

Examining multiactivity using multi-camera recordings: The use of text chat in a call center

Karine Lan Hing Ting

LASMIC, Université de Nice-Sophia Antipolis

Abstract

Call center work cannot be reducible to talking on the phone. Parallel to their talk, call center agents manage computer / screen activity and collaboration with co-workers present on the floor. The situated work activity that is achieved is an artful management of several forms of interaction occurring simultaneously. Among these parallel activities is the use of text chat. This keyboard writing of short messages is a quick and easy way to share information and coordinate action. More importantly, being a 'silent' communicative medium and modality, it allows coordination with colleagues to occur at the same time as the phone call. Focusing on text chat allows a questioning of the place and use of computer technologies in call center work. However, in order to fully understand how this artifact supports collaborative work, it is important to examine the multiactivity the agent is engaged in. The analyses of the whole situation of work presented in this chapter are based on multi-camera video extracts, giving access to the phone conversation, the screen activity and content, verbal communication and gestures with co-workers around.

Introduction: beyond the talk in call center work

Call centers are representative of new service activities that have expanded in recent years, made possible by advanced information technologies. A call center is a centralized office, where a dedicated workforce specializes in the telephone

service provision function, managing incoming and outgoing calls by telephone. It is a workplace where communication is not just part of the job description, in essence it *is* the job description [1]. Talk is central in call center interactions: Service is delivered over the phone through language and social interaction within the calls [2].

Analyses on call center interactions have most often adopted a dyadic perspective: telephone calls have usually been viewed as two-party interactions in which participants have access only to each others' speech. In this "speech-only interface", can work be described only in terms of a verbal conversation between two interlocutors – a customer and a call center agent? Even though talking on the phone is considered as the main activity, there are two activities, both of them language-based, involved in workers' routine. The first is talking to customers on the telephone, the other is inputting and retrieving data by computer [1], as the agent faces his / her computer screen. Linguists and sociologists of work, many in France, have been interested in the industrial rationalization of talk in these "communication factories". This highly standardized job, which leaves very few autonomy to the agent, is based on a taylorized model of work design, which can be systematized by new call center technologies: Automated Call Distribution regiments the pace and rhythm of work, scripts prescribe what to say and how, performance is constantly being monitored and measured. Computer technologies in call centers have, therefore, mostly been examined in terms of codifications and surveillance of an individual work activity. Other aspects – how the technology supports the call management and communication for collaboration and teamwork – have been the object of interaction researches.

Examining both the phone conversation and the whole situation of technology-equipped work, several studies on call centers [2, 3, 4] have shown that call center agents' activity cannot be reducible to its most visible aspect. Video recordings make possible the observation of the complexity of work activities in this technologically-equipped workplace. More than "talk at work" or "talk as work", call center work is characterized by *multiactivity* [4]. As we will see in the analyses of this chapter, several other activities, alongside the main foregrounded frontline talk, are involved in call center work.

Documenting technologically-supported multiactivity

The research literature on the notion of multiactivity is relatively recent and is mostly interested in highly specific workplaces. The issue of the management of concurrent courses of action began to be raised with the arrival of the multiplicity of communication tools and technical objects in the workplace. Henceforth, the terms "equipped organizational environments" and "equipped co-presence" [5]. Multiactivity has been described as the simultaneous or parallel occurrence of the conversation with other activities. It is "not just *two* successive independent ac-

tions, but *one* multiactivity constituted by two or more parallel streams of action”. It implies that these parallel courses of action be attended at the same time by the participants, in ways that can be more or less autonomous, more or less dependent, within relations that can change through time [6]. The simultaneous flows of action can be distributed in a dynamic way between a ‘main’ and a ‘secondary’ activity, and can be sensitive to the sequential relevancies of the foregrounded talk [4], that is the phone conversation. If the two parallel streams of action are compatible, they can be carried out simultaneously. At other times, they are mutually exclusive and consequently suspend one another. Designing their streams of action as being parallel or embedded requires from the participants that they coordinate their multiactivity, achieving a hierarchization work in shifting from one activity to the other.

