

REPORTING THE WIRECARD SCANDAL: WHERE WERE THE AUDITORS?

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This paper is certainly one of the hardest academic projects for me to complete. I could not have done with it without the selfless family support that I had been given throughout the process.

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RESUMO

A governance externa proposta por Aguilera (2015) considera os auditores, os reguladores e os meios de comunicação social como vigias do capitalismo para manter afastados os gestores sem escrúpulos. No entanto, a recente vaga de escândalos contabilísticos e colapsos empresariais, como o da Wirecard, sugere que as sociedades de revisores oficiais de contas, os meios de comunicação social e os reguladores não são eficazes na criação de condições para dissuadir, detetar numa fase inicial e evitar o desastre sistémico decorrete de fraude financeira de larga escala.

Esta dissertação foi desenhada para analisar o esquema de fraude na Wirecard bem como os sinais de alerta (red flags) que os auditores da EY não detectaram. Este trabalho procura também compreender em que medida os meios de comunicação social são capazes de reportar a maioria dos sinais de alerta de modo a promover a aprendizagem dos seus leitores.

Para o efeito, foi utilizada uma amostra de 40 artigos publicados no FT para identificar os sinais de alerta no caso Wirecard, para avaliar o grau de rigor com que são relatados e, finalmente, para compreender o papel dos audotires e até que ponto o relatório sobre os sinais de alerta é exaustivo.

As conclusões sugerem que os meios de comunicação social podem ser eficazes na cobertura da maioria dos sinais de alerta, mas que a atenção foi colocada em alvos fáceis, tais como a liderança pouco ética, menorizando práticas empresariais relevantes que podem desempenhar um papel mais importante. Além disso, os resultados indicam que a falha do processo de auditoria, como a atribuída à EY, sublinha a necessidade de todos os agentes externos de governação empresarial vigiarem não só as empresas, mas também se vigiarem uns aos outros e à forma como comunicam e utilizam a informação. Auditores, reguladores, educadores, accionistas, todos têm de desempenhar o seu papel para que a função de vigilância do capitalismo cumpra a sua obrigação fiduciária.

Palavras-Chave: Wirecard, Fraude, Auditoria, Red flags
JEL Códigos: M42 (Auditoria), G34 (Governança corporativa)

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ABSTRACT

The external corporate governance proposed by Aguilera (2015) takes auditors, regulators, and the media as watchdogs of capitalism to keep unscrupulous managers at bay. However, the recent spate of accounting scandals and corporate collapses such as the Wirecard suggest CPA firms, media and regulators are not effective in creating the conditions to deter, detect at early stage, and prevent systemic disaster from financial fraud.

This dissertation is designed to analyze the fraud scheme at the Wirecard, and the red flags EY auditors have missed. It will analyze the extent to which the media are able to cover most red flags so to foster learning in their reader. For this purpose, a sample of 40 articles published in FT was used to identify the red flags operating in the Wirecard case, to judge on how closely they are reported, and finally to understand the role auditors played and how comprehensive the report on red flags was.

Findings suggest media can be effective in covering most of red flags but that the attention is being placed on easy targets, such as unethical leadership, while leaving out important corporate practices that can play a stronger role. Also, findings indicate that audit process failure such as the one ascribed to EY, stresses the need for all external corporate governance agents to watch not only the corporations but also to watch each other and how they report and use information. Auditors, regulators, educators, shareholders all need to play a part to make the watchdog of capitalism fulfil its fiduciary obligation.

Keywords: Wirecard, Fraud, Auditing, Red flags

JEL classification codes: M42 (Auditing), G34 (Corporate governance)

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1. Introduction

Fraud is an exceptional occurrence in the sense that it should occur very rarely. A society assumes the principle that law creates benefits to all with a guarantee of justice, social virtues, and good faith interactions, both among individuals, as well as between individuals and institutions and between institutions themselves. If indeed society is created to maximize the collective good as against the law of the jungle, then fraud should be very rare. However, self-interest seems to prevail over society and fraud occurs more frequently than one would expect. Most important, the magnitude of some fraud scandals is so big that one wonders if corporate governance and all the governance agents, such as auditors, regulators, or watchdogs, are truly committed and empowered to deter, monitor, and punish fraud.

Wirecard scandal is one of those cases that makes us rethink what exactly is missing in the governance mechanisms, which also include the external governance agents such as auditors, regulators, or the media. The auditors' role in fraud is not always acknowledged, and in the case of Wirecard, auditing played a critical role although red flags focused on auditing are not so visible in literature.

The surprising duration of the Wirecard fraud, the sheer size of the financial impact of it, and the culture where it occurred (which has been mostly seen as a German hard-working, serious, and honest business culture) are surprising. But the case is also informative about the way it was analyzed because to prevent or to fight fraud, red flags should be generally recognized not only by those in direct contact with the business, but by society at large. Just like a kidnapped child can be found quicker if the photograph and indication of the kidnap is publicized in all possible manners (e.g., in the US, photographs are sometimes printed in milk packages, Howell, 2012) so will fraud be detected more quickly and acted against if all the society is able to spot the red flags. Watchdogs, and mostly communication media such as newspapers, can perform this role (Bushee et al., 2010). They can teach society by divulging articles on corporate scandals not only to show what happened and who are the culprits but mostly to teach the reader on what were the early signs that passed unnoticed. In this case, to teach society to identify red flags.

However, the complexity of fraud cases such as the one observed in Wirecard, may not be easily written in a single article. A comprehensive view on the red flags might need several articles.

It is also possible that the articles written to show the readers what happened, how it happened, and why it happened, may not really cover most of the red flags, especially those concerning auditing. If this is the case, then, the media would be failing on this important mission of helping with the good governance of society (Bednar, 2012) by leveraging up the general citizens' ability to identify wrongdoing.

This study is designed to explore how comprehensively have the red flags operating in the Wirecard scandal, especially those concerning auditors, been covered in communication media articles just as those found in the Financial Times. For that purpose, the dissertation is structured to offer a literature review on fraud covering its definition, importance, explanatory models, and mechanisms to prevent and identify. This literature review will emphasize the role of auditors and regulators because of their critical position in the topic. It will explore empirically a set of articles published in the Financial Times on the Wirecard case to analyze the presence (or absence) of red flags identification. Lastly it will report findings from comparative analysis which allow to judge on the quality of the report and how much they are contributing to make media an effective external corporate governance mechanism, especially regarding guarantees from auditing firms.

2. Corporate Fraud: What is it and why is it important?

Fraud is an umbrella concept that encompasses a wide range of behaviours which are displayed by individuals to get an unfair advantage over another individual or organization by false representations (Albrecht et al., 2019). No precise behaviour can be identified as specific of fraud because fraud entails surprise, trickery, cunning and unfair ways by which another is cheated. The only boundaries defining it are those that are established by ethics and breaching principles of transparency, honesty, and loyalty.

Robertson (2002) defined fraud broadly as "all the means that human ingenuity can devise, and which are resorted to by an individual to get an advantage over another by false suggestions or suppression of the truth" (p.5). In other words, if one lies to deprive a person or organization of their money or property, they are committing fraud.

Mistakes are not necessarily fraud. Errors e.g., in financial statements are committed all the time in the accounting and financial reporting process. What distinguishes fraud from errors is the intent behind the actions. Fraud is therefore a 1) purposeful action, 2) based on deceit, to 3) gain illegitimate advantages against 4) the law or the rights of a third party. It is intrinsically an ethical phenomenon. However, its consequences are not only ethical.

Although there are many ways to classify the various types of fraud, the most common way is to simply divide frauds into those that are committed against organizations and those that are committed to protect organizations (Albrecht et al., 2019). In employee fraud, for example – fraud committed against an organization – the victim of the fraud is the employer. On the other hand, with financial statement fraud, for example, executives usually commit fraud "on behalf" of an organization, usually to make the company's reported financial results look better than they are. In this case, the executives of the company benefit because a company's stock price increases or remains artificially high and the victims are the investors in the company's stock. This type of fraud has long been recognized as "white-collar crime" a term coined by Edwin H. Sutherland, 83 years ago (Johnson & Rudesill, 2001) to name crimes of the upper white-collar class with economic and business activity. Sutherland described the white-collar criminal as the sophisticated professional who violates "delegated or implied trust." He described it as a "crime committed by a respectable person of high social status in the course of his occupation". This crime mainly relates to "deliberate misuse or misapplication of the business resources and assets" (Johnson & Rudesill,

2001, p.57). Sutherland argued that corporate misdeeds tear the social fabric more so than street crime because they corrode trust in authorities and institutions.

The Association of Certified Fraud Examiners (ACFE, 2020) identified three categories of professional fraud: (1) asset misappropriations, that occurs when one steals from the organization; (2) corruption, when someone uses own official influence in a transaction to gain illegitimate benefit for oneself or someone else, and 3) financial statement fraud, i.e., making false representation about financial situation (assets, ownership).

According to the Report to the Nations survey published by the ACFE (2020), the average workplace fraud lasts about 18 months and gets bigger with time. These frauds are detected because they simply become so large that they are too difficult to hide. This report also states that senior management fraud is 16 times as expensive as fraud perpetrated by an average employee. This report also highlights that red flags were present but were not recognized or, when they were, no one acted or discarded the truthfulness of the data (Ramamoorti et al., 2013)

Very large scandals, such as Wirecard fraud, have the potential to destroy investor trust in capital markets. This can contaminate the overall trust investor have on corporate integrity and trigger negative domino effects. Other, non-fraudulent firms can find themselves in difficulty of raising investment.

3. Explanatory models of fraud

Research on fraud has produced many explanatory models, i.e., propositions about why fraud occurs? What are the conditions that must be met to anticipate its occurrence? Among these the most known models are the Cressey-Albrecht Triangle Model (Fleming et al, 1991), The Diamond Model (Wolfe & Hermanson, 2004), MICE model (Kranacher et al., 2011), CRIME model (Rezaee, 2002).

3.1. The triangle Fraud Model

The triangle model is the most developed model with a long history. According to Dorminey et al. (2012) Donald R. Cressey, as a PhD student in the 1950s, noticed there were common features among white-collar convicts. He found three criteria to explain why they committed crime: (1) they were experiencing a financial strain; (2) they were knowledgeable about the processes of the organization; and (3) they were willing to adjust how they interpret their own fraud behaviour in such a way that they would not consider they were doing something criminal. Therefore, Cressey

propose that there were three elements in the criminal process: pressure to commit crime, opportunity, and rationalization to make it acceptable to one's own eyes. According to this author, none of these elements suffice to commit crime. Each one of them are required but insufficient alone.

Cressey's theory was picked by Albrecht (1991) and branded as the "fraud triangle model" as an allusion to the fire triangle where one must have the fuel, oxygen, and heat to have fire. If one is missing, there will be no fire.

3.1.1. The Triangle Fraud Model: Pressure

Pressure, or motivation, provides the incentive to commit fraud; opportunity grants the means to follow through with the intention to commit fraud; and rationalisation helps the offender to deal with the cognitive dissonance associated with their behaviour. The fraud triangle, now adopted in auditing standards, provides a valuable framework to analyse individual fraudulent behaviour (Ramamoorti, 2008).

Perceived pressure from a financial strain one might be experiencing motivates the crime. The financial strain must be a situation that the individual feels should not be shared due to social stigma and ego. Strain theory (Merton, 1968), propose that societal norms affect individuals' aspirations for things like material goods and other indicators of success. Individuals who are unable to achieve their aspirations by conventional means experience strain and may seek to relieve this strain by using deviant means to achieve their desired ends.

Pressure to commit fraud are classified as financial and non-financial pressures (Fitzsimons, 2009). Because the individual is eager to hide the situation from becoming known by others, he or she is willing to break the law or violate the fiduciary trust (Cressey, 1971). The pressure depends not only on the financial problem itself, but also it depends on the expected consequences it may bring to the individual. For example, if a financial problem impacts strongly upon the executive's bonuses, then there is a stronger likelihood that the executive will feel pressured to hide it by making false financial statements (Brenna & McGrath, 2007). This contingent compensation is an incentive for financial statement fraud (Mardjono, 2005).

However, there are many pressures that do not have a financial nature. For example, work-related pressure (Hilton, 2009). Worker dissatisfaction and relative deprivation i.e., receiving less than one believes deserve, are known to foster fraud (Bartlett et al., 2004). As a payback,

disgruntled employees disrespect their organization and are thus more receptive to revenge by means of fraud (Baucus, 1994).

Another pressure to commit fraud originates from gambling and drug addiction (Kelly & Hartley, 2010). Curiously, gambling accessibility has been reported as being associated with increasing fraud behaviours with offenders craving on money to be able to continue gambling (Sakurai & Smith, 2003). Additionally, there are many cases where the pressure came from individuals wanting to show they were living in luxury (Dellaportas, 2013; Ramamoorti et al., 2009).

Financial pressures can also originate from the failure to meet Wall Street's expectations (Power, 2013) or from difficulty in keeping up with competitors within the industry (Sikka & Hampton, 2005).

Some personality issues may arise as egocentric executives feel more pressure to enhance their personal prestige (Rezaee, 2002) and they are known from their aggressivity to hold authority, their ambition and power-driven behaviour (Dellaportas, 2013). Lastly, Coleman (1987) claim that wealth and success become a part of identity and executives take ethical risks to uphold their sense of identity and self-image.

Triangle Fraud Model: Opportunity

An opportunity arises whenever someone perceives a weakness in control together with a small probability of being caught. Still, opportunity is a necessary condition for the fraud to occur (Lister, 2007).

