10-2008

'HOSPITALITY' AND INNOVATION. HOW AN INNOVATION IN THE I.S. HUMAN RESOURCES MANAGEMENT AND COMMUNICATION APPROACH CAN HELP CHANGE THE ICT MANAGEMENT APPROACH: THE "BANCO" CASE IN THE OUTSOURCING SUPPLY SERVICES

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Abstract

The paper presents and discusses a case which shows the possibility of employing the results of theoretical research (namely some of the concepts elaborated by Claudio Ciborra in his “The Labyrinths of Information”) in changing human resources management and development, in fostering organizational learning, and in building an ICT management coherent with business goals.

BAnCO (194 employees) is a supplier of outsourced ICT services for Italian regional and interregional banks which changed its ‘netsourcing’ business model (services rendered to a consortium of small client-owner banks of the ICT supplying company) to an ‘enterprise partnership’ business model, based on servicing both the client investors and external customers. To support the change in strategy, at the end of 1999 it launched a program that deeply innovated performance management (substituting the appraisal based on absolute judgment rating scales to one based on action plans), training activities (traditional classroom work was integrated by personalized, diffused learning centered on the evaluation of the competence requirements of roles), and communication and knowledge management (key competences were defined and up-dated through interaction between in-house experts and outside experts in the ICT and banking fields). The three main sections of the paper are devoted: (i) to illustrate the theoretical background explaining both Ciborra’s approach and the traits that in his view characterize an effectively managed organization dealing with ICT; (ii) to describe in depth the main areas addressed by the BAnCO program, how project work was conducted, and the outputs produced; (iii) to discuss the case and to comment on the results obtained.

In sum, far from being a ‘model’ or a ‘guide’, Ciborra’s outlook seems to carry helpful “operational” indications when looking for ways to change business-as-usual for more effective and dynamic conducts.

Key words: ICT management, organizational learning, outsourcing, Ciborra

1 INTRODUCTION

The case presented shows the possibility of employing the results of theoretical research (namely some of Ciborra's concepts, Ciborra 2002) in changing human resources management and development, fostering organizational learning, and building an ICT management coherent with business objectives. The case (named BAnCO) was chosen because of the abundance of the sources of evidence (Yin 2003): explicit firm business model, original change program objectives, project support (guides for interviews, number and roles of people involved, number and duration of sub-projects team work, interim reports), an analytic operational guide to implant change management, and documents concerning implementation and results. Besides this brief introduction, the paper is divided into three sections: the first one outlines the theoretical background that supports the emblematic character of the case; the second one describes the case. The final part contains the discussion of the case and the concluding remarks.

2 THE THEORETICAL BACKGROUND.

Though rooted in the years sixties dispute on the "computational model of the mind" (Dreyfus 1992), the research on the limits of approaches based on centralized planning and control to ICTs management developed in the mid-nineties. In those years the necessity and difficulty of aligning large IS infrastructures to corporate strategy became a point of discussion (Chan and Reich 2007) together with the very failure of a number of ISs. In fact, the large investments involved focused the attention of top management, practitioners, and scholars on the effectiveness of the projects (and of the methodologies employed). On the whole, the above mentioned conception of the mind has worked as a background not only on artificial intelligence issues but also on how IS projects and ICT firms should be run, especially in orientating human resources management on both 'producer' and 'user' sides and on their interactions. Should organization design and IS design be considered mainly rational endeavors within a means-ends and linear causal chain approach, the explanations concerning unsatisfactory IS performance or even failure would reside in the "looseness" of plans and of control systems. As a matter of fact, the software engineering discipline has acknowledged that more attention should be paid to socio-technical issues (Boehm 2006) so that increasing complexity of large systems can be better governed.

