

PARADIGM SHIFTING? EXPLORING A LEARNING PARADIGM IN THE FIELD OF IC REPORTING

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Abstract

Stemming from a variety of methodological and practical needs and various degrees of understanding, the current practices in the field of intellectual capital (IC) reporting vary from case to case. Nevertheless, almost all of the IC models in use seem to prioritise the “measuring paradigm”, that is, the calculation, numbering, ranking, and quantification of IC and/or its sub-categories. We reiterate that IC is a human construction and the value of this concept lies in its capacity to change social reality. This paper seeks to explore “a learning paradigm”, through which we wish to highlight the innate value of IC reporting insofar as it enables organisational change and innovation. We ground this paradigm in the philosophical works of Habermas, Vygotsky and Deleuze. A case study of a company who engaged in a Europe-wide IC project is provided, and we emphasise that the critical, material, and virtual dimensions of a learning paradigm need to be acknowledged.

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1. Introduction

Stemming from a variety of methodological and practical needs and various degrees of understanding, the current practices in the field of intellectual capital (IC) reporting vary from country to country, and from case to case. Nevertheless, almost all of the IC models in use (Choo and Bontis, 2002; Marr, 2004; RICARDIS, 2006) seem to prioritise one aspect of IC reporting, that is, the measurement of IC and its sub-categories (human capital, relational capital, and structural capital). The “measuring paradigm” refers to the theoretical and practical focus that revolves around the calculation, numbering, ranking, and quantification of IC and/or its sub-categories (Mouritsen, 2009a, p.802). Herein, we raise a bold yet inevitable question: for those aspects of IC being measured, are they still intangibles *per se*? In order to answer this question, we go back to the basics by arguing that IC is a human construction and the value of this concept lies in its capacity to change social reality.

With regard to the prevalent ‘measuring paradigm’ embedded in the current practices of IC reporting, we appreciate Mouritsen’s (2009b, p161) conundrum that the measurement of IC is doomed since the endeavour to capture the properties of intangibles in numbers is impossible, and yet it is necessary because it allows intervention to happen by opening up a whole new set of opportunities for management improvement. Under the conventional measuring approach, the role of IC insofar as activating an organization’s innovation capacity and improving its performance is limited by the restricted idea of reporting inaccurate and static measurement results, which will then be summarized in a report, called the ‘IC statement’.

The urgency of addressing the limits of the measuring paradigm has been recognized by a number of researchers (Mouritsen *et al.*, 2004, 2009a, 2009b; Dunmay, 2009; Catusus *et al.*, 2006, 2007; Chaharbarghi and Cripps, 2006; Marr *et al.*, 2003, 2005), however, very little of the literature is concerned about establishing a different paradigm which might allow IC researchers and practitioners to find a new avenue of examining the innate value of IC reporting (Yu and Humphreys, 2008). This paper seeks to explore what we call “a learning paradigm”, through which we wish to demonstrate the innate value of IC reporting in terms of enabling organisational change and innovation. To unveil this innate value, we argue that the critical, material, and virtual dimensions of a learning paradigm needs to be acknowledged. We would ground this paradigm in the works of Habermas’s theory of communicative action (1981a, 1981b), Vygotsky’s developmental psychology (1978), and more importantly, Deleuze’s (1968, 1980, 1991) philosophy of difference and virtuality.

In what follows, first of all, we will provide a critical review of the prevalent measuring paradigm. Then, the theoretical underpinnings of a learning paradigm will be discussed. Our empirical analysis is based on a longitudinal case study of a participating firm in a reach-and-practice combined IC project in European context. The details of this methodology will be developed in the fourth section of this paper. In the fifth section, we will present our preliminary findings. In conclusion, we will summarise the implications of building a learning paradigm in the field of IC reporting.

2. The challenges of measuring IC

The first attempt to measure IC can be traced back to the initiative taken by the Organisation for Economic Cooperation and Development (OECD) in the middle 1990s. This initiative was based on its systematic observation that intangible investments (such as training, R&D) increased more rapidly than tangible investments in a knowledge economy. The OECD (1996) decided to encourage the development of a reporting structure that would facilitate managers, stakeholders, and policy makers to make better sense of intangibles. In 1999, one of the most workable definitions of IC was published. It described IC as the economic value of a firm's organisational capital and human capital (OECD, 2006). This was the first time that IC was distinguished from the overall intangible asset base of a firm (Tan *et al.*, 2008). Following the OECD's initiative, researchers in Europe and North America actively engaged in the work of conceptualising IC via a number of models. Sveiby (2001) has noted that different models elicited different measurement methods. In general, these methods can be categorised as the financial and non-financial measures of IC (North, 1998; Reinhardt *et al.*, 2003).

The 'financial measures of IC' are largely influenced by an accounting tradition that seeks to develop monetary evaluations of IC through deductive methods. For instance, Tobin's ratio Q, Value Added Intellectual Coefficient (VAIC), and Economic Value Added (EVA) are among the most popular measures of this kind (Reinhardt *et al.*, 2003; Tan *et al.*, 2008). In the late 1990s, 'non-financial measures of IC' were invented in accordance with inductive methods. Popular models include but are not limited to Kaplan and Norton's Balanced Scorecard, Edvinsson's Skandia navigator, and Roos's IC-Index (*ibid*). Since 2000, a number of IC projects at a national level have grabbed public attention, producing the seminal reporting structure – the Danish Guideline (2001) as well as the most recent German Guideline – Intellectual Capital Statements - Made in Germany (2006). These IC projects were recognised for their efforts of moving beyond the reporting standards for intangible assets, developed by the accounting boards (IASB, 2004; FASB, 2001). However, in all these efforts, the clear deficits associated with the measurement results summarised in the IC statements are hardly mentioned.

In this paper, we use 'the measuring paradigm' to refer to the theoretical and practical focus that revolves around the calculation, numbering, ranking, and quantification of IC and/or its sub-categories, including the above financial and non-financial measures. As Kannan and Aulbur (2004) noted, financial measures of IC "focus on the accounting and financial perspective...and only recognise the existence of an item when transaction with third parties take place" (p.391). In this sense, intangibles are treated exactly the same way as tangibles subject to strict accounting principles. On the other hand, non-financial measures of IC face the following challenges: first, the measurement results only represent a snapshot view of IC, while the dynamic knowledge flow (interaction or causal relationship between IC factors) in an organisation is left out (Marr *et al.*, 2004, p.565). Secondly, the managerialism assumptions underpinned the measuring paradigm, as conveyed in the adage of "what gets measured gets managed", are highly suspicious (Chaharbaghi and Cripps, 2006, p.32, Catusus *et al.*, 2007, p.507). Because of these assumptions, the subjective measurement results are packaged as an objective phenomenon and therefore masks what really matters in an organisation (Mouritsen, 2004, p.30). If these challenges are not addressed properly, the field of IC reporting runs the risk of becoming a tool for

reinforcing management control internally or for manipulating an organisation's public image externally (Dunmay, 2009).

