



**HAL**  
open science

# External Fraud Risk Management seen from Luhmann's Systemic Perspective and a Tentative Reading of Healthcare Insurance Companies' Measures through this Perspective

Emmanuel Laffort, Nicolas Dufour

## ► To cite this version:

Emmanuel Laffort, Nicolas Dufour. External Fraud Risk Management seen from Luhmann's Systemic Perspective and a Tentative Reading of Healthcare Insurance Companies' Measures through this Perspective. *Recherches en sciences de gestion*, 2020, 138, pp.262-283. 10.3917/resg.138.0263 . hal-03336033

**HAL Id: hal-03336033**

**<https://hal.science/hal-03336033>**

Submitted on 6 Sep 2021

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

## **External Fraud Risk Management seen from Luhmann's Systemic Perspective and a Tentative Reading of Healthcare Insurance Companies' Measures through this Perspective**

Emmanuel Laffort

PhD in management sciences - Consultant  
Associate researcher at CREG EA4580  
Université de Pau et des Pays de l'Adour  
(France)

Nicolas Dufour

PhD in management sciences  
Associate Professor  
Paris School of Business  
(France)

*This research explores the contribution of Niklas Luhmann's radical systemic sociology to External Fraud Risk Management. To do this, we use two Luhmannian distinctions — between risk and danger, and between confidence and trust — to verify their (in)validity based on two empirical studies on Healthcare Insurance Companies (HIC) to reduce the risk of external fraud. This study concludes that the Luhmannian framework is relevant for external fraud management issues.*

**Key-words:** *External fraud - Niklas Luhmann - Systemic sociology - Risk/danger distinction.*

*Ce travail explore l'apport de la sociologie systémique radicale de Niklas Luhmann à la gestion de la fraude externe. Pour cela, nous utilisons deux distinctions luhmanniennes — entre risque et danger ainsi qu'entre confiance assurée et confiance*

*décidée — pour vérifier leur (in)validité à partir de deux travaux empiriques de réduction du risque de fraude dans le cadre des mutuelles santé (HIC). Cette étude conclut à la pertinence du cadre luhmannien en tant que clé de lecture de la gestion du risque de fraude externe.*

**Mots-clés :** *Fraude externe - Niklas Luhmann - Sociologie systémique - Distinction risque/danger.*

*Esta obra explora la contribución de la sociología sistémica radical de Niklas Luhmann a la gestión del fraude externo, utilizando dos distinciones luhmannianas -entre riesgo y peligro y entre confianza asegurada y decidida- para verificar su (in)validez sobre la base de dos estudios empíricos de reducción del riesgo de fraude en el contexto de las mutuas de seguros de salud (HIC). Este estudio concluye que el marco de Luhmannian es la clave para comprender la gestión del riesgo de fraude externo.*

**Palabras-clave :** *Fraude externo - Niklas Luhmann - Sociología de sistemas - Distinción entre riesgo y peligro.*

## **Introduction**

Fraud is a never-ending, ongoing activity that might need radical thinking to be reduced. Therefore, the aim of this article is to apply Niklas Luhmann's systemic sociology to fraud in order to obtain another comprehension of the involved mechanisms that can lead to the development of refined tools to lessen external fraud.

Fraud, a white-collar crime, substantially costs society. Though this seems to be a perilous exercise, some studies tried to assess the total cost of fraud (Button *et al.*, 2011; Gee & Button, 2017) and the 2017<sup>th</sup> report measured a cumulative loss of \$4.39 trillion for 2016... Some studies dealing with fraud are related to the sociology of risk and promote a new way of thinking about risk management (Meric *et al.*, 2009; Pesqueux, 2011), especially after the financial crisis of 2007-2008 (Mikes, 2011; Power, 2007; 2009).

Some essential sociological works have already provided a conceptual framework for this risk control issue (Beck, 2008; Perrow, 2014). However, as Luhmann (2013a, p. 4-5) stated, all previous works have to be reexamined for the underlying methods considered fraud to be exogenous, whereas sociology must *structurally* include fraud schemes. From our standpoint, this is of major interest, fraud has always existed and will never be stopped entirely (Gandhi, 2015) therefore, it might well be constitutive of our social system. In the first part of this work, we present Luhmann's theoretical framework. Then, we evaluate an approach termed "RaAS" (Responsibility of actors, Autonomy, Sanction) devoted to fraud reduction. We conclude by discussing the contributions of Luhmann's sociological framework to the field and we identify avenues to reduce fraud occurrences; mainly by improving the sense, considering the danger and enhancing confidence, with the pairings of risk/danger and trust/confidence being two major Luhmannian distinctions.

