Journal of Economics, Finance and Management (JEFM)
ISSN: 2958-7360
Vol. 4, No. 2, April 2025

A Communicative Approach to Integrated Risk Management

Dr. Soumya Bouknana
Applied Communication in Context Laboratory
Faculty of Law, economic and social studies
Mohammed 1st University – Oujda - Morocco

Abstract: Induced by exponential environmental changes, risk has become a ubiquitous occurrence amidst the diverse organizational realities, and central to their management. As unidimensional approaches are deemed to be insufficient to manage organizational risks, the present article advances that efficient risk management has to be (1) integrative by design and default, reflecting a strategic, systemic and inclusive model, whereby (2) communication is not a mere circumstantial organizational function. Communication is rather viewed as a transversal organizational phenomenon, and further, as constitutive of the organization, lubricating the generation and sustaining of organizations against and through the multitude of current and potential risks. Based on a theoretical meta-analysis, the article justifies integrated risks management, through highlighting their intersectional nature. It underscores the role of organizational communication in integrated risk management, as to how risks are perceived, identified, analyzed and managed. It sheds light on organizations and organizing as communicative phenomena, and on the complexity of human and non-human communicative flows and agencies. In parallel, it delimits the communicative issues in relation to integrated risk management stages.

Keywords: integrated risk management; communication as constitutive of organization; risk perception/identification; risk analysis; compensations and correlations; human/non-human agency.

Digital Object Identifier (DOI): https://doi.org/10.5281/zenodo.**15337892**

1. Introduction

To Shockley-Zalabak (2017, p. 2), the global context is increasingly turbulent, calling forth unprecedented intersecting opportunities and issues, whereby uncertainty, unpredictability, and change have become so evident and normative within and across our organizations. A multitude of pressures and apertures brought by globalization. The latter has spurred a proliferation of technological advances, political instability, economic and societal bouncing variables.

These global alterations have not only put to test the various organizational frameworks, but have also changed the nature of organizational risk, and subsequently, the way in which risk is perceived, identified, analyzed and managed. Risk turns to be inherent, ambiguous and rhizomatic, connecting various organizational factors, the human factor being articulatory. Deductively, no risk is to be treated in isolation (Bernard et al. 2002), or from an exclusively technical perspective (Debia et al., 2003). It is of a paramount importance to underline the fact that risks issue forth from the crisscross of different organizational functions, levels and spheres, with substantial correlations and potential compensations (Müller, 1999). Hence, risk management is to pivot to a more comprehensive, systemic and complex approach; that is to say: integrated risk management.

Despite the instrumentality of sophisticated technical tools to deal with organizational risks, their utility is conditioned by the organizational actor(s) manipulating them (Amansou, 2019). The success of the processes of integrated risk management is also predicated on the manner in which concerned actors intersubjectively and inclusively communicate about risks. To Chartiet and Gabler (2001), the domain of risk communication has evolved within the confines of risk analysis rather than from communication theory, on which it only partially stands. Viewing organizational risk from a communicative perspective is in a position to reveal more about the nature of risk and about the integrative approach to its management. On the other hand, viewing organizational communication through the lens of integrated risk management repositions communication as a strategic asset which contributes to problematizing the hybrid nature of the agency in organizational settings (Robert & Winni, 2018)

Through its various approaches, Communication as Constitutive of Organization (CCO) scholarship proffers theoretical and practical guidance on how to design and manage organizations, in a way that takes the complex character of communication seriously (Modaff et al., 2008). This paper visits several CCO schools to conceptualize an integrative view to organizational communication. The variegated feeds provided by the CCO schools are thought to inspire a better frame for integrated risk management, given that all agents factoring into organization as an ontology, and organizing as a process will be addressed. The human factor will be highlighted as a central actor in integrated risk management by dint of related communicative tools and competencies. There will be an inventory of the major communicative issues encountering efficient integrated risk management. The aforementioned will ensue after a brief display of the main traits of the nature of organizational risks

2. The Nature of Organizational Risks: a call for an integrated approach

2.1. Decision-making and Risks as bijective

Decision-making and risk are considered as bijective organizational concepts, for the process of decision-making is often problematic (Bakken, 1993). These problems or risks usually come in complex series impacting serene decision-making (Moxnes, 2000). Regardless of the extent to which decision-making is meant to be rational and calculated, there are always some logical, cognitive (Maoz, 1990) and behavioral entropic elements that intervene in confident decision-making (Ranyard et al., 1997). Besides, decisions consist of more than one decision (Brehemer, 1990) that is usually interdependent (Hogarth, 1981), inter-reliant and justifiable to the environment in which they are being made (Sterman, 1989; Ranyard et al., 1997).

The juxtapositions made above highlight several features pertaining to organizational risks. Risk is an omnipresent and an ongoing organizational instance, for organizing is a continuous decisional process that is risk-oriented. It is also plural, interrelated and context-bound. Furthermore, risk is indentured by the various organizational actors who may be directly concerned by the risk, indirectly or potentially interested in it. Risk can be, therefore, apprehended as an unenclosed complex organizational phenomenon. It is simply transversal, whereby a multitude of actors are concerned with its assessment. In this vein, risks become subjective weights (Kahneman & Tversky, 1979) as they are identified and analyzed by actors who perceive and communicate about them.

