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Strategies of visibility in contemporary surveillance settings:

Insights from misconduct concealment in financial markets

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1. INTRODUCTION

Contemporary society is characterized by massive surveillance, notably relying on increased digitization (Haggerty & Ericson, 2007; Lyon, 2007). Research has outlined the rise of new forms of surveillance, emphasizing their laterality (Haggerty & Ericson, 2007; Lyon, 2007). Those new forms exhibit rhizomatic features but nevertheless embody panoptical characteristics (Haggerty & Ericson, 2007). More specifically, the related increased sophistication of surveillance systems is translating into a proliferation of visibility axes (Haggerty & Ericson, 2007) and into a reversal of visibility from the few to the many (Lyon, 2007; Mathiesen, 1997). Accounting studies have investigated this phenomenon (Brivot & Gendron, 2011; Eckersley, Ferry, & Zakaria, 2014; Martinez, 2011), focusing on the evolving nature of the watcher from a specific limited audience, i.e., central management (Quattrone & Hopper, 2005), to a broader audience of peers (Brivot & Gendron, 2011) and even the general public (Eckersley et al., 2014). Although providing interesting insights into the new characteristics of surveillance modes, these studies remain theoretically focused on the watcher.

In this paper, our intention is to contribute to this literature by turning to the actors who are surveilled and investigating how actors manage their visibility in contexts characterized by massive surveillance. In line with previous studies on surveillance (Lyon, 2007; Marx, 2009), we consider that the *“individual is often something more than a passive and compliant reed buffeted about the imposing winds of the more powerful, or dependent only on protest organizations for ideas of resistance”* (Marx, 2009, p. 372). Therefore, the

organizational actor is construed as actively engaging and interacting with surveillance. Surveillance effects are therefore mitigated or magnified by the involvement of those being surveilled because people often find means of coping with surveillance (Lyon, 2007). Thus, in this paper, we are interested in actors' strategic responses to surveillance.

To that end, we draw on recent research concerning the range of activities undertaken by surveilled individuals in response to surveillance systems (Marx, 2009). We complement this research by drawing on Goffman's analysis of the presentation of the self. Goffman (1959) suggests that individuals present themselves in a particular way to achieve acceptance by an audience. Building on this suggestion, we examine the activities whereby surveilled individuals present themselves in a positive light to surveilling audiences, and we name these activities *strategies of visibility*.

We develop our argument by examining a case study of fraud (i.e., the 2008 Société Générale¹ bank scandal in France). Jérôme Kerviel's fraudulent trading led to a loss of €5 billion. It was later found that Kerviel had been cheating for a long time, despite multiple digitized surveillance systems monitoring his trading activity, the direct supervision of his desk manager, and monitoring by his peers. The empirical details involve documents from the official investigation and the court trial and interviews with actors operating in a comparable context. Drawing on this material, we detail the strategies of visibility that Kerviel developed to conceal his misconduct and to present himself to different audiences in a positive light.

The context of fraud provides particular insight into the study of organizational control and surveillance. Indeed, despite the increased sophistication of surveillance systems and the related proliferation of visibility axes, the number of scandals associated with fraud does not appear to slow down (e.g. Courtois & Gendron, 2017; Neu, Everett, Rahaman, & Martinez, 2013; Stolowy, Messner, Jeanjean, & Baker, 2014), and recent accounting research

¹ Referred to hereafter as SocGen.

increasingly engages with this issue by adopting various stances (Cooper, Dacin, & Palmer, 2013; e.g. Davis & Pesch, 2013; Gabbioneta, Greenwood, Mazzola, & Minoja, 2013; Morales, Gendron, & Guénin-Paracini, 2014; Neu et al., 2013; Power, 2013; Williams, 2013). More specifically, studies have examined the social process by which individuals come to adhere to a culture of deviance (Courtois & Gendron, 2017; Free & Murphy, 2015) and have highlighted the link between how fraud is construed and the notion of organizational control in wider society (Morales et al., 2014). In particular, this body of research calls for developing knowledge of the sociological processes by which people come to adhere to a culture of deviance (Neu et al., 2013), and it calls for greater attention to the question of social controls (Courtois & Gendron, 2017). The present paper addresses these calls within the context of fraud; it offers an insightful setting to examine strategies of visibility, notably because investigation and trial processes provide unique observations and data on actors' strategies of visibility (even when only partial). Nevertheless, we argue that strategies of visibility are not exclusively developed in contexts of fraud but, rather, that they could exist in any organizational context.

With our analysis of the SocGen fraud case, we seek to make three main contributions. First, our analysis advances our understanding of how actors manage their visibility in a context characterized by massive surveillance. In particular, it provides insights concerning how surveilled individuals can achieve a positive image in the eyes of different surveilling audiences with different expectations through strategies of visibility by segregating their audiences and playing different roles for each. Incidentally, our findings also emphasize the importance of surveilled individuals' interpretation of the archetype (or script) that they use when playing a role. Second, this study contributes to the analysis of settings in which multiple control systems coexist. It points to the need in such settings to distinguish between how those systems are organized and how actors manage them. Finally, the case study

highlights the importance of technical literacy, both for the surveilling audiences and for the surveilled individuals.

The following section introduces the theoretical background on which we build the notion of strategies of visibility. The third section presents the research context and the method of analysis. The findings are detailed in the fourth section. We conclude with a discussion of the findings and their broader implications.

2. THEORETICAL BACKGROUND

Here, we briefly review the literature on the reversal of visibility, in both surveillance and accounting studies, and subsequently present the theoretical framework on which we draw to elaborate the notion of strategies of visibility and to conduct our empirical study.

2.1. Reversal of visibility

Surveillance studies have emphasized the recent proliferation of surveillance (Haggerty & Ericson, 2000, 2007; Lyon, 2007; Marx, 2003; Mathiesen, 1997). Moreover, surveillance systems have evolved as digitization has increased the speed and volume of data collection (Brivot & Gendron, 2011; Haggerty & Ericson, 2000; Martinez, 2011). In the organizational context, the latest surveillance systems can automatically generate customized reports that flag exceptions specified by operations managers. In other words, managers can set parameters without any requirement for input from accountants in information collection and interpretation (Chapman & Chua, 2003).

This evolution has led accounting researchers to question the classic imagery of the panopticon (Foucault, 1993) extensively used in accounting studies (Carmona, Ezzamel, & Gutiérrez, 2002; Hopper & Macintosh, 1993; Hoskin & Macve, 1986, 1988; Macintosh, 1994; Miller & O'Leary, 1987; Rahaman, Neu, & Everett, 2010; Walker, 2010; Walsh & Stewart,

1993). Some studies suggest that the metaphor of the panopticon can downplay the subtlety and complexity of contemporary surveillance systems, which are characterized by more laterality (Brivot & Gendron, 2011; Martinez, 2011). The question of visibility remains particularly important (Haggerty & Ericson, 2007). Some scholars outline a reversal of visibility, away from surveillance by the few to surveillance by the many, at the level of society (Lyon, 2007; Mathiesen, 1997) and the level of organizational control (Eckersley et al., 2014). This reversal appears to come with certain associated constraints.

First, due to this reversal, technical literacy becomes an important issue. In their study on the auditing and assessment of local public services in England, Eckersley et al. (2014) describe how the UK government required the online publication of financial and performance datasets to allow surveillance by ordinary citizens. They emphasize the limitations of such modes of surveillance, arguing that most citizens are either unable or unwilling to undertake this task, because they lack the literacy (which professional auditors possess) required to analyze and understand these complex data. This argument shows the importance of technical literacy in surveillance based on organizational accounting data. Second, the reversal of visibility also implies a radical change in how visibility is considered. Visibility is thus considered not merely passive but active (Lyon, 2007; Marx, 2003). Actors do not simply comply with surveillance but react to it using approaches that mitigate or magnify its effects. Thus, actors have many different means of coping with surveillance, including, but not limited to, resistance (Marx, 2003). At stake here is the agency of the surveilled, that is, the “*strategic actions*” undertaken by actors in response to surveillance (Marx, 2003). Brivot and Gendron (2011) refer to this aspect when they suggest that organizational actors are aware that they are involved in complex games of power and visibility. These authors explicitly call for an exploration of how this awareness could

“translate into impression management, whereby actors purposively seek to promote certain representations of the self” (2011, p. 154) in a context of increased digitized surveillance.

We draw on this research and aim to carry it further by examining how actors purposively seek to promote certain presentations of themselves to contemporary organizational surveillance systems. Although the overwhelming majority of the surveillance literature in accounting takes the theoretical stance of the *viewer society* (Mathiesen, 1997), we choose to center our analysis on the surveilled. To our knowledge, this surveilled-centered stance has not yet been adopted in accounting. However, a study on the media and popular culture has placed the theoretical focus on the surveilled (Lyon, 2007). Lyon study examines how people stage their own reality shows and outlines that people who “act up” in front of surveillance cameras are giving another twist to the nature of surveillance. As Haggerty and Ericson (2000) explain, viewers expect a show but see only what others want them to see. We therefore choose to examine how this “show is put on” within organizations by surveilled actors, i.e., how it is performed and for whom.

2.2. Turning to the position of the surveilled: Insights from Goffman’s framework for understanding presentations of the self

To consider how surveilled individuals engage with organizational control and surveillance, we draw on surveillance studies (e.g. Robbins & Isbister, 2014; Smith, 2002; Westcott & Owen, 2013) and accounting research (e.g. Beattie & Davison, 2015; Compennolle, 2018; Lorino, Mourey, & Schmidt, 2017; Mouritsen, 1989; Parker & Warren, 2017) mobilizing Goffman’s approach. To understand how actors present themselves within a surveillance context, we consequently turn to Goffman’s dramaturgical analysis, which considers how individuals present themselves in everyday life (Goffman, 1959). Goffman considers individuals’ awareness of being surveilled a central aspect of social life. They

behave accordingly by playing roles that they believe will present them in a good light to audiences.