## **1. – Theoretical Framework: Luhmann's Sociology and Fraud Risk Management**

Research on fraud — a white-collar crime — and control has started long ago with Sutherland (1940) and Cressey (1950) in an attempt to develop a theory of criminal behavior on bridging two bodies of knowledge: crime and business. This theory eventually ends up considering that fraudsters knew no other solution to their non-sharable problems than to violate trust, justifying this violation by rationalization (Cressey, 1950, p. 742). Cressey identified three elements creating favorable conditions for committing fraud: pressure, motivation and rationalization; in the white-collar crime literature, this is referred to as Cressey's "fraud triangle". This scheme became famous and is regularly updated by new research (Kassem et Higson, 2012; Mackevicius et Giriunas, 2013; Ouaniche, 2015). Nevertheless, Cressey (1950, p. 739) reckoned that "*trust violation is caused by the existence of institutions whose functioning depends upon varying degrees of trust*" and pointed the economic system of our modern society. This is specified years later by Sutherland *et al.* (1992, p. 13775ff) for whom criminal behavior is an effect of the economic, political

and social order. In this work we are not saying that a Luhmannian perspective is the only one to account for fraud, but that a change of perspective may be of some interest to help cope with it.

Before going into details, we need to explain — even in a flash — Luhmann's framework and his conception of organizations.

### **1.1. Luhmann's Framework**

In Luhmann's sociology, the social world is made of functionally differentiated autopoietic social systems (political, economic, legal...). Autopoiesis refers to self-contained unities whose only reference is to themselves. Luhmann posits that social systems are autonomous, self-referring and self-constructing operationally closed but cognitively opened systems. They are closed as they only rely to their proper rules but opened as they need to interact with their environment (composed of the rest of the world) in order to perform operations of communications with a binary coding. If systems were only connecting their own operations to their own operations in isolation, they could not evolve and adapt to their environment, hence they structurally integrate parts of their environment that are essential for their autopoiesis (Luhmann 2012, p. 109). Not only is this compatible with the operational closure of the system but operational closure is also a condition for structural coupling as, without such couplings, the autopoiesis will come to a standstill and the system will die — as it cannot adapt to its changing environment. Coupling systems are connected to highly complex environmental conditions in a simplified way that can be handled with the either-or schema of the binary code, sufficient to its autopoiesis (Luhmann 2013b, p. 108). Each system is coupled with its environment that can be more or less irritating. In case of irritation, the system changes its behavior to adapt to the world and to keep going.

Systems are composed of subsystems themselves composed of subsystems... and organizations are subsystems of a special kind. As any other systems, the only operations permitted by organizations are communications (that permit further communications), but for organizations, communications take the form of decisions (Luhmann, 2005, p. 187s) that permit decisions in a recursive manner so that they can adapt through this sense-making process. Thus, decisions in

economic organizations build recursively a sense for further decisions and then for the organization itself.

Luhmann wrote little about fraud but he dedicated an entire book to risk (2005). Thus, we extracted what we thought relevant in regard to fraud and made a distinction regarding this notion. This was a rather subjective task, as there is not a shared acceptance of what fraud is. In some countries — notably in the USA — fraud has diverse definitions depending on which State it occurs. This has been well known for decades (see for example Cressey, 1950, p. 740; 1986, p. 208), and the fact that fraud has persisted suggests that society underestimate its cost or, worse, accordingly to decision theory, that it believes that it can take no action to efficiently fight it. Even if there is no current acceptance of the notion of fraud, some main traits are being acknowledged. Fraud is an immoral action, an antisocial behavior that betrays confidence (Blanqué, 2003, p. 61; Cressey, 1950; Stichweh, 2011, p. 1362-1363). Other research dealing with fraud defines this risk as a consequence of an internal control weakness in client acceptance decision (Caplan, 1999; Johnstone, Bedard, 2003). Derrig (2002) defines insurance fraud as a consequence of moral hazard and asymmetric information in the claim process of insurance companies. Some research specifies other types of fraud such as documentary, on financial statements, on transactions, by manipulation, via fictitious acts or operations not carried out... (Derrig, 2002; Hammerlsey and al., 2010). Such frauds are observable in the case of insurance fraud (Viaene, Guido, 2004). For others (Dionne, Wang, 2013) fraud is a function of the economic cycle. According to Murphy and Dacin (2011), fraud risk management is also a question of how to build specific typologies in the organization.

