TRACK 02
DOES IT MATTER? The organizational impact of information systems

A PRIMER FOR SOCIO-MATERIALITY IN IT DRIVEN CHANGE: A CASE STUDY OF M&A IN THE IT SECTOR

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Abstract

This paper reports the findings of a research into change during an acquisition process of two software companies by a third one. Our main findings show that when IT companies merge, IT becomes a central part of the change program. We used socio-materiality as a framework to interpret the case.

Our results show that, in change initiatives that involve IT savvy companies, technology is almost univocally interpreted by the actors involved, hence it assumes the characteristics of a material artifact that guides and constrains actions of both management (top and middle) and employees.

The change process was supported and guided by the implementation, in the acquired companies, of a shared ERP system (product of the mother company) which was conducive of the procedures, behaviors, and common goals wanted by the upper management.

Our results, while downplaying the role of technological frames, do not however support the "magic bullet" view of technology as agent facilitating planned change. Technology assumes materiality and therefore, like a road, sustains the change in a determined direction but also, like a road, IT allows changes in directions, parking, and back-gearing.

1. Introduction

When Marshal Carter, then CEO of StateStreet, laid down a strategy for his bank to become the largest transaction bank in the world he realized that he could not do that by thinking of his organization as a bank, he realized they had to frame their company as a software house specialized in transaction systems. Since 1995 and until today StateStreet, far away from the public's eye, has indeed reached its objective becoming the partner of choice of the biggest companies in the world and transacting at any given time some 18-20 trillions dollars for their clients.

While in recent times many companies have obtained great results funding their change programs on technology, the advantages of technology driven change are however still open for debate and visionary managers like Marshal Carter are still very rare. Top managers in non-IT roles still tend to consider – maybe with good reasons – IT as a means to support change rather then a lighthouse to guide it. While simple views on the role of technology in change, like the magic bullet (Markus and Benjamin 1997), are now obsolete, the complexity and variety of today's environment call for studies that take seriously the role of technology as a predominant component of change. This role becomes more and more relevant as technology becomes pervasive in any human and commercial activity. The rate of failure of technology implementations and change processes is a sad reminder of the need for studies of change in situations where technology is pervasive.

This study takes on this call to understand the complex and persistent problem of the role of technology in change. To respond to this call we investigated technology driven change in a case where technology was both a product, a source of revenue, and integral part of work activities. We studied the constitution of a IT group made up of three software companies where the largest one produced, commercialized and used an enterprise system. During the merger the enterprise system was used to integrate the information flows and homogenize the activities and processes of the three companies.

However it is difficult and arbitrary to draw general conclusions, particularly in terms of devising "laws" or "general theories" given the possible variations and changing nature of the situations that may be hypothesized and the many multidisciplinary aspects that must be taken

into consideration. Among the many lenses that can be used to read a change case, given our specific focus on IT and its role in change efforts we have decided to use the socio-materiality perspective, a perspective that illuminates the material characteristics of technology as supportive of human actions. This perspective has been largely ignored in organization and IS research (Leonardi et al., 2008) but in our view this perspective will be useful to evidence the unavoidable characteristics of IT in change that are normally back-staged when change studies focus only or mostly on the social interpretation of technology and disregard the objective possibilities and limitations offered by technology in work practices.

This article is structured as follows: first we present the current views on IT-driven change and the characteristics of technology as scaffold for change that we will use as framework to interpret the case. We will then present the case company with a brief history. Finally we will introduce our discussion on the role of IT as scaffold of change.

2. Literature Review

The study of the role of technology in change efforts has origins that go way back in history. The most famous case – even if by no means the first one – tells us of workers destroying steam-engine driven looms because they feared technology would take away their jobs. This magic bullet view of technology (Markus et al., 1997) has survived the test of time as we again find evidence of it in the attempts to automate mines (Zuboff, 1984), paper pulps (Zuboff, 1988), or governments. Over time the simplistic magic bullet view gradually gave space to more variegated, interpretive, approaches where the technology was not seen anymore as a single-faced monolithic object with univocally specified characteristics.

