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Usability of IT-systems is more than interaction quality - The need of communication and business process criteria

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INFORMATION TECHNOLOGY AND THE FIRST-LINE MANAGER'S DILEMMA: LESSONS FROM AN ETHNOGRAPHIC STUDY

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Abstract

This research builds on the literature on information technology and organizations to suggest an alternative to the current understanding of the production of computer-generated representations of work. This literature sees computer-generated representations of work as automatic outcomes of information technology that managers use to scrutinize employees. We present a ethnography of a desk-based sales unit which suggests that first-line managers can address the tension between the need to enforce prescribed goals and procedures and the need to adapt to and protect employees' improvisation by forfeiting surveillance and instead use information technology to build a façade of compliance with prescribed goals and procedures. Our results to shed light on the hidden labours behind representations of compliance and place agency in the centre stage of the process of producing computer-generated formal representations of work.

Keywords: Information system use, control systems, managerial work, improvisation.

1   INFORMATION TECHNOLOGY AND THE MANAGER'S DILEMMA

How do first line managers use information technology to address the tension between the pressure to enforce prescribed procedures and goals and the pressure to adapt to local contingencies dictated by customers and employees?

One the one hand first-line managers have a stake in enforcing compliance with prescribed procedures and with prescribed goals. First-line managers' rewards and their careers depend on their ability to enforce compliance with the organization's goals and procedures (Drucker, 1993; Ivancevich, 1974; Kamoche, 2000). Compliance with prescribed goals and procedures makes first-line managers more visible to upper-level managers, opening up access to informal networks of power and influence (Jackall, 1989). We refer to the pressure and incentives to enforce compliance as the 'bureaucratic pull'. On the other hand, first-line managers are the only level of management that is close enough to employees to be able to face directly the 'improvisational pull': our label for the inadequacy of prescribed procedures to which employees need to adapt to (Lipsky, 1980; Prottas, 1976; Orr, 1990) to face everyday's contingencies. This unavoidable inadequacy requires employees to improvise their own procedures for their organization's sake. A case to the point is the phenomenon of "zeal strike" where employees fully apply prescribed procedures to block work completely.

The management literature has documented three tactics to deal with the first-line manager's dilemma – the tension between the bureaucratic pull and the improvisational pull: adapting, imposing and compromising (Adler & Borys, 1996; Dutton, Ashford, O'Neill, & Lawrence, 2001). When adapting (e.g. Blau, 1955), first line managers allow employees to adapt prescribed procedures to the contingencies of their everyday work. When imposing (see Gouldner, 1954, chapter 11) first-line managers enforce compliance with prescribed procedures and goals, irrespectively of these contingencies. When compromising, first-line managers attempt to strike a balance by enforcing some prescribed procedures while adapting others to local contingencies (Bartunek, Krim, Necochea, & Humphries, 1999)

Research treats these three alternatives as equally viable independently of the material aspects of the experience of the first-line manager's dilemma. However, as Yates (1989) has shown, the use of information technology in organizations, shapes the material experience of the first-line manager's dilemma. Upper level managers' assessment of employees' compliance with prescribed goals and procedures is, in modern organizations, mediated by computer-based formal representations of work. Strictly speaking, in this condition the bureaucratic pull is a pull to produce a representation of compliance with prescribed roles, rules, procedures and goals with the use of information technology. This gives first-line managers another alternative to address the first-line manager's dilemma: a tactic that focuses on using information technology to create a representation of compliance without enforcing the compliance with goals and procedures that underlies that representation.

This paper explains how this façade-creation tactic can be enacted by drawing on the computer based practices that first-line managers use to address the tension between a strong bureaucratic pull and a strong improvisational pull. To achieve this result we conducted an ethnographic study of a sales unit during the 3 months preceding and the 12 months succeeding the implementation of a CRM system (Siebel & House). We draw on these data to explore first-line manager practices in dealing with the tension and unpack their consequences for theory of technology in the workplace and managerial practices.