Fraud is a well-defined concept in management and accounting. The AFCE (2018) as well as other professional organizations have their own definition and typology. It includes corruption (conflicts of interest, Bribery, Illegal Gratuities), asset misappropriation (Cash Fraud, Sales and Receivable Fraud, Billing and Payroll schemes), and financial statement fraud (Fictitious Revenues, Improper Asset Valuations, Timing Differences). Each of these categories has many complex schemes

and depends on numerous factors (Organization size, Countries, Legislation, Behavioral Conducts, Internal Control degrees of Maturity). Consistent with these definitions, the Agency for the Prevention of Insurance Fraud defines fraud as “*An intentional act, carried out by a legal or natural person, in order to unduly obtain a profit from the insurance contract*” (ALFA, 2020)<sup>1</sup>. Thus, fraudulent operations can be considered as any process that consists in making believe in the reality of an operation by concealing its material elements such as supporting documents of the operation or the advisability of an operation (no claim for reimbursement, unjustified health benefit...)

Unfortunately, there is no definition for fraud accepted by all parties despite some commonalities synthesized in the two keywords “intent” and “deception” which soon fail to help to characterize fraud as, for example, abuses respect both terms. In this respect, we interviewed more than 30 people (mostly risk controllers) in a HIC (forthcoming study) asking them to define fraud and we collected a lot of hesitant definitions or at best, of how it should be defined, but no statement of what fraud is.

## **1.2. The risk/danger distinction: a call to think in “duration”**

Risks under discussion are risks that can be evaluated in alternatives. Evaluations have then the double disadvantage of having only short-term perspectives and considering only risks that have influence on the project. All other risky aspects are forgotten, and to avoid this Luhmann (1991, p. 87; 2005, p. 33ff) suggests a new distinction, between *risk* and *danger*.

Luhmann (2005, p. 33ff) substitutes the risk/security distinction with the risk/danger distinction. Because seeking absolute security is illusory, security is not opposable to risk. However, it is critical to distinguish what Luhmann termed “risk”, which represents a choice among many possibilities and a vehicle for opportunities, from what he termed “danger”, which is an often-remote consequence of a constellation of “risks”. “Dangers” are not retrospectively attributable (both because of the passage of

---

<sup>1</sup> <https://www.alfa.asso.fr/fraude-a-lassurance/>

time and the large number of risks originating the danger) and are supported by third parties, although they are usually not involved in the decisions. Luhmann and Beck (2008) join on this topic by stating that while older organizations' primary concerns were "dangers," "*modern society has until recently preferred to mark risk, being concerned with optimizing the exploitation of opportunity*" (Luhmann 2005, p. 25).

Luhmann (2005, p. 41ff) argues that we are held hostage by a wrong conception of time because "*the unity of time is not the unity of a movement,*" and the present is not the preferred time for distinctions between past and future to be made. Luhmann observes a society in motion, rich in its memory of past elements that lead to actual and simultaneous events.

For Luhmann, modern society is located in a spatialized time that conceals movement and provides an anchor that secures and enforces a reference point. By insisting on the distinction between risk and danger, Luhmann thinks of time as a "danger" and as a phenomenon that can be grasped over time through movements induced by numerous previous decisions. For example, a carmaker can bear the risk of deciding to make powerful cars based on the opportunity to obtain higher profits. This decision is a (business) risk because these cars might be too expensive to be sold, but it is also a danger because, getting increasingly powerful and polluting, they are detrimental to the environment; thus, such a decision could lead to poorer quality of life.

At that time, both observers — the carmaker as first-order observer and the air health agency controller as second-order's — are right in making their selection as the future cannot be inferred from the past. This is what Luhmann meant when he wrote that the symmetry breaking makes risk conceivable: the risk to make the distinction... Here, we would like to emphasize the question of fraud regarding Luhmann's framework in light of the distinction risk/danger.