This necessity to coordinate a complex array of simultaneous tasks and activities in a ‘multimedia’ work environment [7] is just one of the characteristics that call centers share with other “centers of coordination” [8], which have been the object of workplace studies.

Workplace studies constitute a growing body of sociological studies concerned with work, technology and interaction in organizational environments. They address the social and interactional organization of workplace activities, and the way in which tools and technologies, ranging from paper documents through to complex multimedia systems, feature in everyday work and collaboration [7]. The interest of adopting a workplace studies approach, that is a naturalist video-based studies of organizational interaction, for analyzing call center work, is the workplace studies’ interest for situated action. Video recordings can capture how personnel draw on resources – whether interactional, spatial or technological – to coordinate their action and achieve their work activity in collaboration with others.

Examining how call centre agents manage multiple work activities running simultaneously, this chapter focuses on the use of text chat. The interest of examining this keyboard writing of short messages is twofold. First, text chat is afforded by call center technology and takes place on the computer screen. Analysis reveals an artful use of this function for coordination between co-workers, far from aspects of surveillance and codification of work practices, which studies have mostly described so far. Second, the use of text chat occurs simultaneously to the call management activity. Through this mediated modality of communication, which has the advantage of being ‘silent’, agents are able to read incoming messages or type and send messages, while they are talking on the phone. We will see how text chat is used for collaboration in place of talk, examining its situated context of use: we will consider the participants’ co-location on the same floor, and how text chat is used in relation to the agents’ management of their main activity, which is talking on the phone. Analysis will demonstrate how in prioritizing the talk on the phone, over another course of action within the multiactivity, agents orient to the pre-eminence of the call management as the main foregrounded activity. Therefore, this chapter is interested in multiactivity, less in terms of doing

several individual actions at the same time, than in terms of an interactional phenomenon: How multiactivity situations are organized, managed, and accomplished in social interaction

The analyses presented in this chapter are based on video analysis and fine transcripts of the agents' actions, which draw on interactional, multimodal and material resources. The video extracts have been collected through a multi-camera device, giving a synchronized access to the phone conversation, the screen activity and content, body torque and gestures of the agent as he / she orients to co-workers around, as well as a general view of the spatial work environment. These multi-camera recordings make available for observation and analysis the whole range of activities that occur simultaneously to the phone talk. Before examining the extracts, it would be interesting to have an understanding of the characteristics and the use of writing of short messages in professional settings.

Digital writing for information sharing and coordination

The growing use of Instant Messaging (IM) by business executives has given rise to studies questioning the efficiency of this form of communicative mode at the office. Research on IM demonstrates that it promotes the exchange of information and collaboration in the workplace by its speed and easiness of communication. It ensures coordination between distributed groups, overcoming limitations of time and space [9]. This quasi-synchronous digital writing, where the sequentiality of turns is ideally maintained like in conversation, allows refined forms of coordination [10], as well as minimal interruption. Through the "media substitution effect" [11], where IM replaces other forms of communication, the exchanges are shorter, characterized by quick clarification questions and collaboration of moderate intensity. Because of its elasticity, and as workers achieve an "articulation work" between their multiple solicitations, these "equipped interactions" allow minimal interruption and intrusiveness [5]. Therefore, IM reveals to be an efficient tool.

Like the use of IM at the office, text chat in the call center where the data have been collected allows information sharing and coordination in minimum time and intrusiveness. However, as opposed to IM, allowed by dedicated software and an internet connection, the text chat function is integrated in the Customer Relationship Management (CRM) software. IM allows communication with a list of buddies not restricted to co-workers, whereas text chat in the call center allows only a hierarchical communication between logged in agents and their co-present supervisors or floor leader (agents cannot communicate in between themselves). The integration of this communication function alongside other call management functions raises interesting design / use questions. Is the necessity for collaboration and information sharing on the floor as important as the call management?