In parallel, also the study of organizational change has moved from simple models of the type unfreeze-change-refreeze to more complex multi-steps models (Kotter, 1996).

In the last two decades we have observed multiple studies that shift the attention from Lewin's group dynamics analysis to a more determined focus on the concept of organisational learning and learning organisation (Argyris et al., 1978; Argyris, 1985; Senge,1994; Nonaka et al., 1995).

In particular the research on the knowledge aspects of change has obtained more and more status. As knowledge has obtained a major economic interest (we live as they say in the knowledge economy), the research on its accumulation and transfer (Nonaka et al., 1995) has permeated the studies of change. In this more interpretive studies, it is stressed the importance of objective and subjective elements which enhance the uniqueness of the enterprise and of its evolution path (Nonaka et al., 2005, Tsoukas et al.,2002). Culture, rather than rationality, takes up a major role in these studies because culture acts as a lens to interpret knowledge and artefacts (Schein, 1985; Gagliardi,1986) as well as it guides our actions (Czarniawska et al., 1995, Czarniawska, 1997), and our sensemaking (Weick, 1995). Therefore culture, knowledge, and sensemaking have become in recent years the main antecedents to understand the preconditions, enactments, and reactions to change process.

Organization change and the study of technology in organization have relatively recently merged in studies of IT driven changes beginning with the milestone article by Markus (1983) that delineating the political aspects of IT implementation in fact set down an agenda for next decades of studies of IT in organizations.

For example Barley (1986) discovered that the introduction of IT can be an occasion for restructuring an organization and that this restructuring is not deterministic. Rockart (1988) stated that IT related change must take into consideration also the organizational context including culture, roles, organization etc. Orlikowski and Hofman find that IT driven change is not a linear rational path but the result of local adaptation and emergent behaviour.

These studies have a common background or *reason d'être*: the rejection of the *status quo* and most importantly the rejection of the deterministic view that is the basic philosophy of the magic bullet and that had permeated the studies of technology in organization up to those years (and even today). The paper of Orlikowski and Baroudi (1991) became a manifesto for interpretive research and unwillingly decreed that everything in technology is the effect of interpretation or affordances. The obscure corollary to this is that the material characteristics of technology became more and more back-staged in technology studies. One could not talk about technical possibilities without being tagged as a positivist and a determinist (and maybe even an imperialist).

But as time as passed – and organization researchers have forgotten about the material characteristics of IT (Orlikowski et al., 2001) – the research community has begun to trace back the implications of these choices for our research domain and the results are not very comforting. First of all materiality matters for theories of technology and organizing because the material properties of artifacts are precisely those tangible resources that provide people with the ability to do old things in new ways and to do things they could not do before (Leonardi et al., 2008, p. 161). Secondly and most importantly, considering materiality as such is not a philosophical treachery to interpretivism. The material characteristics of technology transform information and do not only offer affordances that change work practices; they often change the nature of the work itself. (Leonardi et al., 2008, p. 165). So considering materiality does not make a researcher a positivist but rather offers a richer lens to observe the phenomenon of appropriation of technology by individuals and in organizations.

To integrate materiality with a more voluntaristic stance requires that researchers attend directly to the specific ways in which the features of particular artifacts become entangled in the social practices of people at work (Knorr et al., 1999; Pickering, 1995). In addition to studying social dynamics such as perception and interpretation, this means paying attention to what a technology lets users do, what it does not let them do, and to the workarounds that they develop. In the following we will therefore use the materiality lens to study in more depth the impact of IT in a complex change program.

2.1 Materiality: a lens for studying the IT driven change process

Wanda Orlikowski (2007) makes an argument for taking materiality seriously in organization and IS research. To stress the importance of the argument in the article she quotes Latour:

> There exist no relation whatsoever between the material and the social world, because it is the division that is first of all a complete artifact. To abandon this division is to rethink the whole assemblage from top to bottom and from beginning to end (Latour, 2004, p 227)

In Orlikowski's view, the material characteristics of the world surrounding us are integral part of what we do and what we know. In this view material forms, artifacts, spaces, and infrastructures play a critical role in everyday practices and the knowledge embedded in the practices. However as Latour points out, researching in the integration of materiality and practices means in fact going back to the basis of human sciences.

