The External Value of Internal Employee Responsiveness: Evidence from the Field[*]

Wei Cai
Columbia Business School
wc2419@gsb.columbia.edu

Dennis Campbell
Harvard Business School
dcampbell@hbs.edu

Jiehang Yu
Columbia Business School
jyu29@gsb.columbia.edu

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Abstract

Internal coordination patterns among employees are often externally visible and may serve as signals of quality enabling the formation of trust between the firm and its external stakeholders. We focus on inter-employee responsiveness, or the responsiveness of employees to each other, as a particularly important, quantifiable, and objective aspect of internal coordination. Leveraging proprietary data from one company with exogenous assignment of employees to teams that serve individual customers, we examine the effect of inter-employee responsiveness on customer trust. Each customer is served in an app-based group chat by a randomly assigned team of employees, and our data contains more than 2 million group chat messages with over 16 thousand customers. We find that inter-employee responsiveness serves as a credible signal in gaining customers' trust as evidenced by their future contracting choices. The effect is more pronounced when the signals are 1) more frequent and 2) more intense. The results are robust to controlling various confounding factors and using alternative measures of customer trust. Our findings provide important implications for the value of internal employee responsiveness as a potential signal for building trust with external stakeholders.

Keywords: internal coordination; employee responsiveness; customer trust; signaling

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I. INTRODUCTION

Quality can often be difficult to observe ex-ante at the time of contracting between the firm and its external stakeholders, and studies have examined various mechanisms that help stakeholders learn imperfectly about quality including external rating systems, firm reputation, and repeated interactions (Reimers and Waldfogel 2021; Tang 2009; Aaker 2009; Chemmanur and Paeglis 2005; Israel 2005; Taylor and Plambeck 2007). However, the quality of a firm's output is often determined by internal coordination among employees (Holzhacker, Kramer, Matejka and Hoffmeister 2019), and there are many contexts in which important coordination patterns between employees are observable to outsiders. One important and quantifiable aspect of internal coordination, which we investigate in this paper, is *inter-employee responsiveness*, or how responsive employees are to each other.[1] We argue that inter-employee responsiveness can act as a costly signal revealing important information about unobserved quality, is hard to manipulate, and may affect external stakeholders' trust in the company.[2] Because quality is particularly important for customers' contracting choices with firms, we examine whether and under what conditions such inter-employee responsiveness affects customer trust.

Ex-ante, it is unclear whether inter-employee responsiveness may affect external stakeholders' trust in the company through signaling. On the one hand, responsiveness among

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[1] We focus on inter-employee responsiveness as it is an important determinant of quality in many contexts (Hernandez-Garcia, Acquila-Natale, Chaparro-Pelaez and Conde 2018). Moreover, it is quantifiable, relatively objective, and hence potentially observable by external stakeholders interacting with the firm.

[2] Trust refers to the willingness to be vulnerable to the actions of a trustee based on positive expectations of the actions of the trustee (Mayer, Davis and Schoorman 1995; Rousseau, Sitkin, Burt and Camerer 1998; Colquitt, Scott and LePine 2007).

employees may signal the level of cooperation, potentially reflecting the unobserved quality of the final output. Also, feigning fast responses is often not the first priority when the organization wants to send false signals, as there exist other methods that are more straightforward, such as making fake assertions to the customer or biased advertising. Therefore, the customer tends to consider the company as trustworthy when they observe that employees are responsive to each other.

On the other hand, inter-employee responsiveness may not be an effective signal due to the customer's inattention (Sims 2006). Specifically, customers may not pay attention to the signals available to them due to limited capacity in processing information. In addition, even when customers receive the signals, they might deem the signals to be only germane to internal management and thus irrelevant to their decisions. Therefore, inter-employee responsiveness might not always serve as a credible signal in gaining the customer's trust.

In this paper, we examine 1) whether inter-employee responsiveness serves as a credible signal in building trust with customers and 2) under what circumstances the signaling effect may be stronger. Noticeably, inter-employee responsiveness in our setting is ex-ante visible to the customer. Therefore, we study whether and how varying levels of responsiveness among employees may serve as a signal in building trust with the customer.

We use proprietary data from a decoration company, a B2C firm in the service industry. The company's business involves building new apartments and renovating old apartments for customers, with projects typically spanning two to three months. After a customer submits an inquiry online, a service agent will form a WeChat group for further discussions about the service.

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The WeChat group consists of the customer and several employees. The ultimate goal for these discussions is to encourage the customer to visit the company's physical store and finalize their commitment by signing a contract. Our research focuses on investigating whether inter-employee responsiveness in the WeChat group plays a crucial role in building customer trust, thereby increasing the probability of the customer proceeding to visit the store and sign a contract.

Our setting has the following advantages. First, employees are randomly assigned to each WeChat group, ensuring that the variation in team composition is plausibly exogenous and unrelated to unobservable characteristics. The company does not implement specific strategies to cultivate teams prior to the initiation of service. As a result, variations in inter-employee responsiveness may be attributed primarily to the differences in team composition, and thus are largely exogenous. We leverage this exogenous variation to examine the impact of inter-employee responsiveness on building customer trust through signaling.

Second, we obtain comprehensive data on the interactions between customers and employees. The data encompasses all online messages exchanged and the customers' basic information, enabling a more precise and tangible assessment of inter-employee responsiveness and the level of customer trust. Specifically, we measure employees' responsiveness through the time taken to reply to each other's messages. Customer trust is proxied by the customer's decision to visit the brick-and-mortar store. A visit to the store indicates the customer's trust in the organization and their consideration towards establishing a long-term, mutually beneficial relationship.

We first find that inter-employee responsiveness significantly improves customer trust. Customers who observe faster replies among employees in the WeChat group are more likely to visit the store. This finding indicates that responsiveness among employees is a credible signal in gaining customer trust. Moreover, the coefficient on inter-employee responsiveness has a larger magnitude than the coefficient on employees' responsiveness to the customer, suggesting that employees being responsive to each other serves as a more credible signal than employees being responsive to customers directly. We also find that the signaling effect is stronger when the signals are more frequent, measured by the number of employee-to-employee replies faster than the sample median, and when the signals are more intense, measured by the number of pairs of employees that interact with each other, the extent to which all employees equally participate in the conversations, and the extent to which all pairs of employees are equally responsive to each other.

We then conduct various robustness checks to test the validity of our results. First, we include additional controls to address potential confounding factors, including other dimensions of team dynamics, such as empathy, engagement, and politeness, customer characteristics and property heterogeneity, employees' prior connections, and the number of messages sent during non-work time. Adding these controls does not reduce the effect of inter-employee responsiveness. Second, we use alternative measures of customer trust, including how fast the customer decides to visit the store and whether the customer signs the contract after visiting the store. The results remain robust using these measures. Third, we include employee fixed effects to account for

employee heterogeneity. Fourth, to further validate our findings, we conduct a supplementary experiment via Amazon Mechanical Turk. The results reveal that participants who observed conversations characterized by higher levels of employee responsiveness reported more favorable evaluations of the perceived internal coordination among employees and trustworthiness of the company. Moreover, these participants were more inclined to express a preference for selecting this company as their service provider. Furthermore, customers whose WeChat groups are formed earlier may be mechanically more likely to visit the store because data after our one-year sample period is not available. In main tests we add month fixed effects to address this problem. To further mitigate this concern, we drop the customers whose WeChat groups were formed in the last two months of our sample period and re-run the regressions. The results remain consistent. In addition, we use the responsiveness among service agents instead of the responsiveness among all employees in the chat group since it is reasonable for designers to reply slowly, and the results remain consistent. Moreover, we also add city × month fixed effects to address the impact of COVID-19 and find robust results.

Taken together, our findings point out that inter-employee responsiveness serves as a credible signal in gaining customers' trust in the company, and that such effects are larger when the signals are stronger.

Our study contributes to the existing literature in the following ways. First, we contribute to the literature on the importance of internal coordination among employees. Prior studies establish the value of coordination in various settings. For example, Kosfeld and Von Siemens

(2011) analytically show that cooperative employees self-select into firms with a more cooperative culture, and that these firms make higher profits than those employing selfish employees. Holzhacker, Kramer, Matejka and Hoffmeister (2019) document that coordination among business unit managers reduces excess labor costs and increases efficiency. Ke, Li, Ling and Zhang (2019) find that top management team's coordination measured by social connections is associated with higher management forecast accuracy. However, the role of inter-employee coordination as an external signal is scantly studied. We therefore extend the management accounting literature on inter-employee coordination by investigating its impact on external stakeholders' trust in the company through signaling.

Second, we contribute to the literature on how external stakeholders could learn about the firm's quality and develop trust in the firm. Before forming contracts, external stakeholders are often unable to directly observe a firm's quality. However, there are a few strategies through which they can indirectly gauge this quality to some extent, such as leveraging external ratings, evaluating the firm's reputation, or considering the history of past interactions with the firm. For example, Reimers and Waldfogel (2021) find that Amazon ratings affect customer purchase decisions. Israel (2005) illustrates how customers learn about the quality of the insurance firm through repeated interactions. Chemmanur and Paeglis (2005) find that investors may infer a new firm's quality from its management's reputation. Erdem and Swait (2001) demonstrate that firms may use brand equity to signal product positions credibly when customers are uncertain about

product quality. This paper contributes by pointing out that how employees interact with each other can also serve as a credible signal in gaining customer trust.

Moreover, while the study is based on data from a single company in a unique setting, our findings have broader applicability. Beyond the context of online service inquiries, the results could extend to other environments where multiple employees engage with the same customer, supplier, or other external stakeholders. In many service industries including consulting, banking, hospitality, lodging, restaurant, tourism and travel, inter-employee responsiveness is oftentimes observable to customers. The way waitstaff interact with each other in a restaurant can shape customers' perceptions of the restaurant. Similarly, passengers may infer an airline company's quality based on the inter-employee responsiveness displayed by flight attendants during a flight. Besides customers, auditors or regulatory officials may also work with teams of employees to assess certain firm quality. More importantly, there is an emerging trend where new technologies are rendering internal employee interactions increasingly transparent to external stakeholders, such as emails, Zoom meetings, WhatsApp Business App, etc. For instance, external stakeholders might observe employees' email interactions and infer the company's quality and reliability based on employees' responsiveness to each other and other factors including the tone, language, or efficiency of their communication. As a result, employee interactions are no longer just internal processes but can directly impact a company's reputation and relationships with clients, suppliers, or regulators.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Importance of Customer Trust

The psychological and management literature defines trust as the willingness to be vulnerable to the actions of a trustee based on positive expectations of the actions of the trustee (Mayer, Davis and Schoorman 1995; Rousseau, Sitkin, Burt and Camerer 1998; Colquitt, Scott and LePine 2007). The definition centers around two primary components: the intention to accept vulnerability and positive expectations. In economics, trust is calculative. It refers to the subjective probability with which an agent assesses that another agent or group will perform a specific action (Gambetta, 2000). Trust implies that the perceived probability of a beneficial or non-detrimental action is sufficiently high to warrant cooperation (Gambetta, 2000). Recent game-theoretic analyses of economic organization frequently incorporate trust, particularly in sequential, repeated games (Kreps, 1990). Dasgupta (2000) further highlights that trust involves the expectations about the actions of other people that have a bearing on one's own choice of action when that action must be chosen before one can monitor the actions of others.[3]

In particular, customer trust refers to the customer's subjective belief that the selling party will fulfill its transactional obligations as the customer understands them (Kim, Ferrin and Rao 2009). Trust directly and indirectly affects a customer's purchase decision in combination with perceived risk and perceived benefit, and trust has a long-term impact on customer loyalty through satisfaction (Kim, Ferrin and Rao 2009). From an economic perspective, the quality of the product

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[3] Both economics and psychological literature on the conceptualization of trust mention "positive expectations of the other party's action", which is the key to the formation of trust. In this context, customers trust the company because they believe that the company will perform in a certain way that is beneficial to the customer, which parallels perceived quality, or perceived competence of the firm.

is unknown to the customer ex-ante, and such information asymmetry will lead to poor welfare outcomes for both the customer and the company through adverse selection (Akerlof 1970). In such a market for the "lemons", customers' trust in the company can serve as a social remedy for adverse selection and improve total welfare (Reuer and Ragozzino 2008).

Customer trust is especially important in the service industry due to the inherent intangibility of service products (Kotler and Connor 1977). Unlike a physical product, a service product cannot be touched or viewed before it is bought (Parasuraman, Zeithaml and Berry 1985; Lovelock 1983). Customers tend to view services as risky products with higher quality uncertainty than physical products (Murray and Schlacter 1990). Thus, customers' trust that the company will provide sufficiently desirable services is crucial to the company's success. Therefore, we focus on customer trust when examining external stakeholders' trust in the company.

In the primary exchange between the customer and the company—namely, the customer's decision to engage in a transaction—customer trust is demonstrated through actions such as visiting the store and signing a contract. It is important to recognize that before visiting the store, the customer does not have certainty about the company's reliability. There is a possibility that the company may be unreliable, resulting in the customer potentially wasting time and money by visiting the company's brick-and-mortar location. Despite this risk, the customer chooses to visit, indicating a willingness to be vulnerable to these potential costs based on a positive expectation that the company will honor its commitments. In other words, customer trust can be inferred from the customer's decision to visit the store. Similarly, when a customer signs a contract, the

decoration service has not yet been provided. There is a potential moral hazard where the company might simply take the payment and deliver poor-quality service. Despite this risk, the customer chooses to sign the contract, accepting the potential costs based on the belief that the company will perform in a manner that is beneficial and reliable.

Due to the considerable importance of customer trust, a large number of studies examine how to gain customer trust and suggest various factors affecting customer trust. For example, customer trust increases with repeated alliances with the same partner or a lengthened relationship between the customer and the service provider (Gulati 1995; Parkhe 1993; Gwinner, Gremler and Bitner 1998). Companies can also gain customer trust by investing in brand equity (Aaker 2009). Brand building provides credible signals, through a great amount of sunk costs such as advertising costs, that the company is a trustworthy partner in a long-term repeated game, because a one-time profit from cheating is far less to cover all the sunk costs (Erdem and Swait 2001; Erdem, Keane and Sun 2008). Another way to gain customer trust is through certain desired salesperson's characteristics, such as competence, empathy, politeness, promptness, and perceived similarity (Moorman, Deshpandé and Zaltman 1993; Coulter and Coulter 2002).

2.2 The Signaling Effect of Inter-Employee Responsiveness on Customer Trust

Prior economics literature has demonstrated that all signals function through a correlation between cost and quality (Spence 1976). In other words, the cost to send the signal must have an inverse relationship with the quality of the sender. Credible signals must be observable and costly to imitate rather than purely cosmetic techniques, and the market is not easily fooled by weak

signals (Leland and Pyle 1977; Cohen and Dean 2005; Allen and Faulhaber 1989). In addition, credible signals should also be correlated with the unobserved quality. A discrepancy between the signal and the unobserved quality will lead to poor outcomes (Zhang and Wiersema 2009). In short, the credibility of a signal depends on the extent to which the signal corresponds with the sought-after quality of the signaler, i.e., signal fit, and the extent to which signalers attempt to deceive, i.e., average honesty.

Inter-employee responsiveness encapsulates these characteristics effectively. Regarding signal fit, organizations where employees are responsive to each other tend to operate more efficiently and exhibit stronger cooperation, indicating a higher likelihood of meeting customers' expectations and delivering the promised products or services. In terms of honesty, for companies intending to deceive the customer, feigning fast replies among employees is usually not the first priority and may often be neglected. Manipulating the direct interaction with the customer, such as making fake assertions, biased advertising, and prompt replies, is usually more straightforward compared with manipulating the interaction among employees.

Inter-employee responsiveness thus may enhance customer trust by serving as a credible signal of the company's quality. This internal responsiveness reflects a genuine investment in coordination that benefits the customer experience. When employees consistently respond to each other promptly and effectively, it may demonstrate smooth internal operations, which may reassure customers that the company is reliable and of high-quality, thus increasing customer confidence that they are dealing with a competent and trustworthy firm.

We therefore hypothesize:

H1: Inter-employee responsiveness increases customer trust.

III. RESEARCH SETTING AND DATA

3.1 Research Setting

The research site for this setting is a decoration company operating in China. The company builds new apartments and renovates old apartments for customers. Its business spans the six biggest cities in China.

Most of the company's customers learn about the company via social media platforms, search engines, or offline advertisements, all of which have links or QR codes linked to the company's official website. To order a service, the customer clicks the link and types in his/her phone number, and a service agent will offer to form a WeChat group for further discussions about the service. The members in the WeChat group are the customer and multiple employees, including several service agents and designers. In our sample, there are 446 employees: 275 of them are designers and 171 of them are service agents. A typical group has three employees: two service agents and one designer.

In the WeChat group, the employees will introduce the company's general information and the details of the decoration or renovation service, including but not restricted to the preliminary design drawing of the house, the materials and time needed for each process, and the prices. The employees will also answer whatever questions the customer raises. All conversations between the customer and employees are visible to the customer and all employees in the WeChat group.

Conversations outside the WeChat group are unlikely as the customer generally does not possess employees' personal contacts. If the customer is willing to place an order, he/she will visit the company's brick-and-mortar store in his/her city, where he/she will be received by the sales agents there, touch and feel some materials, and consult more details about the service. After visiting the store, the customer may still spend several days considering whether to sign the contract or not. Real construction work begins after the customer eventually signs the contract. The detailed pre-construction process is illustrated in Appendix B. The desired outcome is that the customer visits the store and signs the contract.

Another small proportion of customers directly go to the company's offline stores and decide whether to sign the contract or not before contacting any service agents online to consult about the services. Those customers are not included in our sample.

To further illustrate how the WeChat group works, Appendix C presents some examples of the interfaces of the WeChat group. The green messages are from the customer and the white messages are from the employees. The messages are translated from Chinese to English with private personal information de-identified.

According to the company, employees are randomly assigned to each WeChat group by an online algorithm.[4] This setting allows us to rule out potential confounding factors that would affect both inter-employee responsiveness and customer trust, such as individual employees' personality, ability, etc.

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[4] According to the company, the primary factor that the online algorithm incorporates is employees' availability.

3.2 Data and Measure

We obtain proprietary data from the company about the messages in the WeChat groups, including the message content, the message time, and whether the sender is an employee or the customer. We also obtain data on each customer, including the time when the WeChat group is formed, whether and when the customer visits the offline store, whether and when the customer signs the contract, the size of the house to be decorated, and the city where the house is located. The sample period is from February 2020 to December 2020. Our sample includes 16476 customer-level observations. Each customer has only one WeChat group, and each WeChat group serves only one customer. We measure customer trust mainly by whether the customer visits the store.

3.3 Descriptive Statistics

Table 1 presents the descriptive statistics of the variables defined in Appendix A. An average WeChat group has 50 messages and 3 employees. An average text message has about 20 Chinese characters. 15% of the messages are non-text messages, such as pictures, videos, link shares, etc. The median house size is 84 square meters. 28.2% of the customers eventually visit the store. The average number of days between the date when the WeChat group is formed and the date when the customer visits the store is 9 days. The correlations of the variables defined in Appendix A are presented in OA.1 of the online appendix. The results indicate that inter-employee responsiveness is positively associated with the probability that the customer will eventually visit the store.

IV. EMPIRICAL RESULTS

4.1 Effect of Inter-Employee Responsiveness on Customer Trust

To test H1, we examine the effect of inter-employee responsiveness on the probability that the customer will visit the store by estimating the following equation using the logit model:[5]

$$Visit_i=\alpha+\beta\times Reply\ employee\ time_i+Controls_i+Month\ fixed\ effects+City\ fixed\ effects+\varepsilon_i \quad (1)$$

where $Visit_i$ is an indicator variable equal to 1 if the customer visits the store and 0 otherwise. *Reply employee time$_i$* is the natural log of one plus the average number of hours taken for an employee to reply to another employee before the customer visits the store.[6] *Controls$_i$* include the natural log of one plus the average number of hours taken for an employee to reply to the customer before the customer visits the store (*Reply customer time$_i$*), the number of employees in the WeChat group (*# Employees$_i$*), the natural log of the number of messages in the WeChat group (*# Messages$_i$*), and the size of the house to be decorated measured in square meters (*House size$_i$*), percent of non-text messages in the WeChat group (*% Non-text messages$_i$*), and the average length, measured by the number of Chinese characters, of a text message (*Message length$_i$*).[7] Month fixed effects are dummies for the month when the WeChat group is formed, and city fixed effects are dummies for

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[5] The results remain consistent if we use the OLS model.

[6] The results are consistent if we only use the reply time among service agents, since it is reasonable for the designer to reply more slowly.

[7] One Chinese character can be viewed as equivalent to 3 to 4 Latin letters, as one Chinese character occupies 3 to 4 bytes of storage space in the UTF-8 encoding scheme, while one Latin letter occupies 1 byte of storage space in UTF-8.

the cities where the customer's house is located.[8,9,10] Moreover, since one city has only one or two stores, city fixed effects are generally equivalent to store fixed effects. ε_i represents standard errors clustered at the city level.[11,12]

We control *Reply customer time* to mitigate the concern that inter-employee responsiveness only reflects the average responsiveness in the WeChat group. Ex-ante, it is unclear whether inter-employee responsiveness or employees' direct responsiveness to the customer has a greater impact on the customer's decision. On one hand, one might expect direct responsiveness to have a stronger effect, as interactions with the customer are typically viewed as the most immediate factor influencing customer satisfaction. On the other hand, inter-employee responsiveness aligns more with the signaling channel. Direct interactions can be easily manipulated to send fake signals. In contrast, maintaining responsiveness among employees is more easily neglected and thus more costly, making it a more credible signal of the company's quality.

The variable of interest is *Reply employee time$_i$*. Since reply time mechanically has an inverse relationship with responsiveness, we expect to see a significantly negative *β*.

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[8] The results are consistent if we use city×month fixed effects.

[9] To further mitigate the concern that customers whose WeChat groups are formed in early 2020 are more likely to visit the store because the sample period ends in Dec 2020, in untabulated tests, we exclude the customers whose WeChat groups are formed in November and December and re-run the tests. The results are still consistent.

[10] We include city fixed effects to account for city-level heterogeneity. For example, in big cities people may have a more fast-paced lifestyle, so their response time on WeChat is generally shorter, and the demand for renovating apartments may also be larger in big cities, so customers in big cities may be more likely to visit the store, thus biasing the estimated coefficient. The city fixed effects also partially account for customer heterogeneity, as Talhelm, Zhang, Oishi, Shimin, Duan, Lan and Kitayama (2014) find that people in "rice-growing" culture (i.e., southern part of China) and those in "wheat-growing" culture (i.e., northern part of China) have different social preferences for collaboration, and thus may respond differently after observing inter-employee responsiveness.

[11] The results are robust when standard errors are clustered at the customer level.

[12] We winsorize *Reply employee time* and *Reply customer time* at the 5th and 95th percentile. The results are consistent if we do not winsorize them.

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The results are reported in column 1 of Table 2. The coefficient of *Reply employee time* is significantly negative, showing that the customer is more likely to visit the store when the employees are more responsive to each other. In terms of the economic magnitude, if the average reply time between employees is halved, the customer's visit probability will increase by 13.5% (calculated as $e^{-0.183 \times \ln(0.5)} - 1$). Figure 1a reports the margins plot corresponding to column 1 of Table 2, which shows the effect of inter-employee responsiveness on the customer's visit decision. The control variables are set at their means.

Noticeably, the magnitude of the coefficient on *Reply employee time* is over twice as large as the magnitude of the coefficient on *Reply customer time*. This shows that responsiveness among employees is more important to customer decision-making than responsiveness to the customer. This is consistent with the proposed signaling channel. For an organization to send signals to prove its credibility to the customer, manipulating its direct interaction with the customer is often among the top priorities when the company wants to send fake signals, because it is widely acknowledged that certain desired characteristics of the sales persons such as promptness, politeness and empathy are beneficial in the selling process (Coulter and Coulter 2002). On the other hand, responsiveness among employees may not always be emphasized because its relationship with customer trust seems rather indirect. Therefore, it is more costly to maintain responsiveness among employees as it might often be neglected. Since all signals function through the inverse relationship between

quality and signal cost, responsiveness among employees might be a more credible signal in gaining customer trust than employees' direct interaction with the customer.[13]

4.2 Additional Control Variables

4.2.1 Team Dynamics

Inter-employee responsiveness is only one dimension of how employees interact with each other, which we refer to as team dynamics. Customers may also value employees' other characteristics, such as empathy, politeness, engagement, etc. (Coulter and Coulter 2002). We develop text-based measures for these variables. OA.2 in the online appendix describes the construction of these control variables in detail.

