the failings of internally generated technology on the financial statements with a view to identifying a possible feasible and viable solution. As a consequence, the objectives of this study are two-fold. The first is to review both US GAAP and IFRS internally developed intangible standards and their distinctions. The second is to provide applicable solutions that will provide better financial information for end users.

This thus leads to the following research questions. The first research question is - "Did the absence of a US GAAP accounting standard on Internally Generated Intangible Assets contribute to the occurrence of the fraud at Theranos?" The second research question is – "How can a US GAAP accounting standard on Internally Generated Intangible Assets be formulated?" Addressing these research questions will make it possible to assess and conclude the importance and necessity of reforming regulation for private companies as it relates to intangible assets and their proper placement in the financial statements, why, and how this will minimize further occurrences of the Theranos case in the future.

2. Overview of Literature on Internally Generated Intangible Assets

The overall long outstanding issues regarding accounting for internally generated assets are outlined by Jennings and Thompson (1996). The authors identify that there are two main issues that arise during the accounting of intangible expenditures – (1) if they should be given recognition as assets; and (2) having been recognized as assets, the basis on which they should be matched against future revenues. They also recognize the inconsistency in the current US accounting standard for intangible assets. On one hand, the standard requires that the costs of all intangibles purchased from other parties be recognized as assets, i.e., "identifiable" intangibles such as patents and intangibles that cannot be identified such as purchased goodwill. On the other hand, the costs of developing internally generated intangibles are to be recognized immediately as expenses. The write-off of such intangible expenditures as expenses will likely lead to an understatement of the company's balance sheet in terms of intangible assets and an understatement of the firm's net profit in the income statement resulting in an undervaluation of the company; which can be significant.

One major shortcoming is that available research on intangible assets relating to regulation in the private industry

is limited. This is most likely due to the lack of public awareness and due to a paucity of research on intangible assets. With the increasing spotlight on private startups and fraudulent activity, it is likely that additional resources will most likely become more available in the future as a result of this focus.

Although there is limited research currently available, O'Brien (2020) discusses the regulation failings in the private sector and the specific issues relating to Theranos. The author discusses the need for specific regulation of private companies and most especially "unicorns" like Theranos to have a moral duty and ethical responsibility to disclose information. Suggestions to improve the amount and quality of disclosure include requiring audited financial statements to be provided to investors, stockholders, and employees; having a valuation threshold for private companies valued at $1 billion; compelling executives to sign all financial statements; and mandating the disclosure of non-public securities transactions (O'Brien, 2020).

There are several benefits and limitations to the approaches advocated by O'Brien (2020). With respect to the requirement of Audited Financial Statements (O'Brien, 2020), the most obvious benefit to requiring audited financial statements is that the information presented is correct. Without this requirement, private companies have an opportunity to hide or withhold financial information that may be pertinent to an investor. Audited financials also benefit the company by providing verified information on their current financial position. It allows the company to have an accurate assessment of their operations to determine if they are meeting expectations. It also allows the company to reassess their long-term goals and to make strategic adjustments if needed. In the case of Theranos, being required to provide audited financial statements which included intangible asset standard IAS 38 would mean that investors would have been able to determine that Theranos's technology was unproven and therefore been able to make a more informed decision. Although there does not appear to be any downside to requiring companies to audit their financials and it certainly provides a level of comfort, audited financials do not guarantee all information has been provided. An example of this is Enron and their off-balance sheet liabilities (Segal, 2021). However, it is certainly better to have verified available information than not.

With regard to the requirement of a Valuation Threshold for Private Companies (O'Brien, 2020), larger companies have more available resources which allows them the ability to transition and comply with proposed new regulation. The suggested one-billion-dollar threshold is likely not to present a financial burden or present a timeline issue to supply audited financial statements to investors. In contrast, smaller companies may have a more difficult time financing these requirements and doing so timely (O'Brien, 2020). For Theranos that raised more than $700 million dollars over its period of existence, this requirement would have been feasible and possibly saved investors a considerable amount of financial loss. A billion-dollar valuation threshold for required audited financials will shed light on larger companies and arm investors with valuable information, but unfortunately that does not safeguard them from companies that fall below that line. For lower valued companies, the opportunity for deception still exists. Thus, analyzing and adjusting that threshold and criteria may allow for a wider range of coverage and protection.