Weaknesses in the system can be observed as failure in the detection and prevention mechanisms; a weak ethical climate and culture; overconfidence on key personnel, such as executives; legal loopholes; and soft disciplinary sanctions on those caught (Soltani, 2013). This means that the opportunity to commit fraud increases as the firm's corporate governance weakens. This weak corporate governance translates into lack of transparency, failure in accountability, and disclosure. Whenever the top board is not performing their oversight duties, management can manipulate the financial statements of the company, so to bias the analysts' forecasts (Wilks & Zimbelman 2004).

Among the risk factors that increase the opportunity to commit financial fraud is the complexity of the operations, the organizational structure, and the industry itself, where the more complex it is, the stronger the opportunity (Statement of Auditing Standards, SAS No. 99).

Another risk factor pertains to a general publicly held idea that white-collar crimes are less harmful which relieves pressure to invest resources in its detection, prevention, and punishment (Holtfreter et al., 2008). Alongside this belief, another one pertaining to the relatively lenient punishment by courts of law on white criminals caught, is also enhancing the sense of opportunity (Schoeper et al., 2007).

This leniency can also be observed in how strongly victims act against the criminals as the absence of a reaction will most definitely encourage others to take chances (Sarre & Fiedler, 1999). This lack of reaction can be motivated by the will to avoid negative publicity, and public embarrassment of having been negligent, or simply naïve.

Boards with a predominance of insiders and without an independent audit committee are most likely to experience fraudulent financial practices (Abbott, Park, &Parker, 2000). The conclusion points towards stronger concentration of power in insiders being a risk factor (Dunn, 2004).

Fintech industry is especially permeable to fraud because of the newness of algorithms used alongside with the absence of regulation concerning a substantial proportion of fintech firms in Europe, about one third (Navaretti et al., 2020). This same industry is prone to conduct business cross-borders and with a narrow-specialized segment. The specificities and lack of international common standards to supervise open room for fraud.

3.1.2. The Triangle Fraud Model: Rationalization

Cressey (1953) observed that individuals who commit fraud desire to remain within their moral comfort zone. Therefore, at least internally, the fraudster seeks to justify the fraudulent action before the first fraud act. This important psychological process that is claimed to lead to fraud has been known as rationalization. This psychological process has been tackled by the Cognitive Dissonance Theory (Festinger, 1957) suggesting whenever an individual performs certain acts that goes counter to their internal sense of goodness, they must act to reduce such dissonance.

Rationalization is thus a cognitive reprocessing of the meaning of fraudulent behaviour so to mitigate an inner discomfort with engaging in such behaviour while trying to preserve a self-image of decency (Kunda, 1990) and it has been linked to a lack of personal integrity (Rae & Subramaniam, 2008).

Anand et al. (2004) identified six common rationalization tactics: denial of responsibility (displacing responsibility towards another individual), denial of injury (downplaying the seriousness of the consequences from the act), denial of victim (believing the victim is actually someone that put him/herself into a position and is therefore more a victim of oneself than of the perpetrator), social weighting (condemning the condemner and mitigation based on worse cases), appeal to higher loyalties (justifying the act based on higher purposes) and metaphor of the ledger (justification based on due compensation not received from past effort on the job). Zuberi and Mzenzi (2019) add to this prior fraud history referring to the normalization of fraudulent behaviour as an historical fact.

Rationalization has been the least researched element of the fraud triangle (Murphy & Dacin, 2011).

3.2. Variations originating from the Fraud Triangle

The fraud triangle is not a general theory of crime and cannot explain all occurrences of fraud. The non-shareable financial pressure to which Cressey (1953) referred is an incomplete descriptor and does not account for the various types of pressures that lead to fraud. Perceived opportunity does not address collusive behaviour and management overrides. The rationalisation to commit the fraud is a cognitive state, therefore non-observable. Some fraudsters have no need to rationalize to commit fraud; Perceived opportunity is all that is required. When the probability of committing the act and getting caught is low. pressure or rationalisation is not required.

3.2.1. The Fraud Diamond Model

Despite the Fraud Triangle's relevance and popularity, fraud literature indicates that practitioners, policymakers, and researchers are searching for a new model that builds on the classic triangle to improve understanding of why fraud occurs.

Albrecht et al. (2019) introduced the Fraud Scale Model, which suggests that the likelihood of fraud occurring can be assessed by examining the relative forces of pressure, opportunity, and personal integrity. The benefit of examining integrity is that an individual's integrity can be inferred from past behaviour.

Wolfe and Hermanson (2004) introduced the fraud diamond model that adds "capability" as a fourth component of the fraud triangle model, recognising that there is overlap among the

components of the triangle/diamond. Capability in this context reflects characteristics/-traits of the potential fraudster (the source of the fraud) that allow the person to identify, understand, and exploit weaknesses, rather than the opportunity component's focus on characteristics/traits of the fraud target, such as weak internal controls, or the rationalization company's focus on the fraudster's thought process. the essential traits thought necessary for committing fraud, especially for large sums over long periods of time, include a combination of intelligence, position, ego, and the ability to deal well with stress.

3.2.2. The MICE Model

Recent discussions have suggested that the motivations of fraud perpetrators may be more appropriately expanded and identified with the acronym M.I.C.E. (Kranacher et al., 2011) standing for M= money, I= ideology, C= Coercion, and E= ego (entitlement).

This model proposes the pressure side of the Fraud Triangle should be modified to accommodate motivations beyond a non-shareable financial pressure. Namely, it suggests money and ego are common motivations for fraud although ideology is most likely less present in white-collar crime (for an exception "financing terrorism" is a good example). Lastly, coercion refers to situations where an individual participates in a fraud although without much will.

Albeit more motivations can be attributed to fraudsters, M.I.C.E reminds researchers about the complexity of motivations in examining pressure (Ramamoorti et al., 2009).

3.2.3. The CRIME Model

Rezaee (2002) explored the most high-profile financial scandals, which included Enron, WorldCom, among others to find five shared factors. These are what the authors name as "cooks", "recipes", "incentives", "monitoring", and "end results" which is referred by its acronym: CRIME.

Cooks refer to CEOs or CFOs associated with financial statement fraud. Their privilege role gives them tools to encourage, approve, and participate in fraud. According to Rezaee (2002) financial statement frauds are mostly ascribed to top management team action (or inaction) in a deliberate or non-deliberate way. Empirically it has been found that management stock ownership plays an important role (e.g., Latham & Jacobs, 2000). When managers hold 0-5% or more than 25%, they tend to converge with the shareholder interest and therefore, have less will to commit fraud. However, when their ownership stands between the 5% to 25%, they will increase their

fraudulent behaviour chances. This can be explained by benefit being too low when one holds few shares, or the risk of being caught too high compared to long-term gains from shareholding more than 25%. In the middle, the gains-to-risk ratio are blurred and therefore one way or the other, the chances might be taken as good enough.

Cooks, as unethical leaders, have a critical role in fraud tolerance or even promotion. Their motives are as diverse as cases reported. Beasley et al. (1999) found unethical leaders engage in fraud to avoid pre-tax loss, exceed performance expectations, increase stock price, reach national stock exchange listing status, hide misappropriation of assets, or disguise performance failure.

Another element in the CRIME model pertains recipes which simply refer to overstatement of revenues and assets as well as understatement of liabilities and expenses in financial reports. There are many ways of biasing the true financial status such as overstating sales by means of falsifying invoices or delaying or anticipating the recognition of assets / expenses so to offer a rosier picture of the company. A critical element in CRIME model refers to incentives, which have been already revised above in this review but are, nonetheless, always worth noting. CEO compensation is one of the leading factors behind financial fraud. Having too high leverage on compensation (e.g., bonus based on stock price performance) is well known to be a strong motivator for CEO wrongdoing.

Monitoring is also a well-known factor in fraud studies as it is a requisite to find issues where they exist. Lastly, End-results refer to higher-level objectives that legitimate fraud due to the anticipated harsh consequences e.g., in company survival, employee massive job loss, shareholder negative returns, financial market overall public trust, tax revenue loss for local government, and banking losses due to domino effects.

Explaining fraud is essential for its understanding and to manage it in a preventive way. However, this is at least as important as being able to identify it.

4. Identifying fraud

4.1. Red flags

Some factors may contribute to an increased likelihood of fraud risk. These have been known as Red Flags (Zimbelman, 1997). The choice for naming these factors stems from the intention of having auditors using them as warning signs, or symptoms of current (or future) financial statement

fraud. By definition, a red flag is a set of circumstances that are not normally observed. They are unusual by nature, and it is their abnormal character that calls attention to auditors.

In a comprehensive review of red flags, Murcia and Borba (2007) selected six works and found 266 red flags mentioned in these works that they shortened to 45, and finally organized into six clusters. The six clusters concern: 1) structure and environment, 2) the sector or industry, 3) management, 4) financial situation, 5) accounting reports, and 6) auditing.

Structure and environment red flags comprise the organizational structure itself, the work climate, and the internal controls inside the organization. It is known that the more complex an organizational structure becomes, the easier to miss important issues occurring in the structure. Because of this, Albrecht (2003) stated that fraudsters tend to create overly complicated organizational structures so to confound and hide fraudulent activities. So, no auditing can be effective without a deep and clear understanding of the organization's structure. Alongside with structure, the work climate also plays a role (Murphy & Free, 2016) as it defines the shared understanding on what is the right and wrong way of working, what is ethically acceptable inside the organization and the work teams and is the degree of tolerance to stepping out of the strict procedure according to external regulation. Internal control is also paramount as it sets the authority and limits to discretionary decisions of those that can gain from committing fraud. Donelson et al. (2017) sustain that managers have power to override controls and that only a strong internal control system can reduce managers' margin to commit fraud and signal those managers' characteristics that goes against integrity and rigor in reporting.

Sector or industry comprises the external environment of the organization that is shared within the same industry. Albrecht (2003) claimed that fast growing industries, especially when saturated with many organizations competing among themselves, have more likelihood of witness fraud. Fast change is also important because organizations can have a critical dependence on a product that is going through rapid innovation and may be outdated quickly by competitors. The market saturation can also put pressure on profit margins, which can be declining, thus triggering internal pressure to turnaround the trend, or made organizations collude to influence regulators and escape public scrutiny (McKendall & Wagner, 1997; Wang & Holtfreter, 2012). This is also observable when the industry is declining with bankruptcies increasing as the pressure to survive and struggle gain an overwhelming priority in daily decisions (Colbert & Turner, 2000).

Management comprises the behaviours of the company leaders and officers and it is one of the most important red flags, as they establish the "tone at the top" and have been pictured as being responsible for 3 out of each 4 cases of financial fraud (Brennan & McGrath, 2007). This refers to the integrity of the management team, namely the CEO and CFO. Integrity originally refers to something that is unbroken or complete and, metaphorically, it refers to moral consistency of individuals as regards living up their values and being authentic with themselves and the others (Erhard et al., 2007). As managers are formally empowered to establish what is acceptable and unacceptable practices within organizations, they will set the example, reward those that abide by their professional standard, and punish those that deviate from it.

Although much has been researched about CEO risk factors (e.g., personality, Van Scotter & Roglio, 2020; integrity, Dikolli et al., 2020, Noelliste, 2013; need for power, Chen, 2010), CEO compensation emerges as an important factor of financial fraud (Fich & Shivdasani, 2007). Generally, it is accepted that pay-for-performance is an established good practice in compensation management as it links the reward to the motivation to perform better. Still, it may bring risks to organizations, should the beneficiary of the pay policy be able to change the perceived performance used to define his or her rewards. Such is the case of executives. In a recent study disentangling mixed findings reported in literature, Chen et al. (2021) found that the likelihood of financial fraud is indeed associated with option incentives given to executives. A way that is seemingly used to bypass the contingent reward problem lies in large-fixed compensation. However, the amount of compensation given to executives has also raised ethical issues and even accusations of being in themselves illegitimate practices (Friedrichs, 2009). Greediness has been an emerging concern for researchers and policy makers as it is known to be linked to higher risk taking, more indebtedness, less liquid assets, and less dividend, due to CEO aggressive stand (Jebran et al., 2022). This is not a universal finding, as CEO greed seems to be more prevalent in north America than e.g., in Japan, where executives are contented with receiving relatively low compensation (Salazar & Raggiunti, 2016).

Financial situation comprises the financial health of the organization. Managers are legitimately expected to do their best to protect all stakeholders' best interest including the financial return to shareholders balanced with a healthy organizational financial situation. Therefore, financial strain pushes executives to disguise the true situation to protect themselves

and uphold the confidence that is put on them by shareholders (Ramamoorti et al., 2013). A red flag of a financial nature is observable when organizations financial disclosure has a strong contrast with the one reported in the industry (Coenen, 2008). It is common sense that industry plays a structural role as it creates the momentum to leverage up or down the overall standing of companies that share the same market. So, companies that heavily outperform the mean industry should either have exceptional strategy that justifies their exceptional performance, or they simply found ways to show themselves at a more favourable light that is not backed up by factual evidence (Coenen, 2008). Red flags can also be seen in the verbal communications of executives as those that were found to commit fraud tend to communicate good performance but share less details about the reasons for such performance (Hoberg & Lewis, 2017).

Accounting reports comprises the official accounting reports and all the transactions registration. Red flags are raised on accounting reports when the company has several operations with entities that are of unknown origin or from places where the business practices raise suspicion about business ethics. Likewise, when the assets and liabilities are estimated based on judgments that are difficult to verify, the accounting figures may raise scepticism (Coenen, 2008).