According to this conceptual framework, individuals are actors adopting archetypal roles, depending upon the domain of social life they are in. These roles are idealized presentations of the self, stereotypes tacitly shared between the performer and the audience. The role is performed by presenting a “front”: *"that part of the individual's performance which regularly functions in a general and fixed fashion to define the situation for those who observe the performance"* (Goffman, 1959, p.22). The front consists of the “manner” in which, or how, the role is performed and the “appearance”, including the attire and the look of the performer. The actor must offer a compelling front to communicate his/her role and must perform the social duties specific to this role so that the performance will appear consistent to the audience. In Goffman’s analytical framework, the front is a vehicle for standardization. It allows others to understand and categorize the individual based on the projected image, which conveys normative meanings. Aspects of the individual that do not match the front will be hidden backstage, in the part of the self that individuals will try not to show, to avoid disappointing his/her audience. Mueller (2018) insists that the overall performance must be competent, credible and believable to rule out less credible interpretations.

The audience in Goffman’s approach is viewed as somewhat accepting. It expects a performance and is well aware that there might be discrepancies between what is being shown and the actual reality. Goffman discusses the example of a formal dinner at which the hostess makes a great effort to present herself correctly. The dinner guests might pretend not to notice any awkwardness and thus assist the performer in saving “face”. Although construing the audience as indulgent, Goffman also suggests that some roles will work only for a specific audience. For this reason, actors must keep their different audiences segregated.

Goffman's approach has recently been used in accounting research to investigate how organizations engage in impression management (Cho, Laine, Roberts, & Rodrigue, 2015; Compennolle, 2018; Solomon, Solomon, Joseph, & Norton, 2013), notably in sustainability reports. An illustrative example is provided by Solomon et al. (2013), who use Goffman's approach to show how investors and investees collaborate to co-construct and disseminate a myth of social and environmental accountability. In the same vein, Cho, Laine, Roberts, and Rodrigue (2016) highlight the relevance of frontstage/backstage concepts in uncovering and further documenting the deceptive nature of the discourse contained in standalone sustainability reports. Although this strand of studies explores the relevance of this analogy, it also considers how organizations respond to expectations by presenting a façade likely to meet them, thereby remaining at the organizational level and thus overlooking the individual level.

Building on Goffman's work, we develop the notion of "strategies of visibility" to conceptualize and examine how surveilled organizational actors develop strategies to present themselves in a positive light to surveilling audiences.

2.3. Strategies of visibility

Here, we elaborate the notion of strategies of visibility to examine how surveilled actors can positively influence the impression they give to surveilling actors. Goffman's analysis of the presentation of the self is not centered on how actors can purposively deceive audiences, but this aspect is not entirely absent. It is more specifically mentioned in the final chapter of *the presentation of the self*, in which Goffman indicates the following (Goffman, 1959, p. 162):

"Instead of attempting to achieve certain ends by acceptable means, they [the observed] can attempt to achieve the impression that they are achieving certain ends by

acceptable means. It is always possible to manipulate the impression the observer uses as a substitute for reality because a sign of the presence of a thing, not being that thing, can be employed in the absence of it. The observer's need to rely on representations of things itself creates the possibility of misrepresentation”.

In this quote, Goffman suggests that surveilled actors can strategically mislead surveilling actors using the expectations of the surveilling. Building on this suggestion and Goffman's broader framework, we elaborate the notion of strategies of visibility to account for the activities whereby surveilled individuals present themselves in a positive light to surveilling audiences.

We suggest that *strategies of visibility* have three building blocks: the audiences, the frontstage and the backstage. First, there are the audiences. We previously set out that addressing demands from different audiences might require different strategies. Actors developing strategies of visibility must understand the expectations of each audience to develop an adequate strategy. Furthermore, they also must segregate between those audiences to comply with each audience's expectations efficiently. To date, this segregation has not been considered in existing research using Goffman to account for how actors develop façades (e.g. Cho et al., 2016; Compernelle, 2018). Second, there is the front, i.e., how the actor presents him/herself to the surveilling audience. The front will perform the role to be played consistently and in accordance with the expectations of the surveilling audiences. Consistent with the idea that different audiences might have different expectations, we suggest that strategies of visibility might imply developing different fronts to please these different expectations. Finally, there is the backstage – i.e., what actors try to conceal to avoid disappointing the surveilling audiences.

In this paper, our intention is to examine how surveilled individuals develop strategies of visibility in contemporary settings in which surveillance is digitized and originating from

multiple surveilling audiences, or “multiple lines of visibility” (Martinez, 2011, p. 208). As emphasized by Martinez (2011), the study of organizational management control systems includes sensitivity to these multiple lines of visibility that subject individuals to overlapping visibilities. In particular, we focus on investment banking and, more specifically, trading activities. Banking is exemplary of continuous digital surveillance, as suggested by Deleuze (Deleuze, 1995). More specifically, trading is, by essence, digital; therefore, it often evades physical verification (Bhimani, 2003). Trading implies multiple information flows that are collected and aggregated with or without traders, middle officers, and desk managers. Furthermore, because trading activities are subject to multiple and diverse expectations, the criteria for evaluation possibly become more ambiguous and perhaps even subject to disagreement. Traders are under constant surveillance to ensure that they comply with regulations and normative requirements and with their hierarchy’s demand for profitability. Trading activities are inherently subject to intersecting controls and instant and continuous monitoring. However, the prevalence of intersecting controls does not imply their consistency.

Specifically, in the present study, we seek to address the following question: *what are the strategies of visibility that traders can develop to address the contradictory demands from multiple surveilling audiences in the specific setting of trading floors, where digitization and social surveillance are omnipresent?* By addressing this question, we expect to refine our notion of strategies of visibility through an empirical analysis and to contribute to research on surveillance by considering the active strategies of those surveilled.

3. METHOD

Our analysis examines the case of Jérôme Kerviel and the SocGen trading fraud, which was revealed on January 25, 2008, when SocGen's CEO Daniel Bouton publicly announced that the bank had incurred a loss of approximately €5 billion.

3.1. Data sources

Our research is initially based on publicly available documents, following previous research on cases of fraud that became public and were eventually legally investigated (Courtois & Gendron, 2017; Gabbioneta et al., 2013; Stolowy et al., 2014). However, whereas previous research relied on material from public commissions, we focus on trials.

We initially collected the court decisions on the case. The Kerviel case was adjudicated by multiple jurisdictions between 2010 and 2016, because Jérôme Kerviel appealed the rulings against him. We used the initial Criminal Court judgment from October 5, 2010, and, following the appeal, the Court of Appeal decision from October 24, 2012. The *Cour de Cassation* (French Supreme Criminal Court) adjudicated the case on March 19, 2014; however, because this court considered only legal arguments, not the facts, we could not use its decision. Nevertheless, the *Cour de Cassation* decided that the part of the case on liquidated damages (not the sentence to 3 years in jail) must be re-adjudicated. Therefore, it resent the case to a Court of Appeal. This second Court of Appeal made its decision on September 23, 2016. Interestingly, previous decisions by the Criminal Court (in 2010) and the Court of Appeal (in 2012) had found Kerviel entirely guilty and sentenced him to pay €4.5 billion in damages to SocGen (the total amount of the loss). In contrast, the 2016 decision insisted on the “faults” of SocGen and, in particular, the weaknesses of the control system. Consequently, in this decision, responsibility for the fraud was shared, and Kerviel was sentenced to pay (compared with the previous decisions) only €1 million to SocGen. This

sentence was the final part of the judicial process, and the criminal litigation of the Kerviel fraud case is now over.

Second, because trials in France cannot be recorded or filmed², we decided to collect information on the hearings and testimonies by gathering all of the articles published in the newspapers around the different trials giving an account of this case. To gather this material, we focused our search on newspapers that covered the entire period of the trials. We found three main French newspapers that transcribed the hearings and systematically collected the relevant articles. We also collected articles discussing the trials and providing elements or analysis concerning the fraud at the time of the trials (2010, 2012 and 2016). These articles provided data including police interrogations, information on discussions at internal meetings, recorded phone calls and internal documents, and risk management, control reports and alerts. We considered them crucial sources of information and consistent with previous research on cases of fraud that had been adjudicated (Courtois and Gendron, 2017). We found three main newspapers³ that fully covered the trials, leading us to collect a dataset of 210 articles (see Table 1).

INSERT TABLE 1 AROUND HERE

We collected information until saturation (Glaser and Strauss, 1967) as we indeed used additional sources⁴ to confirm similar elements provided in the three selected newspapers and obtained a relatively rich picture of the trial and opinions expressed in the French press.

² In France, there is an official transcript of the trial made by the court and also a transcript made by journalists. Nevertheless, public disclosure of films or records of trials is forbidden by law, with few exceptions.

³ *La Dépêche*, *Le Monde* and *La Tribune*.

⁴ We used online newspaper articles Slate.fr and Huffington.fr.

We performed an in-depth analysis to identify prominent lines of interpretation of the fraud and chronological articulations. We read through the articles. To avoid becoming lost in the complexity of the case (Bourdieu, 2005; Courtois & Gendron, 2017), we put emphasis on Kerviel's activities (see Appendix A for a summary), the main actors⁵ surrounding the fraud (e.g., compliance officers, desk managers, and peers), their role during the fraud (e.g., colleagues, hierarchy, the external body of control, the internal body of control, and brokers), the fraud mechanism (explained in Appendix B), and the causes of the claimed failures.

We also collected and analyzed data from documents originating from the bank. We analyzed two reports: the SocGen internal "General Inspection" report (known as "Mission Green"), which provides a detailed account of the internal control and its operation during the fraud episode, and the detailed external audit report ordered by the bank (PwC, 2008). We additionally analyzed the website of the bank, on which the communication department provides the bank's standpoint on the fraud and the trials. Although we analyzed the Mission Green report made by the "General Inspection" of SocGen (its elite internal auditing unit), we remained aware that the report was partly designed to demonstrate that the SocGen control system was efficient and that the fraud was due to Kerviel's misconduct and abuse of trust and the failure in his managerial supervision. Similarly, the PwC report was ordered and paid for by SocGen; therefore, it presents similar potential biases.