2.2 Risks as ostensive and incommensurable

The question of risk identification arises as critical. In an organization, risks are not necessarily distinct, explicit, immediate or predictable. Baranoff (2004) emphasizes the cruciality of primary stages to risk management, mainly risk profiling and risk mapping. In a first place, a risk has to be first discovered and assessed within the network of the other adjacent or parallel risks it manifests in (Baranoff, 2004). The process of identification can be done through two epistemologies, as Lolive and Okamura (2016) suggest a scientific method, whereby risks are to be measured, and a perceptional method which resorts to the actors' personal, mental, cognitive and behavioral competencies. However, Gardere and Almeida (2014) question the feasibility and reliability of analyzing risks through objective metrics. Risks can be too ostensive to be captured through statistical scrutiny. Some of them are just objectively incommensurable.

More on the complexity and incommensurability of organizational risks lie in the fact that some risks can manifest only when cumulating at larger scopes. In other words, and following Aristotle's phrase: "The whole is more than the sum of the parts", risks that might appear insignificant at the level of a given function in an organization may turn exponentially substantial, when considered as part of a greater risk map (Baranoff, 2004). Hence, the need for a systemic approach to risk management becomes stringent (Kervern, 1995). Such an approach is susceptible to uncover current and potential issues emerging from the amalgamation of differential risks throughout organizations. It is also in a position to reveal potential opportunities emerging from similar perspectives (Morin, 1995); otherwise, not seizing such opportunities that might arise from a systemic risk management (Miller & Waller, 2003) would also be a risk to fall in. In fact, a proper systemic vision could mitigate the case of risk incommensurability, should it be enclosed into organizational departmentalism.

2.3 Risks as ambiguous and conflictual

Ambiguity is another problematic issue to defining organizational risks. This ambiguity is reckoned to primarily emanate from the proliferation of organizational ontologies, where internal and external niches interface (Ulrich, 1984). Such niches stand on complex intersections between a multitude of spheres of scientific, technical, media-related, political, social (Gardere & Almeida, 2014) and ecological order (Brown, 2018). Risk is defined differently within each of these spheres. There is a quasi-sharp distinction between how each actor identifies risk; an identification which is inspired by the different theoretical and empirical underpinnings of each sphere to which these multiple actors belong, along their personal competencies and expertise. Most importantly, actors may express different attitudes towards risks, once identified, and towards the uncertainty forerunning them (Chapman & Ward, 2003), despite the fact that they may agree upon their identification.

At this point, we may consider risks as conflictual. It is highly probable that opposing identifications and attitudes in relation to risks generate organizational misalignment. An organizational misalignment vis-à-vis risk abolishes any possibility of integrated risk management. This fact would generate two scenarios: risk aversion referring to actors shying away from facing uncertainty and managing concomitant risks (Mohammed & Knapkova, 2016), and/or managing risks based on non-consensual identifications and strategies, therefore, scattering managerial efforts and resources.

In effect, the nature of organizational risks, as displayed above, has twofold implications. First, risk management has to be integrative. Risks do manifest in a transversal, interrelated and correlative manner, therefore, they call for collective, processual and consensual action. Second, integrative risk management is complicated further by the ambiguous, ostensive, incommensurable and conflictual characteristics of risks. These characteristics reveal communication as an indispensable component to integrated risk management, which is communication.

3. The Communicative Component in Integrated Risk Management

3.1. The human factor: a plurality in interaction

The plurality of organizational actors who are (potentially) concerned with, or (potentially) affected by organizational risks, in addition to the delicate nature of risk itself entail the necessity of adopting a communicative approach. The actors have to interact, to exchange and fuse their risk perception, analytical methods and outcomes, to eventually make efficient decisions accordingly, through optimal consensus. This process of exchange is undoubtedly communicative, and is prone to both logical and extra-logical influences. Lolive and Okamura (2016) hint to the epistemological duality that has to be embedded in analysis: scientific metrics and perception. In the case where risks cannot be detected, measured or predicted through technical analytics, management has to resort to the "human eye" which just tends to be more accurate when collective.

The human factor is relevant to integrated risk management mostly because of the communicative role it plays, and which prevails over any technical or functional factors pertaining to organizations. To manipulate these organizational cogs, there is always an uncontestable human element to consider. The human actor is not another cog in the organizational machinery that is to be treated from a puritan scientific management perspective as in Taylorism (1919). Rather, it should be conceived of through the individuals and groups who interact socially and pragmatically. It should be apprehended through the situation-bound, cognitive and behavioral exchanges which are linguistically and discursively performed.

It is equally crucial to admit that such an interaction surpasses simple messages transfer through predetermined conduits (Vásquez & Schoeneborn, 2017). As argued earlier, organizational realities are more complex and multi-layered. Information exchange remains so infinitesimal before the load of the communicational package disseminated. The communicational package in question refers to a large spectrum of discursive acts, whereby actors, be they individuals or groups in a given organizational network, co-construct and share the meaning of surrounding environments, happenings, and objects, including their adjacent risks. This meaning is generated through influence and negotiation that are conducive to decision-making. Risks are also prone to similar processes of sensemaking and decision-making which necessarily take place through organizational communication in its large sense.