In order to address this question, it is necessary to see how incoming messages pop-up on an agent's computer screen. The pop-up window appears on the top left part of the screen. In proportion to the screen's size, and the size of the text it contains, the size of the text chat window is quite big – about a third of the computer screen.

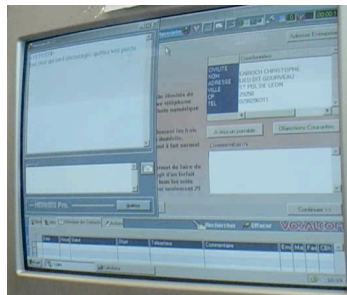


Fig. 1 Text chat window

More importantly, when popping-up, it covers other buttons that are potentially necessary for managing the end of the current call. This requires that the call center agent processes the message, before closing the window (1) in order to be able to access the call qualification buttons (2) and next call dialing (3).

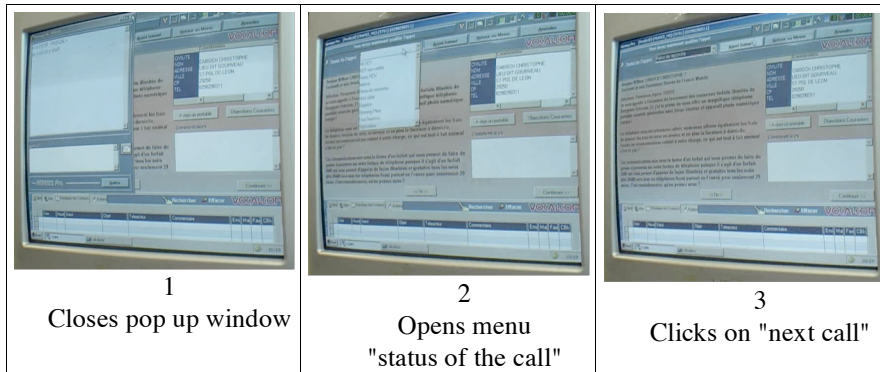


Fig. 2 Actions on the screen

Analyzing the context of use of text chat

Whether the call management implies inputting data and making actions on the computer (actions 2 and 3 in figure above) or talking on the phone, text chat allows an additional interaction to this main work activity. This quasi-synchronous processing of pop-up message, occurring simultaneously to the call, rests on a different participation framework and a different communication mode (writing as

opposed to talking). Therefore the collaborative communication or information-sharing remains invisible on the *frontline*, as the customer has only access to the “main” publicly-displayed activity, which is the phone talk. However, our focus is on the other activities that occur simultaneously to this main talk, and how they are socially organized. Analyzing multiactivity means analyzing, not only the shifting from one activity to the other, but the situated interdependence between these activities. This means that text chat is examined within its social context of use, considering the complex array of social, technical and interactional resources, which inform the mundane and accountable use of this specific communication artefact.

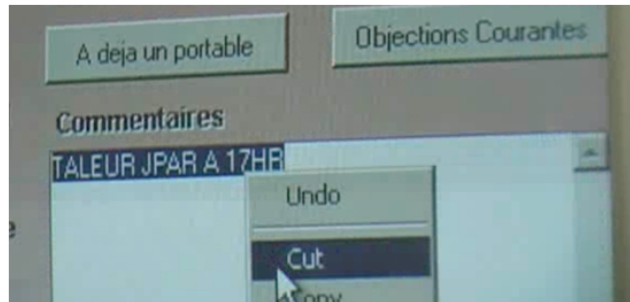
The two extracts below occur at a few minutes interval. The call center agent has to attend a religious ceremony and needs her supervisor's authorization to leave work earlier. The literal translation of the message is “Later I leave at 5p.m”. Even if these exchanges constitute a form of talk at work, the topic of the request is not linked to the call management activity at hand, and is not directly linked to the production task either. Her supervisor is seated next to her, at the same cluster. They can mutually see and hear each other. The way the agent orients to sending a message by text chat, or verbally addressing the supervisor, shows that floor interactions between call center workers cannot be considered as ordinary face-to-face interactions, precisely because of the modes of communication the agents draw on to achieve multiactivity.