Finally, we also analyzed Kerviel's own account of the events, as published in his 2010 and 2016 books. Kerviel's books support his defense, which notes that such operations are well known by his hierarchy, which intentionally ignores them when they are profitable, and that the incentive system encourages such risk seeking.

3.2. Data analysis

⁵ See Appendix C for the main protagonists and Appendix D for a glossary.

We approached the documents by considering that each was written from a specific standpoint. During the analysis, we remained sensitive to this issue, considering that no source should be considered “neutral”. Indeed, the stakes were very high, both for SocGen and for Jérôme Kerviel, who both intended to minimize their responsibility and blame the other party. Consequently, we considered all accounts value loaded and intended to serve a cause. We were aware that in such sensitive cases, each source of information has a specific bias (Neu et al., 2013), and accordingly, we used a number of different data sources to triangulate them (Jick, 1979) although acknowledging their specific biases. Importantly, we were not concerned with seeking Kerviel’s motivations or the bank’s responsibility; rather, our focus was on understanding how Kerviel presented himself to the different control audiences during (and, in the epilogue, after) the fraud.

From our multiple sources of information (listed in Table 1), we aimed to build a cross perspective on the events preceding the public disclosure of the loss on January 25, 2008. The first step of our analysis, informed by the theory, aimed to analyze the surveillance and control environment in which Jérôme Kerviel was operating. More specifically, we sought to identify the different audiences that he was facing in his activities and their expectations. Consistent with the abovementioned choice of focusing on certain actors to prevent becoming lost in the complexity of the case, we outlined three main audiences based on their expectations: the Delta One (DO) desk, where Kerviel was operating and where he was under direct supervision, the risk management department, and the middle office and compliance. For each of these audiences, we detailed the control systems that they used. We then turned to Kerviel to analyze how he engaged with those different audiences and their expectations, i.e., the roles he played. We focused on actors’ visible behaviors rather than trying to guess what was in their minds.

To check our main findings, we also talked to professional traders and risk managers from SocGen and other banks to obtain their perspective on our analyses and to confirm our main findings. Concerning our theoretical frame, although Goffman conceptualizes everyday life, we argue that analyzing such an extreme case as the Kerviel fraud case can provide insights of relevance for more routine cases.

4. FINDINGS

In this section, we detail the strategies of visibility that Kerviel developed. We structure our findings section as follows. First, we “set the stage” by introducing the main protagonist, Jérôme Kerviel, and present his activities as a trader. We then account for the different surveilling audiences (Figure 1) and the external actors involved in the case. We finally detail Kerviel’s strategies of visibility for each of the surveilling audiences involved.

4.1. Setting the stage

Jérôme Kerviel was initially employed in a middle office GEDS⁶ position in August 2000 in the Paris offices of SGCIB (Société Générale Corporate and Investment Banking). He became an assistant trader in January 2005 on the DO desk⁷, a front office GEDS trading activity, working under the responsibility of the DO manager, Alain Declerck. Kerviel traded in the following main products: (i) warrants⁸ and turbo warrants and (ii) forwards⁹ and

⁶ Global equity and derivative solutions.

⁷ Occasionally referred to as DLP in the extracts from the reports.

⁸ A warrant is an option, a derivative that confers the right but not the obligation to buy or sell an equity at a certain price before expiration. The price at which the underlying equity can be bought or sold is referred to as the exercise price or strike price. An American warrant can be exercised at any time on or before the expiration date, whereas European warrants can be exercised only on the expiration date. Warrants that confer the right to buy an equity are known as *call warrants*; those that confer the right to sell are known as *put warrants*.

⁹ A forward is a derivative contract. “It is an agreement to buy or sell an asset at a certain future time for a certain price”, in contrast to a spot contract, which is almost immediate. A forward contract is traded in the over-the-counter (OTC) market – usually between two financial institutions or with one of its clients. One of the parties of this contract assumes a long position by agreeing to purchase the underlying asset on a certain specified future date for a certain specified price. The other party assumes a short position by agreeing to sell the asset on the specified date and price.” (source: pp. 6-7, ([Hull, 2014, p. 6-7](#)))

futures¹⁰ (see Box 1 for Kerviel's detailed activities). His activity consisted of taking a position (buy or sell) on derivative contracts, which means that he was speculating on the increase or decrease in contract prices.

Box 1: Kerviel's trading activities

Jérôme Kerviel works on warrants and turbo warrants (which work similarly to warrants), futures and forwards (Kerviel, 2010).

The underlying products are equities, stock indexes, exchange rates, and commodities. The mechanism is simple: we take a call option on a stock at a certain price that we set in advance, and if at maturity the stock price goes up, is profit making. Kerviel is not supposed to engage in own account trading; that is, he must make transactions on behalf of the bank's clients.

Thus, he is not supposed to *spiel*. To "*spiel*" is to use money from the bank and speculate on the rise or fall of the market. This type of trading is very risky and is forbidden at SocGen because a *spiel* generally operates without coverage to produce quick wins. Therefore, in the case of bad investments, losses are also bad. In his book, Jérôme Kerviel explains that in 2007, 90% of his activities consisted of *spieling*. For the most part, the earnings from Jérôme Kerviel's *spiels* did not appear in the bank's income statement. He used the technique of "under the rug" to hide the result and reveal it later. The principle is simple: everything that is above the annual objective is swept under the rug, i.e., provisions are made to transfer it to the following year. He managed to sweep under the rug up to €1.47 billion for 2007, when his target was supposed to be €10 million.

Jérôme Kerviel masked positions of several billions from the accounting services (his daily limit was set at €125 million) by entering transactions in the opposite direction for each speculative transaction, simulating a deal with a new broker unknown to the bank. However, this counterparty was fictitious and existed only to hide the "*spiel*" in the computer tool so that its position in the system would be equal to zero. For example, the implication is that if the trader speculated upwards by buying 10 futures contracts on the DAX (which is a stock index that represents 30 of the largest and most liquid German companies that trade on the Frankfurt Exchange), he also entered a fictitious transaction in which he sold these same 10 contracts to an unknown broker. Thus, his position remained zero. Payments to the fictitious counterparty remained in a buffer, pending information on the identity of the broker, who clearly did not exist.

The control and surveillance environment of Jérôme Kerviel is described in Figure 1.

We identified three main audiences relevant to our analysis of Kerviel's strategies of

¹⁰ Similar to a forward, a futures contract is an agreement between two parties to buy or sell at a certain date and a certain price. The main difference is that futures are traded on an exchange, which specifies certain standardized features of the contract to allow the trading. The exchange also provides a guarantee that the contract will be honored because the two parties might not know each other.

visibility: the desk, the risk department sub-units, and the middle office and compliance teams. It is important to consider that investment-banking activities involve three main offices: front, middle and back. **The front office** is where the bank directly interacts with the client; thus, it is where the trading occurs. This term usually refers to investment banking, asset management and the trader and trading rooms. Jérôme Kerviel and the DO desk are part of the front office of the bank. **The middle office** is an intermediary between the front and the back office. The middle office refers to all of the departments that support the front office, primarily by providing relevant market-related information. The middle office is also the controlling body of the front office. It encompasses risk management and compliance activities in direct relation to the front office; otherwise, risk management and compliance control is part of the back office. The middle office has three main functions concerning transaction checking: (i) to ensure that traders' operations respect both internal limits and regulatory limits; (ii) to ensure respect for the bank's engagement limits; and (iii) to confirm to counterparties the positions taken by the front office. **The back office** includes administrative and support departments that are not directly supporting the front office. The back office aims to ensure the processing of transactions between the three units respectively responsible for cash flow management, debt management and risk management. More generally and particularly within a bank, a back office designates all of the administrative functions necessary for the proper execution of an order or a transaction, which includes accounting.

INSERT FIGURE 1 AROUND HERE

In addition to these three audiences, there are external actors (individuals and entities) that interact with the bank and, more specifically, with Jérôme Kerviel and the DO desk. The

main external actors involved were Eurex, AMF¹¹, Kerviel's broker and the counterparty. **Eurex** is a marketplace (i.e., European Exchange) in which primarily European-based derivatives are traded. Transactions executed on Eurex are cleared through "Eurex Clearing", whose function is to act as a central counterparty. The financial flows are between the clearinghouse and the buyer and between the clearinghouse and the seller but not between the buyer and seller. When a transaction is problematic, "Eurex Clearing" will ask for clarification and potentially investigate. In this case, Eurex is referred to concerning its "Eurex Clearing" activity. **Brokers** are more or less the same as sales representatives because they can buy and sell stocks and have direct contact or communication with their respective clients. The broker negotiates the best deals possible for his/her clients, either for him/herself or for a firm. In the long term, they seek to enlarge their client base, notably by keeping them informed of stock price fluctuations. Jérôme Kerviel's broker (hereafter referred to as Moussa B.) was an intermediary between Kerviel and the exchange; he executed Kerviel's transactions and therefore intensively traded with him. Moussa B. was working for Fimat (formerly Newedge, a subsidiary of SocGen). Finally, the **counterparty** (which will play a key role in the fraud detection) is the other party that participates in a financial transaction. More specifically, every buyer of an asset must be paired with a seller who is willing to sell and vice versa. There is a specific risk related to the counterparty called counterparty risk, which is handled by risk management and assesses the default risk of the counterparty. This aspect refers to the fact that a counterparty might not meet its contractual obligations.

These three external actors did not exert direct supervision on Kerviel. Therefore, they are not considered surveilling audiences in the analysis. However, because they were in contact with the surveilling audiences or Kerviel, they played a part in the reported strategies of visibility. Rather than presenting events chronologically, we organized the data around our

¹¹ Autorité des Marchés Financiers, the equivalent of the US SEC.

analysis of the different roles played by Kerviel. As described below, Kerviel had to manage different expectations and present his activities differently, hiding and displaying different aspects to three different audiences (Figure 1). The following discussion details the expectations of these audiences and the roles played by Jérôme Kerviel in response.