Concerningthe requirement of Executive Endorsed Financial Statements (O'Brien, 2020), company executives have the stewardship role, a moral duty and an ethical responsibility to ensure that assets are being used as intended, protected, and reported accurately. With the lack of regulation, private company executives do not have a legal responsibility for intentional misstatements. By enforcing their acknowledgment, this will create a legal recourse. In the case of Theranos, both the Chief Operating Officer Elizabeth Holmes and Chief Operating Officer Ramesh "Sunny" Balwani were indicted on federal charges of conspiracy to commit wire fraud as well as wire fraud. During the life of Theranos, there was only one Chief Financial Officer, Henry Mosley who was fired after eight months and only one Financial Controller, Danise Yam for a three-year period. To put this requirement in context, the other executives Mosley and Yam would have signed off on the financial statements and have been legally responsible as well. Requiring executives to sign their financial statements does not guarantee accuracy of the financial statements. However, knowing there are legal ramifications that include imprisonment and restitution, these would serve as a significant deterrent.

Regarding the requirement of Non-public Security Transaction Disclosure (O'Brien, 2020), there is currently no duty for private businesses to disclose non-public securities. This would provide investor information about securities raised, sold, or traded. For companies like Theranos, this would be relevant to startup capital raised amounting to over $700 million (Zaw, 2022). With this knowledge, investors would have a better understanding of the company's valuation. It may have also served as a red flag depending on the timeline and raised questions to the completeness or incompleteness of their technology. Information regarding a security's activity is valuable but it does not provide a full picture of the company itself. Companies in their infancy often pose a higher risk of loss mainly due to not being in business for long, having a smaller period of operations, as well as early development of products. Investors would need to consider those risks when making their decisions (Iownit, 2020).

The aforementioned previous research findings areimportant in that they present some valuable disclosures for investors which should also be included in regulation reform for private companies by analyzing relevant cases. The overview of the literature identifies the current gap in the auditing and regulation concerning the lack of an appropriate accounting standard that will ensure the relevance, reliability, objectivity, predictability and transparency of the accounting treatment for internally generated intangibles.

In this paper, an analysis of the Theranos case will be conducted based upon the available online resources as well as the available digital media in order to address the two research questions as earlier stated in the introduction section – (1) "Did the absence of a US GAAP accounting standard on Internally Generated Intangible Assets contribute to the occurrence of the fraud at Theranos?"; and (2) "How can a US GAAP accounting standard on Internally Generated Intangible Assets be formulated?"

3. Methodology

The research approaches informed by the extant literature such as O'Brien (2020) involve the case study analysis. The chosen particular research approach for this Theranos study is the case study research analysis approach. Yin (1981) explains the case study research analysis approach as a research strategy and the distinguishing characteristic is that the case study attempts to investigate: (a) a contemporary phenomenon in its real-life contemporary context or setting; especially, when (b) the boundaries between phenomena and context are not clearly evident. The case study research analysis approach is a strategy of inquiry, a methodology, or a comprehensive research strategy (Denzin & Lincoln, 2005; Merriam, 1988; Yin, 2009).

Creswell (2012) describes the case study research analysis approach as a qualitative approach where the researcher examines a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over a period of time, using detailed, in-depth data collection that involves 'multiple sources of information' (for example documents and reports), and reports a 'case description' and 'case themes.' The unit of analysis in the case study might consist of multiple cases or comprise a single case as is the case of Theranos in this study.

It is observed that case studies are particularly less popular with business ethics accounting and finance researchers because they do not result in an output of academic journal and publications at a competitive rate (Rosen, 1991). However, there are several reasons why the case study research analysis approach is considered the most appropriate for the Theranos case study. The first is that consistent with Brigley (1995), the case study approach is more appropriate to inquiries into the complex, diverse contents, and contexts of business ethics such as the Theranos case presents.

The second reason is that in Accounting and Finance field, the case study research analysis has been recognized as a popular tool in helping to bridge the gap between theory and practice in two ways (Banovetz, 2003). The first way is through the investigative-focused case study which is involved with discovering and explaining ground-breaking research. The second is via the role simulation case study that relates careers to real-life examples and dilemmas such as the Theranos case that practitioners face routinely.

The third reason is that the nature of the Theranos case does not easily lend itself to be studied using quantitative and statistical approaches. This is consistent with the view that it is highly questionable whether the mathematical and statistical operations can be used as valid instruments for biological and social data (Symonds et al.,1945). Thus, for this case study research, authoritative sources of facts and figures are used to explore the research questions at hand.