3.2. Organizational Communication climate: a site for collective risk apprehension

Shockley-Zalabak (2017, p. 48) evokes the concept of 'communication climate', which embodies the overall reactions of the organizational actors to the established organizational culture. As a reminder, organizational culture is a social construct which is collectively contested and negotiated. It comprises the norms, beliefs as well as the processes which organizational members craft and internalize. Risk profiling can be normalized as part of the organizational culture. This process is not simplistically unidimensional. Risks identification and management operate along the attitudes, feedback and positionalities about the encountered or potential risks, as it is the case for most of the aspects representing organizational culture.

Organizational norms and processes are dynamically 'reacted to' and 'talked about', as part of what 'organizational climate' may insinuates. Hence, organizational culture is not generated only through the sets of processes, practices, and events in an organization. It is also a reflection of how the different actors interact, mainly about the risks they face or foresee. Communication climate is the site, whereby the different aspects of organizational culture are discursively shaped. The two concepts in question entail the complex characteristic of risk and of organizational communication. They imply the necessity of a holistic and systemic approach to deal with them, as overlapping and mutually influential organizational concepts.

3.3. Organization, Communication and Risks as overlapping organizational concepts

To Karl Weick (1979), "organizations as such do not exist but rather are in the process of existing through ongoing human interaction" (in Shockley-Zalabak, 2017, p.39). We may deduce that the human interaction behind the existence and perennity of organizations revolves continuously around neutralizing and/or investing in current and potential risks. Further, organizations can be viewed as transformative environments enacted through active human interaction (Weick, 1979) over different organizational entities and events, and resulting in a variety of meanings and interpretations. The transformative aspect of organizational substances which are communicative in nature (Weick, 1979 in Shockley- Zalabak, 2017, p.39) implies the indispensability of changing methods and approaches to manage the risks rising along these transformations (Kessler, 2001). These transformations operate in complex correlations. Subsequently, concomitant risks necessitate a harmonization of their own correlative intersections (Kloman, 2003).

In proper integrated risk management, communication must not be viewed as an organizational function that operates in parallel. Communication has to be considered as ubiquitous, transversal and multi-faceted as risk itself. Actually, from an integrated risk management point of view, communication is to upgrade to a strategic level. Communication is rather "axial" than "peripheral" to organization and organizing (Ashcraft et al., 2009, p. 9). If risks are those current or potential incidents, susceptible to endanger the prosperity or perennity of a given organization, through reducing its gains or enlarging its losses, then organizational communication is to be viewed as constitutive of organizations, susceptible to optimize organizational functions and performance against all the risks emanating from miscommunication. Effective organizational communication reduces organizational uncertainties and equivocalities, aligns visions through consensus-building, and shapes organizational culture, brand image, notoriety, through internal and external public relations. Risks and communication are two concepts in ever-going mutual justification and mutual adjustment.

4. CCO for Integrated Risk Management

This paper advances that a primary organizational risk is the risk of shrinking the sphere where communication intervenes, within and across organizational networks (internal and external) to the limiting confines of information dissemination. This fallacy needs to be revisited through a communicational relabeling of all there is to organization and organizing (Weick, 1979). A falsification in that vein would very probably help prevent neutral views to communicative risks, which are thought to be the core of integrated risk management. CCO approach is reckoned to provide a plausible framework for risk perception, and to draw potential itineraries for risk mapping, negotiation, analysis, and related decision-making.

4.1. Introducing CCO Approach to Organizational Communication

This paper advances that a primary organizational risk is the risk of shrinking the sphere where communication intervenes, within and across organizational networks (internal and external) to the limiting confines of information dissemination. This fallacy needs to be revisited through a communicational relabeling of all there is to organization and organizing (Weick, 1979). A falsification in that vein would very probably help prevent neutral views to communicative risks, which are thought to be the core of integrated risk management. CCO approach is reckoned to provide good brainstorming for risk perception, and to draw potential itineraries for risk mapping, negotiation, analysis, and related decision-making.

For the sake of elucidation, CCO stands on a central vanguard premise: communication constitutes organization. That is to say, it is communication which is responsible for creating and sustaining organization. To Putnam, Nicotera and McPhee "Organizations never emerge as entities per se; but as systems, objects anchored in social practices, texts, or memory traces derived from the properties of language and action" (2009, p. 9). Furthermore, Shockley- Zalabak explains that "communication is not synonymous with organizing, decision-making, and influence but is better understood as the process that literally produces organizing, decision-making and influence" (2015, p. 50).

CCO defines communication as overarching and transversal to organizations. Browning et al. (2009, p. 91) reckon that "constitutive complexity allows us to search for multiple dimensions that explain a particular question, rather than accepting one and only one 'correct answer'. In that manner, constitutive approach reflects both a strategic and multidimensional delimitation of organizational communication that goes, hand in hand, with the way in which organizational risks manifest and correlate, how risks need to be perceived, mapped, analyzed and decided upon. In what follows, an overview of the CCO approach to organizational communication, along a highlight of the advantages, which CCO proffers to enrich integrated risk management analysis.