Auditing comprises the relationship between the organizations and auditors, the auditors themselves as independent actors, and the evidence produced by auditors. Auditing is, by definition, a service that should be fully independent so to be credible (Porter et al., 2003). However, it is a paid service in a competitive market and thus individual auditors may feel pressure to consider other factors than the evidence only. This can be explained by the fact that external auditors are paid indirectly by the organization they are auditing. Although individual auditors can stand the pressure and strictly comply by standards that guarantee their independence, there are always topics than require interpretation and exceptional circumstances that may be taken as mitigating certain issues (Griffin, 2014). Therefore, judgement is required, and the diversity of situations may create the room for decisions not to be as independent as in theory.

As mentioned, Chen et al. (2021) study reported a positive association between option incentives given to executives and financial fraud, but they also reported an interaction effect with the auditors' effort, as when auditing effort is higher, the association gets weaker.

4.2. External Corporate Governance actors

Fraud preventing requires good corporate governance which is usually previewing the role of both internal actors and external actors. Auditing, regulators, and media deserved a special attention as external corporate governance actors in preventing and detecting fraud.

4.2.1. Auditing

The International Standard on Auditing (ISA) 240 explicitly ascribes external auditors the responsibility for assuring the financial statements is truthful, with no material intentional or unintentional misstatement that could de due to error or fraud.

To be able to achieve this, an auditor needs much training not just to do a technically competent job but also to be sensitive to possible schemes or red flags that the situation and evidence may raise (Plumlee et al., 2015). These authors call attention to the need from auditors to be able to have conscious thinking about their own cognitive processes. This has been raised in the past as the need to foster scepticism in auditors. Professional scepticism refers to the duty to keep independence of judgement and a critical stance towards what is presented as evidence by the client. Auditors with high professional scepticism will most likely be willing to confront the client and detect fraud (Harding et al., 2016).

The auditing operations may challenge these principles as the personal relationship is established by means of meetings, required to gain awareness about specific procedures, and policies that can condition the judgement by auditors on any issue found. Thus, as a relationship there is the need for mutual confidence that can be based both on professional roles as well as personal likeness. Carlisle et al. (2023) conducted interviews to explore the power dynamics in this relationship during evidence collection to find clients do have the upper hand in the process, while auditors were concerns about ingratiating with the client.

It is therefore logical to learn that auditors contribute less to detect fraud that employee, media and regulators, accounting only for 10% of cases detection (Dyck et al., 2010). Likewise, the big auditing scandals like Enron or Wirecard are known to entail such sort of principle violation as auditors completely lost their independence. Still Dyck et al. (2010) report that auditors that blow the whistle were more likely not to have the client renew the contract with them.

The overarching topic pertains to auditor's independence. According to Porter et al. (2014) the International Ethics Standards Board of Accountants (IESBA) states that auditing independence comprises both independence of the mind and independence of appearance. Independence of the mind is assured by the conscious attention an auditor has that his or her auditing exercise is impartial and has not compromised their duty of integrity, objectivity, and professional scepticism. Independence of appearance refers to a mental exercise where auditors are invited to put themselves into a third-party position and judge to which extent their behaviour could be judged as flawless as regards these three features (integrity, objectivity, scepticism). In this matter the roman saying is called as "Caesar's wife must be above suspicion" i.e., it is not sufficient for an auditor to be independent but he or she must be seen by others as such.

Still, auditing is not an error-free process. It would be overly expensive to test every single transaction, and therefore, auditing typically operates on a sample which could render it to representativeness bias. The option to pay more attention to material, large volume, transactions can be cost efficient, but it can also be overlooking the large sum that small transactions add up.

4.2.2. Regulators

Regulators are entrusted with enforcing compliance to organizations that operate in each market, according to the regulations. However, regulators can make decisions based on considerations that extend to the political realm such as when they believe any given action taken against a player could harm the national interest (Jakubeit, 2021) which expresses a home-country bias.

Another risk associated to regulators face concerns group thinking. Group thinking refers to a deterioration of collective judgement quality, due to conditions that are experienced within a group (Janis, 1972). These are: 1) illusion of being invulnerable, as group members downplay risk and are overly optimistic about their judgment or the consequences of their decisions; 2) inherent morality, as group members are deeply convinced about their rightfulness in guiding decisions; 3) collective rationalization, as the group members tend to discredit anything from outside that may question the group; 4) stereotyped negative view of outsiders; 5) self-censorship, where individuals forbid themselves from expressing view opposite to those they believe the group is expecting to, 6) and pressure on dissidents, where anyone who voices opinion contrary to the group or casts doubts is treated as being disloyal. Valine (2018) showed how group thinking plagued the

regulators to allow for regulating failures such as those witnessed in the JP Morgan Chase and the Wells Fargo scandals.

4.2.3. Media / communication

Press, by its historical origins, has always been entrusted with the objective of keeping the society informed but it has also been expected to operate as a watchdog on potential problems that may affect society (Dyck et al., 2010).

It is thus understandable that media has been at the origin of many unravelling of corporate scandals to the point of deserving deeper study on that precise role as evidenced by research published in credited scientific journals (e.g., Barkemeyer et al., 2020; Heese, Pérez-Cavazos & Peter, 2022; Kalogeropoulos, 2015). So, media plays such an important role in preventing, monitoring and whistleblowing on financial fraud scandals to the point of being considered an external critical actor of good corporate governance (Aguilera et al., 2015).

Still, media editorial choices are not always without accusation of bias. For example, Reuter and Zitzewitz (2006) claim, based on an empirical comparative study, that some journals do have benefits from content bias in relation to advertising choices. Another source of bias stems from the fact that press, in most cases, is just a business, and business depends on sales and market interest. Corporate scandals, like many other types of scandal, are a leverage to press sales as they inherently attract the interest of the public due to their emotional content.

Subsequently, some authors have accused press of lacking in-depth coverage and seeking for sensationalist news (Miller, 2006) while also being directed not by the public interest but by the interest of those that have a saying on its boards, e.g., shareholders (Gentzkow & Shapiro, 2006) or simply by picking contents that appeal to the larger public and neglecting alternative contents that could be more important although not so appealing (Olien et al, 1988).

Another sort of bias, although not so evident, lies in the options editors make as how to frame news. Clemente and Gabbioneta (2017) researched news from German newspapers on the Dieselgate to find four frames of news: legalistic (highlights the legal breach by the CEO), contextual (brings together the industry situation and the executive to explain how ethical breach was collectively produced), reputational (highlights the reputational losses and how replacing the CEO would signal the market to regain positive reputation), and scapegoating (ascribing wrongdoing to a small group of ruthless managers that should be replaced). The reader that is faced

with a single type of frame (e.g., that usually reads only on newspaper) will be conditioned to view the world through those lenses.

Still, independently of biases that may characterize each newspaper or media channel, journalism has in its ethical roots the will to disclose problems and although such disclosure can be driven by less or more noble motives, the sheer fact that someone is paying attention and has the means to voice out to society any given concern, is per se, a relevant fact in corporate wrongdoing and whistleblowing. Such is supported by an interesting study conducted by Heese et al. (2022) that found an increase in corporate misconduct (measured by violations) in the aftermath of local newspapers closure.

All in all, media has been acknowledged as an important watchdog that can play a critical role in disclosing and avoiding corporate wrongdoing to persist, although it is also acknowledged as permeable to bias due to many factors, intended or unintended, that can alter its effectiveness.

As regards corporate fraud, newspapers can offer much information but mostly, pertaining to red flags, they can help audience learn about it, and putting the pieces of the puzzle together in the future so to gain awareness about any potential wrongdoing, and function as extended watchdogs in the public at large.

5. The Wirecard case: an overview

5.1. Wirecard: growing into a successful financial business.

Wirecard was established in Germany two decades ago as a provider of financial services to the gambling and adult entertainment industries, operating in murky waters that other payment processors tended to reject.

Later it moved to focus on more mainstream clients and developed three business models (Jo et al., 2021): 1) Payment Processing Services, 2) Third-Party Acquirer, and 3) Merchant Cash Advance. As a Fintech it operated in various geographies, within and outside EU. In its essence, Wirecard was but an intermediate between the market and small business websites to collect cash from their customers, who used major credit cards such as Visa.

Three years after its inception, the company felt the need to refresh and opted to offer Markus Braun the CEO position (Langenbucher et al., 2020) which merged Wirecard with another German company, a call centre that was indexed in Frankfurt Stock Exchange. With this merger Wirecard was able to enter the stock market in 2005 through the backdoor escaping scrutiny. One year after, Wirecard purchased a bank, XCOM, which enable the company to collaborate with VISA and Master Card to issue their own credit cards (Jo et al., 2021).

The reasons for the success of Wirecard are many, but perhaps the most relevant is the market readiness to enter international e-business with a cashless society and using easy-to-pay technologies as a competitive advantage. Albeit the IT infrastructure was not flawless, it was made available by Wirecard on the right moment (Storbeck & McCrum, 2020).

Since its founding until 2018, the largest market for Wirecard was the EU but it transferred its importance towards Asia since then with approximately equal revenue share from these markets. In Dubai, Philippines, and Singapore, Wirecard counted on third parties to process payments via an escrow account. As the business volume shifted towards Asia, so its operations became more difficult to scrutinize by EU and US authorities. The high number of transactions, its cross-geographical nature and financial complexity was prone to obscure business, which was a watermark of Wirecard even when it was about to enter DAX stock market.

5.2. Raising suspicion on Wirecard

Fifteen years after entering Frankfurt Stock Exchange, Wirecard was selected to integrate DAX (Engelen, 2021). Such change requires stronger demands on financial statements and corporate governance assurance. The complexity of its operations made a news reporter from the German Manager Magazine (Dohms, 2017) question Wirecard analysts about eventual irregularities. The answer was a surprising acknowledgement that Wirecard billing was so complex that it was difficult to understand.

Albeit the market was seemingly contented with Wirecard's star performance, journalists from the Financial Times exerted their duty of being sceptical about exceptionally good situations, among which Dan McCrum. From a tip received in 2013, this journalist became interested in this company. By cultivating whistle-blowers McCrum put together the many pieces that led to

uncovering financial fraud statements, built upon fake customers, fake profits, and false cash flows.

On several occasions, even before KPMG special audit, Wirecard postponed several times to publish its financial reports.

One of McCrum's whistle-blowers was a former legal counsellor for Wirecard's Asia-Pacific that noticed the head of this region for Wirecard had no credible CV, was hiring women with no qualifications and would barely be able to communicate in either German or English (Kilby, 2022). In the process of investigation, McCrum was accused of intending to manipulate the market, with lawyers inquiring him in intimidating manner, and even having his email hacked. So, suspicion was aggravated by the hostility towards him.

5.3. Uncovering the fraudulent mechanisms

As stated, Wirecard bought many small companies to enter markets where it had no license and trusted a large network of third-party acquirers (TPA) to run operations in such geographies. By November 2019 investors were informed by Wirecard that it had 100 TPAs in 60 countries (FT 2020/05/05). Three of these TPAs were responsible for about 50% of the revenue and 90% of all profit (McCrum & Storbeck, 2020, May 5). Despite suspicion, EY continued to issue auditing statements that confirmed the financial situation at Wirecard. Still, rumours continued.

Shares dropped after accusations were made in 2008 and again in 2016 due to fraud allegations, which Wirecard refuted, but still the risk was permanent the pressure to assure investors was mounting with time. So, after Thomas Eichelmann joined Wirecard as a new chairman, the supervisory board in late 2019 ordered an audit from KPMG focused on Asian operations to reassure investors about its operations and accounting (Storbeck, 2021 March 19 EY faces questions).

KPMG's special auditing report (KPMG, 2020) did not come with good news. KPMG confirmed that there were inconsistencies in financial transactions involving the three TPAs and the irregular use of escrow accounts in the Philippines where Wirecard supposedly stored vast amounts of money instead of being used by the regular Wirecard branches. EY allowed itself not to demand original bank statements where Wirecard had the money, while KPMG demanded such original statements from the banks themselves. Secondly, Wirecard was unable to provide KPMG

with individual payments from customers to merchants. Thirdly, KPMG found that board meetings with decisions were lacking recorded minutes and senior officers failed to sign the declaration of completeness in which they would be clear about not omitting anything that could be relevant for KPMG's inquiry (McCrum & Strobeck, 2020, April 29, Wirecard KPMG found).

Resulting from the special audit, three fraud claims were confirmed: that Wirecard invented customers, transactions, and revenues from their alleged TPAs, that Wirecard inflated its own balance sheet by acquiring by excessive value worthless companies, and that fraudulent sales were created by using subsidiaries to produce round-tripping activities, where money moved circularly to create an image of a striving business. For short, the whole Asian business was a sham and EY turned its eyes to the other side.

5.4. Motivated blindness from the auditors and regulators

An auditor is entrusted with being capable and driven to do an impartial and competent analysis of evidence. Still, an auditor is part of a market where customers can freely choose among the auditing firms. Thus, an audit firm must strive to gain accounts and not to lose the existing ones which could lead to decisions taking into considerations other factors than just the technical ones. This can foster motivated blindness (Bazerman & Tenbrunsel, 2011) where auditors have a vested interest in a situation which biases their perception and decision making. The motivations can unconsciously create blind spots that allow auditors not to understand their ethical compromise and moral disengagement processes (Bandura et al., 1996; Gottschalk, 2023) that lead to ethical breaches.