4. Analysis

In this section, the research questions presented in the introduction of this research paper will be addressed and evidence provided that will explain how Theranos had the opportunity to commit fraud and as well as to proffer the solution to prevent such from occurring in the future.

The first research question examines whether the absence of a US GAAP accounting standard on Internally Generated Intangible Assets contributed to the occurrence of fraud at Theranos. Although this cannot be substantiated due to Theranos being a private company and hence not required to follow GAAP, it does appear that this could be the case. Because of this, they were not required to expense their technology-based research and development but instead had the opportunity to capitalize it on their balance sheet (Cohan, 2016). This treatment would present Theranos assets as being more significant than what they really were which would give the company a more attractive financial position for investors. And this could be a reason why the company was attractive to investors.

Another point could be made that the executives of Theranos had the opportunity to exploit the fact that they were not bound by US GAAP accounting standards for intangible assets. Therefore, they had a clear path to

opportunistically conduct the business in a such way that would maximize their financial position. This is consistent with the Agency theory also known as the Principal-Agent problem which is defined as "the relationship between the owner (principal) of an asset (for example, a company) and the persons (agents) contracted to manage that asset on the owner's behalf (for example, the appointed executive directors of the company", (Mitnick, 2006). This is evidenced by the recent court conviction of the CFO Elizabeth Holmes who was found guilty on one count of "investor wire fraud conspiracy and three counts of substantive wire fraud relating to the scheme to defraud investors, including wire transfers totaling more than $140 million. (United States Department of Justice, 2022). It can also be evidenced by the current trial of the COO Ramesh "Sunny" Balwani who is facing the same charges as Elizabeth Holmes (Woo & Griffith, 2022). On November 18, 2022, Holmes was sentenced to eleven years and three months in prison with another three years of supervision once released. The sentence also included a $400 fine and $100 for each count of fraud (Metz, 2022). Restitution will be set at a later date. Prosecutors have asked Judge Edward Davlia for Holmes to pay $804 million in restitution for her role in the company's fraudulent claims. This amount nearly covers the $1 billion that Holmes raised from investors (Liedtke, 2022).

Similar cases of fraud can be seen with companies such as Enron and HP Autonomy. Although these cases are not recent, the deception created by management to the detriment of their shareholders and other stakeholders is essentially the same.

The Enron scandal is regarded as likely the largest, most complicated, and most notorious accounting scandal of all time. Through deceiving accounting tricks, Enron Corporation – the US-based energy, commodities, and services company – was able to trick its investors into thinking that the firm was doing much better than it was" (Corporate Finance Institute, 2022). How Enron was able to deceive its investors was through Mark to Market valuation of their assets which should have been reported at fair value. By avoiding reporting their assets at fair value and hiding their liabilities using off-balance sheet financing, Enron projected higher cash flows than their actuals. The difference or losses were hidden off the books through a shell company. This is another case of the principal-agent problem. "What essentially occurred was that there was a high degree of information asymmetry between the management team and investors in the company which likely occurred due to the personal incentives that the management team received" (Corporate Finance Institute, 2022).

Similar to Enron, HP Autonomy is another well-known case of accounting fraud. In 2011, Hewlett-Packard (HP) paid $11.1 billion for UK software firm Autonomy – a 64% premium for a company with nearly $1 billion of 2010 revenues and possessing "a consistent track record of double-digit revenue growth, with 87 percent gross margins and 43 percent operating margins". This was the original expectation. However, in a little more than a year later, HP recorded an $8.8 billion impairment charge, citing Autonomy's accounting improprieties as the reason. Autonomy's UK-based senior managers directed a program swelling revenues by almost $200 million through reseller transactions, backdated transactions, and round-trip transactions" (Fortune, 2016). The discovery eventually led to the conviction of Autonomy's CFO who was "found guilty of fraud over the $11.1 billion sale of Autonomy in 2011 to Hewlett-Packard and sentenced to five years of prison in the U.S" (Reuters, 2019). The founder Mike Lynch was found responsible for having "masterminded an elaborate fraud to inflate the value of his company Autonomy before it was bought by Hewlett-Packard" (Sandle and Holton, 2022). The principal-agent problem can also be seen with Autonomy. Senior management of Autonomy inflated revenues to mislead HP and its investors for personal gain.

The second research question examines how an appropriate US GAAP accounting standard on Internally Generated Intangible Assets can be formulated. First, the FASB will need to mandate the adoption of the intangible asset standard IASB 38 requiring companies to capitalize research and development costs only once the technology has been proven and validated. By doing this, the end users of the financial statements will be able to see the true value of the assets.