4.2. Spokespersons and spokesobjects: a hybrid agency

Reading constitutive complexity through reveals one of the main feeds that CCO approach advances into organizational studies in general, and into integrative management and integrative risk management in particular. CCO provides a comprehensive inventory of the organizational actors. It recognizes their hybrid agency (The Montreal School of CCO) as they interact and communicate for organizational purposes. "CCO provides a balance between structure and agency rather than privileging one or the other" (Putnam et al., 2009). In this context, "structure" refers to all processes, procedures and objects (immovable or technological) within an organization, which are used or implemented at the service of organizing. "Agency" stands for the communicative actions revolving around "structures".

When "agency" represents the human factor in organizational communication, "structure" frames organizational materiality.

The Human and the Non-Human are equally-performing organizational agents. They are both endowed with similar potency to act, react and transform organizations, as they interact and interweavingly perform. Integrated risk management must take into account the human and non-human duality. It should consider risks as emanating from, as well as being mitigated, by dint of both agencies. On one hand, risks are generally expected from low performance, turnovers, and disengagement, which human workforce is susceptible to display. On the other hand, risks are to be expected from the non-human agent as well. Infrastructure, processes, texts ('presentification' in Koschmann's expressions (2012) or else, operating in an organization may originate risks. The non-human may generate a multitude of organizational risks due to mundane technical breakdowns. It is a dysfunction committed by of an organizational actor, which is equal to the human capital in agency. To Montreal School of CCO, an organization has to decenter the role of its "spokespersons‟ to highlight the constitutive role of its 'spokesobjects' (Vásquez & Cooren, 2011). Both spokespersons and spokesobjects have to be appraised as equal agents which are capable of positive performance, and are prone to dysfunctionality. Both spokespersons and spokesobjects are responsible for risk generation and mitigation.

With the advances of AI, data-mining and Big Data analytics are widely used for the "…description, estimation, prediction, classification, clustering, and association processes (…). Through data cleaning and data integration, they are capable of finding hidden patterns and relations and correlations in big data sets, (…) which are understandable and useful to the decision makers" (Doğan et al., 2015, p. 1). There is definitely a high potential of AI as an organizational Agent/Actor who is proactive in integrated risk management. IT affords to detect current and potential risks through mining for hidden nuisance, clustering and correlating data from different functional recipients, and predicting potential patterns (risks or opportunities). Hence, technological advances are susceptible to escort risk profiling, mapping and decision-making.

However, the capacities of new technology require precautious management. Regardless of all the post-human prophecies, AI is not necessarily replacing humans. It is rather increasingly intermediating human' organizational actions. It is semi-synthetically taking on some of the human cognitive tasks, and most of the manual ones, namely the ones which precede decision-making. Currently, decision-makers do rely on AI's informational output. Little they have to do with the process of collecting, purifying, correlating and prioritizing data. Managers have less and less access to raw data. This fact could be risky should these analytics turn unfruitful or misleading, due to algorithmic dysfunctionality. The same risk may arise if a human actor's digital literacy is insufficient to accompany and intervene, as deep as different organizational situations require for efficient risk management.

To Latour (2005, p. 39), 'spokesobjects' are not only intermediaries who diffuse meaning throughout an organization. Rather, they are proactive "mediators who translate an organization's values, mission, vision and identity" (cited in Vásquez & Schoeneborn, 2017, p.7). 'Spokesobjects' can also misrepresent their organizations should they fail to appropriately translate these values, mission, vision and identity" (Vásquez & Cooren, 2011 cited in Vásquez & Schoeneborn, 2017, p.7). The authors emphasize the status and role of the non-human agent as possible risk generator at the strategic level.

Approaching the Human and Non-Human dilemma duality has to refer to a communicative criterion, whereby communication is not merely interactional, but also transactional. In transactional communication (Sereno & Mortensen, 1970, pp. 83-102), both senders and receivers (in our case, the human and non-human agents/actors) merge into an overlapping 'conversation', where both "interlocutors‟ interact and exchange feedback to create a new reality. As a projection, there must be a regular exchange of inputs or, at least, of prototypical outputs between human and non- human agents/actors. Their "conversation‟ should not be a sequenced handing-over of edited informational packages. Rather, there must be a human/non-human exchange, which is triggered by managerial necessity, to not only inform the other actor/agent but also to assess the soundness and compliance of its operations. It is a case of human/non-human mutual adjustment which needs to be paid heed for, as to integrated risk management that is agent-sensitive.

4.3. McPhee and Zaug's Four flows

Another CCO approach is McPhee and Zaug (2000)' s Four Flows. Under this approach, organizational communication is conceived as a joint occurrence of four communicative processes. The flows represent respectively: 1) membership negotiation: referring to the communicative process, whereby members in an organization negotiate their relationship to each other and toward the organization; a negotiation that alters along with newcomers or hierarchical change, 2) self-structuring, which stands on the communicative process through which members in an organization build their collective coherence, presentification, and control system, 3) activity coordination, is the communicative process escorting labor division, code and task implementation and members' adaptation to new situations, and 4) institutional positioning, in reference to the flow dealing with the intersecting liaisons with external actors, such as stakeholders, competitors, investors, unions and the like.