In addition to the challenges of measuring IC, it is also worth noting the 'potential' of IC measurement results. As Mouritsen (2002) stated, measuring IC cannot hold all things together as it claims, but it can form "its own realm of activity". Instead of viewing IC measurement results as definitive knowledge that represents 'organisational reality', the exercise of measuring IC might provide an opportunity for mobilising organisational resources, especially when the connections between IC, a firm's business processes, and its value creation activities are established (Mouritsen, 2004, Dunmay, 2009). In this line of thinking, "completely new phenomena might emerge at the end of the measurement and calculation, which are far removed from the entities that are measured" (Mouritsen, 2009b, p.160). In order to fulfil this potential, we want to propose a learning paradigm that critically addresses the legacy of IC measurement results, and yet brings them to another level of analysis.

3. Building a learning paradigm

Drawing on the philosophical works of Habermas (1981a, 1981b), Vygotsky (1978) and Deleuze (1968, 1980, 1991), we propose to build a learning paradigm in IC reporting along three dimensions, namely, the critical, the material, and the virtual dimensions that together contribute to our understanding of the innate value of IC reporting. This shall enable IC reporting to become a powerful engine for organisational change and innovation. Before we elaborate the details of the three dimensions, we will first clarify the necessity and importance of building this paradigm.

3.1 The necessity: IC as a human construction

The underlying assumption of the measuring paradigm is rooted in a mainstream accounting and rational management perspective, which positions IC as a knowledge asset waiting to be commercialised and possessed. Such an assumption reduces IC to a set of quantified results behind which the manipulative holders of power in organisations can hide their limitations (Chaharbarghi and Cripps, 2006, p.30). In contrast to this epistemological position, many researchers argue that IC should be understood as a human construction (O'Donnell *et al.*, 2004, p.296, Jorgensen, 2006, p.79, Dunmay, 2009, p.491). This argument has twofold implications: first, IC as a type of socially constructed knowledge is context-dependent and therefore it cannot be made objectified completely. Secondly, IC is treated as a verb rather than a noun, since human construction is an ongoing process. In other words, the value of IC should reside in its capacity to change social reality.

3.2 The importance of the opportunity to redefine 'competitive advantage'

In March 2000, the 'Lisbon Agenda' set the goal of making strategic efforts to transform European Union into a competitive and dynamic knowledge-driven economy (Edvinsson and Kivikas, 2007, p.377). The role of innovation, as a means and an end to a knowledge economy, was particularly emphasised. According to Teece (2000), intangible resources that existed at the firm's level have become a key driver for improving organisational performance. To activate a firm's innovation capacity, however, intangible resources must be combined with complementary assets, activities, and networks provided by the firm and its stakeholders. As Hearn and Pace (2006) demonstrated in their 'value ecology thinking' that the the new

generation of business systems cannot be benefited from thinking of customers merely as users of a firm's goods and services, rather, consumers are the actual co-creators of value with/for the firm. In the same vein, a firm's stakeholders may also play a part in this value creation process. The reason for this involvement of stakeholders is simple yet profound: innovation is no longer confined within a firm's boundary, but in the hands and minds of people who are associated with its 'value ecological' network. Consequently, a firm's 'competitive advantage' is less about competing with others by adopting a single-handed strategy, but more about making new strategic connections in a sustainable way. To measure up to this thinking, the functions of IC reporting must be reconsidered.

3.3 The possibility: building a learning paradigm integrating three perspectives

3.3.1 The first perspective: 'Habermasian'

Taking a 'Habermasian' perspective brings a critical dimension to the learning paradigm, which is primarily manifested in Habermas' conceptualisation of 'communicative action' and 'lifeworld/system'. Habermas (1981b, p.86) introduced the concept of communicative action to emphasize the importance of acquiring a higher form of rationality (called communicative rationality) that goes beyond instrumental rationality². According to Habermas, "communicative action refers to the interaction of at least two subjects capable of speech and action who establish interpersonal relations... The actors seek to reach an understanding about the action situation and their plans of action in order to coordinate their actions by way of agreement" (ibid). Habermas's overarching assumption is that no communication is possible without reaching understanding, and thus, "whenever agents use language to coordinate their actions, they enter into certain commitments to justify their actions or words on the basis of good reasons" (Finlayson, 2005, p.26).

In relation to 'communicative action', Habermas borrowed the concept of 'lifeworld' from Husserl to describe the informal, lively, and unregulated domain that we share with others before its formalisation (Finlayson, 2005, p.51). For Habermas, 'lifeworld' must be understood through the constant comparison with another concept - 'system'. The latter signifies formalised structure and instrumental action that are steered by money and power in a capitalism society (Habermas, 1981b). Whenever a successful communicative action takes place, a consensus will be made and subsequently fed back into the lifeworld. In doing so, the lifeworld is able to pool shared assumptions and renewed knowledge together as a foundation for coordinated action. Interestingly, money and power maintain the material reproduction of a social entity through a function similar to that of the lifeworld, since they also "coordinate action and have an integrating effect of their own" (Finlayson, 2005, p.54). Habermas (1981b) considers that instrumental rationality is geared to profit, personal success, and control; whereas communicative rationality of the lifeworld aims for interpersonal understanding and consensus.

To understand change, Habermas demands that both perspectives should be taken into consideration. This is not only because the system is embedded in the lifeworld and it

² Instrumental rationality refers to an individual's calculation of the most efficient means for achieving a given desire. It is a concept in contrast with communicative rationality (Finlayson, 2005, p.6).

fulfils important social functions, as such, “abandoning or doing without them is not an option” (Finlayson, 2005, p.55), but also the interlocking interactions between the two perspectives may give rise to new knowledge (O’Donnell *et al.*, 2003, p.85). The association between ‘lifeworld’ and ‘system’ reminds us to keep them side by side by engaging in critical reflectivity: through communicative action, we could tell if language enables intuitive knowledge of participations, or it functions as an ideological discourse in favour of instrumental rationality (O’Donnell, 2004, p.310). This dialectical way of thinking can be called a “lifeworld-in-system” approach.