4.1. Act 1. The DO desk

The first act addresses the DO desk, the trading desk where Jérôme Kerviel was working. After introducing the main protagonists and their role, we detail this audience's expectations and how Kerviel arranged his front and backstage to highlight the strategy of visibility that he developed for this audience.

4.1.1. Surveilling audience's expectations

The DO desk is a directional trading desk. In banks, the DO desk operates on financial derivatives whose prices vary approximately at the same amplitude as their underlying assets. In the trading ladder, working on the DO desk is often a starting point for a trader. At SocGen, the DO desk primarily includes 5 other traders¹², Kerviel's assistant trader (Thomas Mougard, who assisted him in recording trading operations), and a desk manager, also referred to as the N+1 (Alain Declerck until January 2007, after which the position was vacant for 6 months; he was subsequently replaced by Eric Cordelle). Delta One activities are also present in many other banks.

Kerviel joined the DO desk in 2005 as a trader. Importantly, this activity is generally not well regarded in trading rooms, because traders are supposed to participate in transactions that are simple and without much risk. Other desks therefore looked down at the DO desk (*Les Echos*, 2008). Another important point is that Kerviel came from the middle office (*La*

¹² On January 1, 2008, i.e., Jérôme Kerviel, Taoufik Zizi, Ouachel Meskine, Thierry Rakotomalala, Sébastien Gers and Mathieu Besnard.

Tribune 2012), which is not generally highly regarded by traders. Kerviel himself called his middle office work “*secretarial data consolidation work*” that was “*completely mindless*” (Slate 2010). Kerviel describes the spatial arrangements specific to the DO trading room as follows: “*the small team of eight traders I was part of worked at the same table, with screens less than a meter apart. The direct supervisor, the one you call your line manager, Eric Cordelle, worked about two meters away from my own desk*” (Kerviel, 2010, p. 18).

A trader’s result (P&L) is very important, because it is used as a basis for the calculation of short-term incentives (e.g., the salary bonus is based on it). Moreover, traders publicly disclose their best deals to their colleagues. As Kerviel states, “*When a trader has a good result on an operation, he raises his arms in victory and expresses an infectious joy. Everyone applauds all around, the supervisor runs to hear the good news and reports the information to his superiors*” (Kerviel, 2010, p. 115). However, he also provides a more nuanced presentation of this outward team spirit: “*all sitting there together, buddies in appearance, but every man for himself on the market, and if tomorrow a colleague a few seats away can use a mistake I made to increase his own results, he will do so without any hesitation. Trading must go on [last sentence in English in the original]*” (Kerviel, 2010, p. 115). The traders are in competition and exert lateral social control on each other through the disclosure to the desk members of their results (P&L) under the desk’s implicit norms (Abolafia, 2008). Interestingly, the most important criterion in the trading room is the profit made by each trader, a factor that naturally conflicts with risk limitation (which was disclosed neither formally nor publicly). As Kerviel explains, “*in the trading room, the ideal modus operandi can be summed up in one sentence: knowing how to take risks to make the maximum amount of money for the bank. In the name of such a rule, the most basic principles of prudence do not carry much weight*” (Kerviel, 2010, p. 14). Traders view themselves as risk-takers and consider risk highly calculated and rational (Abolafia, 2008). Their focus on risk-

taking and profit, together with the short-term incentives, is part of what Abolafia (2008, p. 104) terms the structural conditions of traders' work, which we refer to as trading room social values. Although peer control was informal, it is clear from the reports and legal documents that it was of great importance.

4.1.2. The front: A moneymaker

To address these expectations, Kerviel openly complied with the role of a good trader. Kerviel's performance for the audience consisting of DO traders and his line manager was in the role of a moneymaker and thus a good trader. He not only complied with the archetype of the role but also outperformed his assigned result objectives (€3 to €55 million from 2005 to 2008) and made a significant contribution to the desk's collective performance: "*Between 2006 and 2007, JK's earnings were multiplied by 6, growing to represent 59% of the earnings of DELTA ONE desk Listed Products*" (Mission Green Report, 2008, p.46). Kerviel was an object of admiration among the audience of his peers, as illustrated by the following remark made by a DO trader during his police questioning: "*He managed to make €400,000 in half a day, when I was making €700,000 in a month*". Kerviel explains in his book that his managers perceived him as a "good little earner" (Kerviel, 2010)¹³. At the end of each trading day, the only talk was of "how much did you make?" In the words of Abolafia (2008, p. 104), *money was everything*.

After only two years at the DO desk, Kerviel had established himself as a senior trader with an excellent track record. His hierarchy was impressed with how well he complied with the expectations related to the role. In his 2005 annual evaluation, his managers and Martial Rouyère [the second-line manager] were impressed by "*his knowledge of and expertise in*"

¹³ The original term is "une bonne gagneuse", which implicitly refers to what a pimp might call a prostitute who brings in a great deal of money.

his work¹⁴. When the head of the desk changed, because of this positive perception, Kerviel was asked to train and support the new line manager, Eric Cordelle. Cordelle was supposed to supervise the DO traders, despite his lack of trading experience and knowledge. A financial engineer by training, he had spent the previous five years as the head of product structuring in SocGen's Japanese subsidiary. He became the new manager of the DO desk in April 2007. Cordelle explained during the initial trial at the Criminal Court (Slate, 2012) that "*I was not a trader, but I knew about management, I saw it as a good opportunity to learn*", admitting that he did not know the traders' vocabulary. "*It was important not to show my team right away that I didn't grasp everything, so in the evening, I discreetly met Martial Rouyère to report and discuss*" (Bonnefous & Douroux, 2010). Kerviel was perceived as more senior than Cordelle, although he had only two years of experience in trading. According to OM, a DO trader, "*Everyone knew that Jérôme was gambling and winning. (...) Eric had said that he had seen Jérôme take a position on a few hundred futures that had yielded 300 to 400,000 euros*" (Criminal Court Decision, October 5, 2010, p.46). Kerviel also presented himself as a model employee, sharing some of his results by transferring part of them to his peers and not complaining too much about the relatively low bonuses that he received (€15,000 in 2005 and €60,000 in 2006).

4.1.3. The backstage: Concealing transactions

To personify a good trader, Kerviel had to achieve results that were good but not suspiciously good – but also conceal certain elements of his activities. Those elements were in the backstage and had to remain concealed. In 2005, he achieved a profit of €500,000 (Criminal Court Decision, p. 54) after taking significant intraday positions (€15 million) that he had been careful to cover up with bogus transactions (Criminal Court Decision, 2010, p.

¹⁴ 21/06/2012, Slate, excerpts from the second trial.

54). Two months later, his line manager, Declerck, discovered the subterfuge: *“He then received verbal reprimands but was not threatened with disciplinary action. In fact, the €500,000 profit had not been included in the bonus calculation because it did not result from his normal area of activity”* (Criminal Court Decision, 2010, p. 54). However, this profit was included in the desk’s collective performance and thus in the bonus calculation for the following year. Although management was informed, there was no formal report on this event (Mission Green Report, 2008). This episode illustrates the desk manager’s lenience toward Kerviel’s actions, possibly because he was earning good money (Kerviel, 2010). His assistant trader declared that although Kerviel was clearly deviating from the risk limitation rules, he was meeting his performance objectives.

Kerviel also used a widespread profit-transferring practice known as the *“rug”* technique. According to several witnesses, standard practice at the end of the year, once the objectives had been reached, was to rig the results to start the following year with a *“mattress”*, i.e., some money aside. Kerviel's colleague SGE admitted that he revalued his portfolio *“at the request of the management”*, with *“the effect of reducing the 2007 result and increasing that of 2008, by 2 million euros”* (La Tribune, 2012). Furthermore, TM, Kerviel's assistant trader, said, *“Martial Rouyère [Kerviel’s second-line manager] had asked SG to help conceal 2 million euros of profit. The aim was to transfer results from 2007 to 2008”* (La Tribune, 2012). However, Kerviel overused this desk practice; by the end of 2007, his results amounted to €1.4 billion, which he largely swept *“under the rug”*. When questioned about the enormous level of earnings generated by Kerviel in 2007, Cordelle answered that he assumed it came from a loan (excerpt from the second trial, *La Tribune*, 2012):

Questions: *“By what means could Jérôme Kerviel have earned €1.4 billion at the time of the liquidity crisis?”*

Eric Cordelle: *“With a loan”*.

Cordelle was supposed to conduct a daily check of traders' compliance with financial commitment limits and to regularly check the database of daily transactions to monitor his traders' activities. However, he was in fact as indulgent as Declerck before him; Kerviel was making money. Thus, the cash flow information was secondary.

Our analysis indicates that Kerviel's strategy of visibility concerning the DO desk surveilling audience (that included his direct hierarchy along with his colleagues) was to display a front with the characteristics that this audience hoped for – an outstanding moneymaker managing to achieve impressive results while taking some risk within the accepted limits. Backstage, he was concealing most of his results so that the performance displayed in front would be credible and consistent with his authorized activity, and his risk-taking was visible. The relationship between the front and the backstage had to be carefully managed. Making too much money would have clashed with the desk's expectations and might have triggered suspicion about his work.

4.2. Act 2. Risk management department

To achieve his high profits, Kerviel had to take enormous positions that, if detected, would affect the market risk calculation and alert the credit risk unit.

4.2.1. Surveilling audience's expectations

In contrast to the DO desk, the risk management (RISQ) department had very strict, formal requirements of precise low-level risk. As explained in the Mission Green report and the PwC report, the RISQ department comprises a market risk (RDM) unit and a credit risk (CMC) unit. The RDM unit calculates and monitors the Basel II ratios¹⁵ and conducts highly formal quantitative market risk assessments, based on the value at risk (VaR)¹⁶.