Within this research area, Claudio Ciborra (2002) developed the basic traits of a different IS management theory starting from his criticism of natural sciences models applied to the IS domain (to be considered a hybrid discipline instead). Such traits ('commitments' in Ciborra's wording) include the following four ones (which, together with the concept of 'hospitality' discussed later on, constitute the theoretical pivots to interpret the BAnCO case): (i) the ability to rapidly change perspective in addressing a certain issue ("to switch Gestalt" in Ciborra's terms); (ii) the aptitude to manage ambiguity (this is how his heed to "saying 'yes' and 'no' simultaneously to technology" can be interpreted); (iii) the capacity of sensing responsibility also within unpredictable events or outcomes of actions; (iv) the propensity to value certain activities considered marginal (e.g. tinkering) or even barely tolerated contributions (e.g. improvisation) by usual IS management approaches. The four features that have just been mentioned are part of his commentary to Heidegger's *The Question Concerning Technology* (Heidegger 1993) contained in the fourth chapter of *The Labyrinths of Information* (Ciborra 2002). His recourse to phenomenology in research, as he openly claims, allows him to overcome the dominance of a consolidated tradition which does not show to possess an effective heuristic value:

> "Either we do what management science suggests, that is, idealize … or we keep on putting into brackets what we believe we know about strategy, structure, markets, feedback mechanisms, stage curves, and so on, and reflect upon what we observe. We accept coexistence with the messiness of the worldly routines and surprises without panicking" (Ciborra 2002: 26)

The point Ciborra is making concerns the approach to be adopted to improve IS effectiveness and decrease failure risk coping with real IS projects, IS vendors, outsourcers organizations, and IS departments. One possibility is that top management and consultants keep relying (basically) on formalized abstractions thus preparing sophisticated maps and plans, introducing them into the organizational structure, and forcing new routines in the behavior of IS middle management and personnel (expecting control systems to signal anomalies, non-conformities, and to orientate conduct). It is an unsatisfactory approach because it ignores a number of risks which derive from standardization and integration: "digital organizations are simultaneously more controlled and more unpredictable" (Ciborra 2004:13). The reason is that both clients and vendors are affected when IS projects are launched and implemented (of course, the more significant the project the more substantial the effect): within the former the new IS interacts with the organization creating new forms of cooperation among users and units; within the latter the very process of defining users requirements, negotiating them with the client and discussing the 'solution' with development people (Cheng and Atlee 2007) implies the questioning of present routines that might result unsuitable for the oncoming project; furthermore, new development tools and development collaboration technologies (Whitehead 2007) promote change and organizational destructuring and learning. The scenario around 2010 and over (Boehm 2006) is one of global connectivity (with emerging problems such as cultural mismatching in products and processes) and of huge 'systems of systems' bearing risks connected with the integration of systems developed independently, rapidly evolving because of changing needs of numerous stakeholders that have to be coordinated. Thus, software dependability probably will be increasingly problematic:

> "Given the high and increasing software vulnerabilities of the world's current financial, transportation, communications, energy distribution, medical, and emergency services infrastructures, it is highly likely that *such* a software-induced catastrophe will occur between now and 2025." (Boehm 2006:20 italics added; the author refers to a "software-induced systems catastrophe similar in impact on world consciousness to the 9/11 World Trade Center catastrophe")

Of course, these warnings do not belong to a "luddite" strand (Boehm is the well known father of the 'spiral model') so that different views should be considered and more attention paid, as Ciborra suggests, to listening to managers and to their dealings with 'surprising', unstructured events, and to their opportunistic adjustments. The intent is to try and reconstruct the real routines that they use so that a process of reflection can be started on the part of the actors involved, and novelties (born both in the internal and external environments of the organization) can be detected and may foster not only 'single' but also 'double loop learning' (Argyris and Schön 1978) so that consequences of actions can affect a deep and continuous rethinking of both operations and strategy. Increased flexibility and resilience of IS organizations can thus more probably induce systems improvement (including their dependability).

Ciborra's legacy, then, is twofold: on the one hand it highlights the problems connected to the adoption of reductionist (sequential) models when trying to catch up with a fast changing world - one of the consequences of modernity according to Giddens (1990) as Ciborra recalls - or to understand (and leverage) the nuances of personalities and emotions involved in working activities. On the other hand, there are some broad concepts, the four traits of the IS managerial theory mentioned above, which constitute beacons when managing (riding) the evolution of organizations. Those four capabilities belong to a general disposition of 'hospitality', a term employed by Ciborra when describing the attitude of an organization towards emerging ideas, contributions, and unexpected events or consequences to planned actions. This attitude allows the parties involved in the construction of an IS to consider it as an open ended process. And to act accordingly. In fact, 'hospitality' does not imply a sense of unconditioned acceptance of the "guest". Rather, in its original meaning, it presupposes alertness towards the "newcomer" who could turn out to be (or could become) an "enemy" (Ciborra 2002:111). Therefore, the metaphor favors 'inclusiveness' but it conditions it to the 'viability' of the interplay of the different parties involved in a certain IS project, e.g.: top management, in-house ICT technicians, outsourcing services companies, end users and whoever else can significantly contribute to the project. It also favors the "openness" of the organization to

(selected) stimuli coming from both interior and outside environment. Any obstacle to such viability should be considered detrimental to the effectiveness of the specific IS artifact or service. Vice versa, it should be expected that when these principles are employed in managing ICT projects, better results are obtained.