3.3.2 The second perspective: ‘Vygotskian’

Taking a ‘Vygotskian’ perspective brings a material dimension to the learning paradigm. Unlike Habermas’s reliance on interpersonal communication, Vygotsky (1978, p.35) examined inter-psychological and intra-psychological functions in the context of change by applying dialectics to understand the components of a given system (John-Steiner and Mahn, 1996, p.194-195). His seminal works reopened the internal structure of learning. The linkage between inter- and intra- psychological functions is ‘semiotic mediation’, which refers to the role of semiotic signs and artefacts that enables the internalisation of a reflexive mindset. One of the most important semiotic signs is language, the use of which may help people develop intentional thinking as a guide to their future action. This aspect is typically known as the planning function of language (Vygotsky, 1978, p.28). The aim of semiotic mediation is to help learners go from the known to the unknown. Vygotsky (1978, p.86) defines the spaces in between as ZPD³ (zones of proximal development), in which higher mental functioning, such as active remembering, logical reasoning, intentional thinking, is developed (*ibid.*). It is through semiotic mediation that a learner’s inter-psychological mechanism is transformed into an intra-psychological mechanism.

According to Vygotsky (1978, p.40), ‘joint action’ plays an important role in learning. This is mainly because a variety of internal development processes will be awakened only when a learner acts in interaction or collaboration with his or her peers (Schütz, 2004). Unlike his colleague and successor Leont’ev who placed ‘action’ in the individual plane while insisting that ‘activity’ belongs to the collective plane, Vygotsky (1978) did not make distinction between these terms. Rather, he was more concerned with the material presence of participatory activities and interactive tools in a learning process: “the actions of the actors and the artefacts that they have at hand are the actually existing entities by means of which the cultural and wider spheres of social practices represented to the subject’s experience as stimuli for their actions” (Blunden, 2009). For Vygotsky, the focus of his scientific work has always been the material interactions between individuals (Kozulin, 1990, p.116). ‘Joint action’ enables individuals to reach beyond their present cognitive capacity. Appropriate activities and tools are crucial to the success of internalisation.

3 A more refined definition of ZPD is “the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers” (Vygotsky, 1978, p.86).

3.3.3 The third perspective: 'Deleuzian'

Taking a 'Deleuzian' perspective brings a virtual dimension to the learning paradigm, predicted on the notion of 'difference'. Deleuze challenges the conventional view that 'difference' is defined as a copy of a thing, not the thing itself, since identity is predetermined. The copy is either excluded from consideration by rejecting it as an external error (e.g. Descartes's dualism) or by assimilating it into a higher form of rationality (e.g. Hegel's dialectics). In whichever case, difference is subordinated to identity. In contrast, Deleuze argues that simulations are part of the identity and all of them together constitute an inherent difference that should be accepted on its own (ibid, p.64). Hence, Deleuze's 'difference-in-itself' creates a new philosophy of 'becoming without being' (Zizek, 2004).

Deleuze's philosophy brings our attention to a series of experience-based phenomena. For instance, event has a symbolic plane, but it is not as simple as a linguistic effort that only tells us when, where, and what happened. Deleuze (1991, p.52) used the word "singularity" to describe the idealistic aspect of an event, as he put it, "singularities are turning points and points of inflection; bottlenecks, knots, foyers, and centres; points of fusion, condensation, and boiling; points of tears and joy, sickness and health, hope and anxiety, 'sensitive' points". For him, the value of events lies in its relation with other events: one event could include another; could overlap with another but not entirely inclusive; could separate from another completely (ibid). As such, events form an infinite series, and they are "capable of opening up the future, making a difference, and changing the world" (Linstead and Thanem, 2007, p.1494). In this regard, to understand present in relation to future, we need to pay particular attention to events – as discontinuities in history, beyond their moment of realisation, and promising further differentiation (ibid, p.1493).

In the same vein, the desire of power can be interpreted as an immanent will to power. And yet, conventional philosophy simplifies power to the physical control of something without considering a range of potentials that it could possibly associate with, such as "a capacity to affect or be affected", "a capacity for existence" (ibid, xviii). Two words for power that co-exist in French seem to demonstrate this point clearer: literally, 'puissance' is closer to potential, whereas 'pouvoir' links more to the actual power of control in a Foucauldian sense. Therefore, if we can incorporate the "potential" aspect into the traditional perception of power, we will derive an interesting finding: social productivity in terms of innovation and creation can be obtained through the connections of desires in their imminent wills to realising a range of potentials of human agents. Deleuze and Guattari (1980, p.217) pointed out that power should be defined much more by what escapes them than by their objectified forms, such as control and manipulation.

Also, 'concepts', according to Deleuze and Guattari (1991, p.5), are "not waiting for us ready-made", rather, they are conceptual tools that we invent and play with everyday, and through which we are capable of interacting with each other at a certain level of intellectual complex. No concept 'belongs' to us, and yet we can make use of them to enable new ways of thinking and doing. Therefore, a concept should not be evaluated by what it is, but what it can be used for, *ad hoc* its contribution of becoming a source of reflection (Styhre, 2002, p.462-496). The premise of making use of concepts in a fruitful way is to recognise that meaning does not reside in one

particular concept, but always dislocates itself between concepts, individuals, and the variances in between caused by different interpretations.

For Deleuze (1991, p.211), the virtual ‘possesses a full reality by itself’ and yet it is not ‘reality’ *per se*. The virtual is the universe, the one and the all, including everything and that is in everything (Linstead and Thanem, 2007, p.1492). Difference is essential to understanding the virtual, since the virtual is not constituted by different things, but enjoys a pure form of difference that would enable a being to differ from itself (ibid). Therefore, no one can master the virtual, but approaching to the virtual is possible. Another related concept is the actual. The actual divides and positions the virtual in terms of time, space, and sensation (Deleuze, 1980). It is somehow a snapshot of the virtual that constantly manifests itself in a series of events, and yet it will not get stuck with one particular event, for every event connects present to future and therefore links the actual to an extended world of the undivided virtual (Linstead and Thanem, 2007, p.1493). It is through the actual that the various propensities of the virtual are invested with external characters so as to be presented as different things (ibid).