¹⁵ **Basel II** aimed to establish risk and capital management requirements to ensure that a bank has adequate capital for the risk the bank exposes itself to through its lending, investment and trading activities. Basel II

The CMC unit is in charge of evaluating and monitoring counterparty risk and the related default of payment. The risk refers to the possibility for each party of a contract that the counterparty will not live up to its contractual obligations. This counterparty risk is a risk to both parties and should be considered when evaluating a contract. Both the RDM and CMC units expected traders to comply with the rules and thresholds they laid down for market and credit risks. As both types of risk were automatically calculated using the internal database and ratings, the role performed by Kerviel involved specialist techniques, as we now explain.

4.2.2. The front: A risk-compliant trader

To appear a risk-compliant trader, Kerviel had to show that his activities remained under the risk limits set by this audience. To understand the front Kerviel was performing for the RISQ units, it is important to understand how these risks were evaluated.

First, concerning market risk, at the time of the fraud, the VaR calculation was based on the net position (i.e., the variation between different positions) and was calculated daily (by the end of the day) automatically using the data contained in the ELIOT system (a front-office computer application). This aspect is particularly important because it was a key element of Kerviel's strategy of visibility. Indeed, Kerviel ensured that his net positions at the end of the day always appeared compliant with the market risk limitation. The implied VaR based on the calculation of the net position appeared to be within the acceptable range. In the next section, we will see how he ensured such a positive front using different techniques.

Second, it is important to understand that credit risk was supposed to evaluate the seriousness of the counterparty and the possibility of payment default. Therefore,

recommends ensuring that credit risk, operational risk and market risk are quantified based on data and formal techniques. The preferred approach for market risk is VaR (value at risk).

¹⁶ Value at risk (VaR) is a statistical technique used to measure and quantify the level of financial risk within the bank over a specific time frame. This metric is used to determine the extent and occurrence ratio of potential losses in banks' institutional portfolios. VaR calculations can be applied to specific positions or portfolios as a whole or to measure bank-wide risk exposure.

Source: <https://www.investopedia.com/terms/v/var.asp#ixzz5BbjSqMK9>

interestingly, this default risk is lower when a transaction is conducted between the bank and one of its subsidiaries. In the front, Kerviel was trading with “CLICKOPTIONS” (which is an SGCIB wholly owned subsidiary), a counterparty. These trades were considered internal because they were between two SGCIB entities; because the counterparty was also part of SGCIB, they were not considered risky. Therefore, the trades recorded as dealing with CLICKOPTIONS were below the counterparty risk limit and were considered not risky by the CMC unit.

In summary, Kerviel’s front concerning the RDM and CMC units consisted of presenting his activities within the ELIOT system as being below the risk limits. Therefore, he appeared to be compliant with the risk policy. On the one hand, his activities appeared to generate a VaR under the acceptable range. On the other hand, his trades appeared within the system to be not risky concerning the counterparty, because the counterparty was internal. We now detail how this risk-compliant front was achieved by Kerviel through hiding elements in the backstage.

4.2.3. The backstage: Hiding a high level of risk generated by massive positions

Articulating a front of compliance with the risk rules with the reality of his activity implied that Kerviel carefully elaborated the backstage part of his strategy of visibility here, as he had to hide the high level of risk linked to his enormous positions. For this purpose, Kerviel used a series of concealment techniques to hide the risks generated by his massive positions. As indicated in SocGen’s internal report, he initially made false transaction entries within the information system to conceal market risks, later cancelling those entries:

“The entry and then the cancellation of fictitious transactions concealed market risks and the latent earnings from unauthorized directional positions (2); JK recorded one or several false transactions in the systems in order for them to be taken into account

in the calculation of risks and valuations. JK set the parameters of these transactions in such a manner as to use them to cover the fraudulent positions actually taken elsewhere. We have identified 947 transactions of this type” (Mission Green Report, 2008, p.1).

This technique used by Kerviel to hide the high market risk on his directional positions (i.e., pure speculations) consisted of offsetting the risk on his *real* position with the risk on a fake opposite position. As the VaR is calculated on the net position, only the difference between the two opposite positions was considered in assessing the market risk on his activities. Recording fake transactions artificially generated a smaller market risk, enabling him to hide the *true* risk on his trading positions.

Another effect of such enormous directional positions is the effect on the level of the counterparty risk, which would alert the CMC unit that was in charge of these types of risk (i.e., calculation and monitoring of risks involving financial institutions and market counterparties and assessment of the market exposure). To avoid such a credit risk alert being triggered, Kerviel used two techniques¹⁷ (fake trades and pairs of fake trades), and he ensured that the fake trades would never be seen by the CMC unit. To that end, he made use of three technical features in the control system that left him sufficient time to cancel recorded trades and to replace them with new fake trades to escape routine credit risk controls.

He recorded trades with technical counterparties in the ELIOT system. This system enabled the recording of technical counterparties among the following categories: “pending”, “echu po”, and “pre-hedge”.

“These counterparties have a completely permitted role when used under normal circumstances: the “echu po” counterparty is used by the OPER teams to represent in ELIOT the maturity dates of shares or warrants and products’ restructurations;

¹⁷ The first technique consisted of recording fake trades canceling the positions and latent earnings generated by fraudulent positions. The second consisted of recording mutually offsetting pairs of fake transactions. Kerviel also made a provisional flow record, but it was not targeting the credit risk.

similarly, the “pre-hedge” counterparty is used by teams of exotic traders, structuring teams and volatility traders in the marketing phases; the “pending” counterparty is used in cases where the counterparty’s information (client or broker) has not yet been created in the client database (BDR) or in ELIOT” (Mission Green Report, 2008, p.24).

As the excerpt explains, these categories are intended for cases in which the counterparty is awaiting classification and is not yet recorded in the client reference database or in which not all of the parameters have been determined. The categories constitute a type of “work in progress” status that is intended to be resolved within 2 or 3 working days. Kerviel thus used them to neutralize the risks resulting from his real positions. Trades with such counterparties are included in the calculation of the net position but are not automatically transferred to the back office applications or to the accounts. Kerviel subsequently cancelled these entries, at the latest when the middle office team in charge of resolving discrepancies between the front and back office systems became involved.

A second technique used by Kerviel to hide his positions and the related high level of counterparty risk was to record some trades as internal operations with “CLICKOPTIONS” as a counterparty. As mentioned above, the counterparty risk is lower when the transaction occurs between two entities belonging to SGCIB, i.e., the investment banking unit and CLICKOPTIONS. Although there was no automatic confirmation of such counterparty classifications, there was a monthly accounting reconciliation of reciprocal transactions between SGCIB and CLICKOPTIONS positions. To avoid such a revealing control, Kerviel cancelled his entries before or at the time of such controls.

Third, Kerviel also used fake trades with a deferred start date, in other words, with a value date much later than the date of the transaction. In accordance with generally accepted

market practice, such trades were confirmed only several days before the value date, providing enough time for them to be cancelled before they were checked.

As all of the above shows, knowing that the counterparty risk limits were low, Kerviel presented the details of his fake trades accordingly – stating an internal counterparty that would not need confirmation or stating deferred dates that did not trigger immediate confirmation and using technical or unrated “pending” counterparty categories that escaped confirmation or control. These techniques effectively dodged the detection arising from counterparty risks and allowed Kerviel to handle the risk level, exhibiting good figures to hide his enormous positions.

In short, Kerviel was playing a very technical game. The RISQ department could not be dazzled by technical jargon or thrown off its guard by socializing (as in the case of compliance; see the next section) because its controls relied on quantitative ratios resulting from financial data. Therefore, to present himself as a risk-compliant trader, Kerviel had to manipulate the data that were included in the VaR calculation and the counterparty information by technical means. The VaR was manipulated by entering fake transactions to conceal earnings, resulting in a VaR giving the quantitative impression of compliance with market risk limits. The counterparty information was manipulated by recording trades with internal counterparties and technical counterparty classifications that influenced how Kerviel’s operations were examined by the CMC unit. All of these activities occurred backstage, whereas on the front stage, he maintained the front appearance of a trader whose activities involved no notable market risks or any dangerous counterparties for the bank.

Our analysis of Kerviel’s strategy of visibility concerning the requirement of the surveilling audience in charge of risk management points to two aspects. First, the analysis reveals the technical skills necessary to manage the articulation between the compliant front and the backstage. Meeting the very strict, formal requirements of precise low-level risk from

this audience while deviating from them implies being sufficiently technically savvy to elaborate sophisticated procedures to hide risky transactions. Second, it suggests that this strategy is labor intensive. As the VaR calculation was calculated automatically on a daily basis, Kerviel had to consider the timing of control so that at the moment of the evaluation, everything would appear compliant. The implication is that he carefully managed his backstage activities on a daily basis to avoid being identified as non-compliant.

4.3. Act 3. Middle office and compliance control teams

The techniques of fake trades and counterparty previously described, together with the ongoing transactions being cancelled and re-entered, did in fact trigger some alerts and related controls. Kerviel had to undergo checks by the middle office and compliance team when both internal and external (notably from the Eurex clearinghouse) signals alerted them. We now analyze how he handled these controls and managed to ride them out by playing the role of the perfect trader and by calling on his social skills.

4.3.1. Surveilling audience's expectations

The compliance control team¹⁸ is in charge of ensuring that employees follow internal procedures, which must comply with the law. Compliance officers often have law degrees but no financial or accounting literacy and are likely to struggle with technical and jargon-loaded discourses on trading. Within this team, three main characters emerge from the data analysis: Vincent Duclos (ethics officer), Sébastien Conquet (interlocutor of Kerviel at the accounting department), and Marine Auclair (in charge of the reconciliation of accounting and economic

¹⁸ There is a general inspection department, which belongs to the same division as the compliance team and is in charge of assessing the risks of the various businesses and subsidiaries: banking risks (loans and their counterparties), financial risks (e.g., liquidity and interest rate risk), and compliance risks (client protection, measures against money laundering and terrorism funding). It is also in charge of fraud detection. However, the general inspection department is not relevant here, because, in the Kerviel case, it became involved only after the fraud had been detected.

data, i.e., responsible for the gateway controls).