### 1.3. The Question of Fraud

In a systemic perspective, solely communication can communicate, and the selection of the value of the code is unpredictable. Correlated to this improbability of value selection is, said Luhmann (2012, p. 245) the probability of “sabotage”. And once sabotage occurs, it stands in the memory of the system and is available for further communications (Luhmann, 2013b, p. 36-37). Internal fraud and external fraud are often distinguished as both schemes and prosecution are different. An internal fraud is a fraud made by an employee of the company while an external one comes from the outside of the company, be it made by a natural or legal person. While it is up to the organization so settle internal frauds, external ones originate outside of the organization and healthcare insurance fraud involves insurance companies, healthcare providers, policyholders and subscribers. In any case, as for the carmaker example, a selection between the two sides of the risk/danger distinction has to be made. As a second-order observer marking the ‘risk’ side of the distinction, we can notice that the risk linked to fraud is twofold. First, the fraudster takes the risk of being caught (weighed against the potential gain), but the fraud also impinges on the organization both as the victim and as a responsible party, weighted against the gain that represents fewer financial resources dedicated to fighting fraud. As a second-order observer marking the ‘danger’ side of the distinction, we can fear that confidence in the system erodes, and, that after a certain threshold, a disaster takes place as consequence of a myriad of non-retrospectively attributable actions (Luhmann, 2005, p. 26). As far as fraud is concerned, the danger lies in the betrayal of confidence. If this were the case, its autopoiesis could not be pursued because its structure — its code or programs selecting code values — would appear suspicious to its environment. The very point here is to remind that every system makes a copy of its environment through coupling. When a system communicates a way expected (and notably with a “standard” level of fraud), their copies in other subsystems duplicate properly the functioning of the system, couplings are accurate. On the contrary, when a system communicates quite differently of what it was used to, all other systems it is coupled with need to reassess their coupling. Structural couplings become loose. While this is

the normal course of evolution (Luhmann, 2012, p. 253) if the system dramatically changes, couplings may not renew and, with no coupling the autopoiesis will come to a standstill and the system will die.

#### **1.4. Trust and Confidence**

Luhmann (1988) considers this distinction between risk and danger with the help of two kinds of faith, “confidence” and “trust.” This distinction is made based on the possibility of a choice. If there is no choice, “confidence” is at stake, just like one leaves their house every morning with no weapon to protect themselves. However, if the situation has alternatives, then “trust” is at stake. Having faith in systems (in a Luhmannian sense) pertains to “confidence,” and conversely, while systems are sense-makers, their autopoiesis can only occur in the case of “confidence”. Like for any distinction between forms, the frontier between each side is blurred, and relationships exist between the two. They can support each other because confidence encourages trust, and it is easier to make choices in stable environments. Trust, when internalized in a system’s expectations, produces confidence. However, when one is defective, it can also serve to lessen the other and this is why it is said that sabotage carries sabotage (Luhmann 2013b, p. 40). Lost confidence triggers the necessity of making the choice of whether to trust the system or not, and eventually leads it to die. Being aware of danger instead of being focused on risk is a way to build confidence, since strengthened confidence results in the ability to better distinguish between risk and danger.

The distinction between risk and danger is also difficult for another reason, termed “*bounded willpower*” by Jolls *et al.* (1998, p. 1480), which is “*most relevant when decisions have consequences over time; our example is criminal behavior [...], where the benefits are generally immediate and the costs deferred.*” Because the costs are deferred, sometimes far into the future, danger dissolves and does not penetrate the systems’ expectations. According to Luhmann (2012, p. 245) only the law can help and the legal system should encourage this distinction and give strength and resonance to the “danger” side of the form

to the detriment of the “risk” one.

In this section we have explained why fraud is both ineluctable and an important topic to be addressed in a systemic perspective. Systems are self-(re)forming thanks to their binary coding and adapting thanks to their couplings. They rely on a recursive stream of communications which operates as a memory. When a “sabotage” occurs, it stays in the memory of the system and is available for further communications, and when many sabotages occur, the system becomes less efficient, its aim is questioned and its autopoiesis is threatened. Luhmann proposes two helpful distinctions to help us understand what is at stake: trust/confidence and risk/danger. These distinctions can be bound together, risk with trust and danger with confidence as both risk and danger face a situation of choice while confidence and danger do not. To overcome this problem, the distinction between risk and danger should be clearly made by systems and this can be done by two means: 1) strengthening the legal response and 2) taking micro-level actions to articulate co-enhancement of trust and confidence.

## **2. – A fraud Risk Management approach based on actors’ responsibility, autonomy and sanctions. The case of health insurance organizations**

In this section, we evaluate how Luhmann’s sociology proves helpful to understand an approach designed to lessen external fraud occurrences experienced by insurance companies.

This work makes the statement that fraud is multifaceted and flourishes in different contexts, thus requiring strong relationships between stakeholders. The context concerns organizations that must provide benefits to policyholders on a declaratory basis. In a Luhmannian perspective, it is a question of second-order observations concerning relationships between multiple stakeholders of different systems impacting the whole insurance industry. This can be shown in the example of fraud with respect to the price of glasses, in which opticians optimized insurance reimbursements by altering the amounts dedicated to eyeglass frames and to lenses. The policyholder, as first-order observer, knows that this is an optimization favoring himself

detrimental to the HIC. In turn, HICs (first-order) facing lower revenues raise their premium to offset this effect. Eventually, the customer became the losing one.