3.4 Integrating the three perspectives into a learning paradigm in IC reporting

In order to establish a learning paradigm in IC reporting, integrating the above three perspectives, we note that the ‘Habermasian’ perspective considers learning as an opportunity for nurturing critical reflexivity. As a result, enabling communicative action and making critical reflection through a ‘lifeworld-in-system’ approach should be the focus of practice. We note that in the ‘Vygotskian’ perspective, learning is treated as a mindful practice. It encourages the formation of an internalised new mindset (as a higher order of cognition) that seeks to guide people’s action in the future. We should take on board that development occurs as much by interaction with others as by internal mental and physical processes. Finally, we note that the ‘Deleuzian’ perspective considers learning as a discursive practice, and it picks up those experience-based residues left out by communication. Relying on people’s inborn capabilities of actualising the virtual and virtualising the actual, the philosophy of ‘becoming without being’ opens up a new line of understanding change and innovation. In what follows, we shall demonstrate, through our case study, how could a learning paradigm in IC reporting integrating the three perspectives can serve as a powerful engine for organisational change and innovation.

4. Methodology

The case study presented here is one output from a research-and-practice combined IC project within the European Union’s Sixth Framework Programme, called “InCaS: Intellectual Capital Statement – Made in Europe”. The project lasted 30 months and was divided into three phases (Phase 1: July 2006-June 2007, Phase 2: July 2007 – June 2008, Phase 3: July 2008 – December 2008). The overarching goal of this project was to “enhance the competitiveness and innovation potential of European Small and Medium Sized Enterprises (SMEs) by means of activating their IC” (InCaS website, 2010). The ‘ICS method’ used in this project was built upon previous experiences of IC reporting from Sweden, Denmark, and other European countries, taking the German Guideline ‘Intellectual Capital Statements – Made in Germany’ (2006) as a basis. Nevertheless, the actual implementation of this method incorporated many experimental thoughts. Two models were introduced during the implementation of the ICS method: the structural model aimed at defining the ‘language’ and

‘grammar’ to be used when talking about IC and ICS, whereas the procedural model led through the implementation process to support the assessment and measurement of IC factors. Figure 1 and Figure 2 give graphic demonstration of these two models. One participating SME, called XYZ, was selected among the 25 pilot SMEs as a “good practice” example of this project. The selection was based on the firm’s self-evaluation (evaluation reports) as well as RTD⁴ partners’ recommendation (reflexive notes).

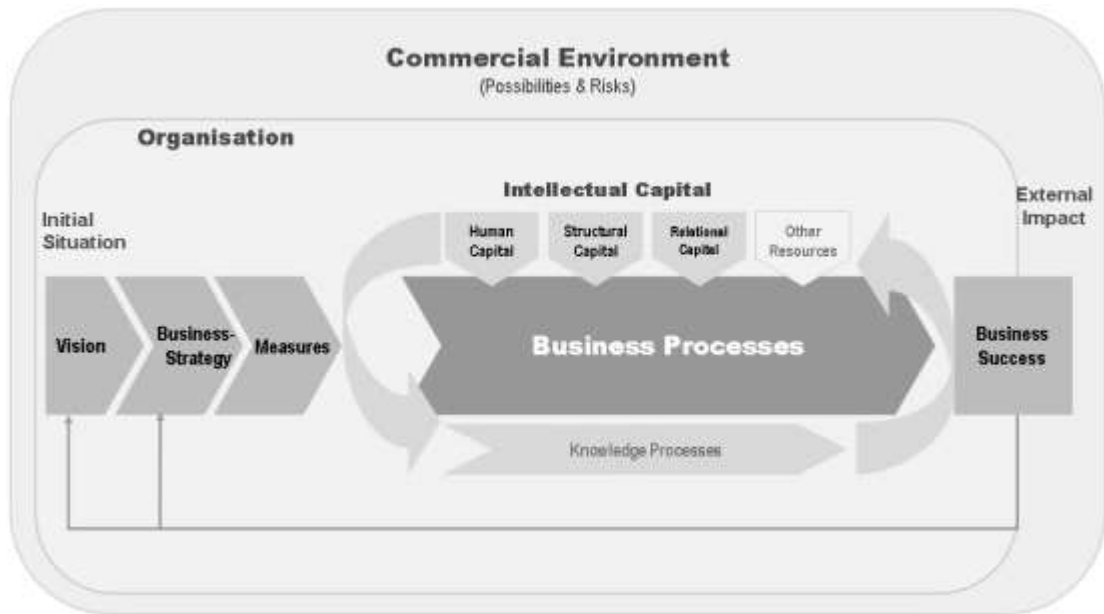


Figure 1: InCaS Structural Model (ICS Guideline, 2008)

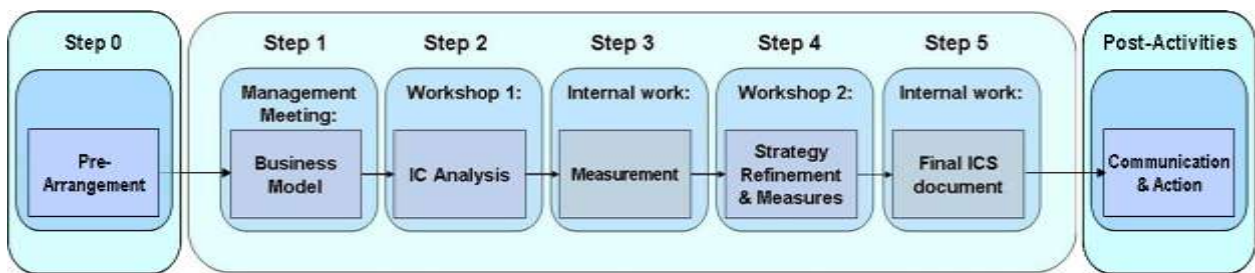


Figure 2: InCaS procedure model (ICS Guideline, 2008)

Data collection⁵ began in December 2006 and was completed in August 2008. As the project proceeded, project artefacts were collected, individual interviews and group discussions were organised and recorded for data analysis purpose. Table 1 provides details of the research activities undertaken for this case study. Table 2 shows the coding frame for presenting research findings in the following section. Data analysis

4 RTD is short for Research and Technology Development. RTD partners were composed of trainers, country coaches, IC experts, and research officers. It was the research body of the InCaS project that acted the role of “consultant” to the participating SMEs.

5 Data collection was a team effort, including the present authors and another two colleagues in the InCaS-LSE team.

was a combination of thematic analysis (Attride-Sterling, 2001) and reconstructed stories analysis (Boje *et al.*, 1999; Imas, 2004): first, we will summarise the key aspects of a learning paradigm through the thematic analysis of individual interviews; second, XYZ's self-accounted experiences of implementing InCaS will be reflected in their own words, that is, through the stories told by themselves in the group discussions.