In column 2 of Table 2, we control the *Empathy score*, *Politeness score*, and *Engaging score*. The coefficient of *Reply employee time* is still significantly negative. The results also show that employees' empathy, politeness and engagement are significantly positively related to the customer's visit decision. Taken together, the results imply that inter-employee responsiveness provides an incremental contribution to the customer's visit decision in addition to other dimensions of team dynamics.

4.2.2 Team Composition

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[13] In untabulated analysis, we also compare the strength of the effects of inter-employee responsiveness with other factors. Specifically, for column 1 of Table 2, we standardize all independent variables and re-estimate the equation. The results suggest that inter-employee responsiveness has a larger effect on customer trust than the percent of non-word messages and the number of messages, indicating that inter-employee responsiveness might be an important factor affecting customer trust.

In this section, we explore the confounding effects arising from team composition, i.e., the combination of employees in the team, including employee gender diversity and employees' prior connection. First, employee gender might be a factor affecting both sales behaviors and customers' visit decisions (Siguaw and Honeycutt 1995; Levy and Sharma 1994; Piercy, Cravens and Lane 2001). To mitigate this omitted variable concern, we calculate the percent of female employees in the WeChat group (*% Female employees*).[14]

Another confounding factor is employees' prior connections. Employees who have collaborated before are more likely to cooperate closely and generate desirable team outcomes through rapport. However, if inter-employee responsiveness solely represents their prior connections, the findings would be inconsistent with the signaling hypothesis, since prior connections are unobservable to the customer. To mitigate this concern, we control employees' prior connections with each other and examine whether inter-employee responsiveness has additional explanatory power to customer trust. We first calculate the average number of prior connections an employee has with other employees in the WeChat group (*Prior connections*). Specifically, an employee is considered to have a prior connection with another employee if they served at least one common customer before this customer in this year.

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[14] Since we do not have direct gender data on employees, we predict their probability of being a female based on their names using the ngender package. Ngender is a python package used to predict gender of Chinese names with 82% accuracy. In a typical WeChat group, 47% of the employees are female. https://github.com/observerss/ngender

In column 3 of Table 2, we control *% Female employees* and *Prior connections*.[15] Consistent with our expectations, employees' prior connections with each other contribute to customers' visit rate. Also, employee gender diversity does not seem to have a significant impact on customers' visit decisions. In addition, the effect of inter-employee responsiveness remains significant, suggesting that inter-employee responsiveness does not solely represent employees' prior connections but also has an incremental impact.

4.2.3 Customer-Related Heterogeneity

In this section, we address the confounding factors arising from the heterogeneity of different customers, including the customer's personality (i.e., eagerness, hesitation and doubt), as well as the unique characteristics of the property.

First, the customers who are naturally more hesitant and doubtful than others might be less likely to visit the store. Moreover, their hesitation and doubt might discourage the employees from working hard and replying promptly. We account for the customer's hesitation and doubt using text-based measures of *Hesitation score* and *Doubt score*. OA.2 in the online appendix describes the construction of these control variables in detail.

Second, contrary to hesitation and doubt, another type of customers tends to be more eager than others. An alternative explanation to our finding is reverse causality: customers who are eager to buy the service push employees harder and increase the overall responsiveness in the WeChat

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[15] We do not control *Prior connections* in the main tests because the available sample period is one year and employees' connections established before the start of the sample period cannot be accounted for. In other words, *Prior connections* is a partial reflection of employee connection.

group. To address this concern, we measure customers' eagerness with their responsiveness to the employees, *Customer-to-employee time*, and the sentiment of their replies to the employees, *Customer-to-employee sentiment*. To measure *Customer-to-employee sentiment*, we perform sentiment analysis on all customer-to-employee text messages in the chat group before the customer visits the store. Specifically, we first categorize each employee message as positive, neutral or negative and label it as +1, 0 or -1 using the bidirectional LSTM model with a CRF layer (Huang, Xu and Yu 2015). For each WeChat group, *Customer-to-employee sentiment* is the mean of the sentiment of all messages sent by employees before the customer visits the store.

Third, it is also possible that the customer's property is different from others', which affects both the time needed for employees to reply to each other and the customer's visiting decision. To account for the non-standard characteristics of the property, we derive similar text-based measures of *Non-Standard Score.* OA.2 in the online appendix describes its construction in detail.

In column 4 of Table 2, we control these customer and property characteristics. The coefficient of *Reply employee time* is still significantly negative, suggesting that the effect of inter-employee responsiveness is not driven by customer-related heterogeneity.

4.2.4 Other Controls

Another confounding factor of our findings might be the percent of messages sent during non-worktime (*% Non-worktime messages*). However, it is hard to sign its effect, as some customers might feel disturbed if they receive messages during non-worktime, while other customers might consider the employees as hard-working if they receive messages during non-

worktime. Moreover, since the customer might also have a full-time job, and the conversations generally happen when the customer is free from work and the employees are at work, it is hard to define "work time" as we do not have information on each customer's work time. Still, we try to mitigate the confounding effects of the percent of messages sent during non-worktime by defining *% Non-worktime messages* as the percent of messages sent on weekends or sent from 8 pm to 8 am during weekdays and include it as an additional control.

The results are presented in column 5 of Table 2. Controlling *% Non-worktime messages* does not reduce the effect of inter-employee responsiveness on customer trust. Moreover, the coefficient on *% Non-worktime messages* is significantly positive, which might suggest that customers generally view employees as hard-working if they send messages during non-worktime.

In column 6 of Table 2, we include all control variables together. The coefficient of *Reply employee time* is still significantly negative. Taken together, the results imply that the customer is more likely to form a business relationship with the company if he/she observes that employees are responsive to each other in the company.[16]

4.3 Cross-Sectional Effect on Signal Frequency

We then turn to examine the cross-sectional effect on signal frequency, i.e., whether the signal is sent repeatedly, by estimating the following equation using the logit model:

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[16] Noticeably, inter-employee responsiveness exhibits stronger explanatory powers than other controls derived from textual analysis. The stronger explanatory power of inter-employee responsiveness may arise from both how it is measured and how customers perceive it. Reply time is a clear, objective metric with little ambiguity, making it a relatively noise-free measure for scholars evaluating inter-employee interactions and for customers inferring potential service quality. In contrast, factors like politeness or engagement are subject to individual customer interpretation, leading to varying preferences.

$$Visit_i = \alpha + \beta_1 \times Reply\ employee\ time_i \times Repeated\ signal_i + \beta_2 \times Reply\ employee\ time_i$$

$$+\beta_3 \times Repeated\ signal_i + Controls_i + Month\ fixed\ effects + City\ fixed\ effects + \varepsilon_i \quad (2)$$

where *Repeated signal*$_i$ is natural log of one plus the number of employee-to-employee replies within 7.5 minutes.[17] We use 7.5 minutes as the cutoff as it is the sample median of *Reply employee time*. We also include the same set of controls and fixed effects as equation (1) and cluster standard errors at the city level. We expect β_1 to be significantly negative to show that the signaling effect is stronger when the signals are sent repeatedly.

The results are reported in Table 3. In all columns, the coefficients on *Reply employee time × Repeated signal* are significantly negative, suggesting that the signaling effect of inter-employee responsiveness on gaining customer trust is larger for repeated signals. Taken together, the results imply a positive cross-sectional effect on signal frequency.[18]

4.4 Cross-Sectional Effect on Signal Intensity

In this section, we investigate the cross-sectional effect on signal intensity. We use three measures for signal intensity. First, we define a conversation (two consecutive messages from two different senders) to belong to a pair of employees, say A and B, if one of the messages is sent by A and the other is sent by B.[19] We then find how many pairs of conversations there are in the

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[17] The results are consistent if we use *Long conversation* (i.e., an indicator variable equal to 1 if the number of messages in the WeChat group is larger than the sample median), as a proxy for repeated signal. The results are also consistent if we control *Customer-to-employee time* and *Customer-to-employee sentiment* since longer conversations may indicate the customer's high interest in the service.

[18] The results remain consistent if we interact the cross-sectional variables with all control variables and fixed effects.

[19] If the messages sent by A and B are interrupted by the customer, we do not consider it to be a conversation between A and B. If the messages sent by A and B are interrupted by employee C, we consider it to be two conversations of AC and BC. BC and CB are equivalent, which means that who sends the message first does not matter. If there are

WeChat group. *Multiple pairs* is an indicator variable equal to 1 if the number of pairs of employee

conversations in the WeChat group is above the sample median (i.e., >2), and 0 otherwise. More

employees interacting closely with each other in the WeChat group reflects greater responsiveness.

Therefore, signal intensity is higher if *Multiple pairs* is equal to 1.

Second, it is possible that the conversations are dominated by certain pairs of employees.

Consider two WeChat groups where the number of pairs of conversations are both 3 (i.e., *Multiple*

pairs=1). In the first group, most conversations are between A and B, and only a few are between

A and C or B and C. However, in the second group, all three employees actively participate in the

WeChat group. In this situation, the second group has better internal coordination among

employees which is not captured by *Multiple pairs*. To solve this problem, we calculate the

Herfindahl–Hirschman index of the number of conversations from each pair of employees. Since

the Herfindahl–Hirschman index captures the extent of concentration in conversations, we define

one minus the Herfindahl–Hirschman index as *Pair diversity*, which captures the extent to which

all employees equally participate. Signal intensity is higher when *Pair diversity* is higher.

Third, the responsiveness in each pair of employees' conversations may also matter. If

employee A responds quickly to employee B but slowly to employee C, it may not indicate

desirable team dynamics and might even imply conflicts in the team. To solve this problem,

Consistent responsiveness is one minus the standard deviation of the average reply time of each

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three employees A, B and C in the WeChat group, there will be at most three pairs of conversations: AB, BC and AC.
The median WeChat group has 3 employees and 2 pairs of conversations.

pair of employees scaled to [0,1]. This measure captures the extent to which all pairs of employees are equally responsive to each other. Signal intensity is higher when *Consistent responsiveness* is higher.

We then estimate the following equation to examine the cross-sectional effect on signal intensity:

$$Visit_i = \alpha + \beta_1 \times Reply\ employee\ time_i \times Signal\ intensity_i + \beta_2 \times Reply\ employee\ time_i$$

$$+ \beta_3 \times Signal\ intensity_i + Controls_i + Month\ fixed\ effects + City\ fixed\ effects + \varepsilon_i \quad (3)$$

Where *Signal intensity* takes the value of *Multiple pairs*, *Pair diversity*, or *Consistent responsiveness*. We also include the same set of controls and fixed effects as equation (1) and cluster standard errors at the city level. We expect β_1 to be significantly negative to show that the signaling effect is increasing in signal intensity.

The results are reported in Table 4. Panel A (B, C) uses *Multiple pairs* (*Pair diversity*, *Consistent responsiveness*) as the proxy for signal intensity. In all columns of all panels, the estimated coefficients on *Reply employee time × Signal intensity* are significantly negative, suggesting that the signaling effect of inter-employee responsiveness on gaining customer trust is larger when signal intensity is higher. The results also imply that in order to attain good team dynamics, managers should encourage all employees to actively participate, rather than having some members dominating the coordination process.[20]

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[20] The results remain generally consistent if we interact the cross-sectional variables with all control variables and fixed effects.

V. ADDITIONAL TESTS

5.1 Additional Outcomes

As is illustrated in Appendix B, visiting the store is not the end of the sales process. Indeed, after visiting the store, customers often spend several days pondering over whether to sign the contract or not, as purchasing the decoration service often incurs a large amount of time and monetary cost and may not be decided hastily. Therefore, it is helpful to investigate how inter-employee responsiveness affects how fast customers decide to visit the store and the likelihood that they will sign the contract conditional on that they have visited the store. These outcomes also reflect the level of the customer's trust in the company.

5.1.1 How Fast Does the Customer Decide to Visit the Store?

We first investigate how inter-employee responsiveness affects how fast customers decide to visit the store. *Chat-to-visit days* is the number of days between the date when the WeChat group is formed and the date when the customer visits the store. A lower value of *Chat-to-visit days* means lower cost and a shorter operation cycle, which is more valuable for the company. The median customer spends 9 days to make the visit decision.

We repeat the tests in section 4.1 using *Chat-to-visit days* as the outcome and present the results in Table 5. Note that both *Chat-to-visit days* and *Reply employee time* are inversely related to their respective constructs, so we expect the coefficient of *Reply employee time* to be significantly positive. The positive coefficient indicates that when employees respond to each other faster, the customer also decides to visit the store faster. Specifically, if the average reply time

between employees is halved, the customer's *Chat-to-visit days* would be reduced by 0.54 days (calculated as $0.780 \times \ln 0.5$).

5.1.2 Does the Customer Sign the Contract After Visiting the Store?

A business relationship is not formed until the customer signs the contract. Therefore, we next investigate the impact of inter-employee responsiveness on the probability that the customer will sign the contract conditional on that they visit the store. *Sign* is an indicator variable equal to 1 if the customer signs the contract and 0 otherwise. In the sample, 2.7% of the customers sign the contract. Since the visit rate is 28%, less than 10% of the customers who visit the store would eventually sign the contract, indicating that the second sales period is also a competitive process that requires employees' great efforts.

We restrict our sample to the customers who visit the store and repeat the tests in section 4.1, using *Sign* as the outcome. We also drop the WeChat groups with no interaction between the customer and employees after the customer visits the store. The variables are updated to the period after the customer visits the store. The results are reported in Table 6. The results indicate that inter-employee responsiveness contributes to the probability that the customer will sign the contract, conditional on that they have visited the store. In terms of economic magnitude, if the average reply time between employees is halved, the customer's probability to sign the contract will increase by 10.34% (calculated as $e^{-0.142 \times \ln{(0.5)}} - 1$).

5.2 Employee Heterogeneity

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An alternative explanation for the effect of inter-employee responsiveness on customers'
visit decisions is that individual heterogeneity rather than employee interactions affects customer
trust. For example, a productive employee often responds to all messages promptly regardless of
his/her colleagues. It is possible that the average inter-employee responsiveness in the WeChat
group is solely determined by the number of productive employees in the team rather than how
they interact and collaborate with each other. Moreover, customers are found to value employees'
efficiency (Weitz 1981). Therefore, individual heterogeneity might affect responsiveness and
customer trust. Although the variation in team composition is plausibly exogenous due to the
random assignment of employees, to further verify our results, we add employee fixed effects and
repeat the tests in section 4.1. Adding these dummies accounts for not only employee productivity
but also any other time-invariant heterogenous employee characteristics, such as friendliness,
hospitality, capability, etc.

The results are reported in Table 7. The results indicate that, after accounting for employee
heterogeneity, inter-employee responsiveness still exerts a positive influence on customers' visit
decisions.[21]

5.3 Additional Evidence: Mturk Experiment

To collect additional evidence on the effect of inter-employee responsiveness on customer
trust, we implement a survey experiment on Mturk. In this experiment, we created hypothetical
interactions among employees, manipulating the levels of employees' responsiveness, politeness,

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[21] # Employees is not included in this model because it will be subsumed by employee fixed effects.

empathy, and engagement with each other to assess their effects. OA.3 in the online appendix reports the mock conversations where the employees are responsive (conversation 1), irresponsive (conversation 2), polite (conversation 3), impolite (conversation 4), empathetic (conversation 5), unempathetic (conversation 6), engaging (conversation 7), and unengaging (conversation 8).

We recruited participants from MTurk, an online platform providing a participant pool more representative of the general population than traditional lab experiments (Buhrmester, Kwang and Gosling 2011). Farrell, Grenier and Leiby (2017) also highlight the comparability of MTurk participants to traditional lab participants in performing various accounting tasks. Each participant received $0.5 for their participation in the study.

Participants are directed from MTurk to a Qualtrics survey. Participants are first provided with the background information and then randomly assigned to read one of the eight mock conversations. Following their assigned reading, participants are asked to evaluate the employees based on the specific trait relevant to their assigned conversation (responsiveness, politeness, empathy, engagement), as well as the perceived internal coordination among employees, the participants' willingness to purchase the company's service, and the participants' trust in the company. After that, we collect additional demographic information, including age, gender,

education level, income, and whether the participant has purchased a decoration service before or not. Online Appendix 3 reports all the questions in the survey.[22,23]

The selection criteria for participants include being US-based, having completed over 1000 MTurk tasks, and maintaining a minimum of 95% approval rating on their completed tasks.[24] We also drop the participants with duplicative IP addresses and participants who finish the whole survey in less than 2 minutes, which yields a sample of 317 participants.[25] In this sample, the median participant finishes the survey in 5.1 minutes. 75% of the participants are men. 72% of the participants are in the 25 – 34 age group, and 16% in the 35 - 44 age group. For household income, 56% of the participants are in the $50,000 - $99,999 group, 21% in the $25,000 - $49,999 group, and 16% in the $100,000 - $200,000 group. For education level, 66% of the participants hold a bachelor's degree and 27% of the participants hold a master's degree or higher. 85% of the participants have purchased a decoration service before.

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[22] We manipulate inter-employee responsiveness by varying the time between consecutive messages sent by different employees, setting the response time at either 1 minute (fast) or 1 day (slow). This choice was made to establish a clear distinction in response behavior. While a 5-minute delay may feel significant to customers, survey respondents only read about the delay and do not experience it firsthand, potentially diminishing their perception of the time difference. To account for this, we opted for a more pronounced contrast to better simulate the effects of prompt versus delayed responses on perceived responsiveness and trust.

[23] We recognize that question order can influence responses due to consistency motives and order effects. However, in our design, we chose to keep the questions in a fixed order to assess the cumulative impact of the initial perception (response time) on subsequent attitudes toward teamwork and trust. While this approach might introduce some bias, it aligns with our goal of understanding how initial impressions shape subsequent judgments in a sequential context, which is often how people form opinions in real-world scenarios. To mitigate potential order effects, we considered alternatives like randomizing question order or presenting each question on a separate screen. However, we prioritized maintaining a natural flow of questions to simulate a realistic decision-making process.

[24] The experiment was conducted with participants primarily based in the United States, while the main analysis focuses on a research site in China. Despite the geographic and cultural differences, the consistency in findings—where both the U.S.-based survey and the China-based field study show a positive association between inter-employee responsiveness and customer trust—strengthens the generalizability of this relationship across diverse contexts. This cross-cultural consistency suggests that the link between inter-employee responsiveness and customer trust may hold true in various settings, thus increasing the robustness of the results.

[25] Similar selection criteria are widely adopted in prior literature (e.g., Chen, Pesch, and Wang 2020; Elliott, Grant and Hodge 2018; Kelly, Dinovitzer, Gunz and Gunz 2020).

To study the effect of employees' responsiveness (politeness, empathy, engagement) to each other, we conduct t tests to compare the respondents' answers in the responsive vs irresponsive (polite vs impolite, empathetic vs unempathetic, engaging vs unengaging) group.

The results are reported in OA.4 of the online appendix. Panel A indicates that the participants who read the conversations where the employees are responsive to each other (Responsive Group) have higher evaluations of the inter-employee responsiveness and their coordination, are more willing to purchase the service from the company, and perceive the company as more trustworthy. The differences are economically and statistically significant. However, as shown in Panel B, C, and D, participants who are assigned to read the conversations where the employees are polite (empathetic, engaging) to each other do not report significantly different assessments of the team compared with the participants who are assigned to read the conversations where the employees are impolite (unempathetic, unengaging) to each other. Taken together, in the survey experiment, only inter-employee responsiveness significantly affects the customer's perception of the company.

However, the findings do not imply that employees' politeness, empathy and engagement with each other are unimportant in real-world settings. Customers in the real world might have a different perception of the employees' interactions with each other, potentially due to their active involvement in the chatgroup, more profound engagement in the conversations, and greater attention to the nuances of employees' interactions with each other, which might not be fully captured in an MTurk-based survey environment. The Mturk participants might just skim through

the conversation, and the level of responsiveness, which is reflected in reply time, might be more conspicuous than the level of politeness, empathy, or engagement, which are more nuancedly conveyed in the employees' tones. This could potentially explain why responsiveness had a significant impact, whereas politeness, empathy, and engagement did not.[26]

5.4 Store Visit and Customer Trust

To validate that store visit is an appropriate measure of customer trust, we conduct the following tests.

First, we test whether the customers who more often express their trust in the company are more likely to visit the store. We measure a customer's expression of trust using a similar word embedding approach as described in section 4.2.3. The phrases that may indicate a customer's expression of trust include "I trust you" and its variants in Chinese. Since each word in this list has an embedding score obtained from the Word2Vec model, we calculate the average score of all words in this list. For each group, we obtain a measure of *Trust score*, which indicates the level of the customer's expression of trust. To test whether the customers who more often express their trust in the company are more likely to visit the store, we regress *Visit* on *Trust score* and a set of controls. The results are reported in Panel A of online appendix 5. The coefficient on *Trust score* is significantly positive, suggesting that visiting the store is an indicator of the customer's trust in the company.

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[26] Mturk experiments often face common challenges, such as participant inattention and social desirability bias (Aguinis, Villamor, & Ramani, 2021). While our study is not exempt from these potential issues, their impact is likely minimal. The brevity of our survey reduces the likelihood of participant inattention, and the absence of questions that could be perceived as judgmental minimizes the risk of social desirability bias confounding the results.

Second, we test whether higher inter-employee responsiveness is associated with a higher *Trust score* by regressing Trust score on inter-employee responsiveness and a set of controls. The results are reported in Panel B of online appendix 5. We find that higher inter-employee responsiveness, indicated by lower employee-to-employee reply time, is significantly associated with a higher *Trust score*. The results provide a conservative estimate of the effect of inter-employee responsiveness on customer trust, since the *Trust score* is measured by how frequently the customer mentions trust in the group chat. As our data is from real-world business operations rather than surveys, customers don't often explicitly say "trust" straightforwardly, so *Trust score* may understate the true impact. Hence, the estimated effect can be seen as a lower bound.

Third, although the customer satisfaction survey data is unavailable, we collect additional evidence about customer trust from the Mturk survey described in section 5.3. Specifically, we include the question "Would you choose this company as your service provider? Please indicate on a 0-100 scale (0 least willing, 100 most willing)", and the question "Do you feel that the sales team is trustworthy? Please indicate on a 0-100 scale (0 least trustworthy, 100 most trustworthy)" to evaluate the respondents' trust and willingness to purchase the service after they observe the fast/slow responsiveness among employees. We find that the respondents' answers to both questions are highly correlated, with a coefficient of 0.7275 ($p<0.01$), suggesting that the willingness to purchase the service is a reasonable proxy for trust.

Finally, besides trust in the company, another major factor that may drive the customer's purchase decision is the price. However, all teams belong to the same company with a standardized

pricing strategy. In addition, we have also included city fixed effects, which are generally equivalent to store fixed effects as each city only has one or two stores, further mitigating the effect of the differences in pricing. Therefore, the difference in pricing strategy is less likely to confound the documented effect.

VI. CONCLUSION

Organizations' internal coordination among employees may signal the unobserved quality to external stakeholders, thus affecting their trust in the organization. Using a firm's proprietary data, we document that the display of employee interactions influences customers' trust in the company through signaling. Specifically, we find that inter-employee responsiveness is a credible signal in gaining customer trust. Taken together, our findings put forward a novel consequence of internal employee coordination.

Our study has a few limitations. First, our study only examines how the display of internal coordination among employees serves as a signal to external stakeholders rather than how to improve internal coordination among employees. The random assignment setting helps mitigate the confounding factors that might otherwise influence both internal coordination among employees and customer trust, but fails to enable us to study how to improve internal coordination among employees. Second, due to data availability, we only examine one type of external stakeholder, the customers. However, the display of internal coordination among employees may also influence other external stakeholders' perceptions of the company, such as investors and suppliers. We encourage future research to investigate these topics. Third, while our study provides

insightful evidence based on a single company's unique setting, we acknowledge that the results may not be fully applicable to other business environments or geographical contexts. Differences in industry dynamics, operational practices, or cultural norms across different regions could potentially influence the outcomes we observe. This is a common limitation shared by many field studies based on a single organization. Nevertheless, we believe that the findings we uncover offer valuable insights that could be further explored in different contexts. We encourage future research to examine similar settings in other industries or regions to validate and extend our findings. Furthermore, as technology and workplace dynamics continue to evolve, the ways in which employee responsiveness is perceived and measured may also change, underscoring the importance of ongoing study in this area.