Even if we are not able to provide an exhaustive inventory of all sets of expectations of all stakeholders, we can still raise some commonalities.

- Managing fraud is a regulatory requirement — Solvency II — and a financial necessity;
- Healthcare professionals are accountable for medical expenditures through justification for their (para)medical acts;
- The autonomy of healthcare professionals makes fraud easier;
- The lack of deterrents has sectorial impacts;
- Fraud can be perpetrated by policyholders or/and healthcare professionals, since they become each other's accomplice;
- HIC are often "blind payers" as they pay benefits before they can make any verification, if possible...;
- As shown by the eyeglasses' fraud, fraudulent operations cause damage to insurance companies and raise policy prices. Thus, policyholders pay for the fraud.

Based on an action research study of more than 3 years in a HIC as an internal controller – researcher as a reflexive practitioner (Schön, 1983) we detected different kinds of fraud. In the case study, external frauds correspond to frauds perpetrated by a third party. It has been frequently faced by the organization— 48 times in 3 years — 134 payments of benefits for a total amount exceeding 500,000 euros. These external frauds comprise:

- The creation of false documents in order to have benefits related to healthcare that has never been realized (fraudsters are opticians, dentists, physiotherapists). These documents are fake orders, invoices or delivery notes;
- The creation of faked papers of membership by individuals or fictitious companies to be reimbursed for actual care expenses while reimbursements have already been done by other HICs;
- Unjustified cares. Dental care was performed but was not medically justified for the patient. The dentist is paid for

actions that should not have taken place.

- The creation of false health reports for a group insurance contract. The company that defrauds the insurer modified the figures for disability or care expenses to be reimbursed in a misleading manner.

In our case study, internal fraud (that can be defined as any case of fraud occurring within the organization by an employee, manager or subcontractor acting on behalf of the company) was considered to be infrequent and most difficult to detect. In fact, in 3 years, the insurer observed only 3 cases of internal fraud. The investigation in our case study focuses on the following internal frauds:

- The creation by a commercial of a “ghost” policyholder in order to receive unjustified sales commission;
- The sale of a product by a salesperson to a policyholder without the latter being notified or having given his consent. The insured people is then the victim of an identity theft;
- The payment on his own account by a health claim indemnifier, using the bank details of one of his relatives or directly his own. This scheme involves the use of unjustified computer access.

Prior to the detection of these cases, the investigated organization considered fraud to be unlikely. Controls focused on operational errors or quality improvement. Trust in the system was considered natural, according to one of the managers of the organization. Thus, thinking about activities via the risk of fraud was not considered desirable because it implied considering that the payment system might be dysfunctional. Our work has made possible to better highlight cases of risk but has also led to the disclosure of flaws in the HIC reimbursement system.

While external fraud is also a matter of first-order observations (internal control), it is mostly an affair of second-order observations, as the coupling of systems between each other are at stake. Moreover, there are three types of healthcare insurance companies: mutual companies, which are regulated (in France) by the Mutual Insurance Code; private companies, which

are regulated by the French Insurance Code; and provident institutions, which are regulated by the French Social Security Code. Thus, we have to distinguish the three subsystems, each of which is coupled with a different legal and political subsystem. In particular, Article L111-1 of the Social Security Code states that *“the organization of social security is to be based on the principle of national solidarity.”* Article L111-1 of the Mutual Insurance Code states that *“mutuals are nonprofit legal persons governed by private law [...] that can engage in, notably thanks to premiums paid by their members, and in their best interest [...], any action of solidarity and mutual assistance (our translation).”* The Insurance Code states that their affiliates are recorded in the commercial register.

Despite these differences, the method of accessing healthcare is the same: the patient gets (para)medical attention, and all or part of the amount due is paid by the insurance company on a declarative basis. According to the CEO of the HIC in which the case study was conducted: *“From the fraudster’s perspective, operationally speaking, there is no difference with regard to the type of insurance company”.* There is also no difference in public opinion, and because of its low level of trust *“Insurance is ‘fair game’ for fraud”.* The Technical Risk Executive of the company said: *“We have no control over fraud. This risk can arise from members as well as from health professionals. If you don’t strengthen the controls, you’re facing that risk. If you strengthen them too much, the risk is a commercial one or even reputational because the company may stand for an entity that is reluctant to pay its policyholders”.* A lawyer acting for the company pursued: *“Legislation protects fraudsters because companies are asked to prove any fraud within a very constraining framework”.* This statement is completed by the manager of the company: *“The requirements for protecting private data often leads to fraud without being able to ask for a health certificate to confirm that it is a fraudulent transaction. For example, for dental fraud, you would need the dental X-rays, but only a dentist consultant can ask for and analyze them and very few accept to undertake analyses going against their confreres”.*

An audio recording of a transaction in a call center cannot

be kept for more than 15 days, and by the time one realizes that a fraud has occurred, the 15-day timespan is usually over. Such delays rarely permit accurate investigations.