Table 1: Details of research activities for the case study of XYZ

Time frame	Method	Examples	Data collection
Phase I (2006/2007)	Secondary data exploration	4 evaluation reports, 4 reflexive notes, website information etc.	Frequent consultation
Phase II (2007/2008)	Semi-structured interviews	15 individual discourses (with InCaS RTD partners)	Audio-recorded, transcribed
Post Phase II (2008/2009)	Group discussions	5 group discussions (inside XYZ)	Video-recorded, transcribed

Table 2: Coding frame of individual interviews and group discussions

Code	Interviewee	Voice	Interview Type
R1	Trainer	Consultant	Individual
R2	Country coach		
R3	Country coach		
R4	IC expert		
R5	Research officer		
P1	General manager	Management	Group
P2	R&D director		
P3	Vice president		
P4	Purchasing specialist	Employee	
P5	Sales specialist		
P6	Technician		
P7	Project manager		
P8	Client	Client	
P9	Client		
P10	Client		
P11	Supplier	Business partner	
P12	Collaborator		

5. 'XYZ, ICS method, learning for change'

XYZ is a medium sized⁶ engineering company with 8 different business units. The company headquarters in Barcelona and was created in 1952 specialising in the field of surface treatment, including chemicals, plants, environmental solutions etc. The InCaS project was taking place in the Engineering Business Unit⁷ (EBU), a mechanical business unit whose goal was set on "supplying mechanical solutions for

⁶ The company has a turnover of 200 million Euros worldwide, and it employs approximately 500 people.

⁷ The Engineering Business Unit (EBU) has 18 employees. It was one of the smallest units in XYZ before it was put in touch with the InCaS project, but by the time this paper was produced - just 8 months after implementing the ICS method - it became the largest business unit in terms of revenue and income.

Spanish customers in order to assure the consumption of chemicals” (InCaS website, 2010). In what follows, we will present the seven key aspects of a learning paradigm, followed by the stories told by XYZ staff or its business partners.

5.1 IC project team and ‘prioritisation’

Aspect 1 Communication as a germ cell for knowledge creation

In response to the requirement of the ICS method, XYZ selected 4 employees to constitute an IC project team as a starting point. The team followed the structural model and took a look at all of the relevant organisational structures linking IC to business processes, business success, as well as the firm’s external business environment (Mertins and Wills, 2007, p.427-30). This process was focused on making explicit XYZ’s vision and strategy, while an IC lens was introduced to reshape the firm’s understanding of their business processes from a knowledge perspective. During this process, members of IC project team found a lot of opportunities to engage in conversations and dialogues about XYZ’s strategic issues. “Taking the perspective of each other”, “being aware of the necessity of making interpretations”, and “constantly providing justifications for one’s interpretations” were recognised by our interviewees as the most successful methods to maintain the flow of communication.

“How you became aware of each other’s work? Communication and interactions made that happen...you started seeing the importance of the work of the other one in relation to your own function...it makes you think completely different about your task” (R2, Country coach).

“The ICS approach showed there were so many strategic issues unclear ... things were done in an automatic way in most firms, people did not have time to stop and reflect, but once they started making interpretations, giving a reason for what they did, many interesting points were brought on the table immediately” (R1, Trainer).

Aspect 2 Making IC project team a sphere of ‘lifeworld-in-system’

To maintain the flow of communication, it was important to transform an IC project team into a sphere of lifeworld-in-system by critically involving the firm’s senior management. During this process, ‘project team composition’, ‘involvement of senior management’, and ‘keeping critical reflexivity’ became the key factors of this transformation. ‘Project team composition’ emphasised the importance of selecting employees from different functions or departments with a deliberate thought of diversifying their expertise, background, and experience etc. ‘Involvement of senior management’ referred to the importance of making senior management part of the ICS process so that they can invest the required time to the ICS workshops. ‘Keeping critical reflexivity’, on the other hand, reminded the IC project team to remain critical toward the involvement of senior management – this could be done through making explicit the limitation of IC measurement results so that the firm’s senior management can only use these results as sensory data for mobilising resources (Mouritsen, 2004). As Figure 3 shows, transforming an IC project team into a sphere of lifeworld-in-system would allow two ways of communication, i.e. vertical and horizontal, and therefore changed the dynamism of communication inside the firm.

“Involving top management, to gain their support, is important to the success of implementation, but the project team needs to stick to their ground, for instance, they

should ask the top management why this particular IC factor was picked up” (R2, Country coach)

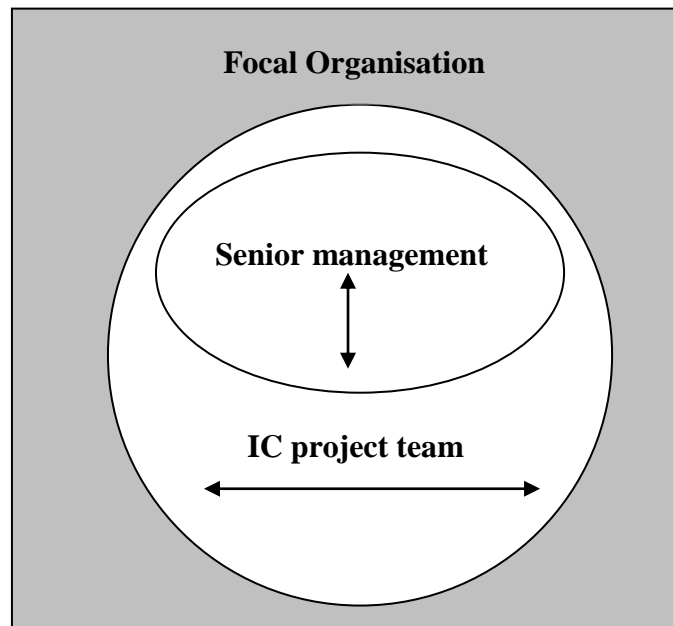


Figure 3: An IC project team as a sphere of lifeworld-in-system

The story of 'prioritisation'

The 'Habermasian' perspective in the learning paradigm in IC reporting emphasises the important role of communication as a germ cell for knowledge creation. As a starting point, the communicative interactions between an IC project team and/or the firm's senior management deserve special attention. To enable the IC project team to establish a sphere of lifeworld-in-system, the involvement of a firm's senior management and the critical reflexivity of this involvement are both necessary. Making explicit the limitation of IC measurement results is an effective way to prevent a firm's senior management from using these results as an excuse to set unjustified management objectives. In XYZ, the story of 'prioritisation' reflected the endeavour that the IC project team made in terms of critically involving a firm's senior management and working out an action plan based on interpersonal agreement.

"None of the measurement results can be used directly for making management decisions without further communication to clarify the priority of our action" (P7, Project manager).