In the extracts below, the talk (in French, appears in bold) has been transcribed and translated (line underneath). The agent's actions on the screen are restituted, described in between double brackets and notified by “→”. The numbering of lines and the connection symbols aim at preserving the temporality of the actions. The transcript begins when the agent starts typing the message, while talking to the prospective customer.

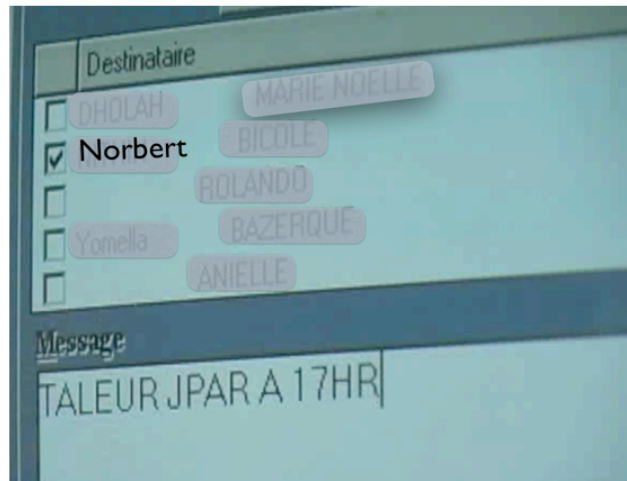
Extract 1

21. CCA **simplemen:t pour vou↑s annoncer que**
 simply to tell you that
22. **>vo*tre nu*méro d télé#phone fixe#,<**
 your phone number
- ***((types « GH »))**
- **#((erases « GH »))**
23. **hhh a été sé*lectionné:↑ par l'agence**
 has been selected by the agency
- ***..((types « TALEUR »))....**

24. de XXX* ce matin, et de ce fait, nous
of XXX this morning and therefore we
..... *
25. vous o*ffrons un téléphone porta:ble.*
offer you a mobile phone
→ *...((types « JPAR A »))..... *
26. *j'e:spère que cela vous fait plaisir?*
- I hope that this pleases you
→ *.....((types « 17HR »)).....*
27. monsieur?
sir
28. Pro ((Prospect's turn not restituted))
29. CCA *((selects the text))
30. → ((right click « cut »))

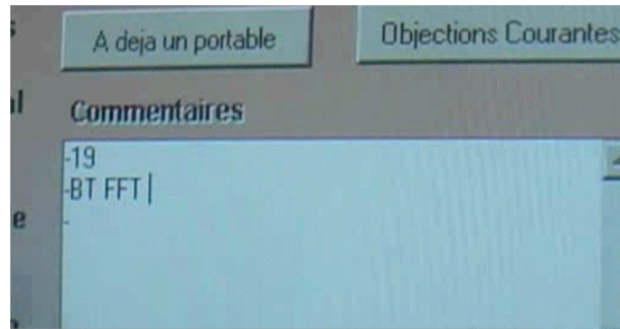


31. → ((opens recipients' list, selects supervisor))



32. → ((« paste » in message zone))
33. CCA oui:,
34. → ((clicks to send message))

35. → ((back to « comments » zone, starts
inputting customer's data))