2 METHOD

2.1 Research setting

DeskSales, the unit where we did this study, is a business-to-business desk sales unit at E-Tel, a large European telecommunications firm. Its employees (desk salespeople) had two sets of tasks: to sell and to do saleswork. Selling consisted of persuading customers to buy the products and services offered by E-Tel. Saleswork included all the ancillary activities to selling, such as creating sales plans and contacting customers regularly to detect sales opportunities. DeskSales deals with large corporate customers (retail, finance, and tech sectors) working in cooperation with the field sales teams to achieve prescribed sales targets. In practice, each customer has one account team headed by a field sales manager who supervises two to five field salespeople. To each account is allocated a Desk Salesperson who can be tied to max four accounts. Desk Salespeople work in teams of seven to thirteen under a Desk Sales Manager. They report to one of three Senior Desk Sales Managers in the unit who in turn report to the unit's General Manager. The structure is shown in figure 1.
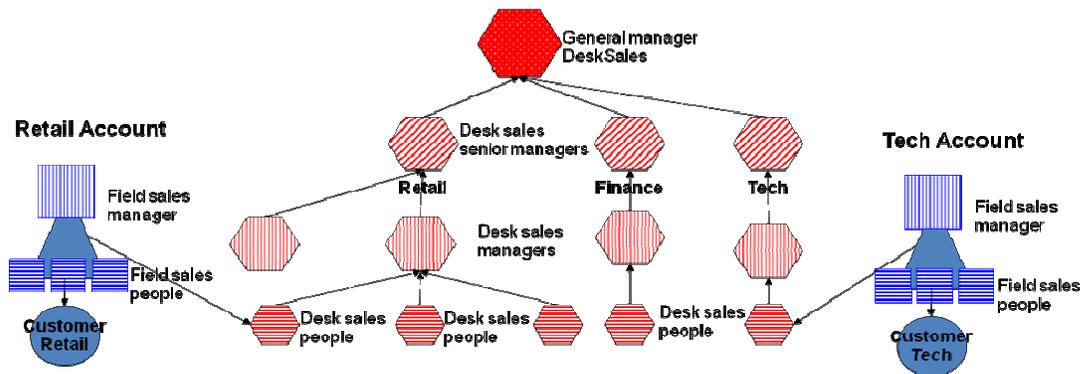

Figure 1   The structure of DeskSales (example shows Retail and Tech accounts)

E-Tel implemented Siebel to assist Desk salespeople do their work and at the same time, used to assess their performance. Siebel is a sales automation system that is designed to help salespeople throughout the sales process. It allows salespeople to store and access information about their customer contacts; keep track of their present and past saleswork and store and access information about their open sales. Siebel is also a management tool and it was used as such by E-Tel's managers to supervise desk salespeople's sales and saleswork. Siebel data were also the basis to calculate the bonuses of salespeople and their managers. Finally the data collected in Siebel were used to justify promotions and account assignments. Siebel was thus at the core of the experience of managers and employees in their everyday work in E-Tel sales units.

2.2 Research procedures

This research focused on documenting Desk salespeople's and desk sales managers' work practices. For this purpose one f the authors conducted an ethnography during the first 15 months of DeskSales' existence. The core dataset for this paper is a set of observations of the managers practices during 51 phone-based desk sales team meetings which we used to infer the practices that desk sales managers enacted in these meetings to address the challenges of prescribed vs. improvised work. These data were complemented with observations (including desk salespeople's initial and ongoing training), 55 interviews with desk salespeople, sales managers, the unit's general manager, field salespeople, and the unit's training staff.

Analysis began by coding full transcriptions of phone-based team meetings, fieldnotes and interviews to articulate the challenges that desk salespeople and their managers faced when attempting to shape the formal representations of their work and by documenting the practices they enacted to do so (Barley, 1990). These challenges and tactics were arranged into narratives (Carlile, 2002) to articulate the processes by which desk sales managers and desk salespeople were able to participate in the production of the formal representation of their work. In what follows, we document the bureaucratic pull and the improvisational pull over desk sales managers and explain the practices that they enacted to address the tension created by these two forces.

3 THE DESK SALES MANAGER DILEMMA

Desk sales managers faced an especially straining experience of the first-line manager's dilemma. Mariah, who was DeskSales' General Manager during the period of this study, enforced demanding sales targets creating a strong bureaucratic pull. Desk salespeople's inability to sell and their unwillingness to report sales and saleswork in Siebel fed a sizeable improvisational pull over desk sales managers.