Considering these points, an anti-fraud approach is being used in this environment: the RaAS approach. It revolves around three points: **R**esponsibility of **a**ctors, their **A**utonomy and the **S**anctions they face. Responsibility stands for the capacity (and incentives) of actors to take their environment into account, especially relationship between all stakeholders. Autonomy relies on room for maneuver that actors have in potentially threatening affairs like billing, reimbursement... Sanction refers to the capacity of the organization to react to fraud events and impose sanctions.

### 2.1. Systemic Evaluation of the RaAS Approach

For Schnebel (2000, p. 86) responsibility is key for Luhmann's framework as it empowers "*the personal responsibility needed to create transparent organizational structures as well as to overcome the restrictions given by institutions, organizations and the economic system.*" In addition, taking into consideration the consequences of our actions (marking the distinction *risk/danger* in favor of the latter) is a way to access what Luhmann (1991, p. 87) calls "*an ethics of responsibility*".

While responsibility can hardly develop with no autonomy — not being autonomous is doing what we are told to do — we cannot be deemed responsible for having done what we are told to<sup>2</sup>. This is a paradox at first sight: the more the autonomy, the more risk of fraud. The paradox is easily ruled out since the couple responsibility/autonomy apply for different observers. Indeed, RaAS' responsibility applies to second-order observers while RaAS' autonomy refers to the system (the organization) itself. Nevertheless, even if no paradox exists, we hardly find any contribution of Luhmann's framework to this point.

---

<sup>2</sup> While this can be disputable, even during the Holocaust, great criminals felt no guilt for having obeyed. See for example the "banality of evil" raised by Hannah Arendt.

As an operationalized approach, RaAS' sanctions refer to intra-organizational punishment. As anticipated, in compliance with micro-level actions, the strengthening of the (not legal but) legalistic response can be located at the level of the organization.

When confronting external fraud, more than one system is involved. This intuition was asserted very early by the pioneers of "white-collar" crimes, notably Sutherland *et al.* (1992, p. 13775ff) and Cressey (1950, p. 739), for whom criminal behavior is an effect of the economic, political and social order. Many systems are involved in case of external fraud. Since the minds are coupled with all social systems, an efficient way to impact their structure of expectations is through irritations by the minds of systems (unavoidably) coupled with the minds. As for internal fraud, this can be done in reference to ethical contingency.

In some respects, the RaAS' approach also relies on ethics of contingency, this is what presupposes the responsibility dimension. This suggests that fraud occurrences may diminish. We are not sure that the dimension of autonomy (and its reduction) could help reduce fraud, not at least as far as such a systemic framework is concerned, as diminishing systems autonomy is also impoverishing them.



### 3. – Discussion and conclusion

The following table represents how fraud-related key concepts can be understood in a Luhmannian framework.

#### 1 - Fraud and Luhmann's framework

Systems Concept	Luhmann's definition	Significance for Fraud	Example or Context
<b>System</b>	The system encourages organizations to give their own meaning to concepts	Fraud, beyond regulatory definitions must be defined and contextualized by organizations	No shared definition of fraud for HICs. It is up to each insurer to draw a line between what is abuse and what is fraud.
<b>Environment</b>	Everything that is not the system itself	The organization sees its environment globally and only reacts to its irritations. It has to extend to relevant parts.	HIC are highly exposed to external fraud because they pay benefits on a declarative basis with very few possibilities to assess the validity of the claim.
<b>Risk</b>	A vehicle for opportunities (risk/reward thinking). Decision is made after "rationally" considering all monetized aspects.	Fraud might be considered as a risky position and hence might be monetized. In the case of HIC, it can be the cost of fraud amount that the insurer recovers. Specific to the sector.	Because HIC are particularly exposed to external fraud, there is a material counterpart for fraud risk management: there is room to lessen this exposure which leads to less expenditure...
<b>Danger</b>	An often-remote consequence of a constellation of risks. No danger/reward thinking.	Thinking in terms of danger helps consider long-term implications of fraudulent operations.	When manipulating eyeglass prices, the risk is to be caught, the reward, to pay less. The danger is to enter a vicious circle in which confidence is betrayed, fraud cost too much to HICs