The view of Orlikowski is in line with the scope of this paper because she states that her arguments fit a performative view of knowledge, a knowledge that is not static but a dynamic and on-going social accomplishment (2006). This view fits perfectly in the IT-driven change problem since during change we are interested in human action and changes in processes and cultures. What Orlikowski so well articulates and adds to the discussion about knowledge is that knowing is not only emergent, embodied, and embedded (three concepts that are now slowly being integrated in ISD efforts) but also material. By knowledge being material, Orlikowski means that everyday practices and therefore the knowing attached is "deeply bound up in the material forms, artifacts, spaces, and infrastructures through which humans act".

In office settings like the one described in this article or the ones described in Levina and Vaast (2005) the people are involved in a series of processes and activities that are somehow supported by technology and therefore it can be assumed that IT is for office tasks the material scaffold of actions and knowledge. As Orlikowski points out at the "level of conceptualizing and theorizing, we tend to disregard this knowing, and render our accounts of knowledge in organizations without attention to material matters". The problem of forgetfulness of materiality seems to be quite widespread since the nowadays dominating paradigm in ISD is human-centric focusing largely on human interpretation of actions while technology tends to take a backstage role (Orlikowski et al., 2001). This problem leads us back to Latour statement about the lack of attention for materiality as inseparable part of human action.

Orlikowski offers the concept of "scaffold" as the mechanism by which materiality can sustain knowledge. Scaffoldings have the following characteristics (Orlikowski 2006, p.461-462):

- **scaffolds are temporary** - they are erected on a building site to support the construction of particular elements. They typically exist

for the duration of the project (or less), and are dismantled once the elements are completed or self-supporting;

- **scaffolds are flexible** - they are constructed in situ, adapted to fit the particular local conditions; as such, they may be erected in many different situations;
- **scaffolds are portable** - they are relatively quickly and easily assembled, modified, and disassembled, as needed, on different building sites;
- **scaffolds are diverse** — there are many different kinds of scaffolds, for example, scaffolds that allow people to walk along the outside of buildings, scaffolds that suspend workers from above, scaffolds that serve as structural columns to hold up slabs until the poured concrete is cured, and scaffolds that serve as reinforcing formwork that then becomes integrated into the final element being built;
- **scaffolds are heterogeneous** — they are composed of multiple different components, reflecting both the requirements of the element(s) to be supported, and the materials at hand;
- **scaffolds are emergent** — they are erected over time, changing in form and function, as needed to continue supporting the changing scale and scope of the element(s) being built over time. While in place, scaffolds afford a certain temporary stability to the disparate as-sembly of people, materials, and space bound together;
- **scaffolds are dangerous** — as temporary, emergent, and rapidly constructed assemblages, they are vulnerable to breakdown and failure;
- **scaffolds are generative** — they serve as the basis for other (creative) work, facilitating the performance of activities that would have been impractical without material augmentation.

Scaffolds are constitutive of both human activity and outcomes, shaping the kind of construction work that is possible, and the construction outcomes that emerge (e.g., scaffolds afford the building of skyscrapers). In situations where knowledge has to be exchanged at a boundary, such as the one existing between employees in merging organizations, the main mechanism facilitating the passage that could function as scaffold is the boundary objects (Star et al., 1989; Carlile, 2002). Boundary objects are artifacts especially designed to ease the passage of knowledge. Boundary objects can be models, documents, diagrams, prototypes or software

systems. Let us evidence the characteristics of a boundary object so that is can appear clear why a software system can be used as a scaffold to bridge knowledge boundaries across groups.

Maybe one other key characteristic of boundary objects to function as such is that, just as scaffolds, they are always changing or in other words they have to be incomplete. Incompleteness generates the need for concerted action as it is required under change initiatives.