3.1 Bureaucratic pull

Mariah saw her role as that of promoting DeskSales to the rest of the company. In her own words, she was "the one who sells their [desk salespeople's] effort. I am the salesperson for the desk role." Mariah used the unit's sales target to showcase DeskSales' value to the rest of the company. In the fiscal year of 2002/2003 Mariah committed to a stretch target of 350 million dollars of sales in 8 months, far exceeding the unit's initial sales target of 330 million dollars in 12 and thus raising the bureaucratic pull over desk sales managers who were responsible for this target. Mariah also imposed three saleswork targets: desk salespeople had to report making seven calls to customers each day; all of the sales reported in Siebel had to have a complete salesplan; and no desk salesperson could have errors in their sales records in Siebel.

Mariah supervised, rewarded and enforced Desk salespeople's progress towards reaching their sales and saleswork targets. Desk salespeople called her the "Demonic Mistress of Siebel" because of her focus on enforcing reported sales and reported saleswork in Siebel. Mariah claimed that Siebel made her job "much easier," not only because she could use it to supervise Desk salespeople's but also because it made DeskSales performance "transparent" to upper-level management: "if you don't have a shared system, people will just think that you're making up the numbers – with a shared system it's totally transparent."

Mariah did not use Siebel to report automatically the sales and saleswork that desk salespeople logged in the system. Instead she had her desk sales managers prepare these reports. Reporting became an opportunity for compliance. Desk salespeople rarely reported enough calls to customers to meet their saleswork targets for each week. When Desk Sales Mangers were creating their team's weekly report, they had the opportunity to ask their Desk salespeople to report enough calls to customers to hit those saleswork targets. Additionally, this practice allowed desk sales managers to have their Desk salespeople change sales records in Siebel so that, for example, if a Desk Saleswoman had hit her sales target for any given week, she could report sales in excess of that target in the next week so as to also meet her targets then. This effort to use Siebel's weekly reports to create a representation of compliance for every Desk Salesperson in their team occupied the majority of desk sales managers' time at work. When asked to reflect on the negative elements of her job as a Desk Sales Manager, Linda complained:

> One of the major problems we have had at DeskSales is that we need to keep proving ourselves [...W]e have to keep producing statistics and spreadsheets and things like that and for me personally as a Desk Sales Manager, having to produce these things to feed them up so that [our General Manager] can justify what we're doing [...] so that [top managemers] are happy. So it

takes a lot of time and it's unproductive work as well because it doesn't help you make more sales, it's just looking back, so that justification process is quite frustrating.

This was but one of many comments of the kind by desk sales managers. Creating reports from Siebel data was thus not only a time consuming activity, but one which desk sales managers interpreted as being of little if any value.

Mariah's use of reporting shaped desk sales managers' experience of the first-line manager's Dilemma in three ways. First it added a set of reporting tasks to desk sales managers' everyday work, reducing the amount of time they had available to manage and supervise their Desk salespeople. Second it added to the bureaucratic pull: desk sales managers not only had to make sure that their Desk salespeople engaged in the sales and saleswork need to meet their targets, but also that their Desk salespeople reported those sales and that saleswork on Siebel. Finally, it sharpened the challenge created by the bureaucratic pull: strictly speaking, desk sales managers had to enforce the representation of sales and saleswork on Siebel, rather than the actual execution of sales and saleswork.

To summarize, the bureaucratic pull under Mariah was driven by a "stretch" sales target that had Desk salespeople achieve more revenue than E-Tel upper-level managers required, and in less time. This push was strengthened by the increased amount of reporting work that desk sales managers and Desk salespeople had to do but it was partially alleviated because Mariah's targets were focused on the act of reporting sales and saleswork, not on that of carrying these out.

3.2 Improvisational pull

Desk sales managers had to rely on their Desk salespeople to hit the sales and saleswork targets set by Mariah. Desk salespeople, however, had to hit their sales and saleswork targets under challenging conditions. They did not have sales skills and they were not trained to sell. Desk salespeople were hired from temporary staffing agencies or from E-Tel residential call centres, possessing little work experience and no experience in business sales.