McPhee and Zaug (2009) underline that these communicative processes or flows can be described separately. But it is only when seen as overlapping and dynamic complex that they critically generate and sustain the organizational phenomena (Shockley-Zalabak, 2015, p. 51), hence, the importance the integrative aspect of the communicative flows described above. The four processes influence each other and correlate either positively or negatively. To illustrate, a newcomer membership negotiation is susceptible to influence activity coordination based on the labor divide, which is assigned to the newcomer. Whether the task given to this newcomer was an old member's assignment (reattribution of roles), or the task is newly designed to fit the skills and competences of the novice recruitee, there will be definitely an alteration of the organizational structure, shaking the overall internal coherence, and/or external relations of the organization. Similar reasoning can predict similar transversal ricochets, to assess potential influence of minor or major alterations on each flow over the other parallel communicative flows.

The potential alterations that could take place at the level of each of the four communicative processes constituting an organization are substantial risks to manage. The projectory of the probable consecutive implications that each flow alteration has on the other implies the necessity to resort to an integrated risk management. It is important to deconstruct the parallelism between the plurality and dynamicity of organizational risks and integrated risk management. The elucidation which this paper advances revolves around the communicative aspect of risk generation and of risk management. It is to be emphasized that all there is to organizational risks is communicative in nature, and that communication is indispensable to enact efficient and effective integrated risk management, mainly if viewed from a CCO paradigm.

Through its numerous schools and theories, CCO approach provides a panoramic point of view to organizations that re-stratifies communication as transversal and strategic. The main premise of CCO indicates that communication is the ubiquitous element that generates and sustains organizations. Hence, communicational deficiencies are susceptible to generate fatal organizational risks that might endanger the very survival and prosperity of an organization. Organizational communication is network-based, co-orienting all human and non-human agents, be they internal and external, into a dynamic complexity, making up organizational identity and agency. CCO approach is actually a pathfinder proffering a systematic way to scan organizations by means of a communicative multi-dimensional risk detector. CCO is argued to contribute in the legitimization of integrated risk management as well.

5. Communicative Issues to 'Integrated' Risk Perception, Identification, Analysis and Management

The section is conceived to highlight the critical communicative instances which might surge out at each stage of integrated risk management: perception, identification, analysis, and management. These issues become more stringent with the polyphony of organizational agents (human and non- human), and the complexity of their relationships. To Vásquez et al. (2016), organizations are inherently polyphonic social systems that are governed by misunderstanding and contestations. Luhmann (1995) even states that misunderstanding is normative to communication in general. For integrated risk management purposes, we need to be able to preview risk areas, mainly those emanating in integrative sceneries of management. Given the overlapping nature of the stages of integrated risk management, this section ensues with no subtitles.

The first stage of integrated risk management is definitely risk perception. In related literature, risk perception is more linked to the subjective interpretations of risks (Slovic, 2000). There are two main dimensions in risk perception: a cognitive dimension encompassing the extent to which individuals know about and understand risks, while the emotional dimension stands for the variegated feelings one can have towards a given risk (Paek & Hove, 2017). To our light, this definition is missing a central element in its cognitive dimension. Perceiving a risk has to start with its detection, prior to any knowledge expansion about the nature and intensity of that risk, or to any concomitant emotions.

Both human and non-human agents have to be apt enough to capture risks within their environments. This aptitude is predicated on the credentials and capacities of those agents. For integrated risk management, we are interested in these capacities and expertise that agents develop through socialization (among human agents), interoperability (between non-human agents) and transactional communication (between human and non-human agents in particular). The actors/agents should be assessed against their capacities to detect current and potential risks. Any shortage in terms of the appropriate credentials and capacities of risk detection is a risk in itself. More expertise is expected with potential risks, as they lack the actual substance to be detected through, in comparison to current risks which do exist in the present, and with more palpable substance. In the case of potential risks, risk perception requires a sharp and trained intuitive judgment. Such intuitive judgment emanates from the interpretation of the situation. Herein, Maoz (1990) underlines that whoever is to decide on a given risk has to understand the risk itself, as well as the environment in which the risk arises.

As to the emotional dimension in risk perception, Weinstein (1980) discloses that a central factor in the misperception of risks' frequency and magnitude correlates with individuals' attitude towards the threat posed by detected risks. Persons with optimistic bias (Weinstein, 1980) tend to be unrealistically nonchalant towards risks. On the other hand, there are persons who might exaggerate about the probability of a given risk to (re)occur, which is a case of availability heuristic syndrome (Kahneman, Slovic & Tversky, 1982). Herein, an integrated risk management that is informed by the dynamism of CCO approach to organizational communication is instrumental to adjust and mitigate such extreme risk perceptions or judgments. In other words, the interactions and transactions with the different organizational actors/agents lead to establish an organizational knowledge that amalgamates both tacit and explicit instances of the relevant expertise. Such amalgamation cannot take place without efficient and integrative model of communication, as the model suggested by CCO approach. The tacit facets of organizational knowledge (Polayni, 1983; Baumard, 2001) cannot be transferred unless through proper trust-based socialization. Risk perception might be primarily an individual task or experience. Yet, sharper risk perception is definitely an outcome of collective and integrated endeavors.