On all accounts, EY must have experienced this sort of issue. The audit reports from 2009 to 2018 were all unqualified as EY accepted to make decisions based on faulty evidence or no evidence at all, just assuring words from their client.

Regulators play as important role which is often visible only when they fail. Such was the case of the Wirecard disaster that showed failure in regulating auditing activities (Jakubeit, 2021). Counting merely on national-level oversight within a larger block, such as the EU, weakens regulator effectiveness due to protecting national companies especially when regulators are connected to national governments (Quintyn et al., 2007). Such was the case witnessed in the Wirecard scandal where the German regulator, BaFin, undermined the press whistleblowing, by

casting doubts on the credibility of the journalists. According to Jakubeit (2021) this was motivated by the will to prevent stock price falling and protecting a national champion.
The option made by the regulator to forbid short-selling for two months so to protect Wirecard from deepening its losses (and also due to a suspicion that foreign short-sellers were conspiring with British newspapers to put down German business) was also not helpful because short-sellers played an important function by transferring negative news about any given company immediately to stock price thus working as a marker (Langenbucher et al., 2020)

5.5. Crumbling down after the scandal

When EY declined to give greenlight to Wirecard's 2019 financial report, the stock market value fell sharply. Once Wirecard finally admitted that €1.9bn of cash was missing, the demise process started. Markus Braun was arrested on accusations of falsifying accounts and manipulating the market and his COO, Marsalek fled to escape Interpol arrest order.

True figures came out to show the real business was making loss for years. The solvency administrator appointed by the court to deal with Wirecard demise, stated that, after removing all the alleged business from Asia, Wirecard had €740m in pre-tax losses between 2015 and Q1 2020 where a €1.9bn profit was reported. Because Wirecard reported on consolidated figures, no one was able to spot the huge losses it was taking outside Asia. Its survival was only guaranteed by bank loans (Giesen et al., 2020).

The role of external watchdogs

Business journals called attention to possible ongoing financial fraud in Wirecard. They made it much earlier than anyone could. McCrum was especially active with sixteen articles published in FT that shared concrete signals of such wrongdoing. When BaFin filed a criminal complaint against two FT journalists, as well as against short sellers, based on market manipulation accusations, they trigger a hostile institutional movement against the media. This complain was based on suspicion by the German regulator of a conspiracy based in the UK against Wirecard that joined the interests of FT and British short sellers.

So, the suspected media independence breach, one of the key principles that all journalists strive for – or should strive for – was the keystone that led the German regulator to target the media and counter its watchdog role.

6. METHODOLOGY

This section will show the options made as regards research approach, sampling criteria, sample characterization, and data analysis (content analysis).

6.1. Research approach

Because this study is intended to explore how reporting on Wirecard has covered red flags in a comprehensive way, we have devised a Qualitative approach. The focus of the analysis is a single event from a single organization, which makes this research fall within the case study type (Yin, 2015) although it is more focused on the social media outlet than the Wirecard itself.

6.2. Sampling criteria

There are many types of documents available that report on the Wirecard fraud scandal such as official reports (e.g., consulting, or official authorities) but also unofficial ones under the form of newspaper articles, scientific articles, professional magazines, book chapters and books. For this research, amongst these types of documents it would make sense exclusively to choose outlets that are:

- Publicly available
- Addressing the public at large
- With a special emphasis on finance
- That contain a wide array of documents (e.g., articles) on the Wirecard case.

To be considered, such documents must explicitly:

1. Target Wirecard company, namely the fraud event.
2. Include information about regulatory failures, auditing failures, or the fraud scheme itself.
3. Had a special focus on auditors and auditing.

Because the documents that are available have a varied array of natures, it is a good option to target scientific papers and books and book chapters (using Perlego and scholar google) for the literature review while targeting professional / non-scientific outlets like newspapers for the empirical analysis.

These comprehended newspaper media in well-known specialized journals, namely: the Financial Times, Forbes, Fraud Magazine, and The Economist as representative of social media communications focused on business and economics but also available to the public. Among these the one outlet that has the widest public audience, and the one that has the highest number of articles published on Wirecard case, even before the scandal broke out in 2020, is the Financial Times (FT). A total of 96 articles can be found in the Financial Times website and in scholar google, restricting the search to this outlet while mentioning Wirecard in the title, we can find 34 articles. From crossing these sources, we endeavored to reach a comprehensive yet reasonable (workable) set of articles.

As to the search for scientific papers to feed the literature review, the following search strings were used in combined forms (some variations accepted): “Wirecard”, “Fraud” x “Audit*” x “regulat*” x “Scheme” x “Red flag” x “Ethics failure/breach”.

6.3. Sample

From compiling the papers published in the chosen outlet, a list was produced comprehending 40 articles in Financial Times. Table 5.1 below lists those articles.

The list covers articles that were published mostly in the aftermath of the Wirecard scandal but also comprehending some that called attention to its possibility before it was known. Such is the case of the article “Wirecard’s meteoric rise prompts questions” that was signed by two leading journalists Olaf Storbeck placed in Frankfurt and Dan McCrum placed in London.

Table 5.1 – List of FT articles within the analysis

Article		Source in FT
1.	FT1	McCrum, D., Palma, S. & Storbeck, O. (2021). Wirecard’s reluctant whistleblower tells his story: ‘They tried to destroy me’
2.	FT2	McCrum, D. (2022). Why we trust fraudsters
3.	FT3	Storbeck, O. & McCrum, D. (2022). Wirecard: the case against Markus Braun
4.	FT4	Storbeck, O. (2020). Whistleblower warned EY of Wirecard fraud four years before collapse
5.	FT5	Storbeck, O. (2023). Ex-Wirecard chief Markus Braun’s credibility in the dock
6.	FT6	Richter, S-G. (2020). Wirecard shows why German business needs a cultural shift
7.	FT7	McCrum, D. & Storbeck, O. (2020). How EY missed the chance to stop Wirecard’s fraud
8.	FT8	Storbeck, O. & McCrum, D. (2020). Wirecard’s deceit went beyond its fraudulent Asian operations
9.	FT9	Storbeck, O. (2021). BaFin employee suspended over Wirecard insider dealing allegations

10.	FT10	Storbeck, O., Palma, S. & McCrum, D. (2020). Prosecutors suspect Wirecard was looted before collapse
11.	FT11	Storbeck, O. (2020). EY fraud unit found 'red-flag indicators' at Wirecard in 2018
12.	FT12	Storbeck, O. (2020). Watchdog suspects EY knew it issued 'factually inaccurate' Wirecard audit
13.	FT13	Storbeck, O. (2020). Germany's regulators were 'deficient' in Wirecard scandal, says Esma
14.	FT14	Storbeck, O. (2020). How Wirecard misled investors over KPMG's special audit
15.	FT15	Storbeck, O. (2020). EY faces mounting backlash after Wirecard whistleblower revelation
16.	FT16	Mooney, A. (2020). Is audit fit for purpose?
17.	FT17	Storbeck, O. (2021). Wirecard: a record of deception, disarray, ‹and mismanagement
18.	FT18	Storbeck, O. (2021). EY audit failings on Wirecard laid bare in 'dynamite' report
19.	FT19	Storbeck, O. (2021). Marsalek's assistant handled six-digit amounts of cash in plastic bags
20.	FT20	McCrum, D. (2019). Wirecard's singular approach to counting cash
21.	FT21	McCrum, D. & Palma, S. (2019). Wirecard: inside an accounting scandal
22.	FT22	Storbeck, O. & McCrum, D. (2018). Wirecard's meteoric rise prompts questions.
23.	FT23	Storbeck, O. & Chazan, G. (2020). Former Wirecard CEO rearrested and accused of long-running fraud
24.	FT24	Storbeck, O. (2022). Germany's new accounting regulator decries auditors who are 'too close' to clients.
25.	FT25	Storbeck, O. (2021). 'Cultural background' of Wirecard short sellers noted by German regulator
26.	FT26	Braun, M. (2020). Wirecard chief goes from billionaire to bail
27.	FT27	Ziesemer, B. (2020). Why was Frankfurt so blind for so long about Wirecard?
28.	FT28	Storbeck, O., Kinder, T. & Palma, S (2020). EY failed to check Wirecard bank statements for 3 years
29.	FT29	McCrum, D. (2019). Wirecard's suspect accounting practices revealed.
30.	FT30	Ford, J. & Kinder, T. (2020). After Wirecard: is it time to audit the auditors? FT
31.	FT31	McCrum, D. & Palma, S. (2019). Executive at Wirecard suspected of using forged contracts.
32.	FT32	Marriage, M. & Ford, J. (2018). Too close for comfort: the incestuous ties that bind auditors and watchdogs.
33.	FT33	Murphy, P. (2019). Wirecard critics targeted in London spy operation
34.	FT34	McCrum, D. & Storbeck, O. (2020). Wirecard: what KPMG's report found
35.	FT35	Storbeck, O. (2020). German watchdog reports EY to prosecutors over Wirecard audit.
36.	FT36	McCrum, D. (2015). JCap on Wirecard: A search for the Asian Business.
37.	FT37	McCrum, D. (2015). The strange case of Ashazi: Wirecard in Bahrain, via Singapore.
38.	FT38	Storbeck, O. (2021). EY's Wirecard audits suffered serious shortcomings, German probe finds.
39.	FT39	McCrum, D. (2020). Wirecard and me: Dan McCrum on exposing a criminal enterprise
40.	FT40	McCrum, D. & Palma, S. (2019). Wirecard's problem partners.

6.4. Data analysis

The contents of the documents are informative to our research question. Therefore, we treated that information as the empirical corpus (Krippendorff, 2018) by mean of a content analysis.

Content analysis is a technique that is intended to extract meaning from data to infer cognitions, feelings or any other mental representation about a given subject. The units of meaning can be words, sentences, or full paragraphs (Krippendorff, 2018). Meaning is classified into qualitative categories which represent distinct qualitative natures. According to this author, categories can be identified *a priori*, i.e., they can be found in literature review and used to classify the data. They can also be identified *a posteriori*, i.e., they can be extracted when reading the data content so to identify emerging qualitative subjects. Likewise, a mixed use of a priori and a

posteriori categorization can be advantageous because it is very unlikely that all the possible categories pre-exist the phenomenon under analysis, but also it is unlikely that all the categories found in the phenomenon will be novel, without having ever been proposed or thought of.

The coding of the data considered some central categories that literature proposes. Namely, we focused on Murcia and Borba's (2007) comprehensive list of red flags. These covered red flags organized in six categories. Namely:

Structure and environment comprehending 12 red flags as follows: Overly complex organizational structure; Inadequate internal control system; Multiple bank accounts; Lack of policy punish dishonesty; Problems in past financial statements; Tone at the top (ethics marginal); Shareholder – Managers conflict of interest; Collusion between employees & outsiders; Finance-Account-Audit staff high turnover; Regulation compliance difficult; Internal oligopoly; Accounting report generation unsupervised.

Sector / Industry cluster comprehending 3 red flags as follows: Industry in decline / mounting bankruptcies; Rapid industry innovation & change; Hostile and saturated market.

Management cluster comprehending 11 red flags as follows: Executive bonuses contingent to profit / share value; Executives overly interested in profit / share value grow; Unethical leadership; Accounting methods / estimates concern non-financial executives; Executive misbehavior/vices; Young & Inexperienced executives; Excessive pressure on executives to achieve goals; Risk proneness on executive decision making; High executive turnover rate; Rationalization from executives on doubtful procedures; Executive resentment with orders from above.

Financial situation cluster comprehending 9 red flags as follows: Company's profitability misaligned with sector's average; Rapid organization expansion; Need to finance through issuing shares, bonds, or debentures; High level of doubtful receivables; Insufficient working capital to finance own operations; Abnormal inventory growth; Doubts about company's continued operations; Large financial transactions occurring; Overly dependence on single source of revenue or resources.

Accounting reports cluster comprehending 6 red flags as follows: Operations with doubtful entities; Hard to corroborate; Transaction with non-audited parties; Inadequate

documentation; Auditing department inexperienced or negligent; Overly complex transactions at end of accounting period.

Auditing cluster comprehending 4 red flags as follows: Executives overpowering auditors; Auditing firm changes frequently; Restrictions for staff to communicate / access information; Recency of auditing firm activity in the company.

We considered these red flags without disregarding the possibility of other types of red flags emerging from the articles especially by taking Cressey's fraud triangle model as a framework. Thus, we kept a focus on "Opportunity", "Rationalization" and "Pressure" not only in the identification of newer categories but also to organize thought regarding Murcia and Borba's (2007) list.

We also considered other relevant specialized models in fraud that have a greater systemic focus (larger than the organization) which relate to the business of auditing itself (audit market) and the regulatory mechanisms (shareholders' scrutiny, governance, supervisory organizations). These are the Fraud Scale model by Albrecht et al. (1984), Triangle of fraud action by Albrecht et al. (2006), the A-B-C model of fraud by Ramamoorti et al. (2009), the MICE model of fraud (Kranacher et al., 2011), the fraud diamond by Wolfe and Hermanson (2004), fraud pentagon by (Crowe, 2010), meta-model of fraud (Dominey et al., 2012), and the executive fraud triangle (Downing, 2015).