The training that Desk salespeople received upon joining the unit was meant to address Desk salespeople's inexperience with sales. Mariah's efforts to enforce sales and saleswork targets, however, deteriorated the quality of incoming Desk salespeople's training, thus strengthening the improvisational pull over desk sales managers. Mariah enforced saleswork targets based on the number of people allocated to the team, independently of whether they were on training, on sickness leave or on holidays. This led desk sales managers to forbid incoming Desk salespeople to attend most the training sessions. Desk sales managers had desk salespeople spend as much time as possible at their desk, reporting sales and saleswork in Siebel. This reduced desk salespeople's confidence in their ability to sell because they felt they could not address even the simplest of requests. The week after the training ended, Ted, a newly hired Desk Salesperson, complained to the other Desk salespeople in his cohort that he got an email from his field salesperson asking Ted to price a product. Ted confessed, "I couldn't understand a word of what was written in it". This lack of sales skills and sales training was amplified by difficult relationships with field salespeople. Donald, a Desk Salesman in one of the two Finance Desk Sales Teams, voiced a common complaint:

[My job] is quite frustrating, at the moment. I find it quite difficult to get into the account. Quite difficult to sell. Because [...] it's quite a large account team, they're involved in sort of building the networks and the relationship with the customer, [...] it's quite hard for me to get into the account and find a specific role in it. So I find myself just getting on, getting on with [service issues such as] backup for the systems engineers and that sort of stuff so it's quite frustrating.

Mariah's tenure coincided with an increased enforcement of Siebel use throughout E-Tel. Desk salespeople took on the increased Siebel work that field salespeople had to complete in exchange for being

able to claim some credit for part of field salespeople's sales. Desk salespeople also attempted to take over field salespeople service work for their customers. The goal was to increase their interaction with customers to get some of the orders that customers would place with E-Tel's service units. To this end, Desk salespeople introduced themselves to customers as their "single point of contact at E-Tel." Desk salespeople's goal was to have a service relationship with their customers unmediated by field salespeople. This gave Desk salespeople visibility of their customers' orders – orders that they could report in Siebel as the outcome of their own effort. These two tactics helped Desk salespeople contribute towards their team's sales targets, partially alleviating the improvisational pull over desk sales managers.

3.3   Addressing the first-line manager dilemma through an electronic façade

Mariah's demands on desk sales managers' reporting work left them with very little time to spend actively managing their desk salespeople. Nonetheless, desk sales managers needed to have a high level of visibility and control over desk salespeople's sales and saleswork because their bonus was only paid if every single desk salesperson on their team met their targets. To address this challenge, desk sale managers focused their interaction with their desk salespeople on a phone meeting with their team (labelled the "team audio-call" at DeskSales), which took place about once every week or once every two weeks – depending on how well the team was doing against its sales and saleswork targets. Although these meetings were conducted over the phone, they were also face-to-face in the sense that the team's Desk Sales Manager and its Desk salespeople were sitting at their Desk in DeskSales' open space. Desk sales managers chose to conduct these meetings over the phone to keep them private and to avoid disturbing the other Desk Sales Teams. These calls could range from a five-minute announcement to an hour-long scrutiny of each Desk Salesperson sales targets, but on average they lasted for about 30 minutes. An analysis of all the audio-calls observed during Mariah's tenure as DeskSales General Manager shows that desk sales managers used these calls to enact four practices to ensure that their Desk salespeople met their targets for reported sales and reported saleswork in Siebel.

The four practices were: *monitor* Desk salespeople's representation work (reporting sales and saleswork in Siebel); *enforce* representation work on Desk salespeople; *reward* Desk salespeople for their representation work; and *advise* Desk salespeople in how to hit their targets through representation work. These practices are explained below.

Monitor

Desk sales managers could observe very little of desk salespeople's everyday work. The amount of reporting work that desk sales managers had to do prevented them from observing their desk salespeople's work directly. Desk sales managers could only see the sales and saleswork that desk salespeople reported in Siebel. Desk sales managers could not see two aspects of Desk salespeople's work that were crucial to assess their desk sales teams' ability to reach its sales targets: their progress towards closing their open sales in Siebel and the sales that they could report as their own in Siebel but had yet to do so. The analysis of the audio-calls observed during Mariah's tenure reveals that desk sales managers used these calls to monitor these two aspects of their Desk salespeople's work. Anthony's team audio-call of February, 24th shows how desk sales managers used these calls to monitor what their Desk salespeople were doing to close the open sales they reported in Siebel. Here we present a fieldnote of a typical sort audio-call:

> *Anthony's call started by calling Gregory: "what's the scores on the doors for you today?" Gregory said that his open sales were still far from closing. Anthony then called Kevin, who replied: "I'm just catching up on stuff." Anthony retorted: "that's very specific Kevin" and laughed. Anthony then called Alexander who said that he had spoken with one of his field salespeople and that he had gotten permission to report a sale worth 100 000 dollars under his*

own name in Siebel. He said that his 15 million-dollar open sale was now only due to close in March ("sorry Anthony"). Then it was Mark's turn, who said that he was "just following up stuff." The audio-call ended here.