Despite these limitations, our study contributes to the existing literature by pointing out that the display of internal employee coordination has an impact on the company's relationship with its external stakeholders through the channel of signaling. In addition to the online service inquiry group, the findings could also be generalized to other settings where there are at least two employees serving the same customer, supplier, or other external stakeholders. For example, the external stakeholder might observe the employees' email interactions and infer the company's quality and reliability from the tones, languages or efficiency of their email interactions. The finding provides managerial implications about the importance of internal employee coordination.

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Appendix A: Variable Definitions

Variable	Definition
Visit	Indicator variable equal to 1 if the customer visits the store and 0 otherwise
Reply employee time	Natural log of one plus the average number of hours taken for an employee to reply to another employee before the customer visits the store, winsorized at the 5th and 95th percentile
Reply customer time	Natural log of one plus the average number of hours taken for an employee to reply to the customer before the customer visits the store, winsorized at the 5th and 95th percentile
House size	Size of the house to be decorated, measured in square meters
# Messages	Natural log of the number of messages in the WeChat group before the customer visits the store
# Employees	Number of employees in the WeChat group
% Non-text messages	Percent of non-text messages in the WeChat group before the customer visits the store, including pictures, videos, link shares, etc.
Message length	Average number of Chinese characters in a text message in the WeChat group before the customer visits the store
Polite score	Measure of employees' politeness to each other defined in section 4.2.1
Empathy score	Measure of employees' empathy for each other defined in section 4.2.1
Engaging score	Measure of employees' engagement defined in section 4.2.1
Hesitation score	Measure of customer's hesitation defined in section 4.2.3
Doubt score	Measure of customer's doubt defined in section 4.2.3
Nonstandard score	Measure of property's nonstandardness defined in section 4.2.3
% Female employees	Percent of female employees in the WeChat group
Prior connections	The average number of prior connections an employee has with his/her team members (an employee is considered to have a prior connection with another employee if they served at least one common customer before this customer in this year)
% Non-worktime messages	Percent of messages sent on weekends or sent from 8pm to 8am during weekdays before the customer visits the store
Customer-to-employee time	Natural log of one plus the average number of hours taken for the customer to reply to an employee before the customer visits the store, winsorized at the 5th and 95th percentile

Customer-to-employee sentiment	The average sentiment of the customer's replies to employees in the WeChat group before the customer visits the store, with higher values indicating more positive tones
Repeated signal	Natural log of one plus the number of employee-to-employee replies faster than the sample median (7.5 minutes) in the WeChat group before the customer visits the store
Multiple pairs	Indicator variable equal to 1 if the number of pairs of employees interacting with each other in the WeChat group before the customer visits the store is greater than the sample median (i.e., 2 pairs), and 0 otherwise.
Pair Diversity	One minus the Herfindahl–Hirschman index of each pair of employees' number of conversations before the customer visits the store
Consistent responsiveness	One minus the standard deviation of each pair of employees' average reply time before the customer visits the store scaled to [0,1], missing if there is only one pair of employees interacting with each other
Sign	Indicator variable equal to 1 if the customer signs the contract and 0 otherwise
Chat-to-visit days	The number of days between the date when the WeChat group is formed and the date when the customer visits the store, missing if the customer doesn't visit the store
Reply employee time after visit	Natural log of one plus the average number of hours taken for an employee to reply to another employee after the customer visits the store and before the customer signs the contract, winsorized at the 5th and 95th percentile
Reply customer time after visit	Natural log of one plus the average number of hours taken for an employee to reply to the customer after the customer visits the store and before the customer signs the contract, winsorized at the 5th and 95th percentile
# Messages after visit	Natural log of the number of messages in the WeChat group after the customer visits the store and before the customer signs the contract
% Non-text messages after visit	Percent of non-text messages in the WeChat group after the customer visits the store and before the customer signs the contract, including picture, videos, link shares, etc.
Message length after visit	Average number of Chinese characters in a text message in the WeChat group after the customer visits the store and before the customer signs the contract

Polite score after visit	Measure of employees' politeness to each other after the customer visits the store and before the customer signs the contract
Empathy score after visit	Measure of employees' empathy to each other after the customer visits the store and before the customer signs the contract
Engaging score after visit	Measure of employees' engagement after the customer visits the store and before the customer signs the contract
Customer-to-employee time after visit	Natural log of one plus the average number of hours taken for the customer to reply to an employee after the customer visits the store and before the customer signs the contract, winsorized at the 5th and 95th percentile
Customer-to-employee sentiment after visit	The average sentiment of the customer's replies to employees in the WeChat group after the customer visits the store and before the customer signs the contract, with higher values indicating more positive tones
Hesitation score after visit	Measure of customer's hesitation after the customer visits the store and before the customer signs the contract
Doubt score after visit	Measure of customer's doubt after the customer visits the store and before the customer signs the contract
% Non-worktime messages after visit	Percent of messages sent on weekends or sent from 8pm to 8am during weekdays after the customer visits the store and before the customer signs the contract

Appendix B: Pre-Construction Process

The figure below illustrates the typical process from the point when a customer gets interested in the service to the point when real construction work begins. The customer first submits a service inquiry on the company's official website and types in his/her phone number. Then a WeChat group will be formed between the customer and several employees, including multiple service agents and designers. The employees will introduce the service in the WeChat group and answer the customer's questions. After the online consultation, the customer will decide whether to visit the brick-and-mortar store or not. In the store, the customer will be received by the sales agents there, touch and feel some materials, and consult more details of the service. After visiting the store, the customer may still spend several days considering whether to sign the contract or not. If the customer eventually signs the contract, real construction work begins then.

```
┌─────────────────────┐
│ A customer requests a│
│ service inquiry on the│
│  official website.   │
└─────────────────────┘
           │
           │      Employees are
           │      randomly assigned into
           │      each WeChat group.
           ▼
┌─────────────────┐              ┌─────────────────┐                    ┌─────────────────┐
│ The WeChat group is│ Online    │ Customer visits the│ Further         │ Customer signs the│
│     formed.     │consultation │   offline store.  │ consideration    │     contract.    │
└─────────────────┘ ─────────►  └─────────────────┘  ─────────►        └─────────────────┘
                                                                                 │
                                                                                 ▼
                                                                        ┌─────────────────┐
                                                                        │ Construction work│
                                                                        │     starts.      │
                                                                        └─────────────────┘
```
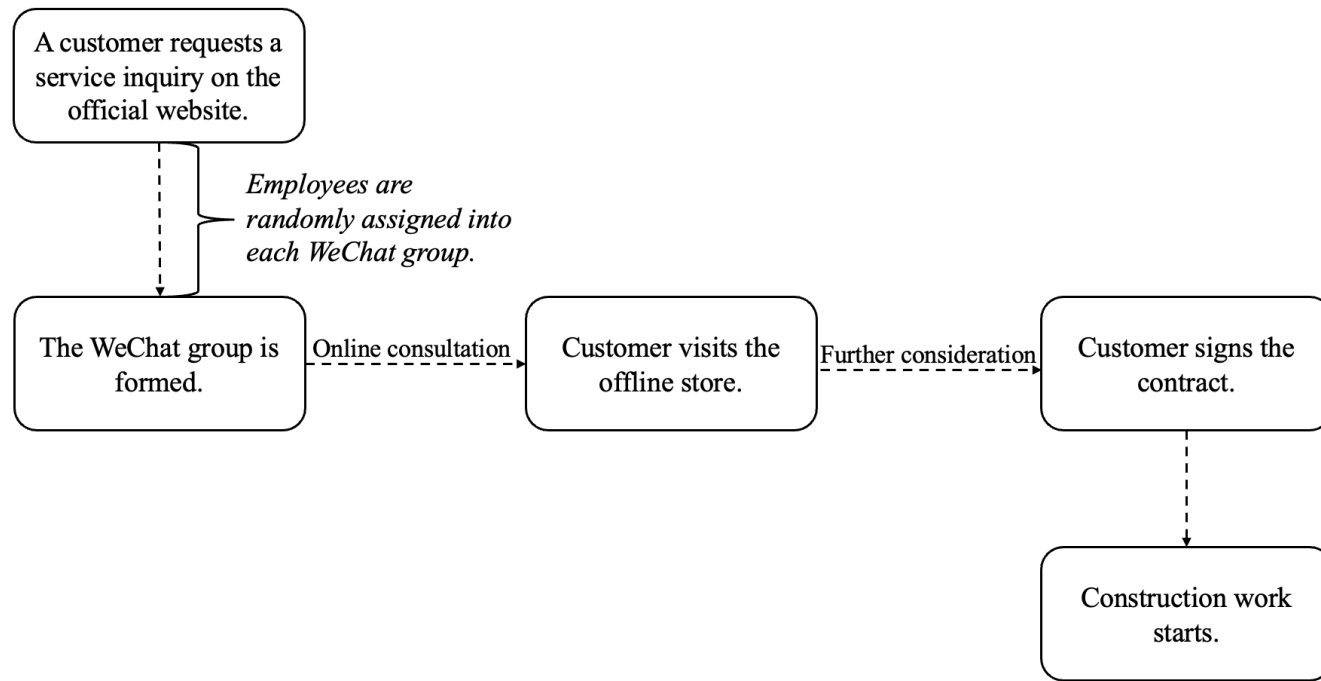
Appendix C: Examples of WeChat Group Interfaces

Figures A1 to A6 are some examples of the WeChat group messages. Since we do not have access to the actual WeChat interfaces, we use an App to create the "mock" WeChat interfaces. The green messages are all from the customer, and the white messages are all from the employees. Note that all messages are translated from Chinese to English, and anything related to private personal information, such as the name of the WeChat group, are de-identified. Figure A1 illustrates the conversations about the price. Figure A2 illustrates the scenario where an employee is approved by the customer and his/her team member. Figure A3 illustrates the scenario where an employee helps his/her team member print some files. Figure A4 illustrates the scenario where an employee introduces his/her team member to the customer. Figure A5 illustrates the scenario where an employee assigns a task to his/her team member. Figure A6 illustrates the scenario where two employees introduce the company's standards to the customer.

Figure A1

Figure A2

Mr. Hong XXX Apartme... (9)

At least 4 hours a day is needed😄

I'll phone the property company. Don't worry

👌👌

21:49

Anyone can print this form for me? In A3 paper

I can print it

I'm at the company. Can you come and fetch it?

Sure. Thanks🤝🤝

21:52

Are you in your office?

Yep

Okkk I'll be there in 30min🌹

Figure A3

Mr. Meng 6422 @972445(5)

Hi Mr. Meng, This is your designer @Lihan Bu(Designer). You can talk with him about anything regarding the decoration of your home at any time🌷

星期三 21:09

Hello, Mr. Meng. I'm your designer Lihan. I'll be responsible for the design of your apartment in the next few weeks. We can discuss any decoration problems at any time😁

Hi Lihan😊

Q W E R T Y U I O P

A S D F G H J K L

Z X C V B N M

123 space send

Figure A4

No.45 Xihuangchrnggen @3153511(7)

22:23

Tell the customer about the budget plan @Junjie Wu(designer)

22:36

Received, thanks

Figure A5

These standards are to reduce your troubles during the construction process🙇🙇

22:50

Yes these are our company's materials. You can have a look when it's convenient for you these days. Please do not hesitate to contact us if you have any questions. We will reply you as soon as possible.🤝🤝

Figure A6

Figure 1 Margins Plot

This figure reports the margins plot corresponding to column 1 of Table 2 (Figure 1a) and column 1 of Table 6 (Figure 1b), which shows the effect of inter-employee responsiveness the customer's visit and signing decision.

Figure 1a

Adjusted predictions with 95% CIs

Figure 1b

Adjusted predictions with 95% CIs
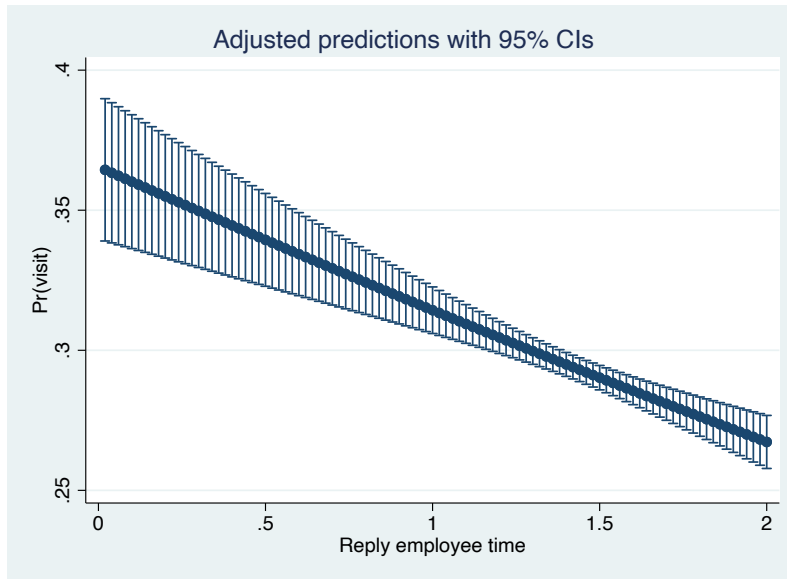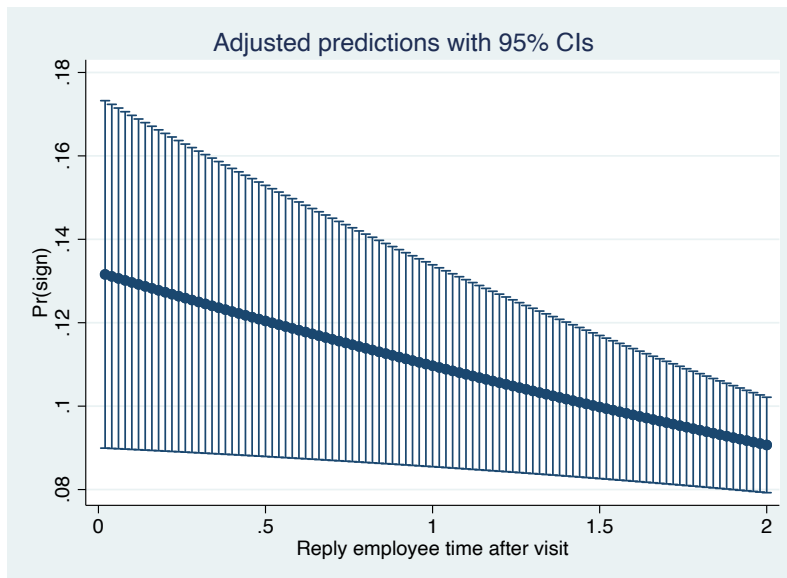
Table 1 Descriptive Statistics

This table reports the descriptive statistics of the variables defined in Appendix A.

Variable	count	mean	p50	sd	min	max
Visit	16476	0.282	0.000	0.450	0.000	1.000
Reply employee time	16476	1.318	0.118	1.751	0.004	5.120
Reply customer time	16476	1.064	0.208	1.386	0.007	4.388
Message length	16476	21.736	19.079	10.564	2.000	155.000
% Non-text messages	16476	0.150	0.119	0.125	0.000	0.850
House size	16476	89.329	84.000	36.905	36.000	300.000
# Messages	16476	3.917	3.892	0.806	1.099	7.642
# Employees	16476	2.898	3.000	0.908	2.000	12.000
Polite score	15564	0.493	0.500	0.344	0.000	1.000
Empathy score	15559	0.638	0.658	0.112	0.203	0.896
Engaging score	16474	0.502	0.499	0.033	0.346	0.755
% Female employees	16476	0.468	0.472	0.223	0.006	0.997
Prior connections	16476	0.923	1.000	0.496	0.000	5.500
Customer-to-employee time	16436	0.853	0.272	1.111	0.008	3.750
Customer-to-employee sentiment	16196	0.323	0.300	0.294	-1.000	1.000
Hesitation score	16257	0.602	0.603	0.071	0.125	0.880
Doubt score	16257	0.644	0.653	0.075	0.162	0.902
Nonstandard score	16476	0.640	0.647	0.064	0.353	0.838
% Non-worktime messages	16476	0.330	0.227	0.323	0.000	1.000
Repeated signal	16476	1.368	1.386	0.682	0.000	4.615
Multiple pairs	16476	0.218	0.000	0.413	0.000	1.000
Pair diversity	16476	0.253	0.219	0.267	0.000	1.000
Consistent responsiveness	8402	0.988	0.999	0.039	0.000	1.000
Sign	16476	0.027	0.000	0.162	0.000	1.000

Chat-to-visit days	4646	11.106	9.000	8.212	0.000	31.000
Reply employee time after visit	961	3.563	4.022	2.176	0.012	7.012
Reply customer time after visit	961	1.830	1.254	1.876	0.009	6.400
Message length after visit	961	21.589	16.833	15.590	1.500	161.000
% Non-text messages after visit	961	0.254	0.202	0.187	0.000	0.846
# Messages after visit	961	3.478	3.434	1.102	1.099	6.435
Polite score after visit	844	0.443	0.400	0.403	0.000	1.000
Empathy score after visit	843	0.696	0.712	0.104	0.203	0.899
Engaging score after visit	960	0.486	0.486	0.033	0.356	0.621
Customer-to-employee time after visit	914	1.783	1.405	1.628	0.003	7.547
Customer-to-employee sentiment after visit	895	0.351	0.333	0.327	-1.000	1.000
Hesitation score after visit	910	0.631	0.630	0.072	0.271	0.877
Doubt score after visit	910	0.669	0.676	0.077	0.241	0.880
% Non-worktime messages after visit	961	0.378	0.333	0.288	0.000	1.000
Employee-to-employee time (minutes)	16476	1216.644 (0.8 day)	7.511	2612.137	0.213	9980.678 (6.9 days)
Employee-to-customer time (minutes)	16476	540.581 (0.4 day)	13.865	1200.921	0.392	4769.833 (3.3 days)
Customer-to-employee time (minutes)	16436	276.381 (0.2 day)	18.761	617.659	0.467	2490.304 (1.7 days)
Employee-to-employee time after visit (minutes)	961	9774.436 (6.8 days)	3289.839	15584.570	0.742	66512.883 (46.2 days)
Employee-to-customer time after visit (minutes)	961	2522.724 (1.8 days)	150.250	6579.041	0.558	36039.973 (25.0 days)
Customer-to-employee time after visit (minutes)	914	1428.921 (1.0 day)	184.509	3522.799	0.800	18832.807 (13.1 days)

Table 2 Effect of Inter-Employee Responsiveness on Customer Trust

This table reports the results of tests estimating the effect of inter-employee responsiveness on the customer's visit decision. *Visit* is an indicator variable equal to 1 if the customer visits the store and 0 otherwise. *Reply employee time* is the natural log of one plus the average number of hours taken for an employee to reply to another employee before the customer visits the store. All other variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	*Visit*	*Visit*	*Visit*	*Visit*	*Visit*
Reply employee time	-0.183***	-0.191***	-0.176***	-0.185***	-0.181***	-0.183***
	(0.028)	(0.029)	(0.026)	(0.030)	(0.028)	(0.027)
Reply customer time	-0.071***	-0.076***	-0.065***	-0.102***	-0.070***	-0.099***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.013)
Message length	-0.047***	-0.054***	-0.045***	-0.049***	-0.046***	-0.053***
	(0.004)	(0.006)	(0.004)	(0.004)	(0.004)	(0.007)
% Non-text messages	-1.028***	-1.095***	-1.273***	-1.813***	-1.013***	-2.588***
	(0.304)	(0.324)	(0.261)	(0.298)	(0.301)	(0.355)
House size	-0.001	-0.000	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.374***	0.441***	0.397***	0.437***	0.379***	0.570***
	(0.021)	(0.034)	(0.019)	(0.039)	(0.022)	(0.045)
# Employees	0.485***	0.461***	0.118**	0.468***	0.477***	-0.038
	(0.070)	(0.073)	(0.049)	(0.065)	(0.070)	(0.063)
Polite score		0.155**				0.155***
		(0.061)				(0.056)
Empathy score		0.411**				0.616***
		(0.198)				(0.173)
Engaging score		3.130***				3.471***
		(1.192)				(1.189)

	(1)	(2)	(3)	(4)	(5)	(6)
% Female employees				-0.104		-0.096
				(0.094)		(0.130)
Prior connections				0.715***		0.908***
				(0.219)		(0.244)
Customer-to-employee time					0.127***	0.119***
					(0.020)	(0.021)
Customer-to-employee sentiment					0.120	0.103
					(0.084)	(0.084)
Hesitation score					0.714***	0.541***
					(0.275)	(0.192)
Doubt score					-0.247	0.083
					(0.387)	(0.338)
Nonstandard score					-2.356**	-3.594***
					(1.145)	(1.273)
% Non-worktime messages					0.384***	0.383***
					(0.033)	(0.042)
Constant	-2.788***	-4.783***	-2.482***	-1.692***	-2.971***	-3.136***
	(0.289)	(0.487)	(0.249)	(0.469)	(0.303)	(1.057)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Pseudo R-squared	0.106	0.109	0.110	0.110	0.109	0.120

Table 3 Cross-Sectional Effect on Signal Frequency

This table reports the results of cross-sectional tests on signal frequency. Repeated signal is natural log of one plus the number of employee-to-employee replies faster than the sample median (7.5 minutes). Reply employee time is the natural log of one plus the average number of hours taken for an employee to reply to another employee before the customer visits the store. For parsimony reasons, we only report the coefficients of the main independent variables of interest. Baseline controls include "Reply customer time, Message length, % Non-text messages, House size, # Messages, # Employees". Team dynamic controls include "Polite score, Empathy score, Engaging score". Team composition controls include "% Female employees, Prior connections". Customer heterogeneity controls include "Customer-to-employee time, Customer-to-employee sentiment, Hesitation score, Doubt score, Nonstandard score" Other controls include "% Non-worktime messages". All other variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	*Visit*	*Visit*	*Visit*	*Visit*	*Visit*
Reply employee time×Repeated signal	-0.098***	-0.099***	-0.096***	-0.097***	-0.097***	-0.096***
	(0.015)	(0.015)	(0.014)	(0.013)	(0.015)	(0.014)
Reply employee time	-0.077***	-0.076***	-0.072***	-0.080***	-0.076***	-0.072***
	(0.018)	(0.016)	(0.016)	(0.021)	(0.018)	(0.017)
Repeated signal	-0.091**	-0.063	-0.089*	-0.093*	-0.093**	-0.073
	(0.046)	(0.045)	(0.046)	(0.055)	(0.046)	(0.049)
Constant	-3.032***	-5.025***	-2.733***	-1.784***	-3.216***	-3.247***
	(0.274)	(0.526)	(0.231)	(0.487)	(0.293)	(1.102)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Team dynamic controls	No	Yes	No	No	No	Yes
Team composition controls	No	No	Yes	No	No	Yes
Customer heterogeneity controls	No	No	No	Yes	No	Yes
Other controls	No	No	No	No	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Pseudo R-squared	0.111	0.113	0.114	0.114	0.114	0.124

Table 4 Cross-Sectional Effect on Signal Intensity

This table reports the results of cross-sectional tests on signal intensity. *Multiple pairs* is an indicator variable equal to 1 if the number of pairs of employees interacting with each other in the WeChat group before the customer visits the store is greater than the sample median (i.e., 2 pairs), and 0 otherwise. *Pair Diversity* is one minus the Herfindahl–Hirschman index of each pair of employees' number of conversations before the customer visits the store. *Consistent responsiveness* is one minus the standard deviation of each pair of employees' average reply time before the customer visits the store, missing if there is only one pair of employees interacting with each other. *Reply employee time* is the natural log of one plus the average number of hours taken for an employee to reply to another employee before the customer visits the store. For parsimony reasons, we only report the coefficients of the main independent variables of interest. Baseline controls include "Reply customer time, Message length, % Non-text messages, House size, # Messages, # Employees". Team dynamic controls include "Polite score, Empathy score, Engaging score". Team composition controls include "% Female employees, Prior connections". Customer heterogeneity controls include "Customer-to-employee time, Customer-to-employee sentiment, Hesitation score, Doubt score, Nonstandard score" Other controls include "% Non-worktime messages". All other variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Panel A						
	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	*Visit*	*Visit*	*Visit*	*Visit*	*Visit*
Reply employee time×Multiple pairs	-0.197***	-0.189***	-0.191***	-0.195***	-0.192***	-0.176***
	(0.032)	(0.033)	(0.029)	(0.035)	(0.032)	(0.032)
Reply employee time	-0.120***	-0.128***	-0.116***	-0.123***	-0.120***	-0.124***
	(0.019)	(0.018)	(0.018)	(0.019)	(0.019)	(0.018)
Multiple pairs	-0.138***	-0.128***	-0.121***	-0.149***	-0.157***	-0.135*
	(0.032)	(0.041)	(0.045)	(0.040)	(0.033)	(0.071)
Constant	-3.188***	-5.097***	-2.877***	-2.045***	-3.380***	-3.438***
	(0.264)	(0.544)	(0.224)	(0.449)	(0.284)	(1.088)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Team dynamic controls	No	Yes	No	No	No	Yes
Team composition controls	No	No	Yes	No	No	Yes
Customer heterogeneity controls	No	No	No	Yes	No	Yes