As detailed by the Mission Green report and the SocGen representative during the first trial, the middle office's essential function is to liaise between the front office and the back office. The middle office standardizes the transactions processed by traders by forwarding them to the back office for accounting and administrative processing (confirmation with the counterparty, payment, settlement and delivery, and recording in the accounts). In the middle office, assistant traders establish their traders' daily P&L (i.e., result). The middle office deal management (DLM) team ensures that operations are properly modeled (coherence with documents received from brokers and counterparties) and meet the internal standards for modeling (depending upon risk procedures), and it ensures that the data entered in ELIOT are transferred to the back office systems¹⁹.

4.3.2. The front: A technically literate trader and a “good guy”

In his interactions with the middle office and compliance teams, Kerviel played a complex role that combined two contrasting aspects. First, he used his technical skills to present himself as a technically savvy trader, a role consistent with his professional status. Banks have an unspoken but important hierarchy of status between front office traders, middle office employees, and the compliance team. Kerviel, who started out in the middle office, compared his first job with a secretarial job (Kerviel, 2010, p. 83). Once he became a trader, he noted that traders did not mix with middle office staff. As he comments in his book (Kerviel, 2010, p. 99),

“(…) the differences in rank are quite clear; traders would make jokes among themselves and not mix with their assistants [who belong to the middle office]”.

¹⁹ “GMI”, “EOLE” and “THETYS”.

This difference is also acknowledged in the PwC report commissioned by SocGen after the scandal, which notes the weakness of the middle office and compliance teams, pointing to an “imbalance” between traders and controllers; controllers are unable to “*develop a real critical view inherent to their role*” (PwC, 2008, p. 7). This imbalance is also supported by the very important question in banking of what constitutes profit centers and cost centers (Godechot, 2008). At SocGen, as at other banks, a trading floor is considered a profit center, whereas the middle office and compliance teams are treated as cost centers. In an environment in which making money is the chief objective, this distinction strengthens the status rankings, as Kerviel writes:

“With the omnipresence of the profit culture, I perceived a hidden hierarchy between the ‘cost centers’ like the support functions – the back and middle office – and the ‘profit centers’, that is, the front office staff – the traders and the sales teams. Cost centers, profit centers, I couldn’t say how many times I heard those words. They had entered everyone’s language as well as the collective unconscious” (Kerviel, 2010, p. 96).

It was in this context and on this stage that Kerviel had to play a role for the middle office and compliance teams. A first component of this role was to assert his dominance by using financial jargon that he knew his correspondents could not understand. Such jargon involved a mixture of plain language and technical terms, with some English and French words used in the same sentence. For instance, on being asked by Sébastien Conquet (accounting department) about a €4 million provision, Kerviel answered,

“On est en train de cleaner suite à toutes les maturités. Tout sera bon ce soir. Je te tiens au courant” (reported from debates at the Court of Appeal hearing, *La Tribune*, 2012).

This answer can be translated into *English as, “We’re cleaning up after all the maturities. Everything will be fine tonight. I’ll keep you updated”*, a technical sentence with little information for non-technicians to relate to. The mixture of French and English also add to the jargony aspect.

Interestingly, Kerviel did not limit his role to this demonstration of technical superiority over this audience. He also appears to have been building a friendly, “good guy” image unusual among traders. He used to promise champagne to the middle office (Court of Appeal decision, p.93) and had developed personal friendships with compliance officers, to the point of being asked to be a witness at the forthcoming marriage of one of them, Valérie Rolland, an honor generally reserved for family or very close friends. Kerviel used to have coffee with Rolland every morning. During the first and second trials, she expressed her amazement at discovering his fake operations and "unreal" positions. Kerviel’s kind, friendly image partly explains the middle office’s lenience toward him. Claire Dumas, a representative of SocGen during the trial and a risk manager who worked on the fraud investigation, made the following comment when answering a question from the judges concerning the fake operations:

“Yes, they should have raised the alarm [...] but Jérôme Kerviel was on very good terms [with the people in charge of controlling him]. They were dealing with someone who justified his operations very politely and would spend time with them to provide explanations” (Second trial excerpt, La Tribune, 2012).

This quote highlights Kerviel’s performance and his handling of this audience through socializing.

4.3.3. The backstage: Using the front to have the audience ignore the back

The front that Kerviel had established with the audience helped him conceal his fraud. The maintenance of a separation between the front and the backstage was established not only based on his technical superiority but also based on the good relationships that Jérôme Kerviel had with this audience, as the following excerpt suggests:

– *“On all sent emails, none has been sent to the hierarchy. Was Mr. Conquet [of the accounting department, to whom emails are sent] in touch often with Mr. Kerviel?*

And positions of 1 billion euros were not shocking?

– *No, it's not shocking.*

– *Even for one person?*

– *No, but for Mr. Conquet, it should have been shocking. However, as an element of context, he had very good relations with Mr. Kerviel, who gave him explanations with a lot of kindness and cooperation, who spent time giving him justifications. The other traders do not go to as much trouble to produce proofs. Having someone bringing in a constructed and tied explanation is a big help. Mr. Conquet should have been surprised at the amounts, but he was not surprised as a result of his relations with Mr. Kerviel” President and Claire Dumas, second trial (La tribune 2010).*

The Mission Green report provides a more worrying example concerning an alert passed on by the RISQ department to the middle office:

“The alert is transferred by RISQ/CMC/GAP (application managers) to GEDS/DAI/GSD (agent 3 and agent 4). This alert refers to an unquestionably high underlying asset without giving a value. This will not be verified. Agent 3 asks JK for explanations concerning his positions, and a reply is obtained: ‘this materializes the giving up of puts made late; I owe money to the counterparty. It will be rebooked a.s.a.p.’” (Mission Green Report, 2008, p.32)

Interestingly, the Mission Green report mentions that “Agent 3” admitted²⁰ that he had not understood the explanation but did not ask for further details. Middle office staff and compliance officers appear to have concentrated more on “box-ticking”, collecting and recording answers than on really investigating behaviors.

Another episode when the compliance team did not manage to go beyond the front was the handling of requests for explanations from Eurex. In letters dated November 7 and November 26, 2007, Eurex twice informed SocGen of the suspicious conditions in which the trader worked. In both letters, the Eurex supervisory office shared its concerns over 6,000 index contracts bought between 3:00 pm and 7:00 pm on October 19, 2007, by *SOGFR ARB031*. These 6,000 contracts represented a total commitment of €6 billion made by one man in the space of only two hours. When contacted by the compliance team’s ethics officer, Kerviel responded very quickly. His managers simply passed on the trader’s explanations. Kerviel’s explanations notably contradicted Eurex’s assertions; his explanations on the direction of the positions were inaccurate, and he did not respond in detail to all of the questions raised by Eurex. Without further investigation, the compliance team accepted Kerviel’s statements. The Criminal Court’s decision in the first trial states the following:

“... A partial answer had been provided by Jérôme Kerviel, who had seen the first letter that Vincent Duclos [the ethics officer of the compliance team, mentioned above] had immediately transferred to him and had supplied two successive draft answering letters on November 16. In particular, he said that he needed to set up two big positions on futures to cover falling exposure on other positions. To the people he talked to, Jérôme Kerviel had seemed especially concerned to avoid revealing his strategy, which was based on the fact that after the European markets

²⁰ This point is also supported by the reports on the first trial (La Tribune, 2010).

closed, movements on the American market would guide the trends on the European markets the next day when they opened” (Criminal court decision, 2010, p. 49).

Kerviel then maintained the separation between the front and the backstage, claiming that he did not want to reveal his strategy, a behavior that the compliance team might have anticipated from a trader. Here, again, the front contributes to maintaining the backstage.

4.4. Epilogue. Kerviel’s strategies of visibility after the scandal

Discovery did not mark the end of the story of Kerviel’s strategies of visibility. Communication and image projection remained a major issue throughout the part of the story comprising the legal proceedings. Kerviel chose defense lawyers with a very high media profile, and in 2008, he was advised by a former journalist and communication expert, Christophe Reille, who later co-founded RLD partners, a consulting firm specializing in communication “under legal constraint”. During the trials, Kerviel constructed a public image as the victim of a large bank and a “system” that pushed traders to do anything for profit, regardless of rules that were deliberately weakly enforced. In 2010, he published a book to defend his position (Kerviel, 2010), presenting himself as a product of the “banking and capitalist system”. In 2014, he managed to meet with the Pope, which attracted wide media coverage. Kerviel then decided to walk back to Paris from Rome in protest against the jail sentence that he had to serve. Eventually, Kerviel became a symbol for opponents of financial capitalism in France. On June 20, 2013, Jean-Luc Mélenchon, the main leader of the radical left in France and a prominent political figure, wrote “Kerviel is innocent”, comparing his situation to the late 19th-century case of Alfred Dreyfus, a Jewish French military officer who was convicted of treason based on false evidence. Eventually, Kerviel published a second book in 2016 about his “new life”, reflecting on his resilience and his “inner quest” (Kerviel & Almavy, 2016).

5. DISCUSSION

In this paper, our intention was to examine how surveilled individuals display strategies of visibility in contemporary settings in which surveillance is digitized and originates from multiple surveilling audiences. To do so, we draw on recent research concerning surveillance systems (Marx, 2009) and Goffman's dramaturgical approach (1959) to examine how Jérôme Kerviel managed to present a positive image to and simultaneously conceal massive misconduct from different types of audiences for several months at SocGen. This case study shows how the notion of strategy of visibility is relevant in analyzing how a given individual manages to present a positive image of themselves to surveilling authorities but, at the same time, engages in practices that are at odds with what those surveilling audiences expect.

The analysis points to the existence of multiple audiences surveilling Kerviel with potentially contradictory expectations. It also shows that to address different audiences and their potentially contradictory expectations, Jérôme Kerviel played different, potentially contradictory roles. Consistent with Goffman, we find that for each role, certain aspects of Kerviel's behavior were emphasized, whereas others were concealed.