As Anthony's audio-call highlights, desk sales managers used these calls to see what they could not see in Siebel – the full process of their Desk salespeople's representation work. Siebel only showed part of this process: the value of the each Desk salespeople's open sales. It did not show the progress sales that Desk salespeople had made towards reporting these sales as closed in Siebel. Without their audio-calls, desk sales managers were not able to assess which of their Desk salespeople's open sales were going to be reported as closed and which would be reported as lost or cancelled.

Desk sales managers also used their audio-calls to monitor Desk salespeople's use of Siebel to report sales. Once Desk salespeople reached their targets for the quarter, they stopped logging sales in Siebel. They waited for the next quarter to log the sales they were allowed to report as their own in excess of what they needed to meet the current quarter's target. This allowed Desk salespeople to hit their targets every quarter. If their Desk Sales Team as a whole was lagging behind its sales targets, however, it was in desk sales managers' interest to have these hidden or latent sales logged in Siebel. This would not help letting Desk salespeople hit their targets but it would allow the team as a whole to do so. In the second quarter of 2003, Roy's team was lagging behind their sales target, although Karl, one of his Desk salespeople, had already reached his own sales target. In one of his team's audio-calls towards the end of the quarter, Roy attempted to have his Desk salespeople report all the sales they could in Siebel. During the audio-call, he said, "knowing that we have a gap of 1 million, we need to have a pipeline of 3 million to make sure that we hit that." With that in mind, he asked if they had "any sales squirreled away under the blankets." "Do you have anything that you decided, "let's chuck it away for next month or let's keep this one off the radar," "do we have any sales records below 30% [probability of closing] that we could progress over the value chain in the next month?" He asked everyone individually, by calling their name. Adolph and Barry said that they didn't. Stewart shook his head with a smile, "that was a very shady no" Roy said "do you have one?" Stewart said that he did. Roy said "let's not move everything to 90% percent and expose ourselves, [but] if we're 100% sure put it up to 40%, [Mariah] is going to be looking at where we add value and if she only sees Stewart's [sales numbers] she may wonder what the hell we're doing here."

Desk sales managers focused their supervisory role on a very specific part of Desk salespeople's work: reporting sales and saleswork in Siebel. More broadly, what is striking about desk sales managers' use of their audio-calls to monitor their Desk salespeople was their choice of target. Desk sales managers did not observe, nor did they seek to observe the work that allowed Desk salespeople to report sales and saleswork in Siebel. Desk sales managers only sought to observe the reporting work.

Enforce.

Siebel reports and team audio-calls often revealed a sombre picture of Desk salespeople's ability to reach their monthly reported sales and reported saleswork targets. The gap between the amount of sales and saleswork that Desk salespeople had actually reported and the amount of sales and saleswork they needed to report for their team to hit its targets was often too wide. Desk sales managers addressed this gap by enforcing representation work – ordering their Desk salespeople to report sales and saleswork in Siebel.

Desk sales managers used their audio-calls to enforce representation work in two ways. One was by exposing desk salespeople's lack of achievement hoping that they would be shamed into compliance. Desk sales managers announced each Desk Salesperson's sales and saleswork numbers in audio-calls. In his audio-call of January, 15th, Ferdinand announced the closed sales reported in Siebel in an effort to get his Desk salespeople to report more closed sales. Ferdinand started by announcing the total revenue

figures for each Desk Salesperson. Laura has 5 million, "well done." Oscar "hot on your heels," Ferdinand added to Laura. Kyle got 67,000, "well done." Nancy, has "lots of quotes" but she needs to "translate them into [closed sales] in Siebel." Nancy replied that quotes would take 2 to 3 months to be in Siebel because she needs to track them down with Service. Christine had 1.5 million: "Christine is really storming up now, well done Christine." Ferdinand said that the team as a whole had brought in 10 million of revenue. "When people from management come down you should know this so that you can tell management so that we'll look good," Ferdinand added. Desk sales managers made Desk salespeople's numbers visible to each other was by using their team's whiteboard .Whiteboards were designed in table format. Desk sales managers used these tables to record their Desk salespeople's achievement towards their targets. Linda, a Desk Sales Manager in one of the Finance teams explained her rationale for having a whiteboard by stating that, "those who feel embarrassed because they're not at the top […] quite often come up [to talk to me] and say 'I'm not doing well here' and then we'll have a discussion about that."