"The strategic action plan is valuable because it reflects what everyone agrees through the intensive discussions of our strategy and business process in the ICS workshops" (P1, General manager)

"From the feedback of our project team, I got know that the most important thing is to create the opportunity to sit, discuss, and get conclusions. This is very important in all terms...it is a big change when you take in the intangibles and the intellectual value" (P2, R&D director).

“InCaS helped us prioritise our action, as a small company, we don’t have much resources to spend around, we always want to know which strategic action should be taken next...it should be based on our internal communication and coordination”
(P3, Vice president).

5.2 IC community and ‘systematisation’

According to O’Donnell *et al.* (2003), teams usually have clear boundaries and they follow an instrumental logic in terms of performing independent tasks and managing objectives through work plan, whereas communities have permeable boundaries and they follow a communicative logic that supports the creation of interdependent knowledge. At the beginning of the second phase of implementing the ICS approach in XYZ, one of the most significant changes was the re-composition of IC project team, through which an IC community with fluid membership began to emerge. That is to say, instead of putting a fixed number of people on the IC project team, every employee in XYZ was equally welcome to attend the ICS workshop and to contribute his or her ideas. During this course, participatory activities and interactive IC tools played an important part in fostering a reflexive IC mindset that was eventually internalised by XYZ’s staff.

Aspect 3 Having participatory activities and interactive IC tools in place

The entire process of implementing the ICS method in SMEs can be understood as mediation (Vygotsky, 1978): through structured participatory activities and interactive IC tools, SMEs’ natural perception to IC and other related knowledge was transformed into a reflexive way of thinking, which was socio-culturally meaningful. This transformation was benefited most from engaging people in participatory activities and getting them familiar with interactive IC tools. Our interviewees recalled that some activities were of less value than others, since only participatory activities with a focus of giving new meanings to the local practices could enable the creation of a use-value (Miettinen and Virkkunen, 2005, p.444). In the same vein, interactive IC tools that enabled the flow of conversations or helped participants create a logical memory in those learning-by-playing and learning-by-visualising exercises were given credits. Figure 4 provides an example of one of the interactive IC tools: the cause-effect analysis was claimed to sustain the momentum of communication that would otherwise be constrained by temporal-spatial conditions.

“This tool (cause-effect analysis) assisted their talking about the value creation capacity of IC factors and the synergy effect of the process systems. ... They loved it because it gave them the opportunity to show different angles... the visual part is also important, since it let people witness the real impact of their analysis ... when they went back to their offices, they can continue playing with it to grasp the logic of synergy”.

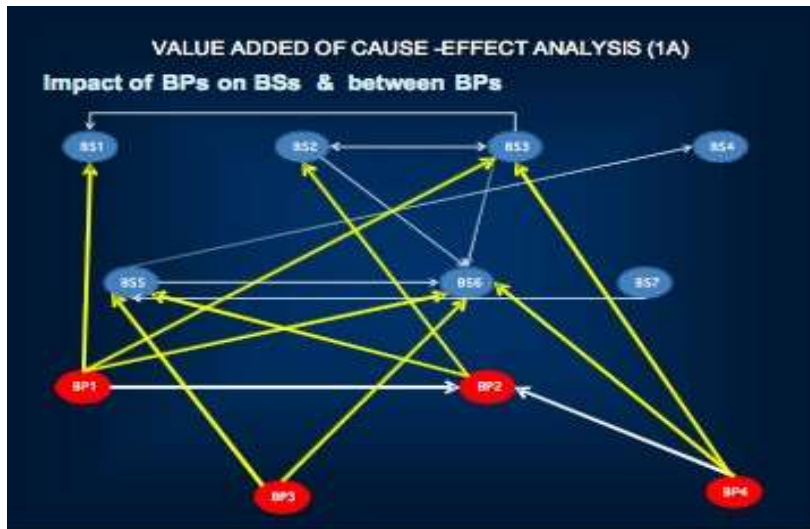


Figure 4: Cause-Effect⁸ analysis - an interactive tool capturing IC flow

Aspect 4 Internalising a reflexive IC mindset

Vygotsky (1978, p.57) identified a series of transformations that would make up the process of internalisation, including, (a) an operation that initially represents an external activity is reconstructed and begins to occur internally; (b) an interpersonal process is transformed into an intrapersonal one; (c) the above transformation is the result of a long series of developmental events. Indeed, the duration of the InCaS project was 36 months, while the project was still running, XYZ engaged in a series of ICS workshops to “assess, report, and develop IC” (ICS Guideline, p.8). These external activities were carried out by XYZ under the guidance of RTD members, *ad hoc* trainers. Our interviewees pointed out that a reflexive mindset began to emerge during the second phase of implementation. This mindset was characterised by a set of dialectical relations, which can be used to account for organisational practices.

“The difference between phase I and phase II was that in the second phase people were more capable of talking about the ICS process in their own words and applying this thinking to their work ... they talked about things in a more logical way, for instance, they distinguished short-term/long term strategic goals, individual/organisational knowledge transfer, internal/external IC resources...” (R3, Country coach)

The story of ‘systematisation’

The ‘Vygotskian’ perspective in the learning paradigm in IC reporting highlights the importance of internalising a semiotic-mediated and activity-based new mind. Participatory activities and interactive IC tools stand for a material dimension of learning that precedes cognitive development. In XYZ, this reflexive mindset was

⁸ This Figure depicted the interconnections between IC factors. Arrows departing from one factor was intended to account for the degree of influence on the rest of IC factors. Looking at the ins-and-outs, SME participants were able to have a quick and approximate idea of the IC leveraging effect between various process systems.

called 'systematisation', which represented a more logical and sophisticated way of thinking that would influence people's behaviour in XYZ.

"I started from the idea that I am an individual being in a department that operates and works as a team...I am a person that relates with the rest of my colleagues with whom we share a common objective and goal, in this case an installation" (P6, Technician).

"In my case to satisfy the client, if they have a problem I must communicate with all of them in 4 months time and offered them with both technical and commercial support. ... My understanding of 'systematisation' is: if there is a problem with my colleague, I can't only say 'yes, I will help you'. No, if the problem is with her, it could happen to me tomorrow...because if it's not resolved systematically, the client will not be pleased and they may not consult with us on another project, so I can see the links between our internal and external IC" (P5, Sales specialist).

"I suggested that when a project does not have a meeting...we have a meeting, I think we must be connected to the project manager who has the knowledge of clients and other business units ... this is worthwhile before a mistake occurred half way through the project. We must test before it became more complicated. EBU is connected to other departments, if the connection was not there, a meeting should be set" (P4, Purchasing specialist).