There are several contributions that show appreciation when considering Ciborra's research work (for example Avegrou, Hanseth, Willcocks 2006) and his suggestions (specifically on 'hospitality': Brigham and Introna 2006, and Saccol and Reinhard 2006). But to the best of our knowledge there is no evidence in the literature of cases where an explicit IS organizational learning (OL) strategy can be considered to be coherent with Ciborra's approach. The description, interpretation and discussion of such cases could help reflection on its advantages, viability (resources employed), and persistence. That is in what way 'hospitality' (and the four 'commitments' connected to it) can be harnessed by an organization (including the conditions for their stability). This is the research question that will be discussed in the light of the results of the BAnCO case.

3 THE CASE: BANKING APPLICATIONS OUTSOURCING (BANCO)

The case study describes how a deep change in human resources management and communication (fuelled by CEO involvement and a diffused leadership supported by team work) helped a supplier of outsourced ICT services in the banking industry develop its outsourcing philosophy and market.

The supplier changed its 'netsourcing' business model (services rendered to a consortium of small banks client-owners of the ICT supplying company) to an 'enterprise partnership' business model, based on both servicing the client-investors and external customers. One advantage of presenting this case is its belonging to a well searched area (outsourcing). The reference work (Willcocks and Lacity 2006) that has been used to identify the above mentioned BAnCO business models also contains the definition of twelve supplier capabilities (Feeny, Lacity, and Willcocks 2006) of which seven can be detected as a top priority in the change program concerning human resources and communication management (they are listed in paragraph 3.2)

3.1 Characteristics of BAnCO.

Established in 1991 by a consortium of ten local (regional and interregional) Italian banks deeply rooted in their small and medium sized enterprises clientele, BAnCO was launched with the purpose of outsourcing ICT functions considered to be too costly to be run effectively in-house by each single bank. Its main role was to provide application and facility management through the analysis of needs, application selection and customization for each member bank, running the applications by keeping anomalies and costs at a minimum. In 1999 both anomalies and costs were higher than expected and relationships with vendors difficult (on-going claims and contracts re-negotiations). Thus the client-owners decided that a through change was needed: they wanted quality to improve and costs to be reduced. They would invest to better quality so that new clients could be acquired and fixed costs be spread on a wider number of banks: the business model was to evolve from 'netsourcing' to 'enterprise partnership': other local banks would choose BAnCO because of his specific domain expertise and (being a local supplier) for extra control and attention (Willcocks and Lacity 2006:16). New CEO and deputy CEO were appointed to carry out the change strategy.

3.2 A key factor in the management of change: integrating performance management, competence development and knowledge based communication

At the end of 1999 top management decided to hire a few key people, to reposition some of the middle managers (30 people in total) and to engage management consultants to help renovate culture and systems dedicated to human resources (HR) management and development (BAnCO totaled 194 people). In the 'setting' phase (two months), the structure of the program was developed through the interaction of top management, the two managing directors ('systems development' and 'operations'), middle management, the HR function, and the consultants.

The general goals that were pursued can be summarized in the strengthening of the following seven capabilities (Feeny, Lacity, and Willcocks 2006: 101-111): (i) domain expertise, "the capability to apply and retain sufficient professional knowledge of the process domain to meet user requirements" (banking, of course); (ii) behavior management, "the capability to motivate and manage people to deliver service with a 'front office' mind set"; (iii) technology exploitation, "the capability to swiftly and effectively deploy technology in support of critical service improvement targets"; (iv) process improvement, "the capability to design and implement changes to the service process to meet improvement targets"; (v) customer development, "the capability to transition users from an internally provided service to costumers who make informed decisions about service levels, functionality, and costs" (vi) organization design, "the capability to deliver the necessary resources, wherever and whenever they are needed to achieve the business plan"; (vii) leadership, "the capability to identify, communicate, and deliver the balance of activities required to achieve present and future success, for both client and provider". The reason why they have been used to explain the intents of BAnCO is threefold: (a) since they were defined within an international research that lasted several years, the case can be situated in a wider empirical framework; (b) they fit (of course) the intention and purpose of the firm that can be detected in the official papers and project documents; and (c) the way the authors define some of them is conceptually close to Ciborra's perspective. For example (op. cit. p. 106), the 'customer development capability' entails "Establishing … precursors of trust and personal relationships." and "Enactment of a business relationship in which the client feels able to meet changing needs of the business over time". However, since there is also the need to produce a "formal definition and communication of service required", the capability of managing 'ambiguity' is also necessary: saying yes and no simultaneously to both formalization and trust.