A boundary object can function as a scaffold for change providing the material support for human action as well as the transfer mechanism for new knowledge.

3. Research Method

The method used to carry out this research is longitudinal qualitative case study. The research started in 2002 when Axioma bought Dataware and Inforpragma.

The sampling of empirical material was carried out in two phases: at the beginning, in 2002 with interviews (10), and 2003 with questionnaires (85) and in a second period in 2008 with two additional interviews to the CEO and the executive director for follow up. Throughout the period we also collected secondary data (company data and press). Quantitative data, collected by questionnaire (the sample is showed in the table 1), were analyzed using SPSS System. Using this System the factor analysis and the reliability test were run to verify the validity of the scale.

The interview protocol used in 2008 is available from the authors and the questions are prompted by the relevant literature. The data was analyzed performing content analysis of the interviews using the scaffold metaphor to identify temporary, emergent, flexible etc. practices. We looked for work practices, both bottom up and top down, supported or connected to the use of technology (Leonardi et al., 2008). We also looked for evidence of stable working practices as they may be the evidence of resistance to change. Finally we have compared the results of the content analysis with the results of the questionnaires to see if and how much overlap there was between the top management view and the employees view.

Tab. 1 – Sample Features

		Milan Office	Verona Office	Bologna Office	Total
Age	< 30	4 (11,8%)	2 (8,3%)	8 (29,6%)	14 (16,5%)
	31-40	24 (70,6%)	10 (41,7%)	11 (40,7%)	45 (52,9%)
	41-50	5 (14,7%)	9 (37,5%)	5 (18,5%)	19 (22,4%)
	51-58	1 (2,9%)	3 (12,5%)	2 (7,4%)	6 (7,1%)
	>58	0 (0,0%)	0 (0,0%)	0 (0,0%)	0 (0,0%)
	N/A	0 (0,0%)	0 (0,0%)	1 (3,7%)	1 (1,2%)
Years in the company	< 2	4 (11,8%)	3 (12,5%)	2 (7,4%)	9 (10,6%)
	3-5	12 (35,3%)	3 (12,5%)	7 (25,9%)	22 (25,9%)
	6-10	6 (17,6%)	4 (16,7%)	11 (40,7%)	21 (24,7%)
	11-20	12 (35,3%)	10 (41,7%)	5 (18,5%)	27 (31,8%)
	> 20	0 (0,0%)	4 (16,7%)	1 (3,7%)	5 (5,9%)
	N/A	0 (0,0%)	0 (0,0%)	1 (3,7%)	1 (1,2%)
Career (in the last working year)	Yes	12 (35,3%)	2 (8,3%)	3 (11,1%)	17 (20,0%)
	No	22 (64,7%)	22 (91,7%)	23 (85,2%)	67 (78,8%)
	N/A	0 (0,0%)	0 (0,0%)	1 (3,7%)	1 (1,2%)
Training (in the last working year)	Yes	19 (55,9%)	10 (41,7%)	12 (44,4%)	41 (48,2%)
	No	15 (44,1%)	14 (58,3%)	14 (51,9%)	43 (50,6%)
	N/A	0 (0,0%)	0 (0,0%)	1 (3,7%)	1 (1,2%)
Educational Level	High school	22 (64,7%)	20 (83,3%)	19 (70,4%)	61 (71,8%)
	Degree	12 (35,3%)	4 (16,7%)	7 (25,9%)	23 (27,1%)
	N/A	0 (0,0%)	0 (0,0%)	1 (3,7%)	1 (1,2%)
Job Position	Office	19 (55,9%)	18 (75,0%)	21 (77,8%)	58 (68,2%)
	Clerk	10 (29,4%)	2 (8,3%)	1 (3,7%)	13 (15,3%)
	Cadres	2 (5,9%)	1 (4,2%)	3 (11,1%)	6 (7,1%)
	Other	3 (8,8%)	3 (12,5%)	2 (7,4%)	8 (9,4%)
	N/A				
Sex	Female	15 (44,1%)	8 (33,3%)	12 (44,4%)	35 (41,2%)
	Male	19 (55,9%)	16 (66,7%)	14 (51,9%)	49 (57,6%)
	N/A	0 (0,0%)	0 (0,0%)	1 (3,7%)	1 (1,2%)