There are other factors influencing the perception of risks. To Frijns et al. (2013), there is a link between the culture of organizational actors and the thresholds to which they tolerate risks. Hofstede (2001) has spoken about the uncertainty avoidance index (UAI), as being potentially the most impactful cultural dimension in workplaces at the international scale.

Cultures around the world have different UAI, which means that communities do not tolerate uncertainty or ambiguity in a similar manner. Those with high UAI do not feel comfortable in unstructured risky contexts, while cultures with low UAI are open to unknown situations and embrace the risks that might rise from them. The impact of culture on risk tolerance has to be read through two scenarios: 1) all of the organizational members belong to the same culture and share the same UAI, and

2) the organizational members are culturally heterogeneous and do not share the same UAI (see Table 1).

Table 1 : Uncertainty Avoidance Index (UAI): heterogeneous Vs. homogeneous scenario

Homogeneous UAI	All members share High UAI	Excessive risk aversion
	All members share Low UAI	Optimistic bias
Heterogeneous UAI	Members with different UAI	Confusing ambidexterity
	(High & Low UAI)	Innovative ambidexterity

(by author)

In case all members share high uncertainty avoidance index, there is a risk that the members decline opportunities for they may represent potential risks (availability heuristic). Or they could shy away from managing risks altogether. It is important to clarify that avoiding uncertainty or ambiguity does not mean that an organization is really avoiding or omitting risks. Avoidance is a behavior that is based on a perception/attitude to risks; it does not entail the neutralization of risks we want to avoid. Risks are simply inherently inevitable. Similarly, in the case where all members share a low UAI, we may anticipate an excessive optimism or a nonchalant approach to decision-making. On the other hand, when members have mixed UAI, they are either prone to fall into confusing ambidexterity, or benefit from innovative ambidexterity.

Herein, although organizational ambidexterity is generally juxtaposed with the dilemma of exploitation or exploration, that is to say, of opting for incremental or breakthrough innovation (El Kadiri Boutchich & Gallouj, 2022), the type of ambidexterity that we advance is observed in work teams with heterogeneous or opposing UAI; some of them avoid current risks and shy away from opportunities to skip the potential risks that may surge out from them. The others tolerate ambiguity and uncertainty, and have taste for adventure and risks.

The cohabitation of opposing UAI in the same working contexts implies a case of ambidexterity. Such ambidexterity can be confusing to the decision-making process, and to the overall management. Different non-synergetic and probably conflictual attitudes to risks would tear up the organization. On the other hand, UAI ambidexterity can be conducive to balanced decision-making and subsequently innovative management. Only efficient organizational communication that is informed by CCO approach to integrated risk management can create synergetic and innovative atmosphere to turn UAI ambidexterity into a competitive advantage (Jurksiene & Pundziene, 2016). Similar ambidextrous projection can be made on the duality of Artificial Intelligence, and analogical or manual logistics and work routines while approaching organizational risks.

More often than not, the stage of risk perception overlaps with the ensuing stage of integrated risk management, which is: risk identification. To Etti G. Baranoff (2004), risk identification incorporates two sub-stages: risk profiling and risk mapping. Risk profiling is the process whereby risks are assessed in terms of their frequency and severity. Generally, risk profiling tackles each risk in silo.

The overlap between risk identification and perception lies in the prevailing level of risk tolerance that affects risk perception, and subsequently, influence risk profiling as more or less severe. After profiling a risk in silo, there comes the assessment of their relationships. Baranoff (2004) suggests mapping these risks into cumulative charts. Gjertsen (1999) puts forward that once all risks are mapped into cumulative clusters, then a holistic solution to all correlated risks is to be envisaged.

Once more, the stage of risk identification emphasizes the importance of integration and communication to the management of organizational risks. Mapping risks is not to be seen as a reductionist strategy; the evaluation of risks in silo and the assessment of their frequency and severity precedes the process of prioritization, and clustering of the risks that an organization currently or potentially face. Risk mapping is an act of governance. In fact, risks exist in correlation and act in compensation. So, mapping risks is susceptible to highlight their relationships to envision the best and most optimal strategy to account for these risks. Therefore, risk identification is consensus-based. All organizational actors should participate in the processes (profiling in silo, mapping into clusters) under the stage of risk identification. Mapping risks would compose risk clusters, and determine the actors/agents who are more concerned by a given risk cluster. Risk clustering can be designed on the basis of the potential correlations and compensations between and among the different risks. Risk mapping is in position to help organize the debate and negotiation over organizational risks through assigning risks to the concerned actors/agents (see figure 1).