Having set the goals, the issue was to evaluate the perceived strengths and weaknesses together with the "real" values, which actually orientated actions, compared to the "official" ones. They were collated in a top-down, bottom-up approach: (i) top-down: consultants prepared a guide for the interviews (actually a discussion outline twenty pages long) which had been previously discussed with (and approved by) top management; (ii) bottom-up: two hours long meetings (on key issues concerning clients, projects and the current HR systems and knowledge development) with each middle manager followed; (iii) a report was then prepared and decisions taken concerning the specific objectives to be pursued, the composition of teams that were to develop the new systems and tools (with consultants acting as facilitators), and the outline of the following three phases (design, implementation and revision, and operation). The overall duration from start up (from 'setting' to 'revision') was expected to last one year (which it actually did).

This first phase dedicated to BAnCO assessment was particularly important because it compared top management views of the organization, the so-called picture from 'high ground' (Ciborra 2002:89), with the perception, views, fears, hopes, and skepticism of middle management. As a consequence, the newly appointed top managers increased their awareness of "what goes on in the (daily) swamp of actual projects" (Ciborra 2002:90) and the change management program improved its viability.

The following four sections describe the main areas of concern of the program that were developed parallel and the outputs produced.

3.3 Performance Management: from rating scales to action plans

The previous performance management (PM) system was centered on a performance appraisal based on an absolute judgment rating scale considering different performance areas. In the opinion of the vast majority of supervisors, the main draw back of that system was its remoteness from operations and, during the five years of its existence, it had become increasingly a bureaucratic task to be performed without any substantial benefit neither for supervisors nor for employees. The point was not to "improve the rating scale" by adding some new 'areas' or 'dimensions' but to dispense with it all together inventing another kind of solution. The idea ("the shift of Gestalt" Ciborra would say) was to base the new performance management system on the elaboration of action plans. The manager of each organizational unit would explain and negotiate with her supervisor the objectives that had to be pursued for the following year. The inputs for the action plans were the general objectives pursued by

BAnCO expressed by top management and interpreted by the supervisor that discussed them in a preliminary meeting with his collaborator. Each management level negotiated the action plan prepared by the units of the lower level so that an overall coherency could be reached. In fact action plans were to be prepared also by people that did not have the responsibility of a 'unit' (it was named Employee Action Plan).

This solution was considered viable because: (i) BAnCO was rather 'flat' (3 management levels); (ii) the structure of the action plan was lean (five sections: perceived firm overall priorities, specific goals of the unit/person, actions to pursue them, critical issues, unit/person capabilities development policy); (iii) it could be compiled according to individual managerial styles, to personal preferences, and of course to the specific characteristics of the unit, rather than adhering to an abstract analytic standard draft. Furthermore, it favored constant engagement between supervisors and employees so that gaps (between objectives and results, problems and solutions) could be managed and possibly avoided. Another point of strength was that part of the action plan was to explain how individual competences could be improved by promoting self assessment and awareness. At the end of the year the 'official' performance appraisal was to be conducted on the evaluation of the (positive or negative) gaps that could be observed, and the 'pay for performance' part of the compensation could be established. Of course, several other 'informal' appraisal meetings and discussions were held during the year to check for 'drift' in the projects that were launched with individual client banks; as a matter of fact, the intent of the 'action plan' was primarily to support operations, dialogue, reflection of individuals and resilience of the project team to emerging problems or opportunities stemming from news concerning other possible vendors or emerging technologies, development techniques, prospective banking regulations. Appraisal as such was just a consequence of what had been managed (and mismanaged) all along, and thus it wasn't a "surprise" (a pop-up test).