	(1)	(2)	(3)	(4)	(5)	(6)
Other controls	No	No	No	No	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Pseudo R-squared	0.112	0.115	0.115	0.116	0.115	0.126

Panel B

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Pair diversity	-0.355***	-0.352***	-0.344***	-0.355***	-0.350***	-0.335***
	(0.033)	(0.038)	(0.031)	(0.033)	(0.034)	(0.036)
Reply employee time	-0.417***	-0.419***	-0.403***	-0.420***	-0.412***	-0.401***
	(0.048)	(0.053)	(0.044)	(0.049)	(0.048)	(0.051)
Pair diversity	-0.086	-0.055	-0.072	-0.047	-0.100	-0.018
	(0.110)	(0.141)	(0.120)	(0.108)	(0.107)	(0.155)
Constant	-3.188***	-5.131***	-2.873***	-2.033***	-3.371***	-3.440***
	(0.237)	(0.590)	(0.196)	(0.492)	(0.260)	(1.146)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Team dynamic controls	No	Yes	No	No	No	Yes
Team composition controls	No	No	Yes	No	No	Yes
Customer heterogeneity controls	No	No	No	Yes	No	Yes
Other controls	No	No	No	No	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Pseudo R-squared	0.111	0.114	0.114	0.114	0.113	0.124

Panel C

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Consistent responsiveness	-2.640***	-2.471***	-2.634***	-2.864***	-2.652***	-2.633**

	(0.917)	(0.919)	(0.946)	(1.026)	(0.916)	(1.043)
Reply employee time	-0.178***	-0.183***	-0.172***	-0.178***	-0.176***	-0.175***
	(0.028)	(0.030)	(0.025)	(0.030)	(0.029)	(0.028)
Consistent responsiveness	22.263***	20.750***	22.042***	24.038***	22.295***	21.787***
	(5.972)	(6.027)	(6.254)	(6.629)	(5.899)	(6.793)
Constant	-24.346***	-24.707***	-23.832***	-25.612***	-24.607***	-24.894***
	(6.172)	(5.995)	(6.455)	(6.189)	(6.102)	(5.946)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Team dynamic controls	No	Yes	No	No	No	Yes
Team composition controls	No	No	Yes	No	No	Yes
Customer heterogeneity controls	No	No	No	Yes	No	Yes
Other controls	No	No	No	No	Yes	Yes
Observations	8399	8292	8399	8285	8399	8183
Pseudo R-squared	0.116	0.117	0.121	0.119	0.120	0.130

Table 5 Additional Test: How Fast Does the Customer Visits the Store

This table reports the results of tests examining the effect of inter-employee responsiveness on how fast the customer visits the store. *Chat-to-visit days* is the number of days between the date when the WeChat group is formed and the date when the customer visits the store, missing if the customer doesn't visit the store. *Reply employee time* is the natural log of one plus the average number of hours taken for an employee to reply to another employee before the customer visits the store. For parsimony reasons, we only report the coefficients of the main independent variables of interest. Baseline controls include "Reply customer time, Message length, % Non-text messages, House size, # Messages, # Employees". Team dynamic controls include "Polite score, Empathy score, Engaging score". Team composition controls include "% Female employees, Prior connections". Customer heterogeneity controls include "Customer-to-employee time, Customer-to-employee sentiment, Hesitation score, Doubt score, Nonstandard score" Other controls include "% Non-worktime messages". All other variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Chat-to-visit days	*Chat-to-visit days*	*Chat-to-visit days*	*Chat-to-visit days*	*Chat-to-visit days*	*Chat-to-visit days*
Reply employee time	0.780***	0.769***	0.774***	0.738***	0.778***	0.727***
	(0.044)	(0.050)	(0.044)	(0.036)	(0.043)	(0.042)
Constant	2.092***	3.916	1.897***	0.897	2.242***	2.498
	(0.429)	(1.960)	(0.452)	(1.497)	(0.350)	(1.878)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Team dynamic controls	No	Yes	No	No	No	Yes
Team composition controls	No	No	Yes	No	No	Yes
Customer heterogeneity controls	No	No	No	Yes	No	Yes
Other controls	No	No	No	No	Yes	Yes
Observations	4646	4421	4646	4609	4646	4390
Adjusted R-squared	0.129	0.129	0.129	0.141	0.129	0.143

Table 6 Additional Test: Does the Customer Sign the Contract After Visiting the Store

This table reports the results of tests examining whether inter-employee responsiveness matters for the customer's decision to sign the contract or not, conditional on that the customer has already visited the store. *Sign* is an indicator variable equal to 1 if the customer signs the contract and 0 otherwise. *Reply employee time after visit* is the natural log of one plus the average number of hours taken for an employee to reply to another employee after the customer visits the store. For parsimony reasons, we only report the coefficients of the main independent variables of interest. Baseline controls include "Reply customer time after visit, Message length after visit, % Non-text messages after visit, House size, # Messages after visit, # Employees". Team dynamic controls include "Polite score after visit, Empathy score after visit, Engaging score after visit". Team composition controls include "% Female employees, Prior connections". Customer heterogeneity controls include "Customer-to-employee time after visit, Customer-to-employee sentiment after visit, Hesitation score after visit, Doubt score after visit, Nonstandard score" Other controls include "% Non-worktime messages after visit". All variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Sign	*Sign*	*Sign*	*Sign*	*Sign*	*Sign*
Reply employee time after visit	-0.142**	-0.117	-0.139**	-0.152**	-0.141**	-0.114
	(0.069)	(0.097)	(0.062)	(0.069)	(0.069)	(0.083)
Constant	-3.098**	-3.387	-2.690*	-3.048	-3.134**	-5.527*
	(1.350)	(3.004)	(1.394)	(3.086)	(1.351)	(2.842)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Team dynamic controls	No	Yes	No	No	No	Yes
Team composition controls	No	No	Yes	No	No	Yes
Customer heterogeneity controls	No	No	No	Yes	No	Yes
Other controls	No	No	No	No	Yes	Yes
Observations	952	836	952	887	952	784
Pseudo R-squared	0.130	0.143	0.135	0.151	0.130	0.180

Table 7 Additional Test: Employee Fixed Effects

This table reports the results of tests estimating the effect of inter-employee responsiveness on customer's visit decision after controlling employee fixed effects. Employee fixed effects are dummies for each employee indicating whether the employee serves in this WeChat group or not. *Visit* is an indicator variable equal to 1 if the customer visits the store and 0 otherwise. *Reply employee time* is the natural log of one plus the average number of hours taken for an employee to reply to another employee before the customer visits the store. For parsimony reasons, we only report the coefficients of the main independent variables of interest. Baseline controls include "Reply customer time, Message length, % Non-text messages, House size, # Messages, # Employees". Team dynamic controls include "Polite score, Empathy score, Engaging score". Team composition controls include "% Female employees, Prior connections". Customer heterogeneity controls include "Customer-to-employee time, Customer-to-employee sentiment, Hesitation score, Doubt score, Nonstandard score" Other controls include "% Non-worktime messages". All other variables are defined in Appendix A. All regressions include month fixed effects, city fixed effects, and employee fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	*Visit*	*Visit*	*Visit*	*Visit*	*Visit*
Reply employee time	-0.243***	-0.247***	-0.237***	-0.246***	-0.242***	-0.239***
	(0.032)	(0.033)	(0.030)	(0.032)	(0.032)	(0.030)
Constant	-2.038***	-3.119***	-1.841***	-0.657	-2.230***	-1.542*
	(0.219)	(0.381)	(0.210)	(0.527)	(0.233)	(0.805)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes	Yes	Yes
Team dynamic controls	No	Yes	No	No	No	Yes
Team composition controls	No	No	Yes	No	No	Yes
Customer heterogeneity controls	No	No	No	Yes	No	Yes
Other controls	No	No	No	No	Yes	Yes
Observations	16405	15489	16405	16115	16405	15234
Pseudo R-squared	0.163	0.165	0.165	0.166	0.165	0.175

Online Appendix to

"The External Value of Internal Employee Responsiveness: Evidence from the Field"

OA.1 Correlations

This table reports the correlations of the variables defined in Appendix A. Variables that will be missing if the customer does not visit the store are not included. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

No		1	2	3	4	5	6
1	*Visit*	1.000					
2	*Reply employee time*	-0.086***	1.000				
3	*Reply customer time*	-0.059***	0.084***	1.000			
4	*Message length*	-0.219***	0.148***	0.148***	1.000		
5	*% Non-text messages*	-0.117***	0.173***	0.149***	0.347***	1.000	
6	*House size*	-0.021***	-0.009	0.001	0.028***	0.046***	1.000
7	*# Messages*	0.170***	0.205***	0.122***	-0.214***	0.168***	-0.008
8	*# Employees*	0.200***	0.307***	0.046***	-0.077***	-0.012	-0.028***
9	*Polite score*	-0.024***	0.068***	0.034***	0.167***	0.053***	-0.017**
10	*Empathy score*	0.023***	0.193***	0.051***	0.104***	0.056***	-0.014*
11	*Engaging score*	-0.110***	-0.010	0.064***	0.437***	0.129***	0.019**
12	*% Female employees*	-0.005	-0.075***	0.009	-0.026***	-0.022***	-0.014*
13	*Prior connections*	0.209***	0.237***	0.015*	-0.086***	0.033***	-0.034***
14	*Customer-to-employee time*	0.047***	0.077***	0.248***	0.091***	0.096***	0.021***
15	*Customer-to-employee sentiment*	-0.019**	-0.008	0.054***	0.114***	0.039***	0.003
16	*Hesitation score*	-0.015**	0.006	0.036***	0.114***	0.005	-0.014*
17	*Doubt score*	0.018**	0.008	0.003	0.035***	-0.013*	0.000
18	*Nonstandard score*	0.102***	-0.093***	-0.119***	-0.305***	-0.624***	-0.040***
19	*% Non-worktime messages*	0.070***	0.003	0.004	-0.034***	-0.024***	-0.004
20	*Repeated signal*	0.096***	-0.106***	-0.081***	-0.175***	-0.092***	-0.008
21	*Multiple pairs*	0.071***	0.274***	0.021***	-0.015*	0.032***	-0.012

No							
22	*Pair diversity*	0.115***	0.363***	0.010	-0.033***	0.016**	-0.021***
23	*Consistent responsiveness*	0.125***	-0.469***	-0.025**	-0.070***	-0.044***	-0.030***
24	*Sign*	0.266***	-0.008	-0.012	-0.053***	-0.042***	-0.012

No		7	8	9	10	11	12
7	*# Messages*	1.000					
8	*# Employees*	0.387***	1.000				
9	*Polite score*	-0.063***	0.001	1.000			
10	*Empathy score*	0.153***	0.182***	0.356***	1.000		
11	*Engaging score*	-0.365***	-0.080***	0.254***	0.165***	1.000	
12	*% Female employees*	-0.038***	-0.086***	0.005	-0.088***	-0.000	1.000
13	*Prior connections*	0.320***	0.901***	-0.001	0.151***	-0.080***	-0.076***
14	*Customer-to-employee time*	0.173***	0.083***	0.034***	0.067***	0.005	-0.009
15	*Customer-to-employee sentiment*	-0.089***	-0.036***	0.006	-0.005	0.130***	-0.018**
16	*Hesitation score*	-0.009	-0.016**	-0.000	0.019**	0.073***	0.005
17	*Doubt score*	0.178***	0.034***	-0.006	0.045***	-0.052***	0.006
18	*Nonstandard score*	0.217***	0.068***	0.008	0.106***	-0.176***	0.011
19	*% Non-worktime messages*	0.038***	0.047***	0.008	0.015*	-0.021***	0.023***
20	*Repeated signal*	0.282***	0.376***	-0.238***	0.038***	-0.193***	0.007
21	*Multiple pairs*	0.288***	0.671***	-0.017**	0.137***	-0.054***	-0.069***
22	*Pair diversity*	0.305***	0.797***	0.012	0.172***	-0.056***	-0.079***
23	*Consistent responsiveness*	0.040***	-0.009	0.020*	0.040***	-0.013	-0.009
24	*Sign*	0.050***	0.067***	-0.007	0.006	-0.020***	-0.014*

No		13	14	15	16	17	18
13	*Prior connections*	1.000					
14	*Customer-to-employee time*	0.055***	1.000				
15	*Customer-to-employee sentiment*	-0.034***	0.032***	1.000			
16	*Hesitation score*	-0.020***	0.056***	0.057***	1.000		
17	*Doubt score*	0.022***	0.107***	-0.083***	0.794***	1.000	

No							
18	*Nonstandard score*	0.074***	-0.050***	-0.117***	0.128***	0.289***	1.000
19	*% Non-worktime messages*	0.042***	0.042***	-0.018**	0.006	0.013*	0.020***
20	*Repeated signal*	0.341***	-0.046***	-0.033***	-0.013*	0.015*	0.094***
21	*Multiple pairs*	0.585***	0.044***	-0.024***	-0.001	0.023***	0.019**
22	*Pair diversity*	0.708***	0.033***	-0.037***	-0.013*	0.011	0.032***
23	*Consistent responsiveness*	0.027**	-0.002	-0.008	0.006	0.024**	0.053***
24	*Sign*	0.083***	0.025***	0.015*	0.009	0.018**	0.028***

No		19	20	21	22	23	24
19	*% Non-worktime messages*	1.000					
20	*Repeated signal*	0.010	1.000				
21	*Multiple pairs*	0.043***	0.396***	1.000			
22	*Pair diversity*	0.035***	0.399***	0.711***	1.000		
23	*Consistent responsiveness*	0.029***	0.119***	-0.015	-0.022**	1.000	
24	*Sign*	0.031***	0.023***	0.027***	0.039***	0.025**	1.000

OA.2 Construction of the Text-Based Control Variables

Empathy Score

To account for employees' empathy to each other, we derive text-based measures to as proxies for these team dynamics. Specifically, we first cut all Chinese sentences into lists of words using python package jieba.[1] Jieba is a popular Chinese text segmentation library tool in Python. It is primarily used for splitting Chinese text into individual words. Jieba utilizes various techniques, including dictionary-based methods and statistical algorithms, to accurately segment Chinese text into meaningful units. We then perform word embedding on all employee-to-employee text messages before the customer visits the store using Word2Vec from gensim, and obtain the embedding score for each word. The idea of word embedding is that words that occur in similar contexts have similar meanings (Harris 1954; Firth 1957; Deerwester, Dumais, Furnas, Landauer and Harshman 1990). The word embedding model is often implemented using the Word2Vec algorithm developed by (Mikolov, Yih and Zweig 2013), which learns word embeddings from large text corpora by predicting context words given a target word (Skip-gram) or predicting target word given context words (Cbow). For the parameters, we set the vector size to be 100, window size to be 5 and minimum required count of a word to be 5. We use the Skip-gram model rather than the Cbow model because Skip-gram is more suitable for languages with complex syntax and semantics, such as Chinese. To obtain the embedding score of a customer message, we average the embedding score of all words in that message. This average score vector captures the meaning of the message. Next, we list a set of phrases that may indicate the employees' empathy to each other. Specifically, the phrases include: "I totally get it", "No need to rush", "Just let me know when you're free", "No worries, just do it as usual", "I can help you", "Anything I can help with?". Since each word in this list has an embedding score obtained from the Word2Vec model, we calculate the average score of all words in this list. This average score vector captures the meaning of employees' empathy to each other in the form of embedding vectors. Finally, we calculate the cosine similarity of the score vector for each message and the score vector for empathy.[2] We name this cosine similarity as *Empathy score*, as a higher cosine similarity indicates that the employee-to-employee message implies a greater level of empathy to each other.

Polite Score

To measure employees' politeness to each other, we count the frequency of phrases that show politeness in the employee-to-employee text messages, including "Thank you", "Please", and other honorifics in Chinese. We then calculate the percent of employee-to-employee text messages before the customer visits the store that include at least one of these phrases, and obtain variable *Politeness score*. We use word frequency rather than word embedding because the phrases that show politeness are all very short and their semantic meanings may not be well captured by the word embedding model. Moreover, these

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[1] https://github.com/fxsjy/jieba

[2] The cosine similarity between vector A and vector B is given by $\frac{A \cdot B}{||A|| \times ||B||}$

phrases are usually very standard and do not have many variants, thus obviating the necessity for word embedding.

Engaging Score

To account for the average engagement of employees, we refer to Kahn (1990) who defines employee engagement as "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances". Schaufeli, Salanova, González-Romá Bakker (2002) develop the Utrecht Work Engagement Scale (UWES) to measure employee engagement. We follow the employee version of Utrecht Work Engagement Scale (UWES) and extract keywords in their survey items. Our list for engagement includes "thrilled to serve you", "more than willing", "really excited", "very happy". We then perform word embedding on all text messages sent by the employees in the chat group before the customer visits the store, obtain the embedding vector for each employee message and the embedding vector for the two lists, calculate the cosine similarities, and obtain the engaging score for each chat group by averaging the cosine similarities of all text message sent by employees.

Hesitation score and Doubt score

We account for the customer's hesitation and doubt using similar text-based measures as *Empathy score* and *Engaging score*. Customer's hesitation refers to the unwillingness to make the purchase decision or a delay in making the purchase decision probably because they are uncertain and worried about the service. Therefore, the phrases for customer's hesitation include: "I need a moment to ponder this," "Let us take another peek," "We'll revisit this in a little while," "Let us delve into it again later," "We need to study this further," "I'll need to mull it over once more," "Let us think about it a bit more," "No rush," "We can discuss this again later," "We'll address this later on," "Let's hold off for a bit," "We'll wait a bit before deciding". Customer's doubt refers to their skepticism of the employees'. The phrases for customer's doubt include: "Are you sure?" "Is there any evidence?" "I don't believe." "Can you guarantee?" "I'm worried." We then perform word embedding on all text messages sent by the customer in the chat group before the customer visits the store, obtain the embedding vector for each message and the embedding vector for the hesitation (doubt) list, calculate their cosine similarity, and obtain the *Hesitation score* (*Doubt score*) for each chat group by taking the average.

Non-Standard Score

To account for the non-standard characteristics of the property, we use similar text-based measures. Specifically, our list for "non-standard" include "special requirements", "need special customization", "never encountered such a house before", "different from other houses", "Not the same as the standard", "not standardized." We then perform word embedding on all text messages in the chat group before the customer visits the store, obtain the embedding vector for each message and the embedding vector for the non-standard list, calculate their cosine similarity, and obtain the *Non-Standard Score* for each chat group by taking the average of all messages in that chat group.

References:

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Part I. Instructions: The following instruction will be displayed to the respondent.

Imagine you are a customer looking to renovate your apartment. You are consulting a company about its renovation service (You have not yet decided whether to purchase the service or not). Three employees from that company introduce the company's renovation service and answer your questions in an online chat group. Their objective is to convince you to visit the company's physical store to learn more about their services and eventually finalize the contract.

Please read the following excerpt of conversation between the employees, and answer the questions below based on your assessment of the employees' interaction with each other in the chat group.

Part II. Conversation: The respondent will be randomly directed to read one of the eight following conversations. The respondent will not see the name or number of the conversation.

1. Fast
[Ryan (Employee - Service Agent)]: Hey Jake, I see that Emma has shared the floor plan. Do you need any help with it?
-- 1 minute later --
[Jake (Employee - Designer)]: I need to print it out for reference.
-- 1 minute later --
[Ryan (Employee - Service Agent)]: Sure. I'll print it out and bring it to your desk.
-- 1 minute later --
[Jake (Employee - Designer)]: Thanks.

2. Slow
[Ryan (Employee - Service Agent)]: Hey Jake, I see that Emma has shared the floor plan. Do you need any help with it?
-- the next day --
[Jake (Employee - Designer)]: I need to print it out for reference.
-- the next day --
[Ryan (Employee - Service Agent)]: Sure. I'll print it out and bring it to your desk.
-- the next day --
[Jake (Employee - Designer)]: Thanks.

3. Polite
[Ryan (Employee - Service Agent)]: Hello Jake, I observed that Emma has kindly shared the floor plan. Would you need assistance with it?
[Jake (Employee - Designer)]: Thank you, Ryan. I do need to print it for reference. If it's not too much trouble, could you assist with this?
[Ryan (Employee - Service Agent)]: Absolutely. I will print it and deliver it to your desk shortly.

[Jake (Employee - Designer)]: Thank you very much, your help is greatly appreciated.

4. Impolite

[Ryan (Employee - Service Agent)]: Jake, the customer has sent the floorplan. Please start working on it.

[Jake (Employee - Designer)]: OK, but print it out for me first.

[Ryan (Employee - Service Agent)]: OK.

[Jake (Employee - Designer)]: Make sure to bring it to my table. Hurry up!

5. Engaging

[Ryan (Employee - Service Agent)]: Hi Emma, welcome aboard. This is your exclusive service inquiry group chat. @Emma

[Kevin (Employee - Service Agent)]: Hello, Emma! I am your service agent Kevin. If you have any questions, please don't hesitate to reach out here. This is our designer Jake @Jake.

[Jake (Employee - Designer)]: Hello, Emma! We're are very happy and excited to serve you.

6. Unengaging

[Ryan (Employee - Service Agent)]: Hi, Emma! This is your exclusive service inquiry group chat. @Emma

[Kevin (Employee - Service Agent)]: I am your service agent Kevin.

[Jake (Employee - Designer)]: I'm Jake.

7. Empathetic

[Ryan (Employee - Service Agent)]: Hey Jake, I noticed Emma sent over the floor plan. How are you feeling about starting the draft design? Can I assist in any way?

[Jake (Employee - Designer)]: Thanks for asking, Ryan. I'm a bit under the weather, honestly. I need some time to dive in.

[Ryan (Employee - Service Agent)]: I completely understand. Designing can be quite intensive. Please know I'm here if you need to bounce off ideas or just want to talk it through. There's no rush – your well-being comes first.

8. Unempathetic

[Ryan (Employee - Service Agent)]: Jake, I see Emma has shared the floor plan. We need to get moving on the draft design. Are you going to start on it right away?

[Jake (Employee - Designer)]: Thanks for asking, Ryan. I'm a bit under the weather, honestly. I need some time to dive in.

[Ryan (Employee - Service Agent)]: Well, time is ticking. We can't afford delays. Just make sure it's done by the deadline.

Part III. Questions about the conversation: The respondent will be asked the following questions based on the conversation he/she was directed to. Each question comes with a text entry box where

the respondent can enter an integer between 0 and 100 (0 and 100 included). All questions are non-skippable.

Respondents directed to conversation 1 and 2 will see:

1. Do you feel that the employees respond to each other promptly? Please indicate on a 0-100 scale (0 least promptly, 100 most promptly).

2. Do you feel that the employees have good teamwork? Please indicate on a 0-100 scale (0 worst teamwork, 100 best teamwork).

3. Would you choose this company as your service provider? Please indicate on a 0-100 scale (0 least willing, 100 most willing).

4. Do you feel that the sales team is trustworthy? Please indicate on a 0-100 scale (0 least trustworthy, 100 most trustworthy).

Respondents directed to conversation 3 and 4 will see:

1. Do you feel that the employees respond to each other politely? Please indicate on a 0-100 scale (0 least politely, 100 most politely).

2. Do you feel that the employees have good teamwork? Please indicate on a 0-100 scale (0 worst teamwork, 100 best teamwork).

3. Would you choose this company as your service provider? Please indicate on a 0-100 scale (0 least willing, 100 most willing).

4. Do you feel that the sales team is trustworthy? Please indicate on a 0-100 scale (0 least trustworthy, 100 most trustworthy).

Respondents directed to conversation 3 and 4 will see:

1. Do you feel that the employees respond to each other politely? Please indicate on a 0-100 scale (0 least politely, 100 most politely).

2. Do you feel that the employees have good teamwork? Please indicate on a 0-100 scale (0 worst teamwork, 100 best teamwork).

3. Would you choose this company as your service provider? Please indicate on a 0-100 scale (0 least willing, 100 most willing).