"Systematisation means many different things in XYZ, but it has become an guideline that pushes us to think about how to create a synergy effect in our day to day practices" (P7, Project manger).

5.3 IC network and 'co-evolution'

After two rounds of implementing the ICS method, by the end of Phase II of the InCaS project, XYZ experienced positive consequences and that had changed the firm's perception on how to make use of IC reporting to better support their business processes and value creation activities. Hence, a decision was made to get the firm's business partners involved. From that point on, an IC community within XYZ gradually became a loosely coupled and cooperative IC network, which blurred the boundary of XYZ and its external environment. During this transformational process, a series of experience-based phenomena were taking place and eventually served as internal drivers for the growth of this network.

Aspect 5 IC networking events as a networking machine

IC networking events referred to those emergent activities or repercussions as a result of implementing the ICS method, such as XYZ's knowledge transfer meetings, these events were not planned in the first place according to the official ICS guideline. However, these participatory experiences made XYZ realise the importance of building strategic alignment with their stakeholders. More importantly, these events became a field of experimentation when trust was established. Hence, the purpose of organising such events was converted from a problem-solving agenda to a problematising agenda. As such, IC networking events became a networking machine that would always problematise IC issues for the future.

“The meeting had a very broad idea of enhancing the quality of suppliers... almost everyone who showed up was eager to learn and to find out how things could be done differently, it became an occasion to raise questions... a new sense of trust was arising...some participants proposed to meet up again in the end” (R5, Research officer).

Aspect 6 IC leadership as a people-growing machine

At first glance, IC leadership seemed to refer to a new form of leadership, and yet, the meaning of it was far richer than that. On the one hand, IC leadership was actualised in the measurement of leadership competency as one of the common IC factors registered under the sub-category of human capital; on the other hand, it was virtualised in XYZ management’s changing role of becoming an event organiser: at those networking events, XYZ’s general manager experienced his role changing from being a facilitator, a teacher, to a learner. From these experiences, he sensed that IC leadership was more about the capacity to affect and to be affected in a ‘Deleuzian’ sense. That is to say, leadership had little to do with the image of hero who possessed the magic power of taking control of everything. The art of leadership resided in growing oneself and others in a continuous manner, like a people-growing machine. Going through this mindset changing experience, a new sense of reputation built upon a leader’s management style was gradually recognised by the participants of IC networking events.

“His management style about making others feel comfortable with their own ideas ... he did not see it (a challenging question raised by an employee) as a threat to his power but a chance to grow people ... this sense of growing people made him feel good and it earned him a good reputation too at those events” (R2, Country coach).

Aspect 7 IC concept as a context-generating machine

The ‘IC concept’ that we identify here is a specific linguistic form that emerged from the process of implementing the ICS method. According to Deleuze and Guattari’s (1991), a concept is an intensive multiplicity inscribed on a plane of immanence. Its actual dimension tracks the behaviour of things in relation to a plane of reference, while its virtual dimension maps out a range of connections that a thing is capable of. In the case of XYZ, the actual and the virtual dimension of IC concept were exemplified in the discussion of the function of IC concepts: as a professional language, it can be integrated into XYZ’s daily life to refer to their specific practices; as a rich language, however, it entails the co-creation of meanings, which can be shared by XYZ and its stakeholders as a context for exploring business possibilities.

“Language was the reason that most companies wanted to follow up the ICS process, and they won’t stop there, because once they become familiar with this new vocabulary, it will help them understand the behaviour of things in their business” (R3, Country coach).

“ ‘IC is’ emphasises the use of this concept as a professional language, whereas ‘IC as’ allows this concept to be created and recreated by its users, the richness of the second is immense, since it connects people physically and psychologically, as a measure of readiness, it can tell when to put a cultural change in motion” (R4, IC expert).

The story of 'co-evolution'

The 'Deleuzian' perspective in the learning paradigm in IC reporting gives prominence to a series of experience-based phenomena that seek to counter-effectuate what has been experienced. It is a process of virtualising the actual, that is, to make the familiar seem strange. This self-generated mechanism opens up a new line of thinking of innovation: a sense of trust, reputation, and readiness was brewed and then became an internal driver of change and innovation.

"The ICS approach inspires not only communication in the team, but a predisposition of innovation... in the one we trust, we look forward to a future project together, and the best place would be XYZ, because it is a good company who wants to be systematic, not only in the economic scene but also in innovation" (P8, Client).

"Because of InCaS, they took me on board. I had knowledge of the sector, and they left me there with a team of 8, 10 people. Today we came precisely to talk about transferring knowledge, and I have brought my notes and things of almost 20 years... no one had ever asked me before, something like this had never been planned, it was at the willpower of individuals" (P12, Collaborator).

"Their management team grows... they care about their employees, care about their reputation, care about what they are doing with us, that really made a difference" (P9, Client).

"It (IC concept) is a friendly language not limited to the people responsible for a division who meet once or twice a year for a routine problem. This language is more about what direction XYZ wants to move, to give people a positive outlook, and to say things can be done differently" (P11, Supplier).

"In terms of the future, I want XYZ to tell me what needs to be changed. ... XYZ change and grow and we want to change with them" (P10, Client).

"We would like things to co-evolve, that's the way we should go for. We have gained experiences of how to unit these loops" (P1, General manager).

6. Discussion: learning as a process of co-authoring dynamic IC stories

The case of XYZ illustrated the possibility of building a learning paradigm in IC reporting for the purpose of eliciting organisational change and innovation. With respect to this learning paradigm, we do not want to engage in the old debate of organisational learning vis-à-vis learning organisation. As we have shown previously, learning, in our specific case, entails reflexivity and practice in the course of co-authoring dynamic IC stories at all levels. Figure 6 summarises this paradigm in diagrammatic form.

As a starting point, the communicative action inside an IC project team served as a germ cell for knowledge creation, and thus it diverted the focus of practice from a (measurement) results-based direction to a process-based direction. To maintain the flow of conversation, however, IC project team had to be transformed into a sphere of lifeworld-in-system by critically involving the firm's senior management. One way to preserve the team's critical reflexivity was to make explicit the limitation of IC measurement results so that the senior management can only use these results as

sensory data for mobilising resources other than definitive knowledge for setting unjustified management objectives.

In the meanwhile, the intra-psychological mechanism of communication would encourage the internalisation of a new reflexive mindset on top of the firm's intuitive understanding of IC and other related concepts. This process can be fostered by means of engaging the firm's staff in a set of participatory activities in which interactive IC tools were supplied. The involvement of employees in a wider range was necessary since internalisation was the result of a long series of developmental events, in which the variances of inter-subjective communication were given credit for strengthening the higher mental functioning. Thus, an IC community might take over an IC project team at some point by allowing fluid membership.