3.4 From classroom training to personalized, diffused learning

Class-room training and (some) job rotation were the previous ways of improving capabilities. A member of the HR function gathered the perceived needs from top management and compared them with vendors offerings; some negotiations with a few pro-active middle managers finalized the list of courses and of participants. From the point of view of the participants *"being chose to participate to a course"* was either perceived as a *"bonus"* or as a *"punishment"* and not really as a professional development. Given this situation, the in-house 'capabilities team' and the consultants proposed (and then actually carried out) a change in approach. First a list of 29 competences was drawn: they were considered to be relevant (in different degrees) for anyone working for the "new" BAnCO. They were grouped into three major competence areas: ICT, banking business and organization, and 'service'. The last one included managerial competences for running an effective performance management (actually for running effective operations). The term adopted highlighted the concept that supervisors were "serving" employees by orienting their work and professional development and, vice versa, employees "served" as proactive proponents and actors; the two groups together where "serving" both clients and BAnCO to reach their goals (the outsourcer's capabilities enhanced were: 'behavior management' and 'customer development'). One major change in mentality was to consider any request or claim or problem encountered in the interaction with a customer as one's own responsibility, no matter how surprising and unforeseen was the request and not directly included in one's task (this relates to improving the capability 'organization design'). During the second step the descriptions of roles were revised so that they would: (i) be coherent with the new philosophy of BAnCO; (ii) be less analytic, more easily interpreted by people, and used as a guideline for preparing (evaluating) action plans; (iii) contain a profile of capabilities considered to be important to handle each work position. In the third step the self-assessed (but discussed with supervisors) individual competence profiles were collated so that the competence gaps could be appraised, at the individual, organizational unit, and company level. In the fourth step the 'capabilities team' and the HR function defined the development actions which included, but were not limited to, classroom work; in fact, they also comprised small informal interest groups, 'didactic' participation to projects, 'hot-line' with in-house experts and other initiatives (top-down or bottom-up proposals) that would be coordinated by the HR function.

3.5 Communication and knowledge

Communication in BAnCO used to be considered a "natural" activity carried out spontaneously by managers in their interaction with employees; interchange was limited to problem solving or to interfunctional meetings (often in the presence of vendors or clients or both). The main shortcoming was considered by the majority of managers to be the large number of ineffective meetings (often judged to be non finalized rituals or personal show-offs). Consequently, the team in charge of outlining criteria for 'communication and knowledge management' developed the following strategy on this topic: meetings were to be considered vehicles for knowledge building and sharing (potentially part of HR development activities) so that the person(s) calling a meeting should define (and communicate to participants): contributors, objectives, duration and key points for the interaction with the "outside guests" (vendors and clients). Another crucial issue addressed by the team concerned how to keep BAnCO open to innovation taking place in banking and ICT so that the list of the 29 BAnCO competences that represented its know-how (drafted by the previously mentioned specific team) could be kept updated together with the competence profiles of the company roles; to this end, a list of knowledge sources was compiled (e.g.: state of the art vendors, universities, regulatory institutions) and matched with a list of in-house experts so that innovation could be monitored and distributed. This activity was to reinforce 'domain expertise' and 'technology exploitation' capabilities.

3.6 From design to operations

The analyses conducted, the solutions proposed, and the operation guidelines drafted by the in-house teams and the consultants during their four months work were discussed with top management and presented during a convention to the two hundred BAnCO employees at the end of June 2000. The convention was the start up date of the first implementation phase (six months) whereby action plans were negotiated, people competence profiles drafted, activities to overcome gaps started. Training on the new performance methods were conducted and a calendar of follow-up activities established: consultants held meetings on call to help management and the HR function clarify emerging issues and manage situations that were change resistant (because of misunderstanding, misinformation, or fear of power loss).

Only minor revisions were necessary after the first trial phase so that the integrated system to manage performance, capabilities, and communication kept on running beyond January 1, 2001.