As to the use of the frequencies found per red flag, and because the objective is to gain understanding on how frequently they emerge, how much they emerge together in the same article, and what patterns can be identified, the choice was to apply cluster analyses. Cluster analysis is a popular data analysis technique that is often used to identify groups of similar objects that simultaneously are different from other groups (Bezdek, 2022). This can be applied to market studies in segmenting the market according to the customers' profile, but it can suitably be used to any procedure that is intended to gain a configurational understanding on any object (such as newspaper articles) that can comprehend a multiplicity of elements that characterize their content. The options made available to conduct a cluster analysis are multiple as there are different algorithms according to the type of variables included in the analysis. If a variable is measured in a discrete scale (e.g., a binary male versus female, or presence vs. absence) it should not be treated as if it is a metric but rather it is a nominal scale. So, the guidelines given by Bezdek (2022) were followed to conduct the cluster analysis. Due to the exploratory nature a hierarchical cluster

analysis approach was applied which offers a set of possible groupings according to the distance one sets as the cutoff. The sequence of groupings can be depicted as a dendrogram, which is a rooted tree that shows the nodes that define where a cluster can be identified according to the distance adopted. The distance is recommended to fall between 10 to 20 according to Sharma (1996) which can be used graphically in the dendrogram to identify the exact number of clusters.

7. RESULTS

This section will start by showing the research questions that guide the analysis and for each one, the findings will be shown.

7.1. Guiding questions

The overarching research question that drives this study is: “What is the potential of newspapers to promote learning and awareness on red flags concerning auditors?”

The watchdog function of newspapers and social media serves to immunize the society against future cases, by raising awareness, by educating the common worker to pay attention to what is unusual and may indicate something wrong.

Wirecard is a suitable target for this question because it passed unnoticed for such a long time. This would be impossible if the system itself would be attentive and if stakeholders that could have played a whistleblowing role would do something about it. So, another question is raised: Is the attention given to stakeholders balanced as regards their role into enabling (or allowing) Wirecard wrongdoing enduring such a long time? What stakeholders could have passed unnoticed or have received less attention in the newspaper articles?

As a subset of these questions, we asked ourselves:

1. What were the red flags mentioned?
2. Which ones received more attention and which ones may have passed unnoticed?
3. How do articles arrange red flags together?
4. How comprehensively do articles show red flags to the reader?
5. How were auditors depicted in the news?

The results will follow these questions so to offer a clear view of the findings.

7.2. What were the red flags mentioned?

Taking Murcia and Borba's (2007) red flag classification, we found 10 references from the 12 possible red flags within ***Structure and Environment*** category to which we added two more signaled with a "*" (Table 6.1)

Table 6.1 – Red flags incidence for Structure and Environment

Category / Subcategory	Source	Example (excerpt to articles)
Category: Structure and Environment		
SE1 Overly complex organizational structure	FT8, FT20, FT40,	"If extravagant spending is one of Mr Jaffé's findings, another is what the report describes as Wirecard's "totally opaque" and inefficient structure, consisting of at least 55 subsidiaries scattered over four continents."
SE2 Inadequate internal control system	FT2, FT8, FT17, FT19, FT31	"Haphazard lines of communication, disorganization and poor record keeping created excuses for middle ranking Wirecard staff and its supervisory board, stories to tell themselves"
SE3 Multiple bank accounts	FT28	"Wirecard had told its auditors that the money moved late last year from OCBC to banks in the Philippines, where supposedly there was now €1.9bn deposited."
SE4 Lack of policy punish dishonesty	FT1, FT21, FT29, FT31, FT39	"Gill was shocked. "Any normal company, especially a listed company, would have suspended these people even if it was just for show." Mr Kurniawan's scheme might have appeared to be the act of a rogue employee in the provincial outpost of a little-known financial group. But the account of what happened, in a preliminary report on the investigation by one of Asia's most eminent legal firms, indicated it was part of a pattern of book-padding across Wirecard's Asian operations over several years. Documents seen by the FT show two senior executives in the Munich head office had at least some awareness of the round-tripping scheme: Thorsten Holten and Stephan von Erffa, respectively the company's head of treasury and head of accounting."
SE5 Problems in past financial statements	FT21, FT31, FT39	"Critical investors and analysts raised concerns about the group's financial statements in 2008, 2015, and 2016, citing apparent inconsistencies."
SE6 Tone at the top (ethics marginal)	FT3, FT9, FT14, FT17, FT39	"The picture they paint is striking. In the aftermath of Wirecard's collapse, it quickly became clear that the company's top echelon had spent years deceiving investors, regulators, auditors, and large parts of its own staff. But what the internal communications also show is that the confused and disorderly scenes of its last few weeks were anything but an isolated incident."
SE7 Shareholder – Managers conflict of interest	FT4, FT9, FT13, FT40	"Wirecard had paid €340m for Hermes I tickets, GI Technology and Star Global, three payments companies that it bought from an opaque Mauritius entity named Emerging Market Investment Fund 1A. the EY whistleblower asserted that "Wirecard Germany senior management" directly or indirectly held stakes in EMIF 1A and were therefore embroiled in a conflict of interest."
SE8 Collusion between employees & outsiders	FT9	"Singapore-based Ocap, the entity receiving loans just before Wirecard's collapse, describes itself on its websites as "a technology-driven provider of financing solutions for business" but until 2018 it described its business as "general wholesale trade of crude oil and other oil products", according to KPMG's audit report. By late 2019, Ocap was in arrears in interest payments and a person familiar with the details told the FT the loan was at risk of being classified as non-performing, but it was nonetheless extended by Wirecard's management for another year. The ultimate beneficial owner of Ocap is unclear."
SE9 Finance-Account-Audit staff high turnover	-	- (No excerpt found for this category)

Table 6.1 – Red flags incidence for Structure and Environment (cont.)

Category	Subcategory	Source	Example
SE10 Regulation compliance difficult		FT2, FT17, FT21, FT31, FT37	"Wirecard joined the German stock market in 2005 by taking over a defunct call center operator with an existing listing, a maneuver that avoided much of the publicity and scrutiny of an initial public offering."
SE11 Internal oligopoly		FT3, FT5, FT14, FT17, FT26	"The Austrian, who joined Wirecard in 2002 from KPMG and rose to become chief executive and the single largest shareholder, was the towering figure at the payments company that over years hoodwinked auditors with forged documents, hounded critical journalists and investors, stifled internal investigation and fired whistleblowers."
SE12 Accounting report generation unsupervised		-	- (No excerpt found for this category)
SE13 Shareholder inactivism*		FT16, FT30	"But he added that even though audit functions are meant to be done for shareholders, investors do not show enough interest in the subject." "In theory, shareholders are supposed to provide a check on the influence of self-interested bosses. They choose the auditors and set the terms of engagement. But in practice, investors tend not to assert themselves in the relationship. Scandals rarely lead to the ejection of auditors. When EY came up for re-election at Wirecard in the summer of 2018, despite rumblings about the numbers, it was voted back by more than 99 per cent."
SE14 Opaque business operations*		FT37, FT40	"Critics and supporters of the company alike acknowledge that its business model is opaque and financial disclosure limited." "Wirecard structured some of those deals in unusual ways and has raised half a billion euros from investors to keep spending. The tactics prompt questions about what was bought, the nature of its growth and the value of €670m of intangible assets on the balance sheet."

The subcategories within the Structure and Environment have been mentioned in varying degrees of frequency. The most frequently mentioned are "Tone at the top", "Lack of policy to punish dishonesty", "Inadequate internal control system", "Regulation compliance difficult" and "Internal oligopoly" (all with N=5) followed by "Conflict of interest between shareholders and managers" both with N=4. Some have only a single reference such as "Multiple bank accounts" and "Collusion between employees and outsiders". In one case there was not even a single reference in the articles, i.e., "Accounting report generation unsupervised" and "Finance-account-audit staff high turnover". Two emerging red flags were found: "Shareholder inactivism" and "Opaque business operations" which were both mentioned twice in different articles.

As regards the ***Sector / Industry cluster*** from the three possible red flags only one is acknowledged in the articles, i.e., "Hostile and saturated market" which was mentioned twice (Table 6.2).

Table 6.2 – Red flags incidence for Sector / Industry Cluster

Category	Subcategory	Source	Example
Sector / Industry Cluster			
SI1 Industry in decline / mounting bankruptcies		-	(No excerpt found for this category)
SI2 Rapid industry innovation & change		-	(No excerpt found for this category)
SI3 Hostile and saturated market		FT2, FT29	"It was a competitive field with many rivals, but Wirecard claimed to have become a European PayPal and more, outpacing the competition with profit margins few could match."

No article highlighted the industry decline and the business itself could be linked to the innovation & change factor of fraud, but it was not. Only hostile and saturated market was mentioned (twice).

As regards the ***management cluster*** there are nine red flags mentioned out of the original 11 but two were added (Table 6.3).

Table 6.3 – Red flags incidence for Management cluster

Category	Subcategory	Source	Example
Management cluster			
MG1 Executive bonuses contingent to profit / share value		FT17, FT22, FT26, FT39	"Braun, who held a 7 percent stake in the company, rarely involved himself in such problems. He was more focused on boosting Wirecard's share price with a continuous stream of upbeat press releases."
MG2 Executives overly interested in profit / share value grow		FT17, FT21, FT26	"The share price is a seismograph for Braun's moods. The press release is the proven tool to turn both for the better." "Suspect transactions, while individually small in the context of Wirecard revenues, appear to have been designed to stop Wirecard entities missing profit targets, by filling holes after the end of a financial year with fake and backdated sales agreements according to the preliminary report and certain emails reviewed by the FT."
MG3 Unethical leadership		FT1, FT3, FT4, FT5, FT7, FT17, FT8, FT9, FT11, FT14, FT20, FT21, FT23, FT26, FT34, FT39, FT40	"Braun repeatedly gave public statements that external lawyers, EY and the supervisory board deemed misleading, according to communications with Wirecard seen by the FT."
MG4 Accounting methods / estimates concern non-financial executives		FT11, FT20	"EY had discovered that one-off items such proceeds from the sale of internet domains and IT infrastructure were added to operating profits with no clear justification. It also found an interest income was added to a gauge of operating profit that explicitly excludes interest."
MG5 Executive misbehavior/vices		-	- (No excerpt found for this category)
MG6 Young & Inexperienced executives		FT1, FT21	"An investigation was launched, codenamed Project Tiger, that focused on a young Indonesian, Edo Kurniawan, whom Gill described as Wirecard's "third most important finance and accounting employee globally". Gill found it odd that someone with as little experience as Kurniawan held such an important job."
MG7 Excessive pressure on executives to achieve goals		FT17	"The pressure that Braun creates to keep the capital market happy is increasing. Facts and figures are bent."

Table 6.3 – Red flags incidence for Management cluster (cont.)

Category	Subcategory	Source	Example
MG8 Risk proneness on executive decision making		FT3, FT5, FT17, FT34,	"When a Wirecard Bank executive raised concerns in 2018 over the first big loan to Ocap, which later turned sour, Braun sent a terse email seen by the FT, telling him that "I directly instruct you on behalf of Wirecard AG to implement the €100m Ocap money transfer without any further delay".
MG9 High executive turnover rate		-	(No excerpt found for this category)
MG10 Rationalization from executives on doubtful procedures		FT5, FT20	"In the summer of 2014, Braun demands that a message about a cooperation be sent without coordination with the partner company. "Normally this is not possible at all, but our course is unfortunately quite weak," the head of communications justifies herself in an email to Marsalek, who is responsible for the operational business at Wirecard."
MG11 Executive resentment with orders from above		FT3, FT17	"Chief executive Markus Braun and other executives at the German payments company were looking for ways to avoid writing down a €100m loan granted on questionable terms to a small business partner. Trümper believed that their plan was illegal."
MG12* Conflict of interest		FT10, FT14, FT17	"In its report, KPMG also pointed out that Ocap's chief executive Carlos-Dieter Häuser was a senior manager at Wirecard until 2018. His wife, Brigitte Häuser-Axtner, was a director at Wirecard Asia Holding, the subsidiary making the loans to Ocap."
MG13* Aggressive against critics		F1, FT29, FT33, FT39	"At first, I thought the note was a hoax but, astoundingly, it was real. It was the latest episode in a skirmish that was to last 18 months, leaving me under attack as German banks and regulators waved away evidence of corporate criminality to place me at the heart of a conspiracy theory. At times, it seemed like the world had gone mad."

The most frequently cited is unethical leadership (N=17), followed at a great distance by the executive bonuses and contingent reward to profit (N=4) and risk proneness (N=4). A red flag was mentioned only once ("excessive pressure on executives to achieve goals") and two subcategories were even never mentioned, namely: "Executive misbehavior / vices" and "High executive turnover rate".

As regards the ***financial situation cluster*** eight out of the nine original red flags were mentioned (Table 6.4).

The most mentioned red flag is the "Rapid organization expansion" together with the "Need to finance through issuing shares, bonds or debentures" and "Large financial transaction occurring" with three cases each. Four red flags were mentioned only once ("company's profitability misaligned with the sector's average", "Insufficient working capital to finance own operations", "Doubts about company's continued operations and "Overly dependence on single source of revenue or resources). One red flag is absent ("Abnormal inventory growth").