Through a number of experience-based emerging phenomena, such as 'IC networking events', 'IC leadership', and 'IC concept', a sense of trust, reputation, and readiness was brewed and eventually became the internal drivers of organisational change and innovation. IC network as an ever-growing rhizome (Deleuze and Guattari, 1980) sustained the firm's 'becoming-without-being' in its ongoing co-evolution with business partners.

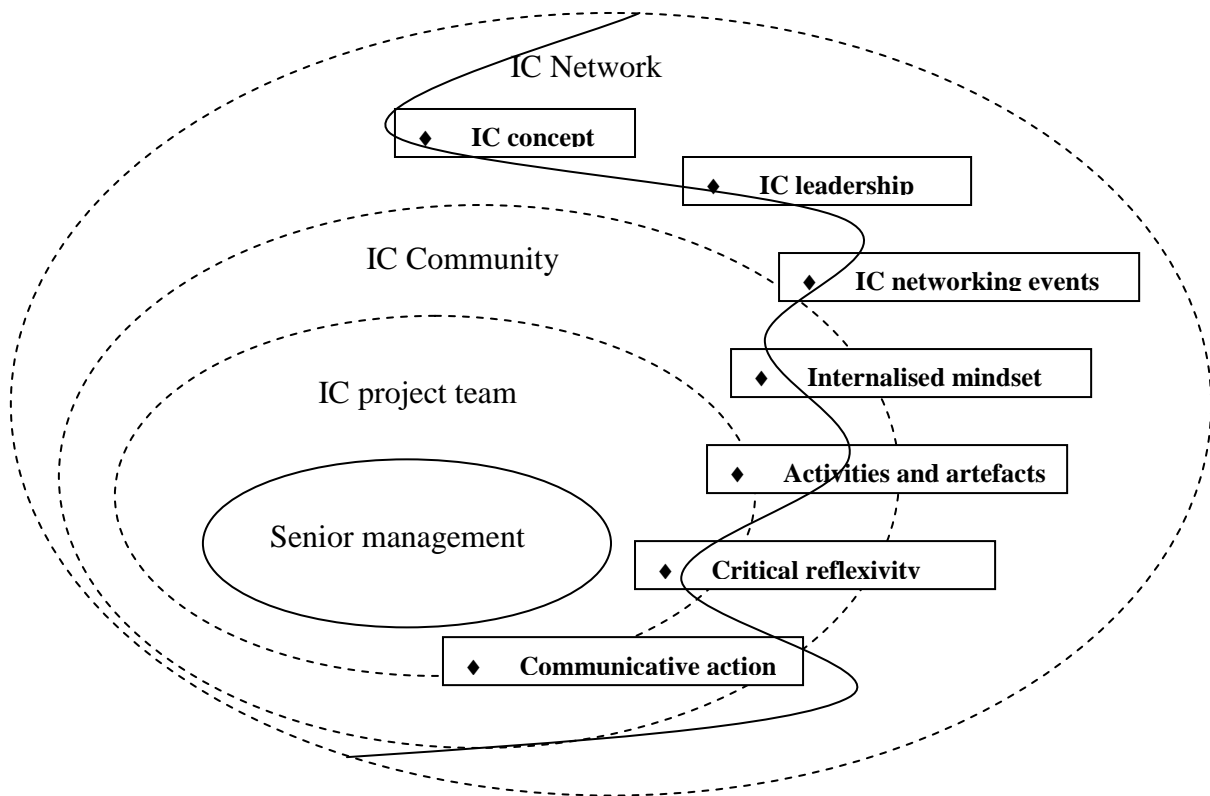


Figure 6: Visualising a learning paradigm in the field of IC reporting

7. Conclusion

As we have seen in the above three sections, visualising a learning paradigm in IC reporting in accordance with three different perspectives is plausible. Despite these apparent differences, a distinctive thread can be traced throughout this paradigm, that is, the relationship between ‘self’ and ‘others’. First, the ‘Habermasian’ perspective emphasised the importance of keeping self and others side by side, as we have seen the ‘*self versus others*’ relation in the critical involvement of senior management within the IC project team. Habermas criticised purely subjective or objective rationality; instead, a critical inter-subjective rationality was promoted as a means of coordinating human action. Secondly, the ‘Vygotskian’ perspective highlighted the possibility of tracing ‘*others-in-self*’. Unlike Habermas who separated self and others as two opposing forces, Vygotsky offered a material dimension of learning that preceded the internalisation of a new mindset, in which self and others became a combined product as a result of semiotic mediation and joint action. Thirdly, the ‘Deleuzian’ perspective abandoned the establishment of self, and consequently the task of defining others turned out to be useless. It was in the formula of ‘*becoming without being*’ (or ‘*no self no others*’ in our words) the ontological foundation of innovation was shifted from a communication based approach to an experience based approach. Table 3 summarises the details of a learning paradigm integrating the three perspectives.

Table 3: The ‘learning paradigm in IC reporting’ integrating the three perspectives

Perspective	Dimension	Scope of learning	Focus of practice	Source of innovation
Habermasian	Critical	IC project team	1. Communicative action 2. Critical reflexivity via a lifeworld-in-system approach	Communication (Inter-subjective)
Vygotskian	Material	IC community	3. Tools and activities 4. Internalisation of a reflexive mindset	Communication (Intra-subjective)
Deleuzian	Virtual	IC network	5. Networking events 6. Power transformation 7. Concept creation	Experience

The ‘learning paradigm’ is concerned with the innate value of IC reporting that comes directly through the process of implementing IC reporting systems in organisations. As such, it is dramatically different from the ‘measuring paradigm’. However, these two paradigms should not be understood as two opposing streams that contradict to each other. On the contrary, the learning paradigm critically takes up the legacy of the measuring paradigm and brings it to a new level of analysis. Nevertheless, such a paradigm is by no means a linear extension of the former. Rather, it seeks to integrate more perspectives on IC reporting so as to embrace the dynamism and richness of IC. Through a learning paradigm, IC reporting can be transformed into a powerful engine for organisational change and innovation. Having said that, we wish to emphasis that building a learning paradigm in the field of IC reporting is necessary, and yet, this paradigm has to be distinguished from the traditional paradigmatic thinking: it is not an exclusive alternative to the measuring paradigm (meaning the relation between these two falls into a ‘either/or’ choice), but an open-ended construction that maintains its real difference in a Deleuzain sense.

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