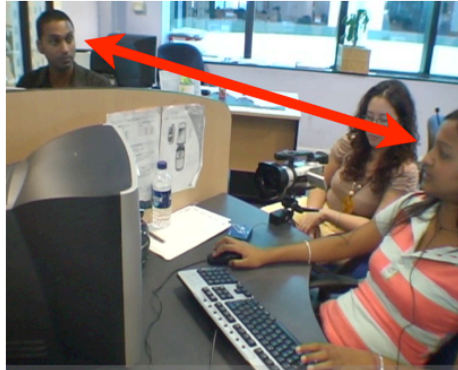


In this first extract, we see how her writing the message occurs simultaneously to her conversation on the phone with the prospective customer. She starts typing the message as she gives the reason for the call, after the opening sequence. The symbols in the transcript are meant to restore the fine temporality between her talk and her keyboard actions visible on the screen. But even if we do not get into detail in this very fine coordination, it is possible to see that these two independent activities are managed simultaneously. She starts typing at line 22, in the “comments” zone on her screen. The comments zone is situated on the right part of the screen and is where agents are expected to type in the personal information of the customer. The agent then selects the text (line 29) she has just written, cuts (line 30) and pastes the text in the chat window (lines 32) after having selected the addressee (line 31) and sends the message. She has typed the message while presenting the reason for the call to the customer (till line 27), and makes the other actions while the latter is responding. The transcript of the customer’s turn has not been transcribed here so that the analysis can focus on the agent’s text chat actions.

By examining the parallel actions achieved by the agent in the set of data, we can observe a difference in the coordination of the simultaneous actions of talking and typing. It is one thing to type in customer information on the computer while talking to the customer, as both actions are tied to the call management activity. It is another thing to write a message, like the one the call center agent types, from lines 22-34. Managing the text chat appears here as a completely separate and independent activity from the call management, and there is no apparent “coordination” work between the two courses of action. The talk and the text chat do not only rely on two different modes of communication, they also have two different addressees and participation frameworks, different topics, different statuses in terms of talk as work, which seem hardly linked to each other.

21. Sup

#((turns his
head)).....#



22. CCA

***cinq* heures la prière taleur.#**
five o'clock the religious ceremony later
((turns back to the screen))

23. Sup

**((turns back his head and nods slowly
5 times))**

24. CCA

**((qualifies the call, clicks to dial
next call))**

25.

The agent starts writing line 15, when sequentially in the conversation, she has finished giving the reason for the call and initiates the question. The question “I hope that this pleases you?”, that she repeats at each and every call, projects the customer’s answer. However, the customer is not interested and hangs up. The message that appears on the screen is “je pourai partir tale”, that can be translated as “may I go later”, a question that she does not finish typing. She does not need to. The call having abruptly ended, the agent is no more engaged in the telephone conversation. She is therefore available for other types of verbal interaction.

She interrupts her writing line 18, quickly lifts her mike which makes visible her disengaging from the phoning activity, and summons her supervisor by calling him by name (line 20). As the supervisor turns his head and looks at her (before being summoned, he was looking at his screen, line 18), she produces her request verbally. She then quickly orients back to her screen and completes the call management actions on her screen, lines 24 and 25. These rapid successive actions make clearly visible for analysis that call management cannot be reduced to talking: even though the phone conversation has ended at line 17, the call needs to be qualified¹ before another call can be made. Analyzing the “call” based on video

¹ These data are used to generate statistics about performance rate

recordings allows a revisiting of the boundaries of a telephone call, and to examine the place of computer technology in managing it from a global perspective.

Most importantly concerning multiactivity, this extract allows an analysis of the artful management and the fine coordination between multiple layers of activity, and the different modes of interaction that are mobilized to support their achievement. The use of text chat appears as being situated and contextual. Since the supervisor is next to her, she can see that he is not interactionally engaged, and being given that her phone conversation has ended, she is available and can engage in a face-to-face interaction. The agent addresses her supervisor, and produces her request verbally. This confirms the use of quasi-synchronous digital writing, whether text chat or Instant Messaging, as characterized by the “media substitution effect” [11], where writing of short messages replaces other forms of communication. We see in the extract above that text chat or talk are used interchangeably, in a situated and contextual way, depending on the contingencies. Analyzing the work activity implies to take into consideration not only the talk as work, but also the praxeological, spatial and material environment of the call centre agent.