4. The history of Axioma

Gruppo Axioma (Axioma) was been created in 1979 in Milan, Italy, by Mr. Maserati, a professor of informatics in the local state university. Axioma has grown to employ 330 employees in 2001 and has since that date experienced the bouncing market conditions that have characterized the IT industry in the last years. The main products of Axioma regard a suite of modules for enterprise management, an ERP intended for medium

size enterprises. Axioma is a full service provider that takes care of the engineering, production, development, sales and maintenance of the products internally and at the clients' sites. The development strategy of Axioma is to always adopt the most modern technologies to develop and support its products. Cornerstone of this strategy has been the adoption of open technologies like Java.

In the late nineties and early 2000 Axioma when through a wave of acquisitions and mergers following the realization that in a country like Italy and in the specific target group of middle-sized companies the penetration of the market was facilitated by local presence and local network.

In the year 2001 Axioma acquired Dataware which then counted 25 employees and was present in the territory of Bologna. In the year 2002 they acquired Infopragma which instead counted 15 employees and was located in Verona. The two companies produced also ERP type systems but with older technologies respect to Axioma. The business plan behind the acquisition was to gain the respective clients portfolios and update their application park with Axioma's products. The key to this client acquisition was that the local developers would adopt Axioma's technologies and that the local salesmen and consultants would believe so much in the product to sell it despite their own.

Furthermore Axioma is itself a user of the ERP suite (called S/5) and the ERP solution was used to integrate processes and accounting practices inside Dataware and Infopragma.

The change required therefore a double sided action: internal for the implementation of the ERP systems and external for the acquisition of the clients. The two actions were not independent from each other because the internal use of the systems was thought to be linked to the change in perception about S/5 and therefore as a tool to increase the disposition of the acquired employees towards the product.

5. Axioma: IT as scaffold for IT driven change process

In this case the introduction of complex IT systems has important consequences for company employees at all levels. Among the merging process, the most critical factors seem to be:

- **organizational factors**, because the merged companies are characterized by different operating systems and what's more these systems are not formalized;
- **relational factors**, since the operating systems are not formalized, the personal relations assume a core importance;
- **cognitive factors**, considering that the company's knowledge are different in technique, practices and organizational culture.

The process was run top-down by the companies' managers and implemented by the companies' employees. Given the high skills with technology present internally, no external consultants were used and the entire change process was carried out internally. The case presented therefore the characteristics we were looking for: pervasiveness of technology, pervasive skills with technology and complex and changing commercial environment.

In the case the employees of the acquired companies had to assimilate new technical know-how (new know-how only for the companies acquired), but they also have to modify previous models and behaviors because, for example, the new technology was open rather than proprietary.

They had to modify their behavior because the ERP technology that Axioma was selling was also used internally as enterprise system.

In the following we will use the socio-materiality idea and the metaphor of scaffold to illuminate different aspects of change focusing on both Axioma's ERP system (the new system) and the old systems found in Infopragma and Dataware.

Technology as *temporary* and *emergent scaffold* shows us the ERP technology as continuously under development so supporting change in an ever changing fashion. The old systems are more stable but are also a temporary scaffold for change as their destiny is to disappear. The change is therefore supported and unbalanced towards the new system.

Technology as a *flexible scaffold* for change shows us the affordances presented in the ERP technology (Ciborra 2002) since different employees in the acquired companies can interpret it in different ways. For some actors the ERP technology is a simply a tool to work on, for others it is an obstacle to the use of their existing knowledge. Finally for some actors, and this includes the CEO of Axioma, the technology is a negotiation tool: the faster and the better one learns the new technology the faster one will concretize his or her position in the new company.