			which increase premiums. The customer eventually pays more, frauds more, etc.
<b>Confidence</b>	Internalized faith. No alternative (wake-up each morning). Macro-level notion.	Confidence in a system (be it an organization or not) can only take place if the system runs normatively, with a “standard” level of external fraud exposure.	HICs find themselves in the situation of “blind payers” which make them vulnerable to fraud. Therefore, they are prone to doubt any health benefit’s claim. The situation of blind payment could last with the emergence of data privacy policies.
<b>Trust</b>	Refers to the preferred choice of a decision. Micro-level notion as it has to be enacted in the system’s expectations or programs. Continuous trust leads to confidence	How to decide not to fraud... Must be enacted by organizations in their expectations (internal control policies, local sanctions...) or by programs <i>via</i> irritations coming from their environment and mostly from the political and legal systems.	The French healthcare system generates a strong moral hazard: fraud by health professionals is widespread. The implementation of a so-called responsible health contract in 2016 was intended to limit the consumption of medical care and limit fraud.

This framework is relevant for the distinction between risk and danger to be promoted in Risk Management. Risk is immediate and is primarily carried by decision makers, while the effects of danger last over a significantly longer period and concerns a large group of people. Systems must clearly make this distinction to characterize danger when it exists. Another conclusion is that internal fraud can be fought on the micro level by encouraging “trust”. When this trust is internalized, it can

change into “confidence”. If external fraud can also be confronted by developing such mechanisms, the political and legal systems and their coupling with organizations must also be considered. This framework helps considering fraud in a peculiar way: it is encouraged by systems as they impose their own meaning, which, because of its amorality — a system reproduces itself according to its own rule with no notion of intrinsic morality — conveys an unfamiliar sense. People are involved in systems they cannot escape (for example, they cannot live outside the economic, political or legal systems) that are conveying a sense they might not accept and are engaging in strategies of circumvention (de Vaujany, 2006) sometimes involving fraud. Here is one reason why fraud is consubstantial with social systems: meanings cannot be clear and adopted by everyone in all systems, therefore strategies of circumvention will always exist. This is precisely also a way to fight fraud efficiently, by giving sense to the operation people do within the system they are in, by helping them mark the “danger” side of the distinction risk/danger.

When confronted with danger, society defends itself, and Luhmann (2005, p. 102) hypothesizes that forms of social solidarity emerge from danger. This suggests that an efficient way to fight fraud is to illustrate the danger it represents. A conclusion of significant importance is then that the distinction between risk and danger must be reinforced (Luhmann, 2005, p. 114) so that systems can better address fraud issues. Because systems are operationally closed and functionally autonomous, it is their local responsibility through the structural effects of differentiation in which control can occur, since systems cannot control their subsystems (Luhmann, 2012, p. 17). In other words, the self-observation capacities of systems must be enhanced (Luhmann 1995, p. 36).

The main interest of this work is not in its retrospective justification of a Luhmannian framework, for we believe that this sort of justification could have been performed with many other sociological frameworks. The true value of this research lies in the mobilization of a sociological framework that seems to be relevant to understand the internal control stake that implies fraud risk.

REFERENCES

- ACFE, Association of Fraud Certified Examiners (2018). *Report to the nations. Global Study on occupational fraud and abuse.*
- BUTTON, M., GEE, J., & BROOKS, G. (2011). Measuring the cost of fraud: an opportunity for the new competitive advantage. *Journal of Financial Crime, 19*(1), 65-75.
- COHN, A., FEHR, E., & MARECHAL, A.-M. (2014). Business culture and dishonesty in the banking industry. *Nature, 516*, 86-89.
- CRESSEY, D. R. (1950). The Criminal Violation of Financial Trust. *American Sociological Review, 15*(6), 738-743.
- CRESSEY, D. R. (1986). Why managers commit fraud. *AUST & NZ Journal of Criminology, 19*, 195-209.
- BECK, U. (2008). La société du risque. Sur la voie d'une autre modernité. Préface de Bruno Latour. Paris: Flammarion.
- CADENAS, H., & ARNOLD, M. (2015). The Autopoiesis of Social Systems and its Criticisms. *Constructivist Foundations, 10*(2), 169-198.
- CAPLAN, D. (1999). Internal Controls and the Detection of Management Fraud. *Journal of Accounting Research, 37*(1), 101-117.
- DERRIG, R.A. (2002). Insurance Fraud. *The Journal of Risk and Insurance, 69*(3), 271-287.
- DIONNE G., WANG K. (2013). Does Insurance Fraud in Automobile Theft Insurance Fluctuate with the Business Cycle? *Journal of Risk and Uncertainty, 47* (1), 67-92.
- GEE, J. ET BUTTON, M. (2017). The Financial Cost of Fraud 2017: Center for counter fraud studies of the University of Portsmouth, Crowe Clark Whitehill.
- HAMMERSLEY J.S., et al. (2010). The Influence of Documentation Specificity and Priming on Auditors' Fraud Risk Assessments and Evidence Evaluation Decisions. *The Accounting Review, 85*(2), 2010, 547-571.
- JOHANSSON, E., CAREY, P. (2016). Detecting Fraud: The Role of the Anonymous Reporting Channel. *Journal of Business Ethics, 139*(2), 391-409.
- JOHNSTONE, K.M., BEDARD J.C (2003), Risk Management in Client Acceptance Decisions. *The Accounting Review, 78*(4), 1003-1025.
- JOLLS, C., SUNSTEIN, C. R., & THALER, R. (1998). A Behavioral Approach to Law and Economics. *Stanford Law Review, 50*, 1471-1550.
- KASSEM, R., & HIGSON, A. W. (2012). The new fraud triangle model. *Journal of Emerging Trends in Economics and Management Sciences, 3*(3), 191-195.