Table 6.4 – Red flags incidence for financial situation

Category	Subcategory	Source	Example
Financial situation cluster			
FI1 Company's profitability misaligned with sector's average		FT36	"Wirecard has some of the biggest margins of the listed payment companies. An ongoing matter of debate is why such a profitable company converts a comparatively low proportion of profits into cash flow. Comparing sets of accounts between payment companies is complicated however by different presentations and, in Wirecard's case, because it owns a bank."
FI2 Rapid organization expansion		FT22, FT36, FT37	"Wirecard is the German-listed payment processor valued by the market at almost €6bn. It's a market darling, a fast-growing tech stock with a share price which has quadrupled in the last five years."
FI3 Need to finance through issuing shares, bonds, or debentures		FT7, FT8, FT37	"Wirecard was burning through cash. By the time it unraveled in late June, the total was €10m a week and the company's own internal planning predicted that figure would rise to more than €15m – some €200m for the third quarter as a whole, according to the administrator's report."
FI4 High level of doubtful receivables		FT38, FT40	"What links these specific Wirecard partners in and around Manila is that their names are on stacks of unpaid bills, some lingering for years, sitting in the books of Wirecard's accounting processing department in Singapore." "EY accepted that Wirecard published incomplete and potentially misleading notes to its 2016 annual report. Back then, the payments firm sat on €55.3m of receivables that were in arrears – more than a quarter of all its receivables. EY compiled a list of the problematic items, but Wirecard did not include it in its annual report."
FI5 Insufficient working capital to finance own operations		FT8	"At that rate, Wirecard would have needed to raise fresh cash by the end of this year to pay its bills."
FI6 Abnormal inventory growth		-	- (No excerpt found for this category)
FI7 Doubts about company's continued operations		FT31	"The group was founded in 1999, initially focused on processing payments for pornography and gambling companies. It almost didn't survive the fallout from the dotcom crash and was recapitalized in 2002 with the help of Markus Braun, who has been chief executive ever since."
FI8 Large financial transactions occurring		FT4, FT31, FT37	"Hermes and GI Tech were the main business purchased by Wirecard for €325m in an October 2015 takeover, the largest the company has made. At the time, the deal attracted attention from skeptical analysts and investors, who reported difficulty finding the scale of operations the company claimed."
FI9 Overly dependence on single source of revenue or resources		FT8	"However, if its fraudulent Asian operations are excluded, the remaining businesses accumulated €740 in pre-tax losses over the same period, according to the report. The losses were never disclosed because Wirecard only reported numbers for the whole group rather than its individual operations"

As regards ***accounting reports cluster***, all the six red flags were mentioned several times (Table 6.5).

The most frequently mentioned is "Hard to corroborate" (N=6) immediately followed by "Operations with doubtful entities" and "Transaction with non-audited parties" with five hits each. Also with relative high frequency is "Inadequate documentation", and the least mentioned red flag is "Auditing department inexperienced or negligent" (N=2).

Table 6.5 – Red flags incidence for Accounting Reports Cluster

Category Subcategory	Source	Example
Accounting reports cluster		
AC1 Operations with doubtful entities	FT7, FT10, FT22, FT40, FT37	"Investors have also raised questions about inconsistencies in its accounts as the company expanded by buying little-known businesses, while analysts have reported difficulties in finding evidence of businesses in Asia that would justify the large sums Wirecard spent there."
AC2 Hard to corroborate	FT22, FT31, FT34, FT35, FT39, FT40	"In the first nine months of last year Wirecard reported transaction volume of €90bn, a third of which it attributed to "digital goods"."
AC3 Transaction with non-audited parties	FT10, FT17, FT36, FT37, FT40,	"PayEasy and Froehlich Tours are owned by Christopher Bauer, a German former Wirecard Asia Pacific executive, and his wife Belinda Bauer, according to public filings. Centurion has made no filings since 2013. Both Bauers have represented Centurion in interactions with Wirecard."
AC4 Inadequate documentation	FT5, FT18, FT34, FT35	"In an addendum to that report, which focuses solely on the 2018 audit, Wambach argued that the data available at Wirecard, and used by EY in its work, was not sufficiently detailed to check individual transactions that were purportedly processed by the Asian outsourcing partners." "KPMG told Wirecard it had run into an "obstacle to the investigation", that of many documents were missing and that Wirecard's outsourcing partners in Asia were not co-operating."
AC5 Auditing department inexperienced or negligent	FT4, FT18	"The existence and the amount of the revenue appears to have been validated only indirectly through balance confirmations by the TPAs and the trustee," the report pointed out, adding that a number of inconsistencies in those documents could have raised alarm bells at EY. While the outsourced business was "very material" for Wirecard, the annual report lacked "further information (in particular quantitative information)", the report said. Wambach highlighted that Wirecard failed to disclose that the reported TPA revenue never resulted in actual cash inflows."
AC6 Overly complex transactions at end of accounting period	FT10, FT21, FT31	"Mr. Kurniawan then sketched out a practice known as "round tripping": a lump of money would leave the bank Wirecard owns in Germany, show its face on the balance sheet of a dormant subsidiary in Hong Kong, depart to sit momentarily in the books of an external "customer" then travel back to Wirecard in India, where it would look to local auditors like legitimate business revenue."

As regards the ***auditing cluster*** (Table 6.6) there are the lower number of original red flags from Murcia and Borba's (2007) paper.

Only two of the four original red flags were mentioned to which four additional new red flags were added. The most frequently mentioned red flag is "Executives overpowering auditors" (N=7) followed by a new red flag "Whistleblower warning" (N=5). Two of the red flags were understandably not mentioned ("Auditing firm changes frequently" and "Recency of auditing firm activity in the company") but the last one seems to be better represented by a new red flag which is the "closeness of the personal relations between company's key personnel and the auditors".

Table 6.6 – Red flags incidence for auditing cluster

Category	Subcategory	Source	Example
Auditing cluster			
AUD1 Executives overpowering auditors		FT1, FT4, FT5, FT7, FT11, FT12, FT6	"According to the KPMG report, Stephan von Erffa, Wirecard's deputy chief financial officer, was the only manager named by the EY whistleblower. He was not interviewed by the fraud team, and Wirecard refused them access to his email account. He has denied any wrongdoing. On March 23, 2017, Mr Von Erffa responded to Project Ring requests for information by attempting to shut down further inquiries. "If we start now again with totally new audit fields, we will never get to an end. Therefore, I mandate my team to concentrate on the local EY India audit and not to work on those new tasks," Mr Von Erffa wrote in an email seen by the FT. Among the recipients of the email was Andreas Loetscher, the lead EY partner on Wirecard's audit, who is now Deutsche Bank's head of accounting. The following month, Wirecard received its usual unqualified audit opinion from EY."
AUD2 Auditing firm changes frequently		-	- (No excerpt found for this category)
AUD3 Restrictions for staff to communicate / access information		FT5, FT34	"KPMG reported some essential documents for its review arrived at the last minute, while many never arrived. Among the desired but absent information: original bank records detailing €1bn of payments." "Wirecard had dismissed FT reports that three such partners were at times responsible for half of the group's sales and most of its profits. KPMG said three partners had in fact "comprised the major part" of Wirecard's operating profit between 2016 and 2018, but it was not able to offer an opinion on whether the business was genuine: verification attempts "proved to be impossible, as we were not given access to the relevant data for the investigation period", the report said."
AUD4 Recency of auditing firm activity in the company		-	- (No excerpt found for this category)
AUD5 Auditor and company unusually close relationship*		FT7, FT24	"That December, Mr Loetscher flew into Chennai for a two-day site visit at Hermes, one of the businesses Wirecard acquired in 2015. Afterwards he wrote to Mr Kurniawan to thank him for the "preparation, discussions, explanations and entertainment"."
AUD6 Watchdog engaged in insider trading / negligent / relation with auditors*		FT7, FT25, FT27, FT32	"In December, the head of the German audit watchdog Apas was suspended with immediate effect after admitting trading shares in Wirecard while conducting a probe into the company's auditor."
AUD7 Whistleblower warning. *		FT1, FT4, FT7, FT15, FT29	"In 2016, an internal whistleblower at EY had flagged potential fraud at Wirecard as well as an attempt to bribe an EY employee in India."

7.3. Which ones received more attention and which ones may have passed unnoticed?

To identify the relative importance given to red flags when reporting the Wirecard scandal in the selected sample of FT articles, we have counted their frequencies considering a more concise classification of red flags (according to the literature review). Thus, red flags can be aggregated within the following categories: 1) Environment causes; 2) Leadership (that includes unethical behaviors, inexperience, and moral disengagement), 3) Risk proneness, 4) Management control systems, 5) Power culture, 6) Whistleblowing / communication transparency, 7) CEO compensation, 8) Organizational structure, 9) Financing, and 10) Auditing (both internal and

external). When ascribing Murcia and Borba's (2007) categories to the new ones, we found a rank order for the red flags that indicates how much they were mentioned (Table 6.7). This is a result of the matching matrix that can be seen in Table 6.8.

Table 6.7 – Centrality of red flags in the Wirecard case reporting by FT

Red flag	**Frequency**
Unethical Leadership	29.0%
Internal Auditing	13.0%
Control Management	10.1%
External Auditing	8.7%
External Environment	8.2%
Risk Proneness	7.2%
Power Culture	7.2%
Whistleblowing	4.3%
Organizational Structure	4.3%
Financing	3.9%
CEO Compensation	1.9%
Inexperience managers	1.0%
Leader's Rationalization	1.0%

The most frequently cited red flag is clearly Unethical leadership, which gathers 29% of all the mentions in a proportion higher than the double the second highest frequent category. In a second tier, internal auditing (13%) and control management (10.1%) received some attention from the authors. Next is external auditing (8.7%) and external environment (8.2%). At a lower fourth tier one finds risk proneness (7.2%) and Power culture (6%). Even less cited in a fifth tier is whistleblowing, organizational structure (4.3% each) and financing (3.9%). At a last sixth tier, almost without references are the CEO compensation (1.9%), inexperienced managers (1%) and leader's rationalization (1%).

Table 6.8 - Centrality of red flags in the Wirecard case reporting by FT

		Env	UnLead	InXP	Ratio	RiskPr	CntMng	PowCult	Whistle	CEO Comp	Str	Fin	InAud	ExAud
1.	SE1										3			
2.	SE2												5	
3.	SE3						1							
4.	SE4		5											
5.	SE5						3							
6.	SE6		5											
7.	SE7		4											
8.	SE8										1			
9.	SE9												0	0
10.	SE10	5												
11.	SE11							5						
12.	SE12												0	0
13.	SE13	2									2			
14.	SE14	2												
15.	SI1	0												
16.	SI2	0												
17.	SI3	2												
18.	MG1									4				
19.	MG2		3											
20.	MG3		17											
21.	MG4								2					
22.	MG5		0											
23.	MG6			2										
24.	MG7							2						
25.	MG8					4		4						
26.	MG9			0										
27.	MG10				2									
28.	MG11		2											
29.	MG12		3											
30.	MG13		3					3						
31.	FI1	1												
32.	FI2										3			
33.	FI3											3		
34.	FI4						2							
35.	FI5											1		
36.	FI6						0							
37.	FI7						1							
38.	FI8											3		
39.	FI9											1		
40.	AC1		6			6								
41.	AC2						6						6	6
42.	AC3	5	5			5							5	5
43.	AC4						4							4
44.	AC5												2	
45.	AC6						4							
46.	AU1		7										7	
47.	AU2													0
48.	AU3								2				2	1
49.	AU4													0
50.	AU5							1						1
51.	AU6													1
52.	AU7								5					
Sum		17	60	2	2	15	21	15	9	4	9	8	27	18

7.4. How do articles arrange red flags together?

A hierarchical cluster analysis on the red flags using ward's method and phi-coefficient as per a frequency count measure (Bezdek, 2022; Sharma, 1996) suggests a solution ranging from three to seven clusters. The 3-cluster solution indicates a first cluster comprehending nine red flags and that refers to ***Leadership*** (i.e. 4 SE4 Lack of policy to punish dishonesty, 6 SE6 Tone at the top, 7 SE7 Shareholder-Manager conflict of interest, 19 MG2 Executives overly interested in profit, 20 MG3 Unethical leadership, 28 MG11 Executive resentment, 29 MG12 Executive conflict of interest, 40 AC1 Operations with doubtful entities, 42 AC3 Transaction with non-audited parties).

A second cluster comprehends five red flags and refers to ***financial issues*** (i.e., 3 SE3 Multiple bank accounts, 5 SE5 Problems with past financial statements, 34 FI4 Doubtful receivables, 37 FI7 Doubts about operations, 45 AC6 Overly complex transactions) and a last cluster comprehending all the remaining red flags. This solution lacks discriminant sensitivity as the last third cluster is too comprehensive. Therefore the 7-cluster solution is seemingly better to gain a detailed awareness of the patterns of association between red flags (Figure 6.1).