> We have applied the normal change tools that we use in Axioma and in some cases we have met resistance. So we have imposed the same software system (S/5) to everybody: for administration, control, and process management. We have met some resistance in the use of the software but within the year everybody was using it … they kept parallel systems … but everybody does that (Axioma, CEO).

Technology as *portable scaffold* for change shows us the ERP technology as a vehicle for the migration of practices from the original Axioma group to the new companies. The S/5 ERP system, as common for ERP systems, contains processes and practices. By implementing and using the S/5 suite in Infopragma and Dataware, the management of Axioma assured more than just getting acquainted with the tool. They assured that the new employees learned, just by using the system, the practices and the processes used internally in Axioma.

Technology as *diverse scaffold* for change shows us that the ERP system emerges as a different and unplanned tool for change. In the mind of Axioma management the main goal was the commercialization of the S/5 suite to a larger audience. The internal result of the use of S/5 was that the companies became unified more quickly due to the technology propagation rather than without.

Technology as a *heterogeneous scaffold* shows us that the different systems and knowledge domains of the employees involved in the merger were of different nature, at times building upon each other and at times being incompatible. Complementarity and compatibility have however to be seen under the light of the affordances offered by the technology as scaffold. For some employees the heterogeneity of the scaffold was a way to learn new techniques and therefore it became a help in the career while other employees saw mainly the incompatibility and therefore the new technology became a major element of resistance to new ways of working.

> For the new ones the switch from AS400 to Oracle is like going from night to day. Over there the operating system, the language, the database were one thing, here they are all separate. It is a radical change in culture, they could do everything with COBOL; here we do the GUIs in Java, the queries in SQL, etc. A massive change but that gives plenty of opportunities to those who take them (Axioma, CEO).

Technology as a *generative scaffold* shows us the S/5 suite as the glue bringing the Axioma merger together. It brought practices and knowledge around in the newly added companies and in being the product as well it became a hard measure of success. If the ERP suite was not used inside the new knowledge would have taken much longer to permeate the discourse of the new employees.

Technology as *dangerous scaffold* shows us that the new construction with the merger created around the ERP suite is vulnerable to breakdown and failure. Failure in the short run may be result in resistance to change and turnaround for some employees. In the long run however if the scaffold is not used to stabilize the organization the group could encounter serious structural problems.

> Another important problem is that we have acquired a world living on AS400 … it may sound simple but we used a completely different language: for us a system engineer takes care of hardware and software; in AS400 a system engineer only does software. We have imposed a new vocabulary to all companies … maybe we should have been meaner … but anyway in some cases we made enormous changes and with different consequences: in Bologna no injured and no dead … in Verona some injured and some dead (Axioma, CEO).

In this section we have shown that with the socio-materiality lens we can observe both positive and negative attitudes towards change, top down and bottom up, static pictures and evolution.

After we have analyzed the case with the socio-materiality lens, we focused our attention on the staff-reaction during the change process, particularly on the resistance to change and the related role of the IT.

In order to evaluate the resistance to change we adopted two classes of behavior respect the change process:

1. Good mood or approval, the persons accept or promote the change
2. Criticism, the persons declare unsatisfaction in respect of the change

We adopted 6 items typically pro change and considered the level of acceptance of these, in effect in a modern IT company isn't common the presence of refusal process in respect of the technological change, so we measured criticism as a low degree of acceptance. A Likert scale (1-5) has been used to evaluate the frequence of the adopted behaviours.