- LEYDESDORFF, L. (2000). Luhmann, Habermas and the theory of communication. *Systems Research and Behavioral Science*, 17(3), 273-288.
- LUHMANN, N. (1986). The Theory of Social Systems and Its Epistemology: Reply to Danilo Zolo's Critical Comments. *Philosophy of the social sciences*, 19(1), 129-134.
- LUHMANN, N. (1991). Paradigm Lost: On the Ethical Reflection of Morality. *Thesis Eleven*, 29(1), 82-94.
- LUHMANN, N. (1992). What is Communication? *Communication theory*, 2(3), 251-259.
- LUHMANN, N. (1995). *Social systems*. Stanford, Calif.: Stanford University Press.
- LUHMANN, N. (2005). *Risk: a sociological theory* (1st paperback edition. ed.). New Brunswick, N.J.: Aldine Transaction.
- LUHMANN, N. (2012). *Theory of society* (Vol. 1). Stanford, California: Stanford University Press
- LUHMANN, N. (2013a). *Introduction to systems theory* (D. Baecker Ed.). Cambridge, UK Malden, MA: Polity.
- LUHMANN, N. (2013b). *Theory of society* (Vol. 2). Stanford, California: Stanford University Press.
- MACKEVICIUS, J., & GIRIUNAS, L. (2013). Transformational research of the fraud triangle. *EKONOMIKA*, 92(4), 150-163.
- MASCAREÑO, A. (2011). The Ethics of the Financial Crisis. In P. F. Kjaer, G. Teubner, & A. Febbrajo (Dirs.), *The financial crisis in constitutional perspective: the dark side of functional differentiation* (pp. 7700-8180). Oxford; Portland, Or.: Hart Pub. (ebook Kindle).
- MIKES, A. (2011). From counting risk to making risk count: Boundary-work in risk management. *Accounting, Organizations and Society*, 36(4-5), 226-245.
- MURPHY, P.R., DACIN T.. (2011). Psychological Pathways to Fraud: Understanding and Preventing Fraud in Organizations. *Journal of Business Ethics*, 101(4), 601-618.
- PERROW, C. (2014). *Complex organizations: a critical essay* (3rd ed.). New York: Echo Point Books & Media.
- SCHNEBEL, E. (2000). Values in Decision-Making Processes: Systematic Structures of J. Habermas and N. Luhmann for the Appreciation of Responsibility in Leadership. *Journal of Business Ethics* (27), 79-88.
- SCHÖN D.A. (1983). *The Reflexive Practitioner. How Professionals think in Action*. Basic Books.
- SPENCER-BROWN, G. A. (1972). *Laws of form* (1st American ed.). New York: Julian Press.
- STICHWEH, R. (2011). Towards a General Theory of Function System Crises. In P. F. Kjaer, G. Teubner, & A. Febbrajo (Dirs.), *The financial*

crisis in constitutional perspective: the dark side of functional differentiation (pp. 1297-1644). Oxford; Portland, Or.: Hart Pub.

SUTHERLAND, E. H. (1940). White-Collar Criminality. *American Sociological Review*, 5(1), 1-12.

SUTHERLAND, E. H., CRESSEY, D. R., LUCKENBILL, D. F. (1992). *Principles of Criminology* G. Hall (Ed.)(6th ed.).

VIAENE, S., GUIDO D. (2004). Insurance Fraud: Issues and Challenges. *The Geneva Papers on Risk and Insurance. Issues and Practice*, 29(2), 313-333