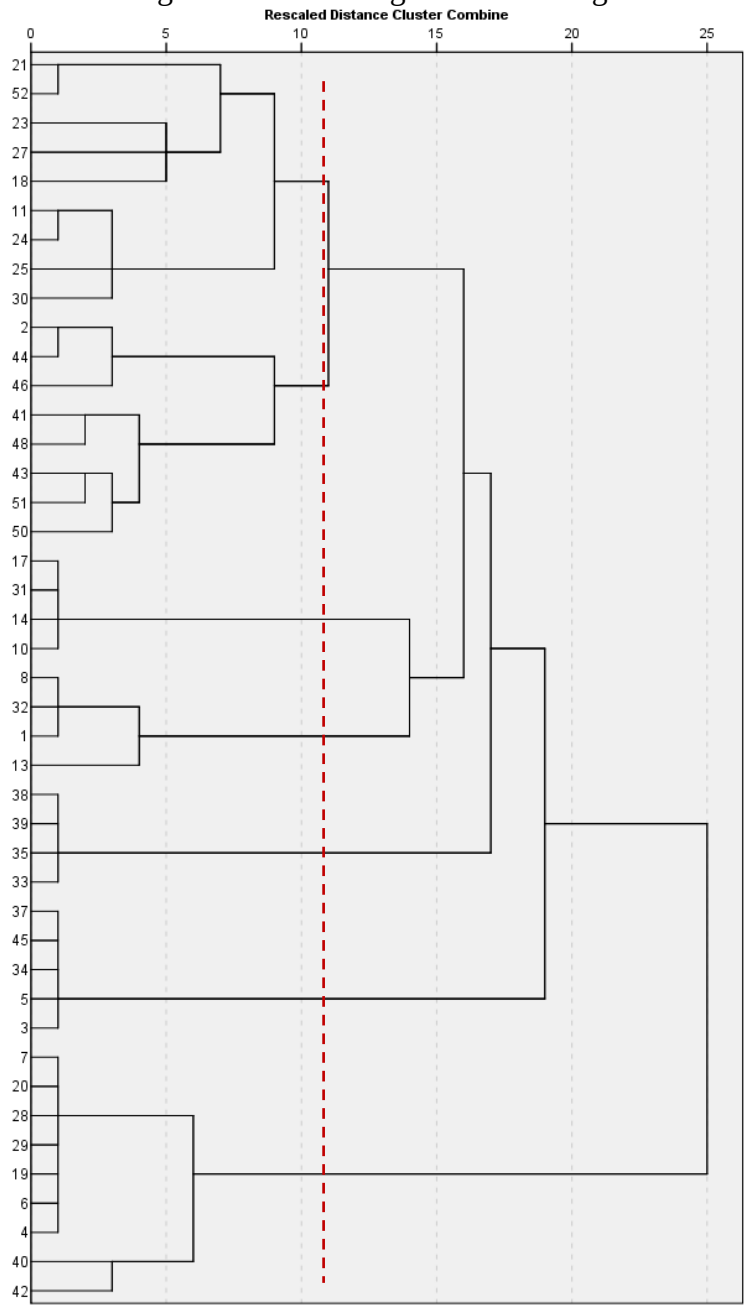
The **third cluster** comprehends four red flags (i.e., 33 FI3 Need to finance through issuing shares, bonds, debentures, 35 FI5 Insufficient working capital to finance own operations, 38 FI8 Large financial transaction occurring, 39 FI9 Overly dependence on single source of revenue). This cluster refers to "***Unbalanced financing cluster***".

The **fourth cluster** comprehends four red flags also (i.e., 1 SE1 overly complex organizational structure, 8 SE8 Collusion between employees and outsiders, 13 SE13 Shareholder inactivism, 32 FI2 Rapid organization expansion). This cluster refers to "***Structure cluster***".

The **fifth cluster** comprehends four red flags (i.e., 10 SE10 Regulation compliance difficult, 14 SE14 Opaque business operations, 17 SI3 Hostile and saturated market, 31 FI1 Company's profitability misaligned with sector's average). This refers to "***Environment cluster***".

The **sixth cluster** comprehends 8 red flags (i.e., 2 SE2 Inadequate internal control system, 41 AC2 Hard to corroborate, 43 AC4 Inadequate documentation, 44 AC5 Auditing department inexperienced / negligent, 46 AC6 Overly complex transactions, 48 AU3 Staff communication restrictions, 50 AU5 Auditor and company unusually close relationship, 51 AU6 Watchdog engaged in insider trading). This refers to "***Accounting-Auditing cluster.***"

Figure 6.1 – Dendrogram for red flags



The **last seventh cluster** comprehends nine red flags (i.e. 11 SE11 Internal oligopoly, 18 MG1 Executive compensation, 21 MG4 Accounting methods, 23 MG6 Young & Inexperienced executives, 24MG7 Excessive pressure on executive decision making, 25 MG8 Risk proneness on executive decision making, 27 MG10 Rationalization from executives on doubtful procedures, 30 MG13 Aggressive against critics, 52 AU7 Whistleblower warning). This refers to a mix of executive behaviors and the detailed analysis of this cluster suggests two sub-clusters that put together "11, 24, 25, 30" which relate with few powerful people putting pressure on executives and "18, 23, 27) which relate with the behavioral mechanisms

that explain executive compliance with such pressures. Overall, this cluster can refer to "***Executive behavioral processes***".

The figure 6.2 shows a graphical depiction of the clusters that took place in Wirecard case as reported in the sample of FT articles.

Figure 6.2 – Red flag clusters



7.5. How comprehensively do articles show red flags to the reader?

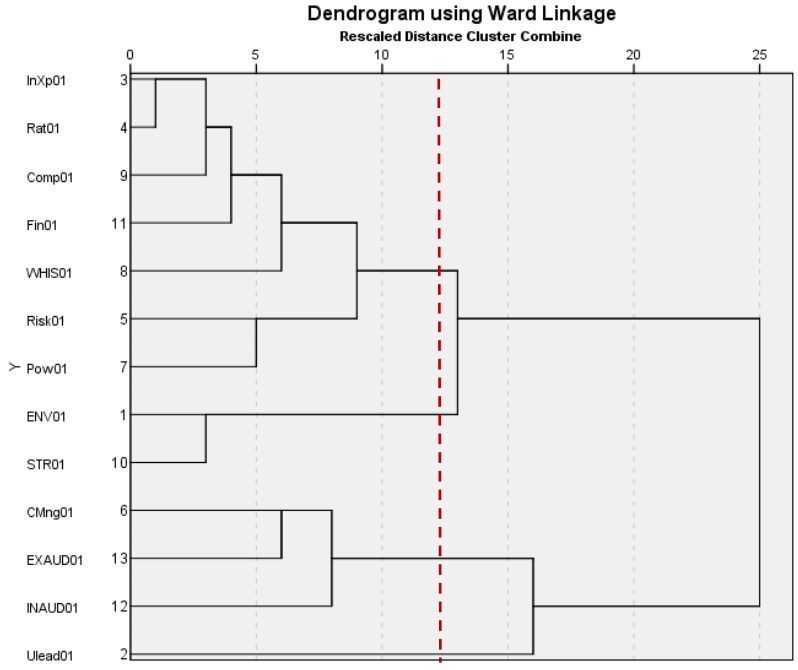
Restructuring the table to cross each FT article with the new red flag categories (13 aggregating categories) show articles vary as regards its comprehensiveness on red flags. As per the simple sum of different red flag categories (with the maximum possible being 13) we have found cases ranging from a single red flag category up to 7 mentioned in each article. This means there are articles that simply highlight one red flag (25%) while others have highlighted 7 (54%) as depicted in table 6.9.

Table 6.9 – frequencies of red flag categories per article

Number of different red flags	Frequency	Valid Percent	Cumulative Percent
1	10	25.0	25.0
2	9	22.5	47.5
3	6	15.0	62.5
4	4	10.0	72.5
5	2	5.0	77.5
6	4	10.0	87.5
7	5	12.5	100.0

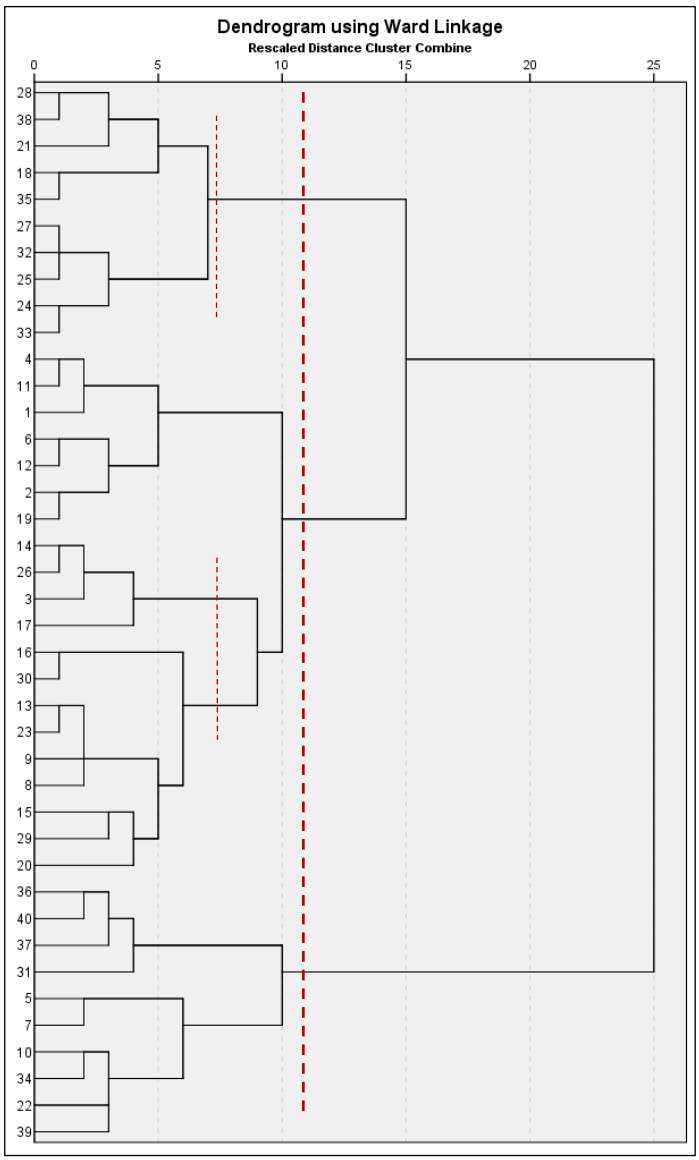
Almost half of the articles cover one or two different red flags (cumulative percent is 47.5%) and the number of articles that cover at least half the existing red flag categories is very minimal (5 articles out of the 40, i.e., 12.5%). When clustering the red flag categories, we can identify three typical aggregations. **Unethical leadership** stands out as a singled-red flag cluster, followed by a second cluster focused on **auditing and management control**. A third cluster focused on **structure and environment** and a last fourth cluster amalgamates everything else, i.e., the **behavioral dimensions** with the organizational cultural dimensions such as power, risk proneness or CEO compensation. Figure 6.3 shows the hierarchical structure of this analysis.

Figure 6.3 – Dendrogram for red flag categories clusterization



Finally, when mapping the typical configuration of red flags per article, a cluster structure was found (Figure 6.4) that comprehends four large clusters where two of these may accept a sub-clustering as shown in Table 6.10.

Figure 6.4 – Dendrogram for configurations of red flag categories per FT article



The dendrogram comprehends the 40 FT articles which are identified by their article number. The cutoff for the clusters is set at 10 and the composition of each cluster will show to which extent this cutoff is sufficiently informative so to offer a clear and consistent view of the patterns entailed in each cluster. Table 6.10 shows the frequencies per red flag category per article, organized according to the data structure of the dendrogram shown in Figure 6.4. As it is visible, the patterns found for clusters 1 and 3 seemingly have two subclusters inside. The table is organized so to show a reasonable view of the clusters and subclusters found.

Table 6.10 – Configurations of red flags categories per FT article organized in clusters.

		ENV	Ulead	InXp	Rat	Risk	CMng	Pow	Whis	Comp	Struct	Financing	INAud	EXAud	Diff Red Flags
	FT28						1								1
	FT38						1								1
C1a	FT21		3	1			2								3
	FT18						1						1	1	3
	FT35						2						1	2	3
	FT27													1	1
	FT32													1	1
C1b	FT25													1	1
	FT24							1						1	2
	FT33							1							1
	FT4		3						1			1	2		4
	FT11		1						1				1		3
	FT1		2	1					1				1		4
C2	FT6		1										1		2
	FT12		1										1		2
	FT2	2											1		2
	FT19												1		1
	FT14		4					1							2
C3a	FT26		2					1		1					3
	FT3		3			1		2							3
	FT17	1	5			1		2		1			1		6
	FT16	1									1				2
	FT30	1									1				2
	FT13		1												1
	FT23		1												1
C3b	FT9		2								1				2
	FT8		1									2			2
	FT15								1						1
	FT29	1	2					1	1						4
	FT20		1		1				1		1				4
	FT36	1	1								1		1	1	5
	FT40	1	2			2	2				1		2	2	7
	FT37	3	1			2					1	2		1	6
	FT31	1	1				4					1	1	1	6
C4	FT5		2		1	1		2	1				2	2	7
	FT7		3			1		1	1			1	1	2	7
	FT10		3			1	1						1	1	5
	FT34		1			1	2	1	1				2	3	7
	FT22		1			1	1			1	1		1	1	7
	FT39		4				2	1		1			1	1	6

The first article cluster found in the dendrogram (reading from top down) comprehends 10 articles (starting in article FT28 and ending in FT33). All these articles capture 1 to 3 different red flag categories. However, looking closely to the pattern, it is possible to spot two subclusters. The first one, which is C1a has in common the references to "Management Control" with some small cases about "internal and external auditing". However, the C1b subcluster is mostly about the "internal and external auditing" red flags. So, the C1a is comprised of five articles focused on ***Management Control***, and C1b is about ***Internal and External auditing*** although in a shallow approach.

Cluster 2 comprises seven articles from FT4 to FT19 and this article cluster comprehends a more complex depiction of red flags operating in the Wirecard case. Although one of these articles only targets a single red flag category (FT19) all the others mentioned at least a couple, and two of these articles mentioned as much as four different red flags (namely FT4 and FT1). The emerging pattern seems to target mostly ***internal auditing*** with a focus also on unethical leadership and some whistleblowing. So, this cluster is named "Internal Auditing".