4. Do you feel that the sales team is trustworthy? Please indicate on a 0-100 scale (0 least trustworthy, 100 most trustworthy).

Respondents directed to conversation 5 and 6 will see:

1. Do you feel that the employees are engaging? Please indicate on a 0-100 scale (0 least engaging, 100 most engaging).

2. Do you feel that the employees have good teamwork? Please indicate on a 0-100 scale (0 worst teamwork, 100 best teamwork).

3. Would you choose this company as your service provider? Please indicate on a 0-100 scale (0 least willing, 100 most willing).

4. Do you feel that the sales team is trustworthy? Please indicate on a 0-100 scale (0 least trustworthy, 100 most trustworthy).

Respondents directed to conversation 7 and 8 will see:

1. Do you feel that the employees are empathetic to each other? Please indicate on a 0-100 scale (0 least empathetic, 100 most empathetic).

2. Do you feel that the employees have good teamwork? Please indicate on a 0-100 scale (0 worst teamwork, 100 best teamwork).

3. Would you choose this company as your service provider? Please indicate on a 0-100 scale (0 least willing, 100 most willing).

4. Do you feel that the sales team is trustworthy? Please indicate on a 0-100 scale (0 least trustworthy, 100 most trustworthy).

Part III. Questions about the demographic information: The respondent will answer the following questions on their demographic information. All questions are non-skippable.

1. Which of the following best describes your age?
   o Under 18
   o 18 – 24
   o 25 – 34
   o 35 – 44
   o 45 – 54
   o 55 – 64
   o 65 – 74
   o 75 – 84
   o 85 or older

2. Which of the following genders do you most identify with?
   o Man
   o Woman
   o Non-binary / Other
   o Prefer not to say

3. Which of the following best describes your total annual household income?
   o Less than $25,000
   o $25,000 – $49,999
   o $50,000 – $99,999
   o $100,000 – $200,000
   o More than $200,000
   o Prefer not to say

4. What is the highest level of education you have completed?
   o Some high school
   o High school
   o 2 year college degree
   o Bachelor's degree
   o Master's degree or higher
   o Other

5. Have you or your family purchased a decoration service before?

    o   Yes

    o   No

Part IV. End of Survey: The respondent will see a note indicating the end of the survey and receive a code to be pasted to Mturk in order to get the reward.

OA.4 Mturk Experiment

This table reports the t tests of respondents' answers in the responsive vs irresponsive groups (Panel A), polite vs impolite groups (Panel B), empathetic vs unempathetic groups (Panel C), and engaging vs unengaging groups (Panel D).

Panel A: Responsiveness					
	Irresponsive Group	Responsive Group	Difference in means	t	p
Responsive	65.021	79.250	-14.229	-2.779	0.007
Teamwork	70.723	81.229	-10.506	-2.054	0.043
Purchase	65.936	79.458	-13.522	-2.500	0.014
Trust	70.851	80.542	-9.691	-1.899	0.061
N	47	48			
Panel B: Politeness					
	Impolite Group	Polite Group	Difference in means	t	p
Polite	72.116	72.442	-0.326	-0.073	0.942
Teamwork	76.674	73.837	2.837	0.718	0.475
Purchase	73.651	73.442	0.209	0.045	0.964
Trust	74.000	77.372	-3.372	-0.792	0.431
N	43	43			
Panel C: Empathy					
	Unempathetic Group	Empathetic Group	Difference in means	t	p
Empathy	72.026	78.417	-6.390	-1.306	0.196
Teamwork	72.579	76.778	-4.199	-0.792	0.431
Purchase	75.553	75.167	0.386	0.073	0.942
Trust	71.316	79.194	-7.879	-1.580	0.118
N	38	36			
Panel D: Engaging					
	Unengaging Group	Engaging Group	Difference in means	t	p

Engaging	79.969	73.167	6.802	1.487	0.142
Teamwork	76.594	71.333	5.260	1.090	0.280
Purchase	76.438	73.033	3.404	0.656	0.514
Trust	75.375	72.267	3.108	0.547	0.586
N	32	30			

OA.5 Validating the Measure for Customer Trust

This table reports the validation tests for customer trust. Panel A reports the results of tests investigating whether the customer's expression of trust in the chatgroup is positively related to the customer's probability of visiting the store. *Trust score* is the average cosine similarity between the embedding vector of the customer's message and the embedding vector of trust expressions. Panel B reports the results of the test estimating the relationship between inter-employee responsiveness and customer trust. All other variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Panel A

	(1)
	Visit
Trust score	0.832*
	(0.458)
Message length	-0.055***
	(0.005)
% Non-text messages	-1.183***
	(0.308)
House size	-0.001
	(0.001)
# Messages	0.332***
	(0.024)
# Employees	0.389***
	(0.060)
Constant	-3.060***
	(0.111)
Month FE	Yes
City FE	Yes
Observations	16250
Pseudo R-squared	0.093

Panel B

	(1) Trust score
Reply employee time	-0.002***
	(0.000)
Message length	0.001***
	(0.000)
% Non-text messages	-0.021**
	(0.006)
House size	0.000
	(0.000)
# Messages	0.008***
	(0.001)
# Employees	-0.002**
	(0.001)
Constant	0.526***
	(0.010)
Month FE	Yes
City FE	Yes
Observations	16257
Adjusted R-squared	0.033

OA.6 Robustness Test: OLS Estimates

This table reports the results of tests re-estimating Table 2 through Table 7 using OLS model. Panel A (B, C, D, E, and F) corresponds to Table 2 (3, 4, 5, 6, and 7). All variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Panel A

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time	-0.032***	-0.034***	-0.031***	-0.033***	-0.032***	-0.032***
	(0.005)	(0.005)	(0.004)	(0.005)	(0.005)	(0.004)
Reply customer time	-0.012***	-0.013***	-0.011***	-0.018***	-0.012***	-0.017***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Message length	-0.005***	-0.006***	-0.005***	-0.006***	-0.005***	-0.006***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
% Non-text messages	-0.205***	-0.214***	-0.249***	-0.344***	-0.200***	-0.486***
	(0.045)	(0.050)	(0.038)	(0.059)	(0.044)	(0.063)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
# Messages	0.076***	0.084***	0.080***	0.085***	0.076***	0.107***
	(0.004)	(0.006)	(0.004)	(0.007)	(0.004)	(0.008)
# Employees	0.092***	0.089***	0.017	0.090***	0.091***	-0.010
	(0.015)	(0.016)	(0.009)	(0.014)	(0.015)	(0.011)
Polite score		0.026**				0.025**
		(0.010)				(0.009)
Empathy score		0.086**				0.123***
		(0.031)				(0.028)
Engaging score		0.242				0.360
		(0.238)				(0.222)
% Female employees			-0.014			-0.012
			(0.018)			(0.024)
Prior connections			0.148**			0.182**
			(0.041)			(0.046)
Customer-reply-employee time				0.023***		0.021***
				(0.004)		(0.004)

	(1)	(2)	(3)	(4)	(5)	(6)
Customer-reply-employee sentiment				0.018		0.017
				(0.014)		(0.013)
Hesitation score				0.066		0.048
				(0.049)		(0.036)
Doubt score				-0.016		0.027
				(0.056)		(0.048)
Nonstandard score				-0.413		-0.650**
				(0.205)		(0.218)
% Non-worktime messages					0.076***	0.075***
					(0.006)	(0.008)
Constant	-0.130	-0.339**	-0.069	0.085	-0.163*	-0.034
	(0.070)	(0.094)	(0.059)	(0.069)	(0.072)	(0.173)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Adjusted R-squared	0.111	0.114	0.116	0.116	0.114	0.128

Panel B

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time×Repeated signal	-0.021***	-0.021***	-0.021***	-0.021***	-0.021***	-0.020***
	(0.003)	(0.003)	(0.002)	(0.002)	(0.003)	(0.003)
Reply employee time	-0.011**	-0.011**	-0.010**	-0.011**	-0.011**	-0.011**
	(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)
Repeated signal	-0.012	-0.008	-0.012	-0.013	-0.013	-0.011
	(0.009)	(0.009)	(0.009)	(0.011)	(0.009)	(0.010)
Reply customer time	-0.015***	-0.015***	-0.014***	-0.020***	-0.015***	-0.019***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Message length	-0.005***	-0.006***	-0.005***	-0.006***	-0.005***	-0.006***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
% Non-text messages	-0.220***	-0.228***	-0.262***	-0.377***	-0.215***	-0.511***
	(0.040)	(0.045)	(0.033)	(0.065)	(0.039)	(0.067)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
# Messages	0.086***	0.094***	0.089***	0.098***	0.086***	0.118***
	(0.004)	(0.006)	(0.004)	(0.010)	(0.005)	(0.009)
# Employees	0.107***	0.101***	0.033**	0.104***	0.105***	0.004

	(0.017)	(0.017)	(0.009)	(0.016)	(0.017)	(0.010)
Polite score		0.013				0.011
		(0.010)				(0.009)
Empathy score		0.084**				0.125***
		(0.026)				(0.025)
Engaging score		0.298				0.402
		(0.243)				(0.227)
% Female employees			-0.010			-0.009
			(0.019)			(0.025)
Prior connections			0.144**			0.180***
			(0.040)			(0.044)
Customer-reply-employee time				0.020***		0.019***
				(0.004)		(0.004)
Customer-reply-employee sentiment				0.017		0.015
				(0.014)		(0.013)
Hesitation score				0.103		0.077
				(0.056)		(0.041)
Doubt score				-0.054		-0.004
				(0.064)		(0.054)
Nonstandard score				-0.465*		-0.687**
				(0.207)		(0.218)
% Non-worktime messages					0.075***	0.075***
					(0.006)	(0.008)
Constant	-0.192**	-0.414***	-0.132*	0.057	-0.223**	-0.079
	(0.066)	(0.095)	(0.055)	(0.076)	(0.068)	(0.183)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Adjusted R-squared	0.119	0.120	0.123	0.123	0.121	0.134

Panel C1

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Multiple pairs	-0.039***	-0.038***	-0.038***	-0.039***	-0.038***	-0.034***
	(0.006)	(0.007)	(0.006)	(0.007)	(0.006)	(0.006)
Reply employee time	-0.021***	-0.023***	-0.020***	-0.022***	-0.021***	-0.022***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)

Multiple pairs	-0.015	-0.014	-0.013	-0.017	-0.018*	-0.018
	(0.008)	(0.010)	(0.010)	(0.010)	(0.008)	(0.015)
Reply customer time	-0.013***	-0.014***	-0.012***	-0.019***	-0.013***	-0.018***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Message length	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***	-0.006***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
% Non-text messages	-0.197***	-0.207***	-0.238***	-0.344***	-0.192***	-0.475***
	(0.042)	(0.046)	(0.036)	(0.055)	(0.041)	(0.059)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
# Messages	0.077***	0.086***	0.081***	0.088***	0.078***	0.108***
	(0.004)	(0.006)	(0.004)	(0.006)	(0.004)	(0.007)
# Employees	0.117***	0.113***	0.047***	0.115***	0.116***	0.020
	(0.016)	(0.016)	(0.009)	(0.015)	(0.016)	(0.010)
Polite score		0.024**				0.023**
		(0.009)				(0.009)
Empathy score		0.070*				0.110**
		(0.032)				(0.029)
Engaging score		0.256				0.367
		(0.245)				(0.228)
% Female employees			-0.016			-0.014
			(0.021)			(0.027)
Prior connections			0.135**			0.169***
			(0.038)			(0.041)
Customer-reply-employee time				0.021***		0.020***
				(0.004)		(0.004)
Customer-reply-employee sentiment				0.017		0.015
				(0.014)		(0.013)
Hesitation score				0.090		0.070
				(0.055)		(0.040)
Doubt score				-0.038		0.004
				(0.061)		(0.051)
Nonstandard score				-0.434*		-0.652**
				(0.188)		(0.201)
% Non-worktime messages					0.075***	0.074***
					(0.006)	(0.008)

	(1)	(2)	(3)	(4)	(5)	(6)
Constant	-0.206**	-0.406***	-0.145**	0.021	-0.238**	-0.098
	(0.063)	(0.100)	(0.052)	(0.065)	(0.065)	(0.177)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Adjusted R-squared	0.120	0.122	0.123	0.124	0.122	0.135

Panel C2

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Pair diversity	-0.074***	-0.073***	-0.071***	-0.074***	-0.073***	-0.068***
	(0.007)	(0.008)	(0.006)	(0.007)	(0.007)	(0.007)
Reply employee time	-0.084***	-0.084***	-0.080***	-0.084***	-0.082***	-0.079***
	(0.009)	(0.010)	(0.008)	(0.010)	(0.009)	(0.009)
Pair diversity	-0.015	-0.009	-0.015	-0.007	-0.018	-0.006
	(0.019)	(0.023)	(0.020)	(0.019)	(0.019)	(0.026)
Reply customer time	-0.014***	-0.014***	-0.013***	-0.019***	-0.014***	-0.018***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Message length	-0.005***	-0.005***	-0.005***	-0.005***	-0.005***	-0.006***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
% Non-text messages	-0.195***	-0.205***	-0.236***	-0.338***	-0.190***	-0.471***
	(0.044)	(0.049)	(0.038)	(0.057)	(0.044)	(0.061)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
# Messages	0.077***	0.086***	0.081***	0.088***	0.078***	0.108***
	(0.004)	(0.006)	(0.004)	(0.007)	(0.004)	(0.007)
# Employees	0.120***	0.115***	0.050***	0.115***	0.119***	0.019
	(0.015)	(0.015)	(0.011)	(0.014)	(0.015)	(0.013)
Polite score		0.024**				0.023**
		(0.009)				(0.009)
Empathy score		0.062*				0.100**
		(0.031)				(0.028)
Engaging score		0.283				0.390
		(0.254)				(0.235)
% Female employees				-0.016		-0.015
				(0.021)		(0.027)
Prior connections				0.137**		0.172**

	(1)	(2)	(3)	(4)	(5)	(6)
				(0.040)		(0.043)
Customer-reply-employee time				0.021***		0.019***
				(0.004)		(0.004)
Customer-reply-employee sentiment				0.015		0.013
				(0.013)		(0.012)
Hesitation score				0.094		0.073
				(0.050)		(0.037)
Doubt score				-0.051		-0.007
				(0.056)		(0.048)
Nonstandard score				-0.424*		-0.640**
				(0.193)		(0.209)
% Non-worktime messages					0.074***	0.074***
					(0.006)	(0.008)
Constant	-0.224**	-0.430**	-0.163**	0.008	-0.256**	-0.113
	(0.061)	(0.112)	(0.050)	(0.070)	(0.064)	(0.190)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Adjusted R-squared	0.120	0.122	0.123	0.124	0.122	0.134

Panel C3

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Consistent responsiveness	-0.343**	-0.332**	-0.346**	-0.366**	-0.345**	-0.351**
	(0.094)	(0.093)	(0.099)	(0.108)	(0.094)	(0.114)
Reply employee time	-0.039***	-0.040***	-0.037***	-0.039***	-0.038***	-0.037***
	(0.006)	(0.007)	(0.005)	(0.007)	(0.006)	(0.006)
Consistent responsiveness	2.734***	2.614***	2.726***	2.933***	2.736***	2.739**
	(0.571)	(0.558)	(0.613)	(0.658)	(0.566)	(0.695)
Reply customer time	-0.015***	-0.015***	-0.013***	-0.021***	-0.015***	-0.020***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)
Message length	-0.007***	-0.008***	-0.007***	-0.008***	-0.007***	-0.007***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
% Non-text messages	-0.121	-0.128	-0.189**	-0.194***	-0.112	-0.346***
	(0.063)	(0.068)	(0.050)	(0.046)	(0.061)	(0.062)
House size	-0.000	0.000	0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

	(1)	(2)	(3)	(4)	(5)	(6)
# Messages	0.074***	0.081***	0.079***	0.079***	0.075***	0.099***
	(0.007)	(0.012)	(0.007)	(0.007)	(0.007)	(0.011)
# Employees	0.072***	0.069***	-0.004	0.069***	0.070***	-0.023**
	(0.017)	(0.017)	(0.007)	(0.017)	(0.017)	(0.008)
Polite score		0.021				0.018
		(0.014)				(0.015)
Empathy score		0.046				0.074
		(0.042)				(0.037)
Engaging score		0.265				0.429
		(0.358)				(0.345)
% Female employees			-0.020			-0.023
			(0.036)			(0.048)
Prior connections			0.148**			0.168**
			(0.042)			(0.044)
Customer-reply-employee time				0.028***		0.028***
				(0.003)		(0.003)
Customer-reply-employee sentiment				-0.004		-0.005
				(0.033)		(0.031)
Hesitation score				0.300		0.250
				(0.159)		(0.154)
Doubt score				-0.277		-0.199
				(0.156)		(0.160)
Nonstandard score				-0.221		-0.442
				(0.229)		(0.260)
% Non-worktime messages					0.100***	0.102***
					(0.003)	(0.004)
Constant	-2.752***	-2.821***	-2.686***	-2.816***	-2.798***	-2.769***
	(0.620)	(0.563)	(0.661)	(0.598)	(0.616)	(0.570)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8399	8292	8399	8285	8399	8183
Adjusted R-squared	0.127	0.127	0.133	0.129	0.131	0.141

Panel D

	(1)	(2)	(3)	(4)	(5)	(6)
	Chat-to-visit days	Chat-to-visit days	Chat-to-visit days	Chat-to-visit days	Chat-to-visit days	Chat-to-visit days

Reply employee time	0.780***	0.769***	0.774***	0.738***	0.778***	0.727***
	(0.044)	(0.050)	(0.044)	(0.036)	(0.043)	(0.042)
Reply customer time	1.359***	1.397***	1.356***	1.194***	1.358***	1.221***
	(0.100)	(0.099)	(0.105)	(0.111)	(0.100)	(0.113)
Message length	0.106***	0.105***	0.103***	0.089***	0.105***	0.087***
	(0.015)	(0.019)	(0.015)	(0.019)	(0.016)	(0.021)
% Non-text messages	-0.731	-0.705	-0.363	-1.280	-0.732	-0.743
	(2.042)	(2.349)	(2.173)	(2.825)	(2.018)	(3.496)
House size	0.010**	0.011***	0.010**	0.009**	0.010**	0.009**
	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.002)
# Messages	1.685***	1.682***	1.668***	1.641***	1.683***	1.624**
	(0.183)	(0.255)	(0.198)	(0.291)	(0.185)	(0.423)
# Employees	-0.341***	-0.297**	0.022	-0.363***	-0.334***	0.063
	(0.067)	(0.083)	(0.284)	(0.075)	(0.068)	(0.348)
Polite score		0.630				0.615
		(0.411)				(0.423)
Empathy score		-1.416				-1.267
		(1.022)				(1.088)
Engaging score		-2.768				-2.314
		(4.768)				(5.453)
% Female employees			-0.263			-0.423
			(0.540)			(0.519)
Prior connections			-0.694			-0.710
			(0.458)			(0.524)
Customer-reply-employee time				1.001***		0.999***
				(0.105)		(0.105)
Customer-reply-employee sentiment				0.120		0.169
				(0.508)		(0.626)
Hesitation score				6.917***		7.520***
				(1.413)		(1.516)
Doubt score				-3.463*		-4.289
				(1.498)		(2.420)
Nonstandard score				-1.368		-1.113
				(3.084)		(3.411)
% Non-worktime messages					-0.352	-0.658
					(0.407)	(0.348)

Constant	2.092***	3.916	1.897***	0.897	2.242***	2.498
	(0.429)	(1.960)	(0.452)	(1.497)	(0.350)	(1.878)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4646	4421	4646	4609	4646	4390
Adjusted R-squared	0.129	0.129	0.129	0.141	0.129	0.143

Panel E

	(1)	(2)	(3)	(4)	(5)	(6)
	Sign	*Sign*	*Sign*	*Sign*	*Sign*	*Sign*
Reply employee time after visit	-0.015**	-0.014	-0.015***	-0.016**	-0.015**	-0.012*
	(0.004)	(0.007)	(0.003)	(0.004)	(0.004)	(0.006)
Reply customer time after visit	0.001	0.003	0.001	0.001	0.001	0.002
	(0.003)	(0.005)	(0.002)	(0.004)	(0.003)	(0.005)
Message length after visit	-0.002*	-0.002	-0.002*	-0.003*	-0.002*	-0.003*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
% Non-text messages after visit	0.029	-0.029	0.022	0.061	0.027	-0.012
	(0.035)	(0.085)	(0.033)	(0.051)	(0.034)	(0.089)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
# Messages after visit	0.038	0.037	0.038	0.040	0.038	0.045
	(0.024)	(0.036)	(0.024)	(0.027)	(0.024)	(0.038)
# Employees	0.015	0.016	-0.001	0.019	0.015	0.007
	(0.011)	(0.011)	(0.031)	(0.014)	(0.011)	(0.032)
Polite score after visit		-0.039				-0.041**
		(0.020)				(0.014)
Empathy score after visit		-0.160				-0.172
		(0.123)				(0.134)
Engaging score after visit		-0.085				0.297
		(0.273)				(0.228)
% Female employees			-0.056			-0.079
			(0.033)			(0.049)
Prior connections			0.029			0.026
			(0.054)			(0.064)
Customer-reply-employee time after visit				-0.002		-0.003
				(0.007)		(0.008)
Customer-reply-employee sentiment after visit				-0.031*		-0.041*

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				(0.015)		(0.018)
Hesitation score after visit				-0.358*		-0.171
				(0.151)		(0.253)
Doubt score after visit				0.344**		0.260
				(0.110)		(0.185)
Nonstandard score				-0.109		-0.252
				(0.279)		(0.246)
% Non-worktime messages after visit					0.019	0.017
					(0.014)	(0.024)
Constant	-0.007	0.166	0.032	0.053	-0.017	0.112
	(0.132)	(0.212)	(0.133)	(0.275)	(0.136)	(0.262)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	961	843	961	895	961	791
Adjusted R-squared	0.053	0.056	0.054	0.064	0.052	0.068

Panel F

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time	-0.042***	-0.042***	-0.040***	-0.042***	-0.041***	-0.040***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Reply customer time	-0.015***	-0.016***	-0.014***	-0.021***	-0.015***	-0.020***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Message length	-0.007***	-0.007***	-0.006***	-0.007***	-0.007***	-0.007***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
% Non-text messages	-0.216***	-0.230***	-0.257***	-0.387***	-0.211***	-0.500***
	(0.041)	(0.043)	(0.033)	(0.052)	(0.040)	(0.067)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
# Messages	0.058***	0.062***	0.061***	0.071***	0.059***	0.084***
	(0.004)	(0.007)	(0.004)	(0.005)	(0.004)	(0.008)
Polite score		0.013				0.013
		(0.008)				(0.008)
Empathy score		0.010				0.047
		(0.024)				(0.025)
Engaging score		0.027				0.115
		(0.209)				(0.181)

% Female employees				0.023		0.046
				(0.032)		(0.028)
Prior connections				0.130**		0.165**
				(0.044)		(0.047)
Customer-reply-employee time					0.020***	0.018***
					(0.004)	(0.003)
Customer-reply-employee sentiment					0.021	0.021
					(0.014)	(0.015)
Hesitation score					0.063	0.051
					(0.057)	(0.044)
Doubt score					0.042	0.069
					(0.056)	(0.045)
Nonstandard score					-0.534**	-0.682**
					(0.196)	(0.221)
% Non-worktime messages					0.068***	0.068***
					(0.005)	(0.007)
Constant	-0.006	-0.036	0.039	0.247**	-0.039	0.247
	(0.047)	(0.088)	(0.040)	(0.085)	(0.048)	(0.153)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Adjusted R-squared	0.158	0.159	0.161	0.162	0.160	0.170

OA.7 Robustness Test: Message Sentiment

In this section, we investigate the effect of message sentiment. We separate message sentiment into customer-to-employee sentiment, employee-to-employee sentiment, and employee-to-customer sentiment. *Employee-to-employee sentiment (Employee-to-customer sentiment, Customer-to-employee sentiment)* is the average sentiment of the employee-to-employee (employee-to-customer, customer-to-employee) messages in the chatgroup. All other variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