The other way in which desk sales managers enforced representation work was by directly instructing Desk salespeople to report sales and saleswork in Siebel. In his audio-call of May 2nd, Andrew instructed his Desk salespeople to report sales following Siebel's sales cycle. Siebel had a model of the stages that a sale had to go through. After going through his Desk salespeople's open sales, Andrew then asked if there were any large sales to be closed that week. Stella said that she would probably have something next week. Michael said that he had his "80K one," but he was still unsure when he was going to put it on Siebel. Andrew replied, "don't keep too much off Siebel, our team doesn't loose any open sales and that's not good." Larry added, "if you look on Siebel, we have a very high conversion rate, that's not a true picture." Andrew said that "we don't want open sales to be logged in Siebel at 100% probability, that looks very reactive." Larry retorted, "yes, but we get a lot of orders" and Michael replied, "well, we can hold them and log them at a lower probability and close them a few days later." Andrew said that "we need to follow all steps [stages in the sales cycle] because it puts them [open sales] on the radar early." Andrew instructed his Desk salespeople to follow Siebel's sales cycle to create the representation of selling when in fact they only reported sales that field salespeople had already closed.

Thus, when feelings of shame did not ensure that Desk salespeople met their targets for sales and saleswork, desk sales managers ordered them to report more of both. The analysis of audio-calls observed during Mariah's tenure shows that desk sales managers enforced reporting work, not sales or saleswork. Desk sales managers did not make their Desk salespeople's sales or saleswork visible to others, only the representation of those sales and that saleswork. Similarly, desk sales managers did not order their Desk salespeople to sell more or to make more calls to customers. Instead, they ordered them to log more sales or report more calls to customers in Siebel. Desk sales managers enforced Desk salespeople's representation work, not their work itself.

Reward.

Desk sales managers also used their team's audio-calls to reward their Desk salespeople. Desk sales managers offered good quality and high-priced alcoholic beverages to their Desk salespeople as an incentive to achieve specific, short-term reporting goals. In his audio-call of July 7th, Josh, A Desk Sales Manager in one of the Technology and Media teams, announced an incentive to reward the Desk Salesperson that reported the largest number of open sales in Siebel during the upcoming month. Josh announced pompously that he will give a bottle of champagne to the person that reported the most open sales on Siebel, "I want proper [open sales records] going on there, not a load of bollocks. I want to see them actually converted into [closed sales]." Scott, one of the Desk salespeople on the team, asked "what make of champagne?" Jason replied "Bollinger." Josh added that "this incentive is just a launch pad. I want this to go along, it's part and parcel of the role, really."

Desk sales managers also used symbolic rewards – plastic Oscar figurines, paper ribbons and tin cups – to reward reporting sales and saleswork. These rewards were not aimed at fostering an increase in sales and saleswork. Instead, these rewards aimed at recognizing Desk salespeople's achievement towards their reported sales and reported saleswork targets. Andrew had his "Golden Salesman" award for the Desk Salesperson whose sales totalled the highest revenue each week. At the start of his audio-call on August 15th, Ferdinand, a Desk Sales Manager for Retail teams announced that it was time to award "the trophy," "Oscar is not the best performer anymore, although he might be," Ferdinand proclaimed. He said that "this week the trophy is going to someone that has been exhibiting the right behaviors, it's Casey!" Casey raised his arms in sign of victory and the team applauded. Ferdinand handed him the trophy while saying, "we got some feedback on your sales plans that you actually took them seriously, while a lot of the others were taking the piss. Also you had a great turnaround in your [reported sales] in the past two weeks." Mild applause followed. Ferdinand said that it was time to take the picture and Casey moved next to the window and Ferdinand used a Polaroid instant-camera to take a picture of him with the trophy. Casey then put the picture and the tin trophy on top of his desk.