4 DISCUSSION AND CONCLUSIONS

The four capabilities outlined by Ciborra (2002) can be found in both the management of the project and the characteristics of the changes that were introduced. For example: (i) the 'new sense of responsibility' can be found in the change of attitude towards a non task oriented behavior that opens to unexpected requests from clients; (ii) managing ambiguity (saying yes and no simultaneously) is certainly an ability needed in developing action plans and negotiating them (on the part of both supervisor and employees), lest they become useless formal and static documents; (iii) improvisation and tinkering are certainly needed in managing action plans to keep abreast with clients requests or with emerging anomalies or vendor claims; (iv) rapid change in perspective is necessary when trying to grasp opportunities and innovation from research centers presentations (coupled with openness to valuing tinkering: *"let's see how this solution can be useful to solve that nuisance…"*). Furthermore, 'hospitality' seems to be the general attitude to be adopted (the basic capability) in dealing with change and innovation: being open to 'serve' (to host) new ideas and proposals but being alert in dealing with them to find out when they could become draw backs and hinder the overall development of the organization and of the business. In this respect, for example, each client-owner had to be treated in his double role: that of an opportunity creator when presenting challenges versus that of a threat originator when trying to engage resources at his exclusive benefit.

The following table synthesizes the theoretical pivots of the case study (some of the 'commitments' that Ciborra considered vital for a new 'tack' in IS management), it exemplifies some of the activities

of the BAnCO project which appear to be coherent with such commitments, and it identifies some of the capabilities which were pursued through the activities to be performed.

Ciborra's IS managerial 'commitments'	**Examples from BAnCO program activities**	**Supplier capabilities** (Feeny, Lacity, and Willcocks 2006)
Change perspective rapidly	Informal appraisal meetings; Definition of internal and external knowledge sources; Design and up-dating of competence profiles; Dispensing with rating scales in PM; ...	Domain expertise; Organization design
Manage ambiguity	Diffused learning (interest groups); Connecting in-house experts to outside experts; Knowledge sharing meetings with vendors and clients; ...	Behavior management; Technology exploitation
Sense responsibility in uncertainty	Constant engagement between supervisors and employees; Self assessment of individual competences (and discussion with supervisor); ...	Customer development
Value marginal contributions	BAnCO assessment based on top and middle management deep involvement (top-down, bottom-up); Employee Action Plans; ...	Process improvement
'Hospitality'	Performance Management based on action plans; ...	Leadership

Table 1. A synthetic view of activities performed by BAnCO in the Human Resources and Communication Management project considered with respect to pursued 'Commitments' and 'Capabilities

Two *caveats* should be born in mind:

- the success of the change program was obtained in an organization that grew on the new principles and guidelines across the board so that each individual project (and person) benefited from the positive general attitude. Such principles could be less effective when applied to individual projects without an overall 'coherency'. In other words the effectiveness of these concepts (and techniques) is felt more in the general management of an organization rather than in an isolated project.
- on the whole it is difficult to tell how much of the expansion of BAnCO that started with the introduction of the new HR management and development system was a consequence of it. Certainly though, top management, the majority of middle management and of employees considered it to be a success. One last remark emphasizes the pivotal role of CEOs especially in "soft variables" based change management. After two years of running of the system the CEO left BAnCO for personal reasons. The new (end of career, well known, "no nonsense" kind of

managerial attitude) CEO decided to terminate the program and to reintroduce traditional rating scales in the performance appraisal, thus dispensing with action plans and competence profiles.

In sum, Ciborra's outlook seems to carry helpful "operational" indications when looking for ways to change business-as-usual for more effective and dynamic conducts, towards a convergence of 'vision' and 'mission', of techniques and strategies to an ever changing ICT business environment. The term 'operational' was in quotes to avoid a possible misunderstanding on the existence of a *Ciborra model* for organizational learning and change. Given his efforts to criticize ossifying practices and idealistic generalizations, in his case a model would amount to an oxymoron.

Certainly, the principles of his approach are not at odds with some OL features and practice: for example, the need for a 'blame-free culture' and that of 'supportive atmosphere' (for a non IS specific review, see Denton 1998) which can be considered to be close, respectively, to Ciborra's underscoring of 'responsibility' and 'valuing marginal areas' to nurture experimentation and innovation. However, the concepts highlighted in the paragraph on the theoretical background of the paper show samples of a closely knit and variegated research tissue, an outlook, an ever expanding toolkit of images, critiques, incursions into difficult (yet necessary) philosophical grounds developed by Ciborra in his work which do not outline a baedeker for human resources (or organization) departments and consultants. Rather, it is a corner stone (which can be very practical and operational as the case has shown) for anyone willing to be aware of the subtleties involved in system development which appears to be closely intertwined with people development. And undertake action accordingly.

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