Cluster 3 has also a seemingly sub clustering as C3a comprehends articles that mention two to six red flag categories and mostly target ***unethical leadership together with power culture***. However, C3b is poor as regards the comprehensiveness of red flags mentioned (ranging from 1 to 4) and it is mostly targeting ***unethical leadership*** and some whistleblowing.

The last article cluster, C4, is clearly the only that has the most spread targeting on several red flags categories with cites ranging from 5 to 7 and covering mostly ***unethical leadership, risk proneness, management control, internal and external auditing***. This cluster is very informative as it contrasts with the other clusters and is represented by the following 10 articles: FT36 (2015), FT40 (2019), FT37 (2015), FT31 (2019), FT5 (2023), FT7 (2020), FT10 (2020), FT34 (2020), FT22 (2018) and FT39 (2020).

8. Discussion and conclusion

As stated, this study was designed to explore the role auditors played in the Wirecard case as well as how media operated as a watchdog. For that purpose, five leading questions were placed: 1) What were the red flags mentioned? 2) Which ones received more attention and which ones may have passed unnoticed? 3) How do articles arrange red flags together? 4) How comprehensively do articles show red flags to the reader? 5) How were auditors depicted in the news?

As regards the first question (What were the red flags mentioned?), results showed 10 out of the 12 Structure & Environment red flags previewed by Murcia and Borba (2007) were mentioned. All except "staff high turnover" and "unsupervised accounting report generation". Not all cases of fraud will show all red flags, but overall, the coverage is quite comprehensive. The agency theory (Jensen & Meckling, 2019) is visible in the centrality of red flags, namely in the Shareholder-Managers conflict of interest and in the collusion between employees and outsiders. The lack of a suitable internal control system gained visibility also together with the lack of a policy to punish dishonesty. This is an obvious marker of the lack of will from leadership to create the conditions to prevent fraud, which is quite understandable if it is the leadership itself that has a vested interest in it.

As regards sector/industry cluster of red flags, no article highlighted the industry decline because the industry was novel and still growing and it is interesting to see how innovation and rapid change was not mentioned as a plausible red flag in this case. Most likely, this happened because of the value business gurus put in innovation while overlooking how such fast-paced change and innovation can open doors to bypassing the system and control rules. This was highlighted by the European Parliament commissioned report by Navaretti et al. (2020).

As regards the manager cluster, the expectable result was found with an overwhelming attention given to unethical leadership. This attention somehow backgrounds the other important red flags like the excessive interest of executives on profit and value grown, the mechanism that can explain why this excessive interest might be detrimental to the organization, namely the "executive bonus being contingent upon profit and share price" and the psychological processes that explain why executives can live well with being corrupt, namely rationalization. An important emerging red flag is the aggressiveness against critics including whistleblowers, journalists, and short sellers, which is an attitude stemming from leadership and goes against the best interest of the company.

It is natural that inventory abnormal growth is not present within the red flags mentioned in FT due to the digital nature of the business, but it is somewhat surprising to read relatively lower frequency of mentions to financial cluster red flags. This is especially surprising because the Wirecard scandal is in its essence a financial scandal. Of course, this must be gauged against accounting reports cluster. Indeed, the attention of the journalists was placed on accounting red flags namely on the "hardship in corroborating statements", the "transaction with non-audited third parties", which could be directly linked to "operations with doubtful entities", and "inadequate documentation". It is understandable that the inexperienced auditing department is not emerging in the analysis of Wirecard in the articles because it is not the case due to EY experience.

The most remarkable finding concerning auditing cluster red flags is the relative absence of occurrences (to the exception of executives overpowering auditors) and the need to insert four new categories. EY was heavily targeted as a co-responsible for the Wirecard scandal, but the way auditing was analyzed falls short from what would be expectable. It is worth noticing that the relational dimension between auditors and auditees played a key role but was not stated as a formal red flag in Murcia and Borba's (2007) classification.

As regards the second question (Which ones received more attention and which ones may have passed unnoticed**?**) findings showed Leadership is by far the most important contributor to fraud according to FT articles. However, as a system, leaders cannot per se be able to completely commit fraud in the way Wirecard happened. They are but a part of the equation. Rightfully, control management and internal auditing as built-in systems designed to self-control and monitor any divergence that could be indicating either a problem or at least a liability, emerged as a second group of red flags. The fact that external auditing has lower frequency than internal one is informative because EY was heavily charged and punished for being negligent and in these articles the "external auditing" as a red flag was not as mentioned as the shaming of EY. Knowing the name of the auditing company that was blamable is far less educational than knowing the specific practices they adopted in the whole process for a reader that would want to learn why the external auditing complied with such fraudulent practices. This could be due to the fact that EY detailed role is still under investigation and there is not so much information on the specificities as suggested by Storbeck (2023). Still, these findings seem to be falling a bit short from what would be a fully informative overview of the important role of external auditors in preventing future scandals like this. A less cited factor relates to culture. Risk proneness, power culture, whistleblowing and even the structure itself can be placed under the umbrella of organizational culture (Sackmann, 2022). Most

interesting is the almost lack of attention to the CEO compensation itself that only corresponded to less than 2% of the red flags identified in the articles. However, CEO Compensation is a key issue in fraud-prevention research (Fich & Shivdasani, 2007). It is widely pointed out as one of the most important mistakes when explaining why fraud or why management malpractice occurred and the Agency Theory (Jensen & Meckling, 2019) is clear about how it diverts the attention of the manager from the true interest of the organizations, the shareholders, and the remaining stakeholders. In the same vein, a focus on the leaders' psychological processes seems to be lacking as rationalization was only explicitly mentioned in 1% of the red flags. Although this category could be inscribed as a subcategory of unethical leadership, judging from the literature it deserves a special attention because it is not about being unethical but about what sort of behavioral mechanism can be activated (or deactivated) to justify the ongoing practice of wrongdoing.

As regards the third question (How do articles arrange red flags together?), the clusters found four red flags closely relate of those proposed by Murcia and Borba (2007). While these authors preview six overarching domains of red flags, the empirical analysis of FT reports on Wirecard extracted seven.

In our analyses, Structure and Environment split into two domains. Naturally that structure and environment are closely linked because organizational structure should be a product of its effort to gain better fit to the environmental pressures and needs (Volberda et al., 2012) but they deserve a separate analysis. Likewise, the financial domain was also showing split in two. On the one hand it refers to financial issues (such as "problems with past financial statements,", "Doubtful receivables" "Overly complex transactions", "multiple bank accounts") that highlight the complexity of the system, and on the other hand it refers to "unbalanced financing" that refers to the financing instruments and overly dependence on single source, thus highlighting the financing risk. Curiously in the cluster analysis, accounting domain emerged fused with auditing. Although they are quite distinct activities their interdependence was so obvious in the Wirecard scandal that they are frequently co-occurring in the FT reports. The original Murcia and Borba's (2007) "management domain" also showed split in our analyses. Management split in "leadership" and "executive behavioral processes". Leadership refers to "tone at the top", agency issues, unethical breach, and executive interest in profit. However, the articles from FT reported separately the executive behavioral processes that comprised "executive compensation", "risk proneness on executive decision making", "Aggressive against critics" which all come down to bias motivations and power pressures.

Quite naturally, sector or industry cluster was absent as the articles focused only on Wirecard and not on sector or company comparison. They interest was bounded within the industry.

As regards the fourth question (How comprehensively do articles show red flags to the reader), findings suggest there are four types of articles reporting on Wirecard. The first type (cluster 1) focuses on management control, and the second type on internal and external auditing. These two types of articles are closely linked and offer the reader a deep but narrower view of these two issues. The second type of articles is mainly focused on internal auditing only, but it offers a wider number of red flags. The third type of article is focusing on unethical leadership and power culture altogether. This type comprehends a subtype that is almost exclusively focused on unethical leadership but with a simple offer of red flags. The fourth type of articles concern the most comprehensive depiction of red flags given to readers, and covers unethical leadership, risk proneness, management control, internal and external auditing. Somehow, this type of article incorporates most of the information the previous ones offered. One quarter of the published articles fell in this group.

An analysis of the publication year suggests the most comprehensive papers seem to be mostly produced before the Wirecard case unraveled. The exception goes to FT5 which was published recently, and it may have a more retrospective view on the case, which would logically bring more different red flags into the analysis. Curiously, none of the articles found placed exclusive emphasis on the auditing.

The last question was not subjected to specific empirical analysis, but it is rather a reflection of the whole findings with a focus on how deeply auditors' red flags were explored and what was the overall analysis on the role of auditors.

Auditing is not sufficiently highlighted in the Wirecard reporting although it played a critical role in allowing it to occur and endure. Even if the CEO and all the unethical leadership structure that gained roots in Wirecard wanted to commit such widespread fraud, they would not be able to do so, should EY have done its job properly. Independently of the ruling about its motivation to align with the fraud (if intended, if just neglecting), EY creates a case to go deeper into the fragilities of external auditing industry.

EY is the key audit firm in this process together with KPMG. However red flags could only concern EY. As inferred by the many pieces of puzzle put together in the media, EY failed to exercise professional skepticism by relying too much on documents and screenshots provided by a third-party trustee and Wirecard itself. This occurred continuously for three years as regards the Singapore cash situation. In a lively depiction on how absurd this mistake was,

Storbeck et al. (2020, 26 June) reported that a senior auditor at another firm said that obtaining independent confirmation of bank balances was "equivalent to day-one training at audit school.". In another account one can read in the same article that the head rival accounting firm to EY said: "it is beyond the realms of reality that EY wouldn't have had the bank balance confirmations unless they did a very poor audit. Cash is easy to audit. If investors can't trust the cash number, what can they trust?".

Another important fact refers to the recurrent suspicion casted on EY for such a long time (at least since 2008, according to a Berlin based lawyer firm working in the case against Wirecard, Storbeck et al., 2020) and such continuous suspicion should be per se a red flag.

Mooney (2020, 12 sept) reported the idea that accounting was designed for a relatively stable world where assets were physically accountable, although today intangible assets are more abundant. Newer challenges such as e.g., climate change is not adequately addressed in financial statements. Auditing responsibilities in scandals such as Wirecard, bring doubt not only on a specific audit firm but upon the entire industry.

As reported, the seriousness of the failure auditing experience in the Wirecard case is too grave not to deserve a central stage in revising or extending red flags. It is informative that in the reclassification of red flags there were more mentions to internal auditing than external auditing.

It may be interesting to think about how much real power an external entity has, to prevent or regulate on the different categories. It is reasonable to state external authorities have feeble power over most of the categories but as regards a strong regulation on external auditing and whistleblowing protection, there is plenty room to legislate. Most of the other categories fall into the discretionary power of shareholders (how much and under which conditions to pay executive bonus), the market (how complex and hostile are competitors), or management philosophy (how closely are processes monitored, how much leeway managers give to employees).

From another look, following Bazerman et al. (2002) auditors are hired and fired by their clients and so, as they compete in a market, to which extent are auditors truly independent? Although not discussed in any of the articles reporting on the Wirecard, the sheer number of cases involving the larger auditing firms may lead to question to which extent can one accept auditing as a private business? Should it not be a public service function under the direct scrutiny of a State independent entity? This idea deserves discussion but against the intuition that public means "no client dependencies" Roberts (2006) highlights the role of politics, and likewise, in the Wirecard case, BaFin - the regulator which is independent and not-private –

acted politically due to suspicion of foreign interest collusion. So, perhaps the answer is not straightforward.

One important omission in the reports on Wirecard and the role of auditors, is that reporters focus on EY as a firm and not so much on EY auditors as individuals. Although one auditor deserved being named, all the other auditors are tacitly treated as vehicles of EY will. Still, professional skepticism in auditing applies mostly to each individual and his or her attitude towards everything pertaining to a give process. The client, the client's goodwill, the claims, the evidence, and the instruction received to conduct the audit from their own employer. If such scrutiny is not present, then auditors failed also individually as displacement of responsibility ("I have followed orders") is not acceptable. Likewise, it could be the case that EY was not giving any instruction to be lenient on the client, but the mindset and individual vested interested in the client, could have played such role. Still, a stain in an auditor, stains his or her audit firm also.

Overall, one can conclude that free media acting as watchdogs do play an irreplaceable role in uncovering fraud such as was evident in FT and Wirecard. The persistence is key to create the momentum that will make those unwilling to poke in trouble, to act. Public pressure, market reactions, and shareholder concern pushed Wirecard to bring in another player (KPMG) and past auditors had no other choice but to acknowledge their wrongdoing (hoping for a "neglect" conviction instead of a "intent" conviction).

Also, as a tool for pushing more literacy on red flags, public newspapers such as FT seem to play a positive role. Still, more should be done because findings concerning categories of red flags show most of the attention goes to the person of the CEO as an unethical leader. This is understandable as it is a human reaction to look for personal culprits and villains in all the bad stories, but the true hidden factor that played a major role here is "auditing", not so much "leadership".

The number of red flags and the visibility of the role auditors played is not at the level of their true responsibility. Perhaps auditing is not as an attractive topic for the wider audience as is the "evil" leadership, but even if all the C-suite was aligned to morally corrupt everyone, intending to betray the best interest of shareholders, so to commit fraud, with an authentic and independent auditing their intention would be short-lived or exposed before harmful effects could be felt. No Wirecard case would ever have occurred even if Braun, Madoff, Lay, Skilling, and Tanzi were seating in the same board. So, red flags concerning auditors deserve more attention. Still, the question remains: If auditors are entrusted to act so to protect the integrity of business and the market, who protects auditors and auditing from audit market and business

pressures? A plausible answer is: “auditing-related red flags” protect auditors and audit firms from themselves.

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