Desk sales managers also used formal E-Tel incentives to reward their own team. In his audio-call of July 24th, Daniel, a Desk Sales Manager in one of the Technology and Media team used a bottle of champagne he earned at a sector event the previous day to reward Andy, one of his team's top Desk salespeople. He said that "Christian [the Technology and Media Top Manager] loves us," and that "Christian has completely bought into this model [of using Desk salespeople]" because he was "very pleased" with the work they were doing. Daniel pulled out a bottle of champagne and said that "I was dragged on stage and Christian gave me this bottle of champagne and there was a lot of applause." He added, "you're the ones doing the hard work, so I want to give this bottle of champagne to you." He said that he realized that he couldn't share the bottle of champagne with everyone, so he was going to give it to the person with whom senior management was most impressed, Kevin. Everyone applauded and Daniel handed the bottle of champagne to Kevin.

Desk sales managers' rewards thus followed their monitoring and enforcing practices. They focused on Desk salespeople's representation work, no their actual sales or saleswork. Material and symbolic rewards recognized the use of Siebel to report sales and saleswork, not sales and saleswork themselves.

Advise.

Desk sales managers could enforce and reward their Desk salespeople's representation work but still see their team lagging behind its reported sales and reported saleswork targets. Desk salespeople could have the motivation to report sales and saleswork but not the skills to sell, the permission to log as their own the sales made by their field salespeople, or the opportunity to call their customers. To address this, desk sales managers advised their desk salespeople to on how to reach their sales and saleswork targets. The analysis of audio-calls shows that desk sales managers advised their Desk salespeople in three ways. First, desk sales managers helped Desk salespeople reach their revenue targets by telling them how to use E-Tel's information systems to find revenue. In her audio-call on March, 4th, Nina, a Desk Sales Manager in one of the Retail teams, explained how to use one of E-Tel's information systems to find revenue that Desk salespeople could claim as their own. She explained to her Desk salespeople that "in E-Tel you'll soon find that things aren't like they should be: sometimes [some of the product revenue from your accounts] is not visible on ARTS [E-Tel's automatic revenue tracking system]." Nina added that "If I spend the whole day [selling] to [one of my accounts] and they're not in the system, I would be wasting all my time because I wouldn't see the revenue." She continued: "sometimes you get products allocated to your account on ARTS that the [customer hasn't bought] and they [bring revenue]: those ones you want to keep, so keep quiet." Nina explained: "basically, the more you look, the more you'll find and it's a way to get revenue

without having to sell anything. Of course, you will eventually have to sell something, but it's a good way to hit numbers."

Second, desk sales managers also helped their Desk salespeople meet their targets for reported sales by giving them specific advice on how to establish relationships with their field sales teams. In her audio-call of February, 19th, Nina used a question made by Dennis, a Desk Salesperson on her team, to explain to her Desk salespeople how to get field sales people to allow them to log sales in Siebel. Towards the end of the team's audio-call Dennis raised his hand and Nina gave him leave to speak. Dennis said that there were a lot of large open sales for his accounts in Siebel and asked Nina how he could get some of the credit for those sales. Nina told the story of how Robert, another Desk Salesman on her team, got involved in an 8.6 million dollar opportunity that was about putting E-Tel Broadband access CDs in a retailer's stores. Nina explained how Robert's involvement was limited to calling the stores to make sure that they got the disks. Nina said that "even making a quote [giving the price of a product] is involvement." She concluded: "what I would do is ask the account team if there's something I can do to help."

Thirdly, desk sales managers advised their Desk salespeople on how to log sales and saleswork in a way that helped Desk salespeople reach their targets consistently. Andrew told his Desk salespeople to refrain from reporting sales in Siebel after they had reached their quarterly targets. He advised his Desk salespeople to report those sales in the following quarter to make their targets easier to reach. In his January 15th audio-call, Ferdinand advised his Desk salespeople on how to go about reporting customer calls in Siebel. Ferdinand told them to report "any contact with customer" in Siebel. Laura, one of the Desk salespeople on his team, asked if the "emails that you get" count. Ferdinand said that they did, but "try to keep it relevant," "I don't want Siebel clogged" with irrelevant information. "You would want to add on a call from a customer clarifying what that quote was." He was quick to add: "Don't make your numbers plummet because of that." Don concluded "it's the [target] thing" and Ferdinand nodded in agreement. Don said that the point is to "hit 10 and then worry about relevance after [they hit 10]." Ferdinand said that to reach targets the boundaries can be "stretched" but then they should "retract."

Desk sales managers' actual advice sharpens the case that they were focusing on reporting work. Desk sales managers might need to monitor, enforce and reward representation work because Desk salespeople were engaging in sales and saleswork without reporting it in Siebel. Desk Sales Manager's advice, however, focuses on how to scavenge unclaimed sales and how to persuade field salespeople to allow Desk salespeople to take credit for field salespeople's sales. The tactics that desk sales managers taught to their Desk salespeople in their team's audio-calls helped Desk salespeople hit their reporting targets without actually engaging in any of the work they reported.