In these two extracts, we have examined two “outgoing” text chat messages, where the agent being observed writes and sends messages to a specific addressee who is seated next to her. Though we have been able to examine the agent’s multiple streams of activity, her use of text chat did not allow a questioning of, what we may call, the intrusiveness of text chat, and of the potential problems of having to manage several courses of action at the same time.

Extract 3a

```
70.   Pro   a↑11ô  
      hello  
71.   CCA   (3.0)  
72.   Pro   a:↑11ô:  
      hello  
73.   CCA   (( ))  
74.           oui: bonjou:r, mada↑me savo::che↑  
      yes good morning, mrs savoche
```

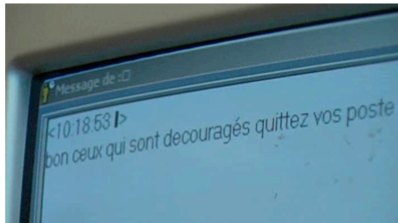
What is of interest in this short transcript is the interactional disruption at the beginning of the call. Contrary to the first two examples above where the agent’s multiactivity remained transparent in the phone conversation, there is a disruption that occurs here, which is oriented to by the prospective customer. The customer answers the phone with a first “hello” (line 70). Line 72, she produces a second “hello” with a rising intonation. In between the two, there is a silence, which lasts 3 seconds. The call center agent starts talking at line 74. This disruption may be considered as a minor one, probably perceived as a simple communication prob-

lem by the customer, who has only access to the audio resources in the conversation. The transcript in Extract 3a adopts this phone conversation perspective.

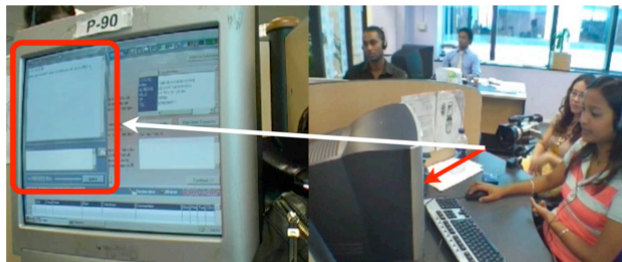
However through a multimodal analysis of the whole situation of work, it is possible to see that what is actually accomplished – both on the screen in the spatial work environment of the floor – in parallel of this interactional disruption, is actually rich and complex. Below is the multimodal transcript of the video recording of the same extract.

Extract 3b

67. → ((call dialing screen))
((Message pops up))



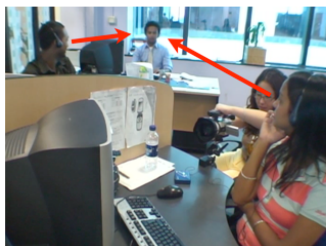
68. CCA (3.0) ((looks at the screen))



69. → ((customer record page appears))

70. Pro a↑11ô
hello

71. CCA (3.0) ((turns her head,
maintains gaze towards floor leader))



72. Pro a:↑11ô: =
hello

73. CCA = ((orients back to her screen)) =

74. = ((lowers her mike))
oui: bonjou:r, mada↑me savo::che↑
yes good morning, mrs savoche

The message has been sent by the floor leader in a go to all the workers present on the floor. The message examined here is the third message in a collection of eight, that the floor leader sends successively in a few minutes' time. The message, which pops up at line 67, is "well, those who are discouraged, leave your position". The analysis will focus on the orientation of the call center agent to this message in particular.