	(1)	(2)	(3)	(4)
	Visit	*Visit*	*Visit*	*Visit*
Reply employee time	-0.191***	-0.182***	-0.182***	-0.189***
	(0.013)	(0.013)	(0.013)	(0.013)
Reply customer time	-0.070***	-0.075***	-0.074***	-0.077***
	(0.015)	(0.015)	(0.014)	(0.015)
Message length	-0.047***	-0.049***	-0.048***	-0.049***
	(0.003)	(0.003)	(0.003)	(0.003)
% Non-text messages	-1.081***	-1.044***	-1.004***	-1.067***
	(0.189)	(0.184)	(0.183)	(0.192)
House size	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.000)	(0.001)
# Messages	0.395***	0.379***	0.385***	0.402***
	(0.031)	(0.031)	(0.031)	(0.032)
# Employees	0.480***	0.484***	0.483***	0.481***
	(0.025)	(0.024)	(0.024)	(0.025)
Employee-to-employee sentiment	0.095			0.090
	(0.059)			(0.059)
Employee-to-customer sentiment		0.109		0.113
		(0.071)		(0.073)
Customer-to-employee sentiment			0.176**	0.153**
			(0.069)	(0.072)
Constant	-2.904***	-2.808***	-2.871***	-2.960***
	(0.189)	(0.185)	(0.185)	(0.196)
Month FE	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes
Observations	15572	16077	16189	15163
Pseudo R-squared	0.107	0.107	0.105	0.108

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OA.8 Robustness Test: Cluster by Customer

In this section, we repeat the main tests but cluster standard errors by customer rather than by city. Panels A, B, C, D, E, and F correspond to Tables 2, 3, 4, 5, 6, and 7. All variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the customer level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Panel A

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time	-0.183***	-0.191***	-0.176***	-0.185***	-0.181***	-0.183***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Reply customer time	-0.071***	-0.076***	-0.065***	-0.102***	-0.070***	-0.099***
	(0.014)	(0.015)	(0.014)	(0.015)	(0.014)	(0.016)
Message length	-0.047***	-0.054***	-0.045***	-0.049***	-0.046***	-0.053***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
% Non-text messages	-1.028***	-1.095***	-1.273***	-1.813***	-1.013***	-2.588***
	(0.182)	(0.188)	(0.186)	(0.249)	(0.183)	(0.268)
House size	-0.001	-0.000	-0.001	-0.001	-0.001	-0.001
	(0.000)	(0.001)	(0.000)	(0.001)	(0.000)	(0.001)
# Messages	0.374***	0.441***	0.397***	0.437***	0.379***	0.570***
	(0.030)	(0.034)	(0.030)	(0.035)	(0.030)	(0.039)
# Employees	0.485***	0.461***	0.118**	0.468***	0.477***	-0.038
	(0.024)	(0.025)	(0.059)	(0.025)	(0.024)	(0.063)
Polite score		0.155**				0.155**
		(0.062)				(0.063)
Empathy score		0.411**				0.616***
		(0.198)				(0.204)
Engaging score		3.130***				3.471***
		(0.772)				(0.785)
% Female employees			-0.104			-0.096
			(0.087)			(0.091)
Prior connections			0.715***			0.908***
			(0.102)			(0.109)
Customer-to-employee time				0.127***		0.119***
				(0.017)		(0.018)

	(1)	(2)	(3)	(4)	(5)	(6)
Customer-to-employee sentiment				0.120*		0.103
				(0.071)		(0.074)
Hesitation score				0.714		0.541
				(0.472)		(0.498)
Doubt score				-0.247		0.083
				(0.485)		(0.511)
Nonstandard score				-2.356***		-3.594***
				(0.462)		(0.495)
% Non-worktime messages					0.384***	0.383***
					(0.055)	(0.058)
Constant	-2.788***	-4.783***	-2.482***	-1.692***	-2.971***	-3.136***
	(0.180)	(0.444)	(0.189)	(0.329)	(0.183)	(0.525)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Pseudo R-squared	0.106	0.109	0.110	0.110	0.109	0.120

Panel B

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Repeated signal	-0.098***	-0.099***	-0.096***	-0.097***	-0.097***	-0.096***
	(0.016)	(0.017)	(0.016)	(0.016)	(0.016)	(0.017)
Reply employee time	-0.077***	-0.076***	-0.072***	-0.080***	-0.076***	-0.072***
	(0.023)	(0.026)	(0.024)	(0.024)	(0.023)	(0.026)
Repeated signal	-0.091**	-0.063	-0.089**	-0.093**	-0.093**	-0.073
	(0.040)	(0.044)	(0.040)	(0.040)	(0.040)	(0.045)
Reply customer time	-0.083***	-0.086***	-0.077***	-0.113***	-0.082***	-0.109***
	(0.014)	(0.015)	(0.015)	(0.015)	(0.015)	(0.016)
Message length	-0.047***	-0.054***	-0.045***	-0.049***	-0.046***	-0.053***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
% Non-text messages	-1.092***	-1.142***	-1.330***	-1.979***	-1.076***	-2.707***
	(0.182)	(0.188)	(0.186)	(0.250)	(0.182)	(0.268)
House size	-0.000	-0.000	-0.000	-0.001	-0.000	-0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.422***	0.481***	0.443***	0.498***	0.427***	0.620***
	(0.030)	(0.034)	(0.031)	(0.036)	(0.031)	(0.039)
# Employees	0.554***	0.520***	0.195***	0.536***	0.547***	0.026
	(0.026)	(0.027)	(0.059)	(0.026)	(0.026)	(0.063)

	(1)	(2)	(3)	(4)	(5)	(6)
Polite score		0.079				0.077
		(0.064)				(0.065)
Empathy score		0.435**				0.663***
		(0.199)				(0.205)
Engaging score		3.226***				3.506***
		(0.775)				(0.789)
% Female employees			-0.092			-0.083
			(0.087)			(0.091)
Prior connections			0.699***			0.900***
			(0.101)			(0.108)
Customer-to-employee time				0.115***		0.109***
				(0.018)		(0.018)
Customer-to-employee sentiment				0.112		0.097
				(0.071)		(0.074)
Hesitation score				0.921*		0.698
				(0.478)		(0.502)
Doubt score				-0.433		-0.068
				(0.489)		(0.515)
Nonstandard score				-2.643***		-3.804***
				(0.464)		(0.498)
% Non-worktime messages					0.387***	0.386***
					(0.055)	(0.058)
Constant	-3.032***	-5.025***	-2.733***	-1.784***	-3.216***	-3.247***
	(0.183)	(0.448)	(0.192)	(0.331)	(0.186)	(0.529)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Pseudo R-squared	0.111	0.113	0.114	0.114	0.114	0.124

Panel C1

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Multiple pairs	-0.197***	-0.189***	-0.191***	-0.195***	-0.192***	-0.176***
	(0.026)	(0.027)	(0.026)	(0.026)	(0.026)	(0.027)
Reply employee time	-0.120***	-0.128***	-0.116***	-0.123***	-0.120***	-0.124***
	(0.014)	(0.015)	(0.014)	(0.014)	(0.014)	(0.015)
Multiple pairs	-0.138*	-0.128*	-0.121	-0.149**	-0.157**	-0.135*
	(0.075)	(0.076)	(0.075)	(0.076)	(0.075)	(0.077)

	(1)	(2)	(3)	(4)	(5)	(6)
Reply customer time	-0.074***	-0.079***	-0.069***	-0.105***	-0.074***	-0.102***
	(0.014)	(0.015)	(0.014)	(0.015)	(0.014)	(0.016)
Message length	-0.046***	-0.052***	-0.044***	-0.048***	-0.045***	-0.052***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
% Non-text messages	-1.000***	-1.066***	-1.226***	-1.826***	-0.984***	-2.549***
	(0.182)	(0.188)	(0.186)	(0.250)	(0.183)	(0.267)
House size	-0.000	-0.000	-0.000	-0.001	-0.000	-0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.384***	0.448***	0.404***	0.453***	0.388***	0.578***
	(0.030)	(0.034)	(0.030)	(0.035)	(0.030)	(0.039)
# Employees	0.617***	0.589***	0.271***	0.601***	0.614***	0.113*
	(0.031)	(0.033)	(0.063)	(0.032)	(0.031)	(0.067)
Polite score		0.139**				0.140**
		(0.062)				(0.063)
Empathy score		0.338*				0.557***
		(0.198)				(0.204)
Engaging score		3.106***				3.430***
		(0.776)				(0.788)
% Female employees			-0.107			-0.099
			(0.087)			(0.091)
Prior connections			0.659***			0.855***
			(0.101)			(0.107)
Customer-to-employee time				0.121***		0.114***
				(0.018)		(0.018)
Customer-to-employee sentiment				0.111		0.096
				(0.071)		(0.074)
Hesitation score				0.840*		0.647
				(0.476)		(0.501)
Doubt score				-0.353		-0.025
				(0.487)		(0.512)
Nonstandard score				-2.474***		-3.620***
				(0.465)		(0.497)
% Non-worktime messages					0.387***	0.386***
					(0.055)	(0.058)
Constant	-3.188***	-5.097***	-2.877***	-2.045***	-3.380***	-3.438***
	(0.189)	(0.448)	(0.197)	(0.335)	(0.192)	(0.529)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes

	(1)	(2)	(3)	(4)	(5)	(6)
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Pseudo R-squared	0.112	0.115	0.115	0.116	0.115	0.126
Panel C2						
	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Pair diversity	-0.355***	-0.352***	-0.344***	-0.355***	-0.350***	-0.335***
	(0.037)	(0.039)	(0.037)	(0.038)	(0.037)	(0.040)
Reply employee time	-0.417***	-0.419***	-0.403***	-0.420***	-0.412***	-0.401***
	(0.029)	(0.030)	(0.029)	(0.030)	(0.029)	(0.031)
Pair diversity	-0.086	-0.055	-0.072	-0.047	-0.100	-0.018
	(0.123)	(0.129)	(0.123)	(0.124)	(0.123)	(0.130)
Reply customer time	-0.077***	-0.082***	-0.071***	-0.107***	-0.077***	-0.103***
	(0.014)	(0.015)	(0.014)	(0.015)	(0.014)	(0.016)
Message length	-0.046***	-0.053***	-0.044***	-0.048***	-0.045***	-0.052***
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
% Non-text messages	-0.979***	-1.046***	-1.211***	-1.784***	-0.964***	-2.519***
	(0.182)	(0.188)	(0.186)	(0.249)	(0.182)	(0.267)
House size	-0.001	-0.000	-0.000	-0.001	-0.001	-0.001
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.382***	0.447***	0.403***	0.448***	0.386***	0.575***
	(0.030)	(0.034)	(0.030)	(0.035)	(0.030)	(0.039)
# Employees	0.600***	0.569***	0.246***	0.574***	0.595***	0.074
	(0.036)	(0.038)	(0.065)	(0.036)	(0.036)	(0.070)
Polite score		0.148**				0.149**
		(0.062)				(0.063)
Empathy score		0.312				0.524**
		(0.198)				(0.204)
Engaging score		3.228***				3.524***
		(0.772)				(0.786)
% Female employees			-0.110			-0.104
			(0.087)			(0.091)
Prior connections			0.680***			0.875***
			(0.101)			(0.108)
Customer-to-employee time				0.120***		0.113***
				(0.018)		(0.018)
Customer-to-employee sentiment				0.105		0.090

				(0.071)		(0.074)
Hesitation score				0.838*		0.645
				(0.474)		(0.499)
Doubt score				-0.391		-0.050
				(0.485)		(0.511)
Nonstandard score				-2.404***		-3.558***
				(0.463)		(0.496)
% Non-worktime messages					0.381***	0.381***
					(0.055)	(0.058)
Constant	-3.188***	-5.131***	-2.873***	-2.033***	-3.371***	-3.440***
	(0.191)	(0.448)	(0.200)	(0.336)	(0.194)	(0.529)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15553	16469	16179	16469	15298
Pseudo R-squared	0.111	0.114	0.114	0.114	0.113	0.124
Panel C3						

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Consistent responsiveness	-2.640***	-2.471***	-2.634***	-2.864***	-2.652***	-2.633***
	(0.942)	(0.914)	(0.939)	(0.958)	(0.946)	(0.925)
Reply employee time	-0.178***	-0.183***	-0.172***	-0.178***	-0.176***	-0.175***
	(0.024)	(0.023)	(0.024)	(0.024)	(0.024)	(0.024)
Consistent responsiveness	22.263***	20.750***	22.042***	24.038***	22.295***	21.787***
	(7.336)	(7.118)	(7.313)	(7.504)	(7.346)	(7.235)
Reply customer time	-0.076***	-0.082***	-0.068***	-0.109***	-0.075***	-0.107***
	(0.020)	(0.021)	(0.020)	(0.021)	(0.020)	(0.021)
Message length	-0.056***	-0.062***	-0.053***	-0.058***	-0.055***	-0.061***
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
% Non-text messages	-0.432*	-0.463*	-0.785***	-0.785**	-0.399	-1.583***
	(0.251)	(0.253)	(0.257)	(0.340)	(0.252)	(0.364)
House size	0.000	0.000	0.000	-0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.329***	0.386***	0.357***	0.357***	0.336***	0.485***
	(0.042)	(0.046)	(0.042)	(0.048)	(0.042)	(0.053)
# Employees	0.361***	0.345***	-0.027	0.342***	0.352***	-0.133*
	(0.039)	(0.039)	(0.076)	(0.039)	(0.039)	(0.079)

	(1)	(2)	(3)	(4)	(5)	(6)
Polite score			0.131			0.126
			(0.096)			(0.098)
Empathy score			0.200			0.340
			(0.317)			(0.328)
Engaging score			3.189***			3.778***
			(1.139)			(1.175)
% Female employees				-0.078		-0.115
				(0.127)		(0.130)
Prior connections				0.754***		0.861***
				(0.122)		(0.126)
Customer-to-employee time				0.148***		0.151***
				(0.025)		(0.025)
Customer-to-employee sentiment				-0.017		-0.033
				(0.107)		(0.109)
Hesitation score				2.017***		1.677**
				(0.718)		(0.737)
Doubt score				-1.614**		-1.101
				(0.722)		(0.744)
Nonstandard score				-1.089*		-2.274***
				(0.642)		(0.686)
% Non-worktime messages					0.482***	0.498***
					(0.079)	(0.081)
Constant	-24.346***	-24.707***	-23.832***	-25.612***	-24.607***	-24.894***
	(7.338)	(7.153)	(7.317)	(7.514)	(7.348)	(7.276)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8399	8292	8399	8285	8399	8183
Pseudo R-squared	0.116	0.117	0.121	0.119	0.120	0.130

Panel D

	(1)	(2)	(3)	(4)	(5)	(6)
	Chat-to-visit days	Chat-to-visit days	Chat-to-visit days	Chat-to-visit days	Chat-to-visit days	Chat-to-visit days
Reply employee time	0.780***	0.769***	0.774***	0.738***	0.778***	0.727***
	(0.085)	(0.089)	(0.086)	(0.086)	(0.085)	(0.089)
Reply customer time	1.359***	1.397***	1.356***	1.194***	1.358***	1.221***
	(0.106)	(0.110)	(0.106)	(0.108)	(0.106)	(0.113)
Message length	0.106***	0.105***	0.103***	0.089***	0.105***	0.087***

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.018)	(0.021)	(0.018)	(0.019)	(0.018)	(0.021)
% Non-text messages	-0.731	-0.705	-0.363	-1.280	-0.732	-0.743
	(1.266)	(1.321)	(1.283)	(1.506)	(1.265)	(1.605)
House size	0.010***	0.011***	0.010***	0.009***	0.010***	0.009***
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
# Messages	1.685***	1.682***	1.668***	1.641***	1.683***	1.624***
	(0.179)	(0.198)	(0.180)	(0.208)	(0.179)	(0.227)
# Employees	-0.341***	-0.297**	0.022	-0.363***	-0.334**	0.063
	(0.130)	(0.135)	(0.255)	(0.130)	(0.130)	(0.270)
Polite score		0.630				0.615
		(0.398)				(0.398)
Empathy score		-1.416				-1.267
		(1.220)				(1.218)
Engaging score		-2.768				-2.314
		(5.004)				(5.063)
% Female employees			-0.263			-0.423
			(0.554)			(0.571)
Prior connections			-0.694*			-0.710
			(0.416)			(0.435)
Customer-to-employee time				1.001***		0.999***
				(0.126)		(0.130)
Customer-to-employee sentiment				0.120		0.169
				(0.486)		(0.501)
Hesitation score				6.917*		7.520**
				(3.727)		(3.824)
Doubt score				-3.463		-4.289
				(3.521)		(3.626)
Nonstandard score				-1.368		-1.113
				(2.931)		(3.089)
% Non-worktime messages					-0.352	-0.658*
					(0.360)	(0.366)
Constant	2.092*	3.916	1.897	0.897	2.242*	2.498
	(1.157)	(2.804)	(1.192)	(2.084)	(1.161)	(3.217)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4646	4421	4646	4609	4646	4390
Adjusted R-squared	0.129	0.129	0.129	0.141	0.129	0.143

Panel E						
	(1)	(2)	(3)	(4)	(5)	(6)
	Sign	Sign	Sign	Sign	Sign	Sign
Reply employee time after visit	-0.142***	-0.117**	-0.139***	-0.152***	-0.141***	-0.114**
	(0.050)	(0.054)	(0.051)	(0.053)	(0.050)	(0.058)
Reply customer time after visit	0.032	0.058	0.031	0.072	0.033	0.098
	(0.070)	(0.077)	(0.070)	(0.075)	(0.069)	(0.081)
Message length after visit	-0.069***	-0.069***	-0.069***	-0.076***	-0.069***	-0.098***
	(0.022)	(0.024)	(0.022)	(0.026)	(0.022)	(0.031)
% Non-text messages after visit	0.643	-0.175	0.592	1.014	0.635	0.155
	(0.659)	(0.717)	(0.666)	(0.787)	(0.658)	(0.839)
House size	-0.001	-0.000	-0.000	-0.001	-0.001	0.000
	(0.003)	(0.004)	(0.003)	(0.003)	(0.003)	(0.004)
# Messages after visit	0.405***	0.445***	0.416***	0.421***	0.406***	0.520***
	(0.122)	(0.149)	(0.123)	(0.129)	(0.122)	(0.151)
# Employees	0.170	0.195	-0.034	0.203	0.169	0.011
	(0.138)	(0.151)	(0.226)	(0.150)	(0.138)	(0.269)
Polite score after visit		-0.483				-0.476
		(0.357)				(0.385)
Empathy score after visit		-1.617				-1.612
		(1.329)				(1.383)
Engaging score after visit		2.892				7.968
		(5.519)				(5.703)
% Female employees			-0.647			-0.928
			(0.533)			(0.590)
Prior connections			0.354			0.374
			(0.318)			(0.380)
Customer-to-employee time after visit				-0.021		-0.036
				(0.089)		(0.099)
Customer-to-employee sentiment after visit				-0.489		-0.612
				(0.455)		(0.507)
Hesitation score after visit				-4.520		-2.270
				(3.014)		(3.261)
Doubt score after visit				5.615*		5.761*
				(2.974)		(3.316)
Nonstandard score				-1.690		-3.372
				(2.130)		(2.227)

% Non-worktime messages after visit					0.065	0.093
					(0.400)	(0.460)
Constant	-3.098***	-3.387	-2.690**	-3.048	-3.134***	-5.527
	(0.990)	(3.192)	(1.063)	(1.921)	(1.040)	(3.782)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	952	836	952	887	952	784
Pseudo R-squared	0.130	0.143	0.135	0.151	0.130	0.180
Panel F						
	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time	-0.243***	-0.247***	-0.237***	-0.246***	-0.242***	-0.239***
	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.016)
Reply customer time	-0.099***	-0.102***	-0.094***	-0.131***	-0.099***	-0.127***
	(0.016)	(0.017)	(0.016)	(0.017)	(0.016)	(0.017)
Message length	-0.063***	-0.068***	-0.061***	-0.067***	-0.062***	-0.069***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)
% Non-text messages	-1.191***	-1.308***	-1.462***	-2.204***	-1.184***	-2.930***
	(0.202)	(0.210)	(0.208)	(0.265)	(0.202)	(0.287)
House size	-0.001	-0.000	-0.000	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.302***	0.349***	0.322***	0.382***	0.307***	0.480***
	(0.033)	(0.037)	(0.034)	(0.038)	(0.034)	(0.042)
Polite score		0.100				0.100
		(0.070)				(0.071)
Empathy score		-0.027				0.197
		(0.224)				(0.231)
Engaging score		2.038**				2.255**
		(0.882)				(0.897)
% Female employees			0.231			0.407
			(0.314)			(0.322)
Prior connections			0.716***			0.936***
			(0.108)			(0.114)
Customer-to-employee time				0.120***		0.116***
				(0.019)		(0.020)
Customer-to-employee sentiment				0.141*		0.140*
				(0.076)		(0.079)

	(1)	(2)	(3)	(4)	(5)	(6)
Hesitation score				0.733		0.564
				(0.509)		(0.536)
Doubt score				0.165		0.457
				(0.522)		(0.550)
Nonstandard score				-3.272***		-4.109***
				(0.510)		(0.546)
% Non-worktime messages					0.377***	0.381***
					(0.059)	(0.062)
Constant	-2.038***	-3.119***	-1.841***	-0.657*	-2.230***	-1.542**
	(0.244)	(0.526)	(0.284)	(0.391)	(0.246)	(0.636)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16405	15489	16405	16115	16405	15234
Pseudo R-squared	0.163	0.165	0.165	0.166	0.165	0.175

OA.9 Robustness Test: City * Month Fixed effects

In this section, we repeat the main tests but includes city * month fixed effects rather than city fixed effects and month fixed effects. Panels A, B, C, D, E, and F correspond to Tables 2, 3, 4, 5, 6, and 7. All variables are defined in Appendix A. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Panel A

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time	-0.181***	-0.189***	-0.174***	-0.183***	-0.179***	-0.180***
	(0.029)	(0.029)	(0.026)	(0.030)	(0.028)	(0.027)
Reply customer time	-0.072***	-0.077***	-0.066***	-0.104***	-0.072***	-0.101***
	(0.013)	(0.013)	(0.013)	(0.012)	(0.013)	(0.013)
Message length	-0.049***	-0.056***	-0.047***	-0.051***	-0.048***	-0.055***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.006)
% Non-text messages	-1.045***	-1.118***	-1.287***	-1.864***	-1.032***	-2.618***
	(0.288)	(0.313)	(0.239)	(0.334)	(0.285)	(0.374)
House size	-0.001	-0.000	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.376***	0.445***	0.398***	0.441***	0.380***	0.574***
	(0.019)	(0.031)	(0.016)	(0.041)	(0.019)	(0.046)
# Employees	0.487***	0.463***	0.127**	0.469***	0.480***	-0.030
	(0.070)	(0.073)	(0.055)	(0.065)	(0.070)	(0.066)
Polite score		0.163***				0.162***
		(0.055)				(0.051)
Empathy score		0.336				0.552**
		(0.249)				(0.228)
Engaging score		3.169***				3.515***
		(1.167)				(1.173)
% Female employees			-0.107			-0.104
			(0.094)			(0.128)
Prior connections			0.703***			0.892***
			(0.227)			(0.246)
Customer-to-employee time				0.132***		0.124***
				(0.019)		(0.020)
Customer-to-employee sentiment				0.123		0.106

	(1)	(2)	(3)	(4)	(5)	(6)
				(0.085)		(0.085)
Hesitation score				0.741***		0.578***
				(0.273)		(0.179)
Doubt score				-0.244		0.082
				(0.389)		(0.342)
Nonstandard score				-2.459**		-3.628***
				(1.164)		(1.273)
% Non-worktime messages					0.383***	0.379***
					(0.032)	(0.045)
Constant	-2.912***	-4.870***	-2.622***	-1.791***	-3.102***	-3.275***
	(0.224)	(0.504)	(0.200)	(0.547)	(0.229)	(1.110)
CityMonth FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15537	16469	16179	16469	15282
Pseudo R-squared	0.111	0.114	0.114	0.115	0.113	0.125