4   DISCUSSION

The way desk sales managers addressed their experience of the first-line manager's dilemma shows how information technology can be used to address these opposing forces by creating a façade of compliance with the bureaucratic pull, reducing the improvisational pull to employees' ability and willingness to participate in the production and reproduction of that façade. This suggests an alternative view of the production of computer-generated formal representations of work that complements the dominant view of this process (cf. Ball, 2003; Findlay & McKinlay, 2003; Sewell & Wilkinson, 1992; Townsend, 2005). This dominant view hinges on the assumption that work and its formal representation of information systems are tightly coupled. This assumption has two corollaries. One is that managers use computer-generated formal representations of work to supervise work down the organization. The other is that employees have agency over these representations because these are generated by information technology as employees use it in the course of their everyday work. This view places deviance squarely with workers and establishes access to information as the core element of the struggle for power in organizations.

However, studies of the production of computer-generated formal representations of work that follow a structurational approach to IT suggest that the tight coupling between work and its formal representation is dependent on the everyday practices of managers and employees. This tight coupling is thus not a feature of technology but a consequence of people's actions (cf. Orlikowski, 1991).

Our analysis suggests that Desk salespeople's experience explains how a different pattern of production of computer-generated formal representations of work can emerge and be sustained. At DeskSales, desk sales managers and Desk salespeople's use of information technology kept Desk salespeople's work and its representation in Siebel were, at best, loosely coupled. Desk salespeople could produce a representation of compliance with sales and saleswork targets without **any sales** and without engaging in **any saleswork** (and yet staying legit). Desk sales managers used those Siebel-generated formal representations of work to show compliance upward, forfeiting scrutiny except when Desk salespeople were not representing compliance. When enacting such a set of practices, desk sales managers produced condensed, closed summaries of Desk salespeople's work. The goal was to make scrutiny more difficult and less likely.

Under such conditions, desk sales managers could focus exclusively on enforcing representation work – the work of producing a representation of compliance with prescribed roles, rules, procedures and goals, without actually complying with any of these. Desk sales managers used their own improvised information system to enforce representation work by supervising down based on informal representations of work. This pattern of production of computer-generated formal representations of work widened the gap between Desk salespeople's work and its representation.

This view of the production of computer-generated formal representations of work that we inferred from Desk salespeople's experience at work is not a replacement, but a complement to the dominant view on this phenomenon. Desk salespeople's experience and that of the research settings featured in the current literature on IT and organizations are two patterns that are produced by the same process, a process that hinges on the tightness of coupling between work and its representation in computer-generated formal representations of work, as determined by managers' and employees' practices.

5   CONCLUSION

The first-line manager's dilemma is a common theme in both empirical and theoretical accounts of bureaucracy. These accounts show that first-line managers can address this dilemma by enacting tactics that can range from an imposition pattern – thus yielding to the bureaucratic pull – to an adaptation pattern, yielding to the improvisational pull. The literature on IT and organizations has argued that in context of computer-mediated supervision only an imposition pattern is sustainable. Desk sales managers' experience shows that in contexts of computer-mediated supervision there is another alternative – creating an electronic façade of compliance. The way E-Tel's upper-level managers used Siebel to supervise Desk salespeople's work suggests that the assumption of tight coupling between employees' action and its representation in formal information systems is not empirically universal. The disconnect between Desk salespeople's work and its representation in Siebel allowed desk sales managers to interpret the bureaucratic pull as a push to create a representation of compliance. Desk sales managers limited their imposition of prescribed roles, rules, procedures and goal on their Desk salespeople to the creation of a representation of compliance with DeskSales prescribed goals. Desk sales managers interpreted the first-line manager's dilemma at DeskSales as a problem of managing their employees' representation work, instead of their sales and saleswork. To this end, desk sales managers created a parallel set of prescribed rules, roles and processes to manage their Desk salespeople's representation work. To use desk sales managers' favorite metaphor for Siebel, IT is indeed a window into everyday work, but instead of being a passive representation such as that allowed by the windows in Foucault's panopticon, it is an active representation, such as that allowed by a "shop window" … dressed up to impress observers.

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