When the customer hangs up, line 69 (the customer record page appears when communication is put through), and produces the first "hello", line 70, the agent is reading the message (lines 68-71). Line 71, she turns her head towards the floor leader, the sender of the message. What is heard as a "silence" in the conversation corresponds to her action of gazing at the floor leader, which lasts 3 seconds. The agent orients back to her screen after the customer has produced a second "hello". Contrary to the first, which was an answer, this second "hello" constitutes a summons, which strongly projects an answer from the caller. It is produced line 74, and the prospective customer can hear "yes good morning mrs savoche". Apart from the fact that this first turn accomplishes three conversational actions – i) the answer to the summons ("yes"), ii) a greeting ("good morning") and iii) a confirmation of the identity of the called ("mrs savoche"² with a rising intonation) – what is of interest is the set of non-conversational actions accomplished as part of "the answer".

Lines 73-74, three actions quickly follow each other. Line 73, she orients back to her screen and quickly reads the customer's name on the record page, which she enunciates ("mrs savoche"). Line 74, the agent lowers her mike, activating it. So far, the agent could hear the customer but the customer could not hear the agent. This characteristic is specific to call center interactions and the type of mediated communication that is made possible in this technologically-equipped workplace. By her practical action of lowering her mike, she makes visible for analysis that she is engaging in the phone conversation. She produces her first turn almost at the same time.

By the agent's orientation of gazing at the floor leader, and by the supervisor's same orientation, it appears that it is less the moment at which the message pops up, than its content, which is oriented to. Whereas the two previous messages did not produce any disruption in her ongoing phone conversation, this particular mes-

² The participants' or customers' names are fake, to ensure their anonymity.

sage appears as being problematic since it prevents her from managing the beginning of the call. By analyzing the multiactivity, this extract allows a quick insight into the contextual use of this digital mode of managerial communication, and allows a first questioning of the intrusiveness issue, which needs to be developed elsewhere.

Conclusion

By examining the use of text chat as a specific form of talk as work, and looking at the screen activity as part of the call management, this chapter has shown how multiactivity is achieved in this call center. Focusing on aspects of multimodal interaction – whether mediated communication or gestures and bodily conduct – analysis has shown that in this “open space” workplace, characterized by co-presence, text chat cannot be analyzed as an independent and isolated form of communication. The additional interaction it permits needs, examined in a situated and contextual way, reveals that the efficiency of this communicative tool is highly contextual. Whether this interactional equipment is to be considered as useful for collaboration or disruptively intrusive depends on the situated use that is made. The approach of this chapter has been to understand as precisely as possible this actual use: the type of collaboration that it makes possible and what is meant by “collaborating through text chat”. Analyzing text chat as part of multiactivity has allowed an understanding of the medium, as well as of the ordinary communication practices it affords. Through the type of analysis presented in this chapter, it is possible to grasp how work practices in this setting is currently organized with respect to text chat, with a view to considering opportunities and implications for other mediated-communication technologies.

It is interesting to observe the artful management of this mode of communication together with other courses of action in call centers, these “communication factories”. What is known as a call center will evolve into what has started to be known as a contact center. Today, customers contact companies by calling, emailing, chatting online, visiting websites, faxing, and even by instant messaging. The fine knowledge of how call center personnel manage different streams of activity and participation frameworks, and make use of digital writing as mediated forms of communication may be helpful to accompany the “next step”. It is recognized that systems will become increasingly concerned with supporting collaborative and organizational, rather than individual, conduct. Call / contact centers are no exception. A fine understanding of collaborative work, distributed teams, use of technology can be useful to designing technology-mediated services, or new forms of distant collaboration like homeshoring.

Index of abbreviations and transcript symbols

CCA	Call centre agent
Sup	Supervisor
Pro	Prospective Customer
(())	Description of non-verbal actions
* #	Delimitates agent's actions description
.....	Continuing gesture or action
↑	Rising inflection
?	Moderate rising inflection
,	Continuing intonation
.	Stopping fall in tone
:	Extension of sound or syllable
(3.0)	Pauses or silences in seconds
=	Latching or rapid successive actions
-	Interruption
•hhh	Audible out breath

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