IAS standard 38.57 states that "'Development costs are capitalized only after technical and commercial feasibility of the asset for sale or use have been established." This means that the entity must intend and be able to complete the intangible asset and either use it or sell it and be able to demonstrate how the asset will generate future economic benefits (Deloitte, 2022). FASB's adoption of the IFRS IASB's standard 38.57, would significantly limit opportunities for fraud involving intangible assets. This is because the recognition of internally development costs as intangible assets must meet the definitions of certain strict requirements. First, the entity would need to demonstrate that it possesses the required technical feasibility of complete the intangible asset so that it will be available for use or sale. Second, the entity must demonstrate the intention to complete the intangible asset and use or sell it. Third, the entity needs to demonstrate the ability to use or sell the intangible asset. Fourth, the entity is required to demonstrate how the intangible asset will generate the highly likely occurrence of future economic benefits such as the existence of a market for the intangible asset. Fifth, the entity would need to demonstrate that

it has available adequate technical, financial, and other resources necessary for the completion of the development and to use or sell the intangible asset. Sixth, the entity would need to demonstrate that it is able to measure reliably the expenditure attributable to the intangible asset in the period that it is being developed. The application and enforcement of these suggested stringent criteria will help to limit potential abuse and misstatement of internally generated assets by the company's management.

Additionally, full disclosure is needed to protect investors. For more than ten years, Theranos operated without audited financial statements. (Dénton, 2021) As stated in a recent case study, "Unlike public companies, Theranos did not certify its financial projections; unrestrained, its executives grossly inflated the company's numbers. Drawn in by lofty numbers and unsubstantiated promises, investors poured millions of dollars into Theranos, valuing the company at $9 billion. Troublingly, Theranos raised the funds without making any substantial financial disclosures to the SEC" (O'Brien, 2020). This makes it critically important for FASB to mandate and require startup companies to provide investors where possible with the audited financial statements for the prior years. This would provide investors the answers needed to invest in the company. Of particular importance is that the audited financial statements would be incorporating the standard of IASB 38.57 which if implemented would also give investors information on startup technology and whether it is operating or not as intended.

5. Conclusion

This research paper is a student faculty research collaboration. The study formed part of the formal assessment of an undergraduate taught at a university in the United States and represents an example of how other faculty members could integrate a similar project into their course.

The purpose of this case study is to identify and analyze the failings of accounting regulation in the private sector with reference to intangible assets, specifically. Based on the analysis, a conclusion can be reached that the lack of private industry regulation harms investors, companies, and other stakeholders. This is insight is provided through investigating the case of unethical Theranos executives. The lack of ethics allowed the Theranos management to fraudulently extricate benefits for themselves to the detriment of their investors and other stakeholders. The lack of regulation in the private sector and its negative effects cannot be denied and this study supports this conclusion.

Several factors led to the demise of Theranos, which can be summed up with deception and opportunity. Theranos had the opportunity to provide financial statements to investors although that may not have happened in this case. And since Theranos was a private company, they were not required to provide audited financial statements. Without regulation they could record any valuation for their assets without evidence of accuracy and the need for objectivity. For example, several publications discussed Theranos having projected positive cash flows without any evidence to support those valuations. This makes it seem more plausible that Theranos provided financial overstatements which influenced investors decisions. Inflated values could have given investors a false sense of trust and reassurance that their decisions were sound.

Lack of regulation in the private sector has left investors unprotected and at a severe disadvantage. It is evident that Theranos capitalized their research and development by holding out Edison as a successful proven product. This gave them a better financial appearance than was really the case. These overstatements put Theranos in a better financial position and could have given them an advantage of winning over investors.

Going on that assumption, there are some proposed solutions that would be of great assistance to both private companies and investors. The first is the specific adoption of IFRS IAS 38.57. This standard would require all private companies' technology related research and development to be expensed and not capitalized, unless the technology was proven to be technically feasible and commercially viable.

The second requirement is for private companies like Theranos to provide audited financial statements to all investors. When companies are receiving and dealing with large sums of investor money, they have a moral duty and an ethical obligation to provide accurate, reliable, transparent and honest information. By requiring their financials to be audited, this would provide much needed protection for investors.

It is easy for one to commit fraud for personal gain but it will always catch up with oneself at some point. As Benjamin Franklin put it so eloquently "Tricks and treachery are the practice of fools, that don't have brains enough to be honest" (Forbes, 2022).

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