This study has potential implications for research building on Goffman to study how actors respond to surveillance and for studies concerning settings in which multiple control systems intersect and interact. It also points to the importance of technical aspects and, in particular, to actors' literacy in settings with sophisticated control systems and the usefulness of technical literacy for both the people surveilled and those surveilling.

5.1. Actors' responses to surveillance: developing strategies of visibility

Research in accounting has been taking an increasing interest in Goffman's dramaturgical perspective, which draws an analogy between social actors and professional actors who play roles to respond to the expectations of an audience (Goffman, 1959). Existing studies have explored the relevance of this analogy mostly at the organizational level, considering how organizations respond to expectations by presenting a façade that is likely to meet them (Cho et al., 2015; Compernelle, 2018; Solomon et al., 2013). The present research extends our knowledge in two directions. First, whereas past studies have considered the organizational (e.g. Solomon et al., 2013) and group (e.g. Abraham & Bamber, 2017) levels, this study considers the individual level. Indeed, Goffman's approach was initially developed to analyze how individuals manage and present a positive image and potentially increase their autonomy of action in certain contexts. This perspective, in which the agency of individuals is central, contrasts with the conclusions of previous studies that highly sophisticated surveillance systems undermine the autonomy of those individuals (e.g. Brivot & Gendron, 2011).

Second, this research explores a situation in which the actor must play different roles to meet the potentially contradictory requirements of separate audiences. The analysis shows how an individual can manage to do so by ensuring that each audience perceives an image that resonates with its expectations. In contrast to previous studies (Abraham & Bamber, 2017; Cho et al., 2016; Solomon et al., 2013), we show that the surveilled individual handles contradictory expectations by segregating audiences (see Table 2), keeping them separate so that they do not share their perceptions, which might otherwise lead them to identify inconsistencies.

INSERT TABLE 2 AROUND HERE

Incidentally, this study also advances our understanding of how actors interpret their roles. Goffman (1959) suggests that creating a façade means playing a role that is consistent with a standardized archetype. Our research suggests that whereas alignment with an archetype is certainly important, how actors play the role is also important. For instance, Kerviel's friendly, considerate manner in his relationships with middle office staff appears to lie beyond the requirements of the role of trader. This empathy for an audience that is often looked down upon by other people in the same role (i.e., traders' disdain for the middle office) might partly explain the lenience toward Kerviel shown by members of this audience.

5.2. Coordination between multiple intersecting control systems

This study also contributes to the analysis of settings with multiple control systems (Bhimani, 2003; Chapman & Chua, 2003). Moving beyond the traditional panoptic view of control systems, recent research has started investigating the interactions between multiple control systems. It concludes that multiple coexisting surveillance systems tend to complement one another (Brivot & Gendron, 2011; Levay & Waks, 2009), leaving actors little room for autonomy. The present study extends this research by investigating a configuration in which multiple intersecting control systems (Martinez, 2011) have different, potentially contradictory aims. In the case of Kerviel, we can distinguish three different control systems. His peers and trading desk superiors used social control, the RISQ department used digitized tools to control traders, and finally, middle office and compliance teams resorted to a mix of digitized and intersecting, yet uncoordinated, control systems, moving back and forth between the data that they accessed and the traders' explanations. Although previous research would anticipate that such multiple control systems would leave little room for autonomy, our findings suggest that Kerviel's autonomy is also partly

attributable to how those multiple surveillance systems were organized and managed by the bank.

A key dimension here is the organization of surveillance systems. An interesting feature in the case studied is the lack of coordination between the control systems devoted to trading activities. Thus, despite highly sophisticated control systems, each of these audiences had only a partial view of what the traders were doing. A potential counterargument is that the surveillance failed because the surveillance system was not designed and implemented properly. The question of the extent to which this lack of coordination was intentional²¹, with the general aim of favoring financial performance over compliance with rules, was debated between Kerviel's lawyers and SocGen's lawyers since the beginning of the legal proceedings. This question would be consistent with the argument emphasized by Gendron and Smith-Lacroix (2015) of a weak control environment and a culture of risk-taking prevailing within some large investment banks. We do not intend to enter into this debate. Nevertheless, this paper suggests that the ability of sophisticated multiple control systems to straitjacket actors and reduce their autonomy will depend upon the level of coordination between the systems and the people in charge of surveilling. Ultimately, these distinctions also point to the relevance of using Goffman's argument that actors and audiences cooperate to achieve goals valued by the group. We argue that in studying settings with multiple intersecting control systems, giving due consideration to the degree of coordination between these systems and any differences in enforcement levels and lenience shown by the people implementing the control would enhance and enrich our understanding of such situations. Although research has explored how management systems intersect organizational boundaries (Carmona et al., 2002; Neu, Everett, & Rahaman, 2009), this paper sheds light on the

²¹ Interestingly, in 2008, the banking commission handed down a decision of 4 million in penalties for control system failures. Although the responsibility of SGCIB was clearly established, the intentional aspects have not been clearly stated. Furthermore, during the second trial, Marine Auclair suggested that these fictive operations and their reasons were known by Kerviel's hierarchy and by the middle office hierarchy.

importance of the coordination of intersecting control systems in the context of contemporary digital settings.

5.3. Technical aspect of highly sophisticated control systems

This study points to the importance of technical competences for actors operating in contemporary organizations with highly sophisticated control systems. It extends the work by Eckersley et al. (2014), who suggest that technical literacy is of great importance. The sophistication of modern surveillance systems increases the amount of information available but does not actually make surveillance easier. Our study confirms these results that highly sophisticated control systems can provide more information but require technically literate actors to use them. The extent to which Kerviel could be controlled by line managers offers an example of this point. Until 2007, Kerviel's manager was Alain Declerck, a former trader with inside knowledge of the trading business and technical knowhow that could have enabled him to detect Kerviel's misconduct. Declerck resigned in 2007, and Kerviel began to take large fraudulent positions immediately after his resignation. Kerviel's new line manager, Eric Cordelle, had no previous knowledge of trading and proved unable to control Kerviel, despite all of the resources provided by the sophisticated control systems. This point highlights that a lack of technical literacy results in a situation in which management is weakened rather than reinforced by digitized surveillance systems. More broadly, it confirms that in settings with highly sophisticated surveillance systems, it is technical literacy, not the systems or the data alone, that empowers the controllers. Without the appropriate technical knowledge, sophisticated control systems are useless.

This study also suggests that in such settings, although technical literacy empowers the controllers, it also empowers the surveilled. Previous research has pointed to the ubiquity of surveillance systems (Haggerty & Ericson, 2000) and has called for more research into the

forms of resistance and visibility in such settings (Brivot & Gendron, 2011; Marx, 2009). The present study suggests that in a high-surveillance environment, technical literacy is also important for the surveilled, enabling them to resist surveillance and manage their visibility. Kerviel's use of his technical literacy to manage his visibility is highlighted by his interactions with the RISQ department and by how he presented his activities as risk-compliant. Kerviel also turned the middle office and compliance teams' lack of technical literacy to his advantage, using elusive technical jargon to escape control and to present himself as a savvy, competent trader. More broadly, this paper suggests that to present a positive image and possibly to conceal some of their actions, surveilled actors will need technical literacy and that those who succeed in doing so are likely to be more technically literate than the audiences surveilling them.

Finally, our case study points to the complexity of activities on financial markets, such as trading derivatives, and to how difficult it is to control them. Along with other works (e.g. Gendron & Smith-Lacroix, 2015; Morgan, Froud, Quack, & Schneiberg, 2011), it points to the endemic danger of such activities – materialized by the €5 billion lost in the present case, once again questioning whether the benefits of such complex and difficult-to-control activities are worth the risk that they create. Although the Kerviel case reveals the risk for a bank, the subprime crisis has shown that the more such activities and products develop, the more they can potentially create a systemic risk not only for a bank but also for the whole economic system, which might be propelled into recession (Chabrak & Gendron, 2015). Although previous works took a macro perspective, the present study focuses on the individual perspective. Consistent with those works that raised doubts about the possibility of regulating these activities (e.g. Morgan et al., 2011), this paper points to issues that might impede the proper control of such activities within banks.

6. CONCLUSION

Although this study advances the exploration of the strategies of individuals being surveilled in settings in which highly sophisticated surveillance systems exist, there are nonetheless several limitations to the research presented here, and further research is needed to develop the present exploratory findings.

One important limitation of this study is its focus on the roles played by a single actor. This focus allowed us to gain analytical depth but neglects the roles played by other actors operating in the setting. Further research could enrich the present analysis by considering the roles played by not only the surveilled but also the surveilling actors. Examining the interactions between actors playing roles could advance our understanding of how actors adjust what they hide and what they show through mutual interaction. It would also enhance the analysis of the role of empathy and of how it can be used to influence perception. Another related limitation of this single case study approach is that it cannot analyze the differences between technically literate and non-technically literate surveilled actors. Based on the present study, we can only assume that technically literate actors will have more freedom to show and conceal things in such settings, but further research is needed for this point to be clearly established. Finally, the highly idiosyncratic nature of trading activities arguably restricts the transferability of our results (Lincoln & Guba, 1985). We conclude this study by pointing to the importance of technical literacy as a key element of strategies not only of visibility but also of controllability. The question of the rising complexity of organizational activities and their controllability is of great importance for policymakers and other institutions. Although this research clearly points to this complexity with respect to trading activities and the development of highly complex financial products, we suggest that digitization (notably via the emergence of big data for organizational activities) is clearly shaping wider organizational activities, rendering them more complex and more technical.

That said, this paper incidentally outlines that although control is increasingly sophisticated and multiple, there remains space for agency, shadow spaces remain, and we are not yet in a control society *à la* Deleuze (1995).

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Focus no. 1: JK's activities.