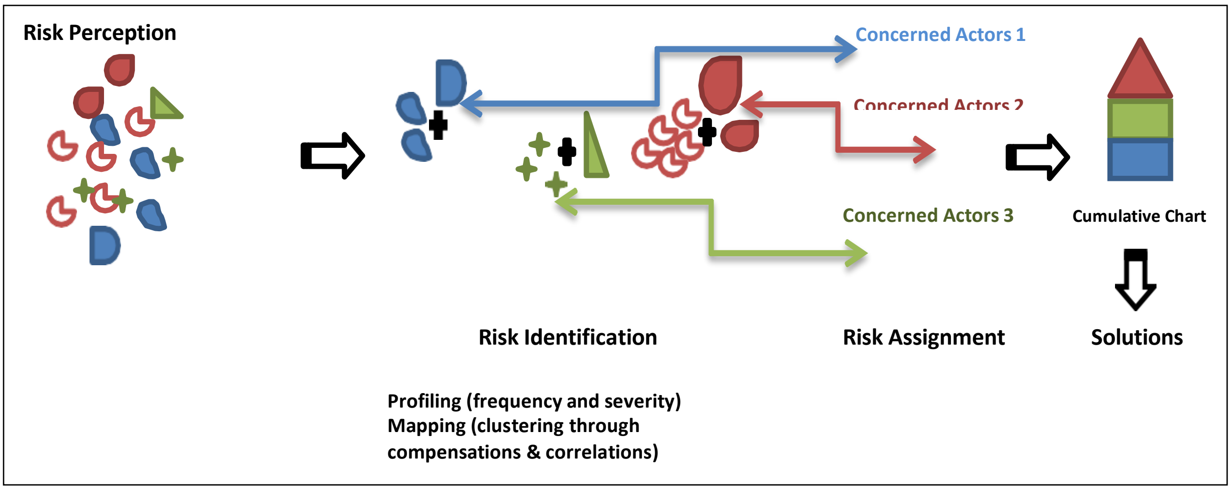

Figure 1 : Risk perception and identification (by Author)

Risk mapping reflects the degree of complexity to which the assignees of a given risks cluster should represent, and the level of coordination they need to co-operate through. It also highlights the key learnings that the risks cluster assignees are to draw, in order to state the correlations and compensations between and among the different risks' clusters. The process of risk mapping is central to integrated risk management. Risks clusters indicate, sufficiently enough, the points of convergence, and the itineraries of impact (correlations and compensations) within integrated risk management. It also decorticates the meta-process of decision-making, which takes place at the strategic level, into micro-processes of decision-making taking place at the level of each risks cluster. Strategic communication is, in this case, more concerned with the correlations and compensations between the decisions emanating from each risks cluster debate, rather than between separate risks. Micro-decisions can be iteratively reviewed if new data emerge at the strategic level. As the reader might notice, risk mapping is also overlapping with the ensuing stages of risk analysis and risk management (see figure 2).

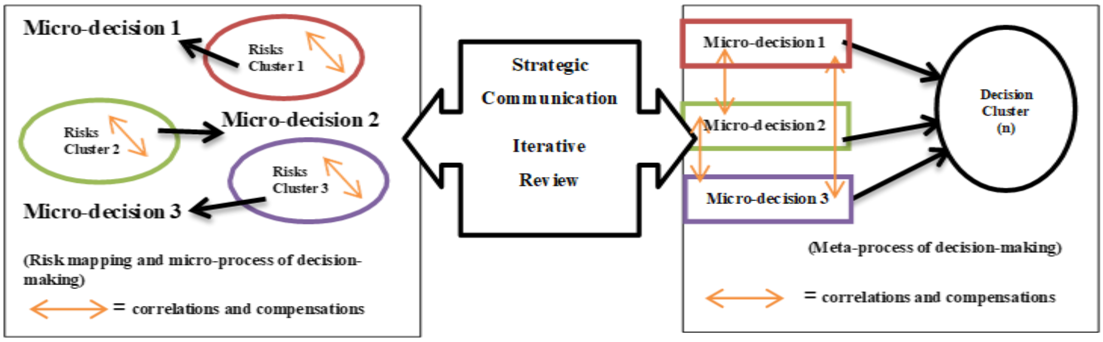

Figure 2 : Correlations and compensations within risk and decision clusters (by Author)

At the stage of risk identification, risks are described in terms of frequency and severity, then, they are mapped in accordance with the correlations and compensations they display with/to each other. Such processes entail the enactment of parallel operations of data generation and data transfer. There is a whole process of data management, whereby information about risks and risks clusters is collected, assessed for relevance and quality then migrated to the appropriate servers or storage lakes (Abdou Hussein, 2021), which are suggested by risk mapping outcomes. Data management is called forth at the stage of risk analysis. Herein, systematic and innovative transactional communication has to take place between the organizational 'spokespersons' and 'spokesobjects'. Computer-assisted and AI-based risk analysis should co-operate with the intellectual capital. The intellectual capital refers to all that is intangible, uncodified, yet is part of an organization' s knowledge (Edvinsson & Malone, 1997).

6. Transactional Communication between Spokespersons' and Spokesobjects' Intellectual Capital

All of the stages of risk management stand on substantial data management. The latter requires systematic and innovative transactional communication to take place between the organizational 'spokespersons' and 'spokesobjects'. The transactional communication in question entails the generation and exchange of the organization's intellectual capital. The intellectual capital refers to all that is intangible, uncodified, yet is part of an organization' s knowledge (Edvinsson & Malone, 1997). Intellectual capitals are a human exclusivity; both of the human and non-human actors are susceptible to contribute in. Alkhateeb et al. (2022) compiles a set of dimensions, explaining the intellectual capital. To the authors, the intellectual capital encompasses human and technological (Fernandez et al., 2000), structural (Bontis, 1999), relational (Edvinsson & Malone, 1997), social (Khalique et al., 2011), renewal (Kianto, 2008), trust (Mayer et al., 1995), and spiritual (Ismail, 2005) dimensions. The dimensions of intellectual capital are thought to influence risk analysis and risk management stages (i.e., when risks are treated and related decisions are made). Table 2 recapitulates the characteristics of each dimension:

Table 2 : Intellectual capital dimensions (in Alkhateeb, 2022: p. 4-9)

Intellectual Capital Dimensions	**Main Assets**
Technological	"..research and development, and information technological knowledge.." (Bueno et al., 2006)
Structural capital	"The non-human,… embodies databases, organizational charts, process manual, strategies, routines…"(Bontis, 1999)
Human	"..combination of aptitudes in pursuing target performances, sense of ownership and motivations". (Rossi et al., 2016)
Relational capital	"..management, shareholders, public, institutions and associations…"(Edvinsson & Malone, 1997)
Social capital	"..combination of relationships within the firm and with external entities that helps organizations by riveting knowledge and to gain access to resources.." (Nahapiet & Ghoshal, 1998)
Renewal capital	"..learning and discussion.." (Huber, 1991) ".creativity.." (Kianto, 2008)
Trust capital	"..cooperation between individuals.."(Savolainen & Lopez-Fresno, 2013)
Spiritual capital	"incorporates vision, direction, guidance, principles, values and culture.." (Ismail, 2005)
Entrepreneurial Capital	"..the multiplicative function of competence and commitment as the most significant assets and resource of competitive advantage." (Erikson, 2002)

It is self-evident that the non-human actor is manifested through the structural and technological dimensions. These two dimensions refer to the technical and procedural facet, which technology represents inside organizations. Technology is equally capable of enacting change through the transformative role it plays, in regard with boosting research, development, and knowledge codification and dissemination.

Such agency is only feasible when integrated with the human actor who, in its turn, emerges with a combination of other intellectual facets. The human contributes with the individual aptitudes and motivations, as well as the knowledge generated from, and the resources accessed through, the multileveled relationships with internal and external agents. These relationships are governed by trust, ethical cooperation, aligned vision and shared culture. They are also triggered by the sense of commitment and competitiveness, and are upgraded through conversation and learning.

These dimensions of intellectual capital as generated by human and non-human actors are to be convened when in risk analysis and risk management stages. The non-human agent helps undertake risk analysis in a systematic and technical manner. We admit that the human facet's contribution proves to be more complex than the non-human one. The contribution of the human agent is informed by variegated feeds coming from not only the individuals or groups within the organization, but also from the large network of their peers, partners and stakeholders. Hence, risk analysis is not a mere mechanical process that is technically manipulated; it is multi-perspectival process that calls forth tangible and intangible credentials and expertise to analyze risks appropriately. To enact and combine these perspectives, there is a need for an integrative risk management approach that is constituted and fluidified by a colossal and equally complex communicative labor.

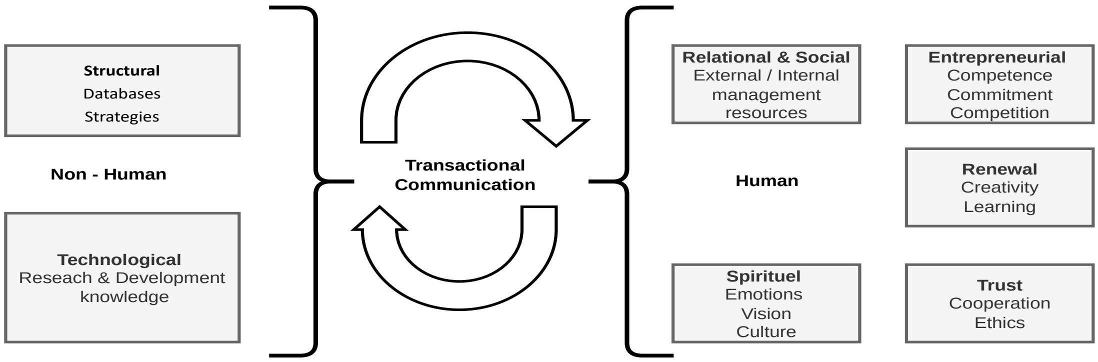

Figure 3 : The integration of the human and non-human through transactional communication in risk Analysis and management (by Author)

7. Conclusion

The communicative aspect reveals to be bijective to risk management. Simply put, proper risk management is feasible when risk is communicatively conceived of and processed. Risk communication is instrumental to capture, demystify, and decide upon current and potential risks. Moreover, risk is an organizational notion which rises at the intersection of the various organizational functions, co-operating within a given organization or interacting with external organizational actors or stakeholders. Subsequently, risk management is integrated by default. Similarly, the organizational communicative flows as described by "Communication Constitutes Organization" (CCO) and that are susceptible to escort integrated risk management are complex, multidimensional and sensitive to all there is to organization and organizing through a communicative lens. Defining organizations as communicative entities is primordial to efficient integrated risk management. Through its different schools, CCO approach provides a solid scheme of integration, where the Human and the Non-Human co-orientate in transactional communication, which integrated risk management can benefit from. The integrated scheme described by CCO approach facilitates risk perception, identification, analysis and management, cutting short on any prolongation of traditional fractioned view to risk management, which has proved to be obsolete (Amansou, 2008).

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