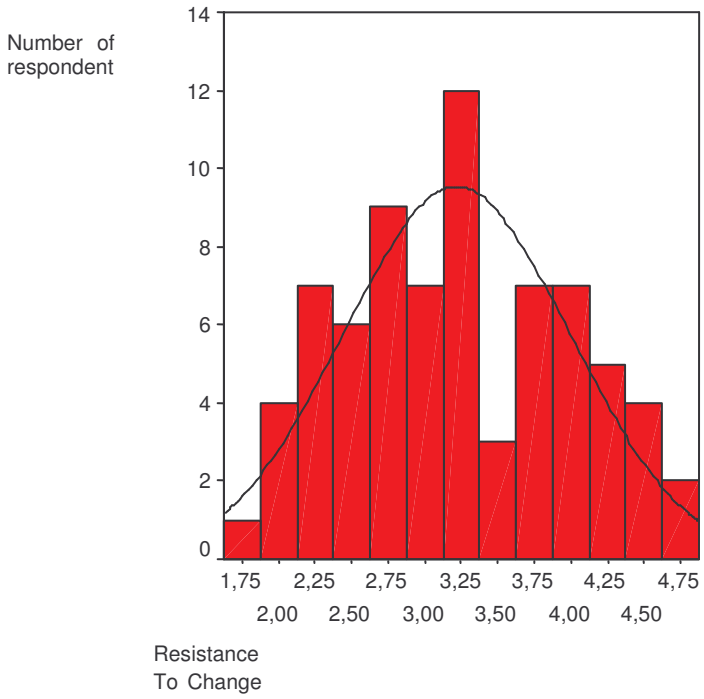
The table n.2 shows the result of the factor analysis:

Tab. 2 – Six elements to analyze the pro-change behaviours

Code	Element	Component
BEH1	I'm doing more than required to help this organization during the changing process	0,688
BEH2	I actively cooperate to realize the change.	0,791
BEH3	I encourage activities to realize the change.	0,807
BEH4	I promote the change enthusiastically	0,718
BEH5	I try to convince the others of the change's need.	0,772
BEH6	I make big effort to permit my colleagues to understand the change.	0,888

From the factor analysis we obtain one single factor of the pro-change behaviour with a good reliability level α=0,87.

Fig. 1– Distribution Graph of the answers



From the results appears that the answers' distribution generate a central tendency of 3,22 and that 45,9% of the statistic population declares himself in fact resistant to change.

The analysis evidences that the resistance was relatively light, despite the deep change in technique, behavior end organizational factors. This demonstrate that the usage of an IT as scaffold for change (the new program S/5) was useful to reduce anti-change behaviors. Also other factors played a key role in the change process such as, the age of the staff (younger were less resistant than older), the education (trained people showed more interest in change than less trained) etc., anyway the winning choice, in this case, seems to be the decision to adopt in all the branches the same technology.

However , even if the usage of a IT tool (the ERP S/5) to support the change was very helpful in overcoming the resistance to change, which finally resulted moderate (see fig. 2), some evidences show contradictory results: in fact the turn-over was relatively high (in 5 years the acquired companies suffered a turn-over about 21%), in addiction the change process were strongly supported by the usage of incentive to the adoption of new working habits (non-resistant workers were expecting better career development). Also considering the effect of this phenomena on change management, the scaffold effect of IT appears prevailing in the final result.

This phenomenon of technology-scaffolded change indicates organizational changes strongly influenced by technology. This appears very strong in companies where technology plays a predominant role either as product or in the creation of competitive advantage, or in both as it was the case for Axioma.

6. Conclusions

In this paper we use the notion of socio-materiality and the metaphor of scaffolding to identify the material qualities of an IT-driven change program led by an IT company, Axioma, when it was acquiring two other minor IT companies. The usage of a IT tool (the ERP S/5) to support the change was very helpful in overcoming the resistance to change, which finally resulted moderate (see fig. 2). The results' triangulation of the content analysis with the results of the questionnaires and company data

allowed to highlight contradictory results (for example low level of resistance but relatively high turnover).

We take, or try to take, a voluntaristic perspective on materiality therefore avoiding the collusion between materiality and determinism. We have used the socio-materiality framework operationalised by Orlikowski (2007) through the metaphor of scaffold to understand different aspects of IT driven change. This paper presents an initial attempt to do so and shows that the metaphor is valid to analyze different aspects of change that have been evidenced before with simplicity and rigor. Conscious of the limited evidence to support a generalization of the results, as further study the authors intend to specify better the framework in the hope to evidence strongly the IT driven change process.

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