▪ **Turbo warrants.**

- Principle: SG sells warrants with knock-out options (“à barrière désactivante”) to its clients (principally as call options, *i.e.* purchase/call options offered to the client) and hedges by buying the underlying asset in question.
- Strategy: “long turbos” are “calls down and out”, *i.e.* purchase options that can be deactivated if the spot price falls (allows the client to place money on a rise in the price of the underlying asset), whereas “short turbos” are “puts in and out”, *i.e.* options to sell that can be deactivated if the spot price rises (allows the client to speculate on a fall).
The purchase of the underlying assets is carried out by SG, which allows the client to benefit from a leverage effect (as the client does not purchase the asset). In fact, the client only pays the difference between the spot and the strike price, SG financing the rest.
- Underlying assets used: shares (single stock), baskets of shares (more unusual), ETFs (sector and/or geographical exposure), indices, *bund* (German state bonds), currency.
- Maturity: no maturity date (“open end turbo”), maturity fixed at the date of issuance of the warrant (“closed end turbo”), 1 day maturity (offered by CLICKOPTIONS).
- Price: (i) Closed End Turbo: Price = spot – strike + financing margin ((interest + SG margin) x Nominal) – a percentage of the dividend; (ii) Open End Turbo: Price = spot – strike (but the strike level is adjusted in accordance with the financing margin over the lifetime for the product and every 15 days, the barrier is also readjusted by approximately 5% in order to preserve a relatively constant safety zone); (iii) Day Turbo: Price = spot – strike + premium (the premium or gap of 8/10 bps [basis points] compensates for the absence of any safety zone between the barrier and the strike). In actuality, the Strike is equal to the barrier for these Turbos.
- Exchange rate taken into account and acknowledgment period in the event of knock-out: in the event of knock-out, SG resells the hedge and gives the client the difference between the strike and the corresponding level.

▪ **Arbitrage on competitors' turbo warrants**

In the context of the market's growing volatility, the DLP desk in fact identified competitors' turbo products, whose price was no longer adapted to market conditions. Arbitration consists of the purchase on D of competitors' call turbos and their hedging by the sale of futures contracts. If the market opens at D+1 by showing a fall which deactivates the product, SG registers a profit (the trader can in fact re-purchase his hedge with a profit).

Appendix B: Mechanism of the fraud (Based on Mission Green Report, 2008, p. 1)

The fraud consisted of JK taking of massive directional positions that JK hid, together with their risks and their earnings, by means of a series of concealment techniques that can be divided into three categories:

- the entry and then the cancellation of fictitious transactions, concealing market risks and the latent earnings from unauthorized directional positions (2).

JK recorded one or several false transactions in the systems for them to be taken into account in the calculation of risks and valuations. JK set the parameters of these transactions in such a manner as to use them to cover the fraudulent positions actually taken elsewhere. We have identified 947 transactions of this type.

- the entry of pairs of fictitious reverse transactions (purchase/sale) concerning equal quantities of the same underlying asset for different “off-market” prices, with the aim of hiding realized earnings, *i.e.*, earnings generated following the unwinding of positions.

For example: on March 1, 2007, the purchase of 2,266,500 SOLARWORLD shares at EUR 63 and the sale of 2,266,500 of the same shares at EUR 53, which leads to fictitious negative earnings of EUR - 22.7 million without creating a position. We have identified 115 transactions of this type.

- the booking of intra-monthly provisions that temporarily cancel the earnings (latent or realized).

JK made use of the possibility, normally limited to trading assistants only (but without traders being barred via the computer systems), for the purpose of correcting modeling bias, to record positive or negative provisions that modify the valuation calculated by the front office system. JK posted such entries to conceal the amount of earnings generated by his fraudulent positions during a given month (provisions are checked at month end only). We have identified at least nine transactions of this type.

The set of techniques used by JK (i) in order to conceal his positions and (ii) to bypass the control measures liable to reveal the fictitious or unwarranted character of the entries posted by him are set forth below in the green Mission report (see Mission Green Report, 2008, p. 24, for a detailed presentation of the methods of concealment).

Regarding fictitious trades, JK cancelled them before they gave rise to any confirmation, settlement or control.

*To do so, he used characteristics that allowed him the time to cancel the trades and replace them with new false trades. In particular, he made liberal use of trades with a deferred start date (*i.e.*, with a value date considerably later than the transaction date), which, in accordance with market practice, are not confirmed until a few days before the value date, thereby leaving JK the time to cancel such trades.*

Furthermore, when faced with questioning from his hierarchical superiors or from control bodies, JK gave untruthful replies, using forged emails as support on several occasions.

Finally, JK used the front office computer system to post numerous fictitious or unwarranted entries, but we have not detected the utilization of the ID of any other agent without his or her knowledge.

Appendix C: Main protagonists of the fraud (and their function in January 2008)

– On January 1, 2008, the team of traders consisted of Jérôme Kerviel, Taoufik Zizi, Ouellet Meskine, Thierry Rakotomalala, Sébastien Gers and Mathieu Besnard.

– Thomas Mougard: Jérôme Kerviel's trader assistant. He helped Kerviel seize the trading operations. After being indicted in August 2008 for complicity in the fraudulent introduction of data into a computer system, he received a dismissal.

– Moussa Bakir: broker of Fimat (formerly Newedge, a subsidiary of SocGen). He executed the stock exchange orders placed by Jérôme Kerviel; therefore, he traded with Kerviel intensively. The alleged accomplice of Jérôme Kerviel, he was finally terminated for cause.

– Vincent Duclos: ethics officer

– Sébastien Conquet: interlocutor of Jérôme Kerviel in the accounting department

– Marine Auclair: responsible for gateway controls

– N+1: Eric Cordelle (DO team manager)

– N+2: Martial Rouyère (head of the DO desk)

Appendix D: Glossary (partly taken from <https://www.investopedia.com>)

Bacardi: a risk analysis and valuation tool used by Jérôme Kerviel's desk. The tool makes it possible to produce the result of each trader every day.

Buffer database: housed in the ELIOT system, it lists operations that have anomalies before they are corrected.

CLICKOPTIONS: internal counterparty to SocGen

Craft: official tool for reporting results, which had to be validated daily by the head of the desk

ELIOT: information system that lists all of the operations performed by the front office

Forwards: A forward contract is a customized contract between two parties to buy or sell an asset at a specified price on a future date. A forward contract can be used for hedging or speculation, although its non-standardized

nature makes it particularly apt for hedging. Unlike standard futures contracts, a forward contract can be customized to any commodity, amount and delivery date. A forward contract settlement can occur on a cash or delivery basis. Forward contracts do not trade on a centralized exchange and are therefore considered over-the-counter (OTC) instruments. Although their OTC nature makes it easier to customize terms, the lack of a centralized clearinghouse also gives rise to a higher degree of default risk. Thus, forward contracts are not as easily available to the retail investor as are futures contracts.

Futures: Futures are financial contracts obligating the buyer to purchase an asset or the seller to sell an asset, such as a physical commodity or a financial instrument, at a predetermined future date and price. Futures contracts detail the quality and quantity of the underlying asset; they are standardized to facilitate trading on a futures exchange. Some futures contracts might call for physical delivery of the asset, whereas others are settled in cash.

Gateway: the team responsible for detecting and reporting any discrepancies that might arise from the reconciliation of the accounting results and the results of the front office

Intraday: during the day

Eurex: based in Frankfurt, it is the largest futures market in the world; one of its main activities is the futures on German government bonds.

Overnight: during the night

Pending counterpart: a fictitious counterparty on the futures created by Kerviel

Pre-hedge counterpart: another type of fictitious counterparty

Safe: application that tracks cash flow

Warrants: these are similar to a living memory of a long-past era of finance. Although relatively uncommon and out of favor in the United States, warrants have remained more popular in other areas of the world. However, they still appear in US markets, and investors should know how to assess and value them. Warrants can be a high-return investment tool. A warrant is like an option. It gives the holder the right but not the obligation to buy an underlying security at a certain price, quantity and future time. It is unlike an option because a warrant is issued by a company, whereas an option is an instrument of the stock exchange. The security represented in the warrant (usually share equity) is delivered by the issuing company instead of by an investor holding the shares. Companies will often include warrants as part of a new-issue offering to entice investors into buying the new security.

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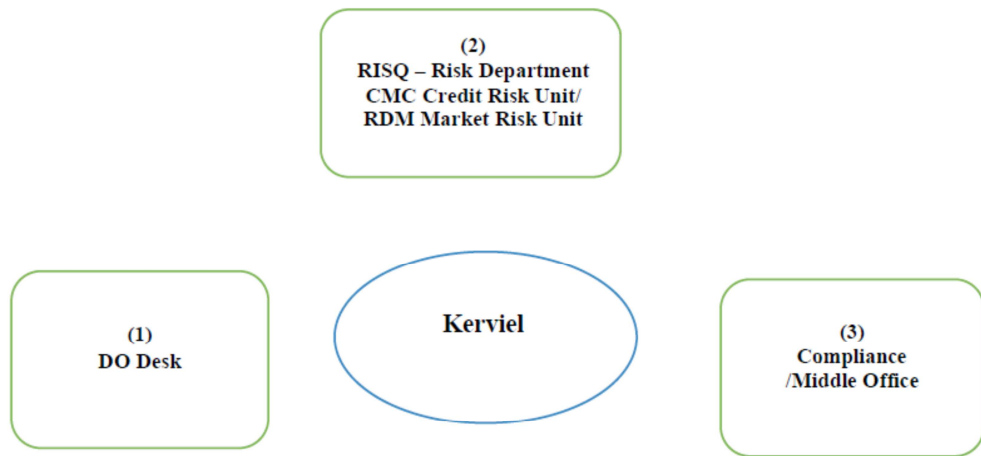


Figure 1: The audiences

Table 1: List of articles

Year/newspapers	La Dépêche	Le Monde	La Tribune
2010	61	37	18
2012	21	27	12
2016	11	12	21
Total 210	93	76	41

Table 2: Kerviel's strategies of visibility

Audience	Frontstage	Backstage
Delta One Desk	Moneymaker	Hiding part of his profit under the rug
Risk Management	A risk-compliant trader	Hiding the high risk induced by his activities
Compliance	A technically literate trader and a "good guy"	Hiding his illegal fictitious transactions