Panel B

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Repeated signal	-0.100***	-0.101***	-0.099***	-0.100***	-0.100***	-0.098***
	(0.014)	(0.014)	(0.013)	(0.013)	(0.014)	(0.014)
Reply employee time	-0.072***	-0.071***	-0.068***	-0.075***	-0.071***	-0.068***
	(0.016)	(0.014)	(0.015)	(0.019)	(0.016)	(0.015)
Repeated signal	-0.101**	-0.072*	-0.100**	-0.102*	-0.103**	-0.083*
	(0.046)	(0.042)	(0.045)	(0.055)	(0.046)	(0.046)
Reply customer time	-0.084***	-0.087***	-0.078***	-0.115***	-0.083***	-0.111***
	(0.014)	(0.014)	(0.014)	(0.013)	(0.014)	(0.014)
Message length	-0.049***	-0.056***	-0.047***	-0.051***	-0.048***	-0.055***
	(0.004)	(0.005)	(0.003)	(0.004)	(0.004)	(0.006)
% Non-text messages	-1.109***	-1.164***	-1.344***	-2.026***	-1.096***	-2.732***
	(0.269)	(0.297)	(0.224)	(0.352)	(0.266)	(0.376)
House size	-0.001	-0.000	-0.000	-0.001	-0.000	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.425***	0.485***	0.445***	0.504***	0.430***	0.624***
	(0.017)	(0.029)	(0.018)	(0.054)	(0.020)	(0.053)
# Employees	0.561***	0.525***	0.208***	0.541***	0.554***	0.038
	(0.082)	(0.083)	(0.043)	(0.080)	(0.082)	(0.050)
Polite score		0.082				0.078
		(0.059)				(0.054)

	(1)	(2)	(3)	(4)	(5)	(6)
Empathy score		0.374*				0.612***
		(0.219)				(0.210)
Engaging score		3.240***				3.523***
		(1.246)				(1.249)
% Female employees			-0.098			-0.093
			(0.096)			(0.131)
Prior connections			0.686***			0.884***
			(0.220)			(0.235)
Customer-to-employee time				0.120***		0.115***
				(0.018)		(0.019)
Customer-to-employee sentiment				0.114		0.099
				(0.090)		(0.087)
Hesitation score				0.954***		0.739***
				(0.318)		(0.205)
Doubt score				-0.435		-0.073
				(0.430)		(0.366)
Nonstandard score				-2.735**		-3.828***
				(1.173)		(1.260)
% Non-worktime messages					0.386***	0.382***
					(0.032)	(0.045)
Constant	-3.075***	-5.033***	-2.790***	-1.809***	-3.266***	-3.312***
	(0.212)	(0.562)	(0.173)	(0.552)	(0.221)	(1.160)
CityMonth FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15537	16469	16179	16469	15282
Pseudo R-squared	0.116	0.119	0.119	0.120	0.119	0.130

Panel C1

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Multiple pairs	-0.200***	-0.193***	-0.195***	-0.198***	-0.195***	-0.179***
	(0.032)	(0.034)	(0.030)	(0.036)	(0.033)	(0.033)
Reply employee time	-0.117***	-0.124***	-0.112***	-0.120***	-0.116***	-0.120***
	(0.018)	(0.018)	(0.017)	(0.019)	(0.018)	(0.017)
Multiple pairs	-0.154***	-0.143***	-0.137***	-0.165***	-0.172***	-0.152**
	(0.041)	(0.048)	(0.051)	(0.047)	(0.042)	(0.074)
Reply customer time	-0.075***	-0.080***	-0.070***	-0.107***	-0.075***	-0.104***
	(0.014)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)
Message length	-0.047***	-0.054***	-0.046***	-0.050***	-0.047***	-0.054***

	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.006)
% Non-text messages	-1.020***	-1.091***	-1.241***	-1.876***	-1.006***	-2.575***
	(0.266)	(0.293)	(0.224)	(0.320)	(0.264)	(0.353)
House size	-0.000	-0.000	-0.000	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.384***	0.451***	0.404***	0.457***	0.389***	0.581***
	(0.018)	(0.031)	(0.016)	(0.037)	(0.018)	(0.039)
# Employees	0.627***	0.598***	0.289***	0.610***	0.623***	0.131**
	(0.079)	(0.080)	(0.044)	(0.073)	(0.080)	(0.055)
Polite score		0.146***				0.145***
		(0.049)				(0.047)
Empathy score		0.267				0.496**
		(0.248)				(0.227)
Engaging score		3.144**				3.473***
		(1.237)				(1.239)
% Female employees				-0.114		-0.110
				(0.107)		(0.139)
Prior connections				0.642***		0.835***
				(0.205)		(0.216)
Customer-to-employee time				0.126***		0.120***
				(0.020)		(0.021)
Customer-to-employee sentiment				0.115		0.099
				(0.088)		(0.086)
Hesitation score				0.865***		0.687***
				(0.323)		(0.221)
Doubt score				-0.351		-0.031
				(0.434)		(0.376)
Nonstandard score				-2.567**		-3.644***
				(1.083)		(1.185)
% Non-worktime messages					0.387***	0.382***
					(0.031)	(0.045)
Constant	-3.305***	-5.182***	-3.011***	-2.140***	-3.504***	-3.582***
	(0.200)	(0.561)	(0.173)	(0.515)	(0.210)	(1.128)
CityMonth FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15537	16469	16179	16469	15282
Pseudo R-squared	0.118	0.120	0.120	0.121	0.120	0.131
Panel C2						

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time×Pair diversity	-0.361***	-0.360***	-0.350***	-0.361***	-0.357***	-0.342***
	(0.033)	(0.039)	(0.030)	(0.033)	(0.033)	(0.036)
Reply employee time	-0.418***	-0.421***	-0.404***	-0.421***	-0.413***	-0.402***
	(0.048)	(0.054)	(0.044)	(0.049)	(0.048)	(0.051)
Pair diversity	-0.126	-0.095	-0.113	-0.087	-0.141	-0.060
	(0.095)	(0.122)	(0.101)	(0.094)	(0.094)	(0.136)
Reply customer time	-0.079***	-0.083***	-0.073***	-0.109***	-0.078***	-0.106***
	(0.014)	(0.013)	(0.014)	(0.013)	(0.014)	(0.014)
Message length	-0.048***	-0.055***	-0.046***	-0.050***	-0.047***	-0.055***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.006)
% Non-text messages	-0.994***	-1.065***	-1.222***	-1.831***	-0.981***	-2.541***
	(0.283)	(0.311)	(0.236)	(0.319)	(0.282)	(0.362)
House size	-0.001	-0.000	-0.000	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.383***	0.450***	0.404***	0.453***	0.388***	0.578***
	(0.019)	(0.031)	(0.016)	(0.038)	(0.019)	(0.042)
# Employees	0.613***	0.582***	0.267***	0.586***	0.608***	0.095
	(0.068)	(0.064)	(0.056)	(0.064)	(0.068)	(0.074)
Polite score		0.156***				0.156***
		(0.049)				(0.047)
Empathy score		0.235				0.457**
		(0.246)				(0.226)
Engaging score		3.277***				3.574***
		(1.217)				(1.213)
% Female employees			-0.116			-0.113
			(0.108)			(0.141)
Prior connections			0.665***			0.857***
			(0.224)			(0.240)
Customer-to-employee time				0.124***		0.118***
				(0.019)		(0.021)
Customer-to-employee sentiment				0.108		0.092
				(0.082)		(0.081)
Hesitation score				0.873***		0.691***
				(0.280)		(0.197)
Doubt score				-0.399		-0.064

	(1)	(2)	(3)	(4)	(5)	(6)
				(0.402)		(0.359)
Nonstandard score				-2.501**		-3.584***
				(1.109)		(1.230)
% Non-worktime messages					0.380***	0.376***
					(0.032)	(0.047)
Constant	-3.323***	-5.240***	-3.024***	-2.144***	-3.514***	-3.601***
	(0.175)	(0.585)	(0.147)	(0.549)	(0.188)	(1.175)
CityMonth FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16469	15537	16469	16179	16469	15282
Pseudo R-squared	0.116	0.119	0.119	0.120	0.119	0.130

Panel C3

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Consistent responsiveness	-2.514***	-2.335***	-2.503***	-2.760***	-2.529***	-2.529**
	(0.879)	(0.884)	(0.904)	(0.990)	(0.872)	(1.003)
Reply employee time	-0.180***	-0.186***	-0.174***	-0.180***	-0.178***	-0.178***
	(0.029)	(0.030)	(0.025)	(0.030)	(0.029)	(0.029)
Consistent responsiveness	21.179***	19.583***	20.891***	23.078***	21.239***	20.764***
	(5.764)	(5.846)	(6.004)	(6.312)	(5.645)	(6.421)
Reply customer time	-0.078***	-0.084***	-0.071***	-0.112***	-0.077***	-0.110***
	(0.015)	(0.014)	(0.014)	(0.012)	(0.015)	(0.013)
Message length	-0.059***	-0.065***	-0.056***	-0.061***	-0.058***	-0.064***
	(0.004)	(0.005)	(0.004)	(0.003)	(0.004)	(0.006)
% Non-text messages	-0.455	-0.500	-0.800***	-0.847***	-0.424	-1.630***
	(0.352)	(0.377)	(0.277)	(0.291)	(0.349)	(0.364)
House size	-0.000	0.000	0.000	-0.000	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.335***	0.399***	0.363***	0.367***	0.341***	0.499***
	(0.048)	(0.063)	(0.043)	(0.035)	(0.046)	(0.054)
# Employees	0.357***	0.340***	-0.022	0.337***	0.347***	-0.130**
	(0.075)	(0.072)	(0.047)	(0.073)	(0.074)	(0.058)
Polite score		0.125*				0.121
		(0.074)				(0.076)
Empathy score		0.124				0.271
		(0.241)				(0.209)
Engaging score		3.542**				4.143**

	(1)	(2)	(3)	(4)	(5)	(6)
			(1.617)			(1.666)
% Female employees			-0.093			-0.138
			(0.183)			(0.235)
Prior connections			0.735***			0.843***
			(0.230)			(0.242)
Customer-to-employee time				0.152***		0.155***
				(0.015)		(0.017)
Customer-to-employee sentiment				0.006		-0.016
				(0.188)		(0.180)
Hesitation score				2.001**		1.652**
				(0.791)		(0.805)
Doubt score				-1.595*		-1.064
				(0.849)		(0.899)
Nonstandard score				-1.190		-2.315*
				(1.194)		(1.380)
% Non-worktime messages					0.469***	0.486***
					(0.027)	(0.027)
Constant	-23.354***	-23.767***	-22.797***	-24.699***	-23.639***	-24.119***
	(5.881)	(5.877)	(6.118)	(5.780)	(5.759)	(5.607)
CityMonth FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8391	8284	8391	8277	8391	8175
Pseudo R-squared	0.122	0.124	0.127	0.125	0.126	0.136

Panel D

	(1) Chat-to-visit days	(2) Chat-to-visit days	(3) Chat-to-visit days	(4) Chat-to-visit days	(5) Chat-to-visit days	(6) Chat-to-visit days
Reply employee time	0.785***	0.772***	0.779***	0.742***	0.782***	0.729***
	(0.051)	(0.062)	(0.052)	(0.042)	(0.051)	(0.054)
Reply customer time	1.340***	1.376***	1.337***	1.174***	1.338***	1.198***
	(0.101)	(0.101)	(0.105)	(0.111)	(0.100)	(0.112)
Message length	0.110***	0.111***	0.108***	0.093***	0.110***	0.092**
	(0.017)	(0.020)	(0.017)	(0.022)	(0.017)	(0.023)
% Non-text messages	-0.553	-0.595	-0.209	-0.871	-0.558	-0.373
	(1.900)	(2.248)	(2.041)	(2.624)	(1.867)	(3.289)
House size	0.011**	0.011**	0.010**	0.010**	0.010**	0.010**
	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.002)
# Messages	1.706***	1.709***	1.690***	1.633***	1.704***	1.612**

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.184)	(0.255)	(0.198)	(0.288)	(0.186)	(0.414)
# Employees	-0.340***	-0.291***	-0.002	-0.362***	-0.331***	0.084
	(0.054)	(0.068)	(0.261)	(0.062)	(0.056)	(0.330)
Polite score		0.674				0.663
		(0.438)				(0.451)
Empathy score		-1.320				-1.277
		(1.189)				(1.253)
Engaging score		-3.493				-3.307
		(4.442)				(5.029)
% Female employees			-0.196			-0.375
			(0.522)			(0.487)
Prior connections			-0.646			-0.730
			(0.443)			(0.525)
Customer-to-employee time				1.009***		1.004***
				(0.106)		(0.103)
Customer-to-employee sentiment				0.125		0.160
				(0.507)		(0.628)
Hesitation score				6.847***		7.669***
				(1.633)		(1.723)
Doubt score				-3.204		-4.112
				(1.700)		(2.599)
Nonstandard score				-0.701		-0.361
				(3.178)		(3.361)
% Non-worktime messages					-0.463	-0.766*
					(0.370)	(0.317)
Constant	3.810**	5.740*	3.618***	2.201	4.022**	4.055
	(1.087)	(2.733)	(0.869)	(1.268)	(1.123)	(2.433)
CityMonth FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4646	4421	4646	4609	4646	4390
Adjusted R-squared	0.129	0.129	0.129	0.141	0.129	0.143

Panel E

	(1)	(2)	(3)	(4)	(5)	(6)
	Sign	Sign	Sign	Sign	Sign	Sign
Reply employee time after visit	-0.164**	-0.140	-0.162**	-0.180**	-0.164**	-0.139
	(0.080)	(0.109)	(0.072)	(0.084)	(0.081)	(0.093)
Reply customer time after visit	0.029	0.056	0.025	0.074	0.029	0.091
	(0.035)	(0.074)	(0.031)	(0.046)	(0.036)	(0.063)

	(1)	(2)	(3)	(4)	(5)	(6)
Message length after visit	-0.069***	-0.068***	-0.069***	-0.076***	-0.069***	-0.099***
	(0.013)	(0.018)	(0.014)	(0.017)	(0.013)	(0.019)
% Non-text messages after visit	0.754***	-0.111	0.697**	1.184**	0.750***	0.286
	(0.240)	(0.674)	(0.283)	(0.541)	(0.227)	(0.783)
House size	-0.000	-0.001	0.000	-0.000	-0.000*	-0.001
	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)
# Messages after visit	0.412*	0.438	0.421**	0.428**	0.412*	0.527
	(0.210)	(0.371)	(0.211)	(0.211)	(0.211)	(0.354)
# Employees	0.182**	0.209**	0.009	0.215**	0.181*	0.054
	(0.092)	(0.100)	(0.269)	(0.105)	(0.093)	(0.224)
Polite score after visit		-0.417				-0.385
		(0.314)				(0.253)
Empathy score after visit		-1.497				-1.573
		(1.180)				(1.267)
Engaging score after visit		1.578				7.544***
		(3.996)				(2.195)
% Female employees				-0.715***		-1.047**
				(0.203)		(0.477)
Prior connections				0.301		0.338
				(0.526)		(0.586)
Customer-to-employee time after visit					-0.017	-0.026
					(0.099)	(0.103)
Customer-to-employee sentiment after visit					-0.394	-0.596**
					(0.274)	(0.287)
Hesitation score after visit					-5.104	-2.453
					(3.154)	(4.293)
Doubt score after visit					6.691***	6.566*
					(2.550)	(3.815)
Nonstandard score					-1.227	-3.315
					(2.715)	(2.528)
% Non-worktime messages after visit					0.025	0.057
					(0.212)	(0.280)
Constant	-3.013**	-2.715	-2.618*	-3.596	-3.029**	-5.573*
	(1.346)	(3.063)	(1.345)	(2.916)	(1.360)	(2.862)
CityMonth FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	891	786	891	805	891	716
Pseudo R-squared	0.158	0.167	0.163	0.175	0.158	0.206

Panel F

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time	-0.241***	-0.245***	-0.235***	-0.243***	-0.239***	-0.238***
	(0.032)	(0.033)	(0.031)	(0.032)	(0.032)	(0.031)
Reply customer time	-0.098***	-0.102***	-0.093***	-0.131***	-0.098***	-0.127***
	(0.014)	(0.015)	(0.014)	(0.014)	(0.015)	(0.015)
Message length	-0.065***	-0.070***	-0.063***	-0.068***	-0.064***	-0.071***
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.005)
% Non-text messages	-1.201***	-1.326***	-1.465***	-2.254***	-1.196***	-2.972***
	(0.272)	(0.277)	(0.206)	(0.298)	(0.269)	(0.423)
House size	-0.001	-0.000	-0.000	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.298***	0.344***	0.318***	0.381***	0.303***	0.477***
	(0.027)	(0.036)	(0.020)	(0.030)	(0.026)	(0.046)
Polite score		0.103**				0.102**
		(0.049)				(0.047)
Empathy score		-0.068				0.168
		(0.147)				(0.165)
Engaging score		2.025***				2.241***
		(0.733)				(0.695)
% Female employees			0.166			0.314*
			(0.214)			(0.183)
Prior connections			0.696***			0.916***
			(0.257)			(0.282)
Customer-to-employee time				0.124***		0.120***
				(0.020)		(0.021)
Customer-to-employee sentiment				0.139		0.137
				(0.095)		(0.095)
Hesitation score				0.739**		0.575**
				(0.354)		(0.255)
Doubt score				0.227		0.520*
				(0.393)		(0.273)
Nonstandard score				-3.397***		-4.202***
				(1.221)		(1.416)
% Non-worktime messages					0.377***	0.381***
					(0.032)	(0.045)

Constant	-2.235***	-3.283***	-2.023***	-0.837	-2.440***	-1.715*
	(0.117)	(0.386)	(0.129)	(0.666)	(0.117)	(0.938)
CityMonth FE	Yes	Yes	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16405	15473	16405	16115	16405	15218
Pseudo R-squared	0.167	0.169	0.169	0.171	0.169	0.179

OA.10 Robustness Test: Reply Time Among Service Agents

This table repeats the main tests but uses the reply time among service agents only rather than among all employees. Panels A, B, C, D, E, and F correspond to Tables 2, 3, 4, 5, 6, and 7. All variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Panel A

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time	-0.191***	-0.193***	-0.183***	-0.195***	-0.189***	-0.185***
	(0.033)	(0.034)	(0.031)	(0.035)	(0.033)	(0.033)
Reply customer time	-0.076***	-0.082***	-0.069***	-0.107***	-0.076***	-0.105***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.019)
Message length	-0.046***	-0.054***	-0.044***	-0.048***	-0.045***	-0.053***
	(0.005)	(0.007)	(0.005)	(0.006)	(0.005)	(0.009)
% Non-word messages	-1.221***	-1.291***	-1.490***	-2.224***	-1.200***	-3.001***
	(0.262)	(0.273)	(0.237)	(0.456)	(0.263)	(0.536)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.429***	0.491***	0.452***	0.511***	0.436***	0.639***
	(0.015)	(0.027)	(0.017)	(0.058)	(0.018)	(0.067)
# Employees	0.493***	0.463***	0.095	0.473***	0.484***	-0.071
	(0.063)	(0.066)	(0.067)	(0.058)	(0.063)	(0.077)
Polite score		0.185***				0.205***
		(0.056)				(0.052)
Empathy score		0.428*				0.650***
		(0.249)				(0.215)
Engaging score		3.332***				3.712***
		(1.132)				(1.122)
% Female employees			-0.058			-0.069
			(0.103)			(0.145)
Prior connections			0.774***			0.965***
			(0.232)			(0.247)
Customer reply employee time				0.120***		0.116***
				(0.018)		(0.019)
Customer reply employee sentiment				0.126		0.124

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	(1)	(2)	(3)	(4)	(5)	(6)
				(0.078)		(0.091)
Hesitation score				0.735***		0.613***
				(0.136)		(0.191)
Doubt score				-0.180		0.159
				(0.343)		(0.331)
Nonstandard score				-2.862**		-4.065***
				(1.234)		(1.336)
% Non-worktime messages					0.417***	0.416***
					(0.041)	(0.045)
Constant	-3.023***	-5.074***	-2.709***	-1.702***	-3.225***	-3.290***
	(0.322)	(0.481)	(0.286)	(0.575)	(0.349)	(1.052)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14105	13438	14105	13883	14105	13243
Pseudo R-squared	0.108	0.111	0.112	0.112	0.111	0.124
Panel B						

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Repeated signal	-0.111***	-0.120***	-0.109***	-0.110***	-0.111***	-0.114***
	(0.011)	(0.010)	(0.011)	(0.010)	(0.011)	(0.010)
Reply employee time	-0.055**	-0.039	-0.049*	-0.062**	-0.053**	-0.042
	(0.027)	(0.029)	(0.025)	(0.031)	(0.027)	(0.029)
Repeated signal	-0.024	0.004	-0.020	-0.039	-0.029	-0.023
	(0.068)	(0.066)	(0.067)	(0.078)	(0.069)	(0.071)
Reply customer time	-0.084***	-0.089***	-0.076***	-0.115***	-0.083***	-0.112***
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.020)
Message length	-0.046***	-0.054***	-0.044***	-0.047***	-0.045***	-0.052***
	(0.005)	(0.007)	(0.005)	(0.006)	(0.005)	(0.009)
% Non-word messages	-1.283***	-1.347***	-1.541***	-2.370***	-1.262***	-3.117***
	(0.237)	(0.252)	(0.219)	(0.495)	(0.239)	(0.562)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.463***	0.522***	0.483***	0.559***	0.471***	0.682***
	(0.024)	(0.032)	(0.028)	(0.075)	(0.029)	(0.079)
# Employees	0.545***	0.510***	0.156***	0.527***	0.537***	-0.012
	(0.079)	(0.079)	(0.052)	(0.076)	(0.079)	(0.060)
Polite score		0.135**				0.146***

	(1)	(2)	(3)	(4)	(5)	(6)
		(0.056)				(0.047)
Empathy score		0.410**				0.669***
		(0.201)				(0.185)
Engaging score		3.447***				3.731***
		(1.196)				(1.184)
% Female employees			-0.048			-0.058
			(0.104)			(0.149)
Prior connections			0.754***			0.951***
			(0.222)			(0.237)
Customer reply employee time				0.113***		0.109***
				(0.017)		(0.018)
Customer reply employee sentiment				0.115		0.114
				(0.079)		(0.091)
Hesitation score				0.927***		0.777***
				(0.170)		(0.180)
Doubt score				-0.350		-0.001
				(0.379)		(0.346)
Nonstandard score				-3.091**		-4.241***
				(1.282)		(1.367)
% Non-worktime messages					0.425***	0.424***
					(0.043)	(0.044)
Constant	-3.236***	-5.325***	-2.930***	-1.797***	-3.442***	-3.415***
	(0.300)	(0.500)	(0.263)	(0.615)	(0.331)	(1.133)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14105	13438	14105	13883	14105	13243
Pseudo R-squared	0.112	0.115	0.116	0.116	0.115	0.127

Panel C1

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Multiple pairs	-0.205***	-0.204***	-0.199***	-0.202***	-0.201***	-0.188***
	(0.037)	(0.039)	(0.034)	(0.040)	(0.038)	(0.037)
Reply employee time	-0.123***	-0.123***	-0.118***	-0.128***	-0.122***	-0.121***
	(0.022)	(0.022)	(0.020)	(0.023)	(0.022)	(0.022)
Multiple pairs	-0.139***	-0.133***	-0.116***	-0.153***	-0.161***	-0.141***
	(0.034)	(0.033)	(0.039)	(0.037)	(0.037)	(0.050)
Reply customer time	-0.078***	-0.083***	-0.072***	-0.109***	-0.078***	-0.107***

	(1)	(2)	(3)	(4)	(5)	(6)
	(0.018)	(0.018)	(0.017)	(0.018)	(0.018)	(0.020)
Message length	-0.045***	-0.052***	-0.043***	-0.046***	-0.044***	-0.051***
	(0.005)	(0.007)	(0.005)	(0.006)	(0.005)	(0.009)
% Non-word messages	-1.191***	-1.262***	-1.436***	-2.229***	-1.169***	-2.949***
	(0.245)	(0.258)	(0.228)	(0.445)	(0.248)	(0.514)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.000)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
# Messages	0.437***	0.497***	0.457***	0.525***	0.444***	0.646***
	(0.015)	(0.027)	(0.016)	(0.054)	(0.017)	(0.061)
# Employees	0.628***	0.598***	0.254***	0.610***	0.624***	0.092
	(0.080)	(0.080)	(0.054)	(0.073)	(0.080)	(0.061)
Polite score		0.171***				0.191***
		(0.050)				(0.049)
Empathy score		0.362				0.600***
		(0.248)				(0.213)
Engaging score		3.251***				3.607***
		(1.199)				(1.188)
% Female employees				-0.056		-0.067
				(0.120)		(0.160)
Prior connections				0.707***		0.901***
				(0.204)		(0.215)
Customer reply employee time					0.116***	0.112***
					(0.019)	(0.020)
Customer reply employee sentiment					0.111	0.112
					(0.079)	(0.092)
Hesitation score					0.858***	0.729***
					(0.160)	(0.188)
Doubt score					-0.291	0.029
					(0.384)	(0.358)
Nonstandard score					-2.959**	-4.067***
					(1.151)	(1.233)
% Non-worktime messages					0.426***	0.425***
					(0.043)	(0.045)
Constant	-3.397***	-5.360***	-3.082***	-2.038***	-3.615***	-3.578***
	(0.306)	(0.544)	(0.271)	(0.538)	(0.342)	(1.068)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes

	14105	13438	14105	13883	14105	13243
Observations	14105	13438	14105	13883	14105	13243
Pseudo R-squared	0.115	0.117	0.118	0.118	0.118	0.129

Panel C2

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time×Pair diversity	-0.415***	-0.424***	-0.401***	-0.410***	-0.413***	-0.397***
	(0.042)	(0.049)	(0.039)	(0.041)	(0.044)	(0.046)
Reply employee time	-0.457***	-0.462***	-0.441***	-0.458***	-0.453***	-0.437***
	(0.059)	(0.064)	(0.054)	(0.060)	(0.060)	(0.062)
Pair diversity	-0.037	-0.054	-0.012	-0.017	-0.056	-0.032
	(0.123)	(0.145)	(0.129)	(0.119)	(0.125)	(0.150)
Reply customer time	-0.081***	-0.086***	-0.073***	-0.111***	-0.080***	-0.108***
	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)	(0.020)
Message length	-0.046***	-0.053***	-0.043***	-0.047***	-0.045***	-0.052***
	(0.005)	(0.007)	(0.005)	(0.006)	(0.005)	(0.009)
% Non-word messages	-1.166***	-1.235***	-1.417***	-2.181***	-1.145***	-2.907***
	(0.255)	(0.269)	(0.233)	(0.444)	(0.257)	(0.524)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)
# Messages	0.434***	0.495***	0.455***	0.520***	0.441***	0.642***
	(0.015)	(0.026)	(0.017)	(0.056)	(0.018)	(0.064)
# Employees	0.606***	0.583***	0.221***	0.579***	0.600***	0.060
	(0.069)	(0.065)	(0.070)	(0.063)	(0.069)	(0.085)
Polite score		0.179***				0.199***
		(0.051)				(0.049)
Empathy score		0.312				0.545***
		(0.246)				(0.212)
Engaging score		3.371***				3.704***
		(1.164)				(1.150)
% Female employees			-0.060			-0.074
			(0.117)			(0.158)
Prior connections			0.731***			0.922***
			(0.228)			(0.242)
Customer reply employee time				0.115***		0.111***
				(0.019)		(0.020)
Customer reply employee sentiment				0.109		0.109
				(0.076)		(0.087)

Hesitation score				0.838***		0.712***
				(0.145)		(0.188)
Doubt score				-0.316		0.011
				(0.353)		(0.339)
Nonstandard score				-2.886**		-3.989***
				(1.166)		(1.263)
% Non-worktime messages					0.420***	0.420***
					(0.043)	(0.046)
Constant	-3.405***	-5.416***	-3.083***	-2.039***	-3.616***	-3.615***
	(0.279)	(0.564)	(0.239)	(0.575)	(0.317)	(1.111)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14105	13438	14105	13883	14105	13243
Pseudo R-squared	0.114	0.116	0.117	0.117	0.117	0.128

Panel C3

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Consistent responsiveness	-2.523**	-2.416**	-2.521**	-2.699**	-2.537**	-2.549**
	(1.055)	(1.070)	(1.083)	(1.158)	(1.064)	(1.189)
Reply employee time	-0.183***	-0.185***	-0.176***	-0.184***	-0.181***	-0.177***
	(0.028)	(0.030)	(0.024)	(0.030)	(0.028)	(0.028)
Consistent responsiveness	21.153***	20.161***	21.006***	22.600***	21.218***	21.034***
	(7.013)	(7.177)	(7.304)	(7.651)	(6.989)	(7.953)
Reply customer time	-0.084***	-0.089***	-0.074***	-0.115***	-0.084***	-0.112***
	(0.019)	(0.018)	(0.018)	(0.014)	(0.018)	(0.015)
Message length	-0.055***	-0.062***	-0.052***	-0.058***	-0.054***	-0.060***
	(0.005)	(0.007)	(0.005)	(0.006)	(0.005)	(0.009)
% Non-word messages	-0.695**	-0.750**	-1.078***	-1.085***	-0.657*	-1.962***
	(0.350)	(0.374)	(0.296)	(0.312)	(0.350)	(0.392)
House size	0.001	0.001	0.001	0.001	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.368***	0.422***	0.397***	0.406***	0.378***	0.532***
	(0.033)	(0.049)	(0.030)	(0.042)	(0.030)	(0.060)
# Employees	0.348***	0.332***	-0.046	0.331***	0.337***	-0.149**
	(0.074)	(0.070)	(0.051)	(0.071)	(0.072)	(0.061)
Polite score		0.129				0.134

	(1)	(2)	(3)	(4)	(5)	(6)
		(0.098)				(0.092)
Empathy score		0.287				0.425**
		(0.284)				(0.214)
Engaging score		3.471**				3.978**
		(1.641)				(1.693)
% Female employees			-0.041			-0.079
			(0.194)			(0.239)
Prior connections			0.765***			0.871***
			(0.228)			(0.236)
Customer reply employee time				0.133***		0.137***
				(0.017)		(0.017)
Customer reply employee sentiment				0.034		0.007
				(0.202)		(0.201)
Hesitation score				2.315***		1.888***
				(0.693)		(0.664)
Doubt score				-1.905*		-1.252
				(0.979)		(1.017)
Nonstandard score				-1.137		-2.410*
				(1.059)		(1.242)
% Non-worktime messages					0.516***	0.523***
					(0.009)	(0.011)
Constant	-23.273***	-24.335***	-22.855***	-24.216***	-23.594***	-24.345***
	(7.251)	(7.176)	(7.552)	(7.147)	(7.247)	(7.131)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7342	7261	7342	7255	7342	7179
Pseudo R-squared	0.113	0.114	0.118	0.116	0.117	0.128

Panel D

	(1) Chat-to-visit days	(2) Chat-to-visit days	(3) Chat-to-visit days	(4) Chat-to-visit days	(5) Chat-to-visit days	(6) Chat-to-visit days
Reply employee time	0.889***	0.853***	0.881***	0.849***	0.887***	0.807***
	(0.045)	(0.057)	(0.047)	(0.050)	(0.043)	(0.057)
Reply customer time	1.455***	1.480***	1.451***	1.293***	1.455***	1.306***
	(0.128)	(0.122)	(0.133)	(0.140)	(0.129)	(0.141)
Message length	0.115***	0.116***	0.112***	0.096***	0.114***	0.093**
	(0.019)	(0.023)	(0.018)	(0.021)	(0.019)	(0.025)

% Non-word messages	-1.313	-1.284	-0.872	-1.905	-1.315	-1.423
	(2.171)	(2.425)	(2.296)	(3.105)	(2.150)	(3.605)
House size	0.010***	0.011***	0.009***	0.009***	0.010***	0.009***
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
# Messages	1.716***	1.720***	1.696***	1.606***	1.713***	1.631***
	(0.143)	(0.188)	(0.167)	(0.261)	(0.139)	(0.345)
# Employees	-0.356**	-0.309**	0.076	-0.376***	-0.351**	0.072
	(0.088)	(0.089)	(0.313)	(0.091)	(0.090)	(0.368)
Polite score		0.946***				0.941***
		(0.204)				(0.192)
Empathy score		-1.271				-1.146
		(0.979)				(1.047)
Engaging score		-3.549				-2.598
		(5.450)				(6.594)
% Female employees			-0.264			-0.545
			(0.554)			(0.484)
Prior connections			-0.820			-0.755
			(0.541)			(0.612)
Customer reply employee time				1.085***		1.063***
				(0.135)		(0.144)
Customer reply employee sentiment				0.441		0.517
				(0.616)		(0.748)
Hesitation score				5.476*		5.977*
				(2.496)		(2.870)
Doubt score				-1.937		-2.685
				(2.588)		(3.534)
Nonstandard score				-1.082		-1.348
				(3.404)		(3.690)
% Non-worktime messages					-0.237	-0.506
					(0.445)	(0.371)
Constant	1.487	3.413*	1.246	0.150	1.597	1.851
	(1.167)	(1.670)	(1.157)	(2.249)	(0.989)	(1.798)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4028	3881	4028	4001	4028	3859
Adjusted R-squared	0.134	0.135	0.134	0.149	0.134	0.151
Panel E						

	(1)	(2)	(3)	(4)	(5)	(6)
	Sign	Sign	Sign	Sign	Sign	Sign
Reply employee time after visit	-0.098	-0.117	-0.095**	-0.155	-0.092	-0.140
	(0.065)	(0.108)	(0.047)	(0.112)	(0.070)	(0.128)
Reply customer time after visit	0.104*	0.089	0.085**	0.228***	0.118	0.300***
	(0.055)	(0.101)	(0.043)	(0.068)	(0.072)	(0.071)
Message length after visit	-0.036***	-0.042**	-0.036***	-0.049***	-0.035***	-0.080***
	(0.008)	(0.018)	(0.008)	(0.015)	(0.008)	(0.004)
% Non-word messages after visit	-0.513*	-0.594	-0.378*	-0.534***	-0.493	-0.453
	(0.266)	(0.609)	(0.207)	(0.094)	(0.407)	(0.429)
House size	0.002	0.002	0.002	0.003	0.002	0.001
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
# Messages after visit	0.098	0.134	0.118	0.265	0.090	0.551
	(0.355)	(0.455)	(0.313)	(0.332)	(0.354)	(0.482)
# Employees	0.033	0.009	-0.008	0.025	0.022	-0.366***
	(0.238)	(0.257)	(0.285)	(0.191)	(0.235)	(0.107)
Polite score after visit		-0.701				-0.553***
		(0.782)				(0.168)
Empathy score after visit		-3.671***				-2.363*
		(0.389)				(1.254)
Engaging score after visit		-3.105				4.054
		(4.435)				(5.808)
% Female employees			-2.297***			-3.622***
			(0.600)			(0.681)
Prior connections			0.051			0.528
			(0.432)			(0.372)
Customer-to-employee time after visit				-0.179		-0.201
				(0.220)		(0.154)
Customer-to-employee sentiment after visit				-2.896***		-3.850***
				(0.693)		(0.588)
Hesitation score after visit				-9.921***		-5.998*
				(1.675)		(3.270)
Doubt score after visit				11.726***		9.500***
				(1.248)		(2.432)
Nonstandard score				-8.722**		-10.161***
				(3.901)		(3.123)
% Non-worktime messages after visit					0.599	0.516

	(0.902)	(1.756)

					(0.902)	(1.756)
Constant	-1.541	2.715	-0.820	2.680	-1.799	3.847
	(2.221)	(4.280)	(2.039)	(3.423)	(2.625)	(9.553)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	308	280	308	290	308	264
Pseudo R-squared	0.075	0.120	0.101	0.191	0.078	0.288
Panel F						
	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time	-0.247***	-0.245***	-0.239***	-0.249***	-0.245***	-0.235***
	(0.037)	(0.038)	(0.036)	(0.037)	(0.036)	(0.036)
Reply customer time	-0.101***	-0.103***	-0.095***	-0.133***	-0.101***	-0.128***
	(0.018)	(0.018)	(0.017)	(0.018)	(0.018)	(0.020)
Message length	-0.064***	-0.070***	-0.062***	-0.067***	-0.063***	-0.071***
	(0.005)	(0.006)	(0.005)	(0.006)	(0.005)	(0.008)
% Non-word messages	-1.381***	-1.499***	-1.681***	-2.592***	-1.367***	-3.327***
	(0.237)	(0.253)	(0.196)	(0.423)	(0.237)	(0.592)
House size	0.000	0.000	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.322***	0.358***	0.343***	0.423***	0.328***	0.511***
	(0.023)	(0.031)	(0.019)	(0.052)	(0.021)	(0.072)
Polite score		0.141***				0.155***
		(0.049)				(0.045)
Empathy score		0.100				0.337
		(0.180)				(0.214)
Engaging score		1.931***				2.253***
		(0.741)				(0.681)
% Female employees			0.216			0.323
			(0.213)			(0.214)
Prior connections			0.765***			0.982***
			(0.288)			(0.310)
Customer reply employee time				0.111***		0.110***
				(0.019)		(0.020)
Customer reply employee sentiment				0.163*		0.179
				(0.092)		(0.109)
Hesitation score				0.796***		0.701***

				(0.176)		(0.207)
Doubt score				0.277		0.559***
				(0.331)		(0.209)
Nonstandard score				-3.724***		-4.533***
				(1.206)		(1.444)
% Non-worktime messages					0.421***	0.424***
					(0.044)	(0.047)
Constant	-1.486***	-2.550***	-1.266***	-0.025	-1.712***	-0.964
	(0.277)	(0.419)	(0.228)	(0.548)	(0.295)	(0.800)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	14042	13374	14042	13820	14042	13179
Pseudo R-squared	0.167	0.169	0.170	0.170	0.169	0.181

In this section, we repeat the main tests but drops the chat groups that are formed in November and December. Panels A, B, C, D, E, and F correspond to Tables 2, 3, 4, 5, 6, and 7. All variables are defined in Appendix A. All regressions include month fixed effects and city fixed effects. Standard errors clustered at the city level are provided in parentheses. *, **, and *** denote significance at the 0.10, 0.05, and 0.01 level, respectively.

Panel A

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time	-0.174***	-0.185***	-0.168***	-0.177***	-0.172***	-0.177***
	(0.031)	(0.031)	(0.029)	(0.033)	(0.031)	(0.030)
Reply customer time	-0.069***	-0.072***	-0.063***	-0.097***	-0.068***	-0.091***
	(0.014)	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)
Message length	-0.042***	-0.050***	-0.040***	-0.044***	-0.042***	-0.049***
	(0.004)	(0.006)	(0.004)	(0.004)	(0.004)	(0.007)
% Non-text messages	-0.997***	-1.028***	-1.233***	-1.564***	-0.984***	-2.275***
	(0.353)	(0.355)	(0.299)	(0.254)	(0.347)	(0.290)
House size	-0.000	-0.000	-0.000	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.386***	0.454***	0.407***	0.420***	0.391***	0.545***
	(0.027)	(0.037)	(0.027)	(0.050)	(0.028)	(0.053)
# Employees	0.464***	0.439***	0.192***	0.456***	0.456***	0.058
	(0.075)	(0.077)	(0.045)	(0.071)	(0.075)	(0.058)
Polite score		0.217***				0.199***
		(0.080)				(0.070)
Empathy score		0.514***				0.712***
		(0.114)				(0.155)
Engaging score		3.322**				3.683***
		(1.400)				(1.395)
% Female employees			-0.001			-0.002
			(0.107)			(0.148)
Prior connections			0.542**			0.709***
			(0.212)			(0.238)
Customer-to-employee time				0.111***		0.101***
				(0.019)		(0.021)
Customer-to-employee sentiment				0.059		0.052
				(0.080)		(0.076)

	(1)	(2)	(3)	(4)	(5)	(6)
Hesitation score				0.424		0.164
				(0.594)		(0.490)
Doubt score				-0.074		0.355
				(0.565)		(0.515)
Nonstandard score				-1.799*		-2.984**
				(1.035)		(1.228)
% Non-worktime messages					0.405***	0.404***
					(0.054)	(0.064)
Constant	-2.918***	-5.093***	-2.752***	-2.013***	-3.109***	-3.825***
	(0.369)	(0.517)	(0.332)	(0.260)	(0.382)	(1.003)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12727	12019	12727	12498	12727	11815
Pseudo R-squared	0.102	0.106	0.105	0.104	0.105	0.114

Panel B

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time×Repeated signal	-0.089***	-0.090***	-0.088***	-0.088***	-0.088***	-0.089***
	(0.017)	(0.017)	(0.017)	(0.015)	(0.017)	(0.015)
Reply employee time	-0.079***	-0.080***	-0.074***	-0.082***	-0.078***	-0.074***
	(0.022)	(0.022)	(0.021)	(0.026)	(0.022)	(0.024)
Repeated signal	-0.100***	-0.067*	-0.100***	-0.093**	-0.101***	-0.070*
	(0.031)	(0.035)	(0.030)	(0.040)	(0.030)	(0.038)
Reply customer time	-0.082***	-0.082***	-0.076***	-0.108***	-0.081***	-0.100***
	(0.015)	(0.015)	(0.015)	(0.014)	(0.015)	(0.015)
Message length	-0.042***	-0.050***	-0.041***	-0.044***	-0.042***	-0.049***
	(0.004)	(0.006)	(0.004)	(0.004)	(0.004)	(0.007)
% Non-text messages	-1.058***	-1.071***	-1.290***	-1.706***	-1.045***	-2.382***
	(0.328)	(0.333)	(0.275)	(0.267)	(0.322)	(0.299)
House size	-0.000	-0.000	-0.000	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.436***	0.494***	0.455***	0.479***	0.441***	0.594***
	(0.029)	(0.038)	(0.031)	(0.059)	(0.031)	(0.058)
# Employees	0.536***	0.498***	0.267***	0.525***	0.528***	0.118**
	(0.081)	(0.082)	(0.044)	(0.079)	(0.080)	(0.052)
Polite score		0.133				0.116
		(0.091)				(0.084)

	(1)	(2)	(3)	(4)	(5)	(6)
Empathy score		0.551***				0.765***
		(0.116)				(0.176)
Engaging score		3.412**				3.732**
		(1.478)				(1.467)
% Female employees			0.003			0.004
			(0.114)			(0.155)
Prior connections			0.534**			0.709***
			(0.208)			(0.231)
Customer-to-employee time				0.098***		0.090***
				(0.018)		(0.021)
Customer-to-employee sentiment				0.055		0.048
				(0.083)		(0.077)
Hesitation score				0.630		0.317
				(0.614)		(0.502)
Doubt score				-0.260		0.206
				(0.586)		(0.528)
Nonstandard score				-2.034**		-3.168***
				(1.037)		(1.223)
% Non-worktime messages					0.407***	0.406***
					(0.056)	(0.066)
Constant	-3.163***	-5.339***	-2.998***	-2.132***	-3.355***	-3.960***
	(0.353)	(0.586)	(0.314)	(0.284)	(0.373)	(1.068)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12727	12019	12727	12498	12727	11815
Pseudo R-squared	0.107	0.110	0.109	0.109	0.110	0.118

Panel C1

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Multiple pairs	-0.197***	-0.188***	-0.192***	-0.197***	-0.192***	-0.177***
	(0.028)	(0.029)	(0.027)	(0.029)	(0.028)	(0.027)
Reply employee time	-0.110***	-0.120***	-0.105***	-0.113***	-0.109***	-0.117***
	(0.024)	(0.023)	(0.022)	(0.025)	(0.024)	(0.024)
Multiple pairs	-0.121***	-0.112***	-0.113**	-0.117***	-0.139***	-0.117**
	(0.041)	(0.042)	(0.045)	(0.043)	(0.041)	(0.056)
Reply customer time	-0.073***	-0.075***	-0.068***	-0.100***	-0.072***	-0.093***
	(0.014)	(0.014)	(0.014)	(0.013)	(0.014)	(0.014)

	(1)	(2)	(3)	(4)	(5)	(6)
Message length	-0.041***	-0.048***	-0.039***	-0.043***	-0.040***	-0.048***
	(0.004)	(0.006)	(0.004)	(0.004)	(0.004)	(0.007)
% Non-text messages	-0.958***	-0.987***	-1.173***	-1.572***	-0.944***	-2.231***
	(0.322)	(0.324)	(0.273)	(0.247)	(0.316)	(0.280)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.397***	0.461***	0.415***	0.437***	0.402***	0.555***
	(0.026)	(0.038)	(0.025)	(0.046)	(0.027)	(0.047)
# Employees	0.596***	0.565***	0.341***	0.585***	0.591***	0.201***
	(0.080)	(0.080)	(0.040)	(0.076)	(0.080)	(0.049)
Polite score		0.192***				0.177***
		(0.068)				(0.059)
Empathy score		0.441***				0.651***
		(0.117)				(0.158)
Engaging score		3.298**				3.647**
		(1.477)				(1.472)
% Female employees				-0.017		-0.017
				(0.123)		(0.163)
Prior connections				0.496**		0.668***
				(0.194)		(0.214)
Customer-to-employee time					0.103***	0.095***
					(0.020)	(0.023)
Customer-to-employee sentiment					0.048	0.041
					(0.082)	(0.077)
Hesitation score					0.558	0.281
					(0.649)	(0.538)
Doubt score					-0.167	0.251
					(0.625)	(0.563)
Nonstandard score					-1.935**	-3.033***
					(0.963)	(1.149)
% Non-worktime messages					0.404***	0.403***
					(0.053)	(0.064)
Constant	-3.345***	-5.425***	-3.169***	-2.382***	-3.541***	-4.129***
	(0.330)	(0.589)	(0.295)	(0.261)	(0.350)	(1.056)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12727	12019	12727	12498	12727	11815

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Pseudo R-squared	0.109	0.112	0.111	0.110	0.111	0.119

Panel C2						
	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time×Pair diversity	-0.324***	-0.323***	-0.315***	-0.327***	-0.318***	-0.313***
	(0.042)	(0.042)	(0.042)	(0.040)	(0.042)	(0.039)
Reply employee time	-0.388***	-0.394***	-0.377***	-0.394***	-0.382***	-0.380***
	(0.051)	(0.056)	(0.049)	(0.052)	(0.051)	(0.053)
Pair diversity	-0.129	-0.134	-0.129	-0.078	-0.147*	-0.103
	(0.084)	(0.118)	(0.090)	(0.081)	(0.084)	(0.130)
Reply customer time	-0.076***	-0.078***	-0.070***	-0.102***	-0.075***	-0.095***
	(0.014)	(0.014)	(0.014)	(0.013)	(0.014)	(0.014)
Message length	-0.041***	-0.049***	-0.040***	-0.043***	-0.041***	-0.048***
	(0.004)	(0.006)	(0.004)	(0.004)	(0.004)	(0.007)
% Non-text messages	-0.948***	-0.975***	-1.170***	-1.541***	-0.935***	-2.213***
	(0.341)	(0.346)	(0.289)	(0.247)	(0.337)	(0.290)
House size	-0.000	-0.000	-0.000	-0.001	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.393***	0.458***	0.412***	0.431***	0.398***	0.550***
	(0.026)	(0.037)	(0.026)	(0.047)	(0.027)	(0.050)
# Employees	0.587***	0.562***	0.325***	0.568***	0.582***	0.183**
	(0.065)	(0.059)	(0.057)	(0.062)	(0.065)	(0.076)
Polite score		0.203***				0.187***
		(0.069)				(0.060)
Empathy score		0.424***				0.629***
		(0.110)				(0.156)
Engaging score		3.439**				3.758**
		(1.483)				(1.469)
% Female employees			-0.015			-0.016
			(0.122)			(0.161)
Prior connections			0.516**			0.686***
			(0.211)			(0.233)
Customer-to-employee time				0.103***		0.094***
				(0.020)		(0.022)
Customer-to-employee sentiment				0.046		0.037
				(0.075)		(0.071)
Hesitation score				0.553		0.280

	(1)	(2)	(3)	(4)	(5)	(6)
				(0.596)		(0.500)
Doubt score				-0.199		0.229
				(0.583)		(0.530)
Nonstandard score				-1.875*		-2.989**
				(0.981)		(1.191)
% Non-worktime messages					0.400***	0.400***
					(0.052)	(0.065)
Constant	-3.328***	-5.479***	-3.152***	-2.356***	-3.517***	-4.157***
	(0.317)	(0.623)	(0.285)	(0.296)	(0.340)	(1.106)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12727	12019	12727	12498	12727	11815
Pseudo R-squared	0.107	0.110	0.109	0.108	0.109	0.118

Panel C3

	(1)	(2)	(3)	(4)	(5)	(6)
	Visit	Visit	Visit	Visit	Visit	Visit
Reply employee time×Consistent responsiveness	-2.239**	-2.051**	-2.272**	-2.515***	-2.233**	-2.289**
	(0.887)	(0.881)	(0.900)	(0.957)	(0.898)	(0.967)
Reply employee time	-0.177***	-0.187***	-0.170***	-0.175***	-0.175***	-0.176***
	(0.032)	(0.033)	(0.030)	(0.035)	(0.033)	(0.034)
Consistent responsiveness	19.285***	17.541***	19.411***	21.536***	19.185***	19.294***
	(5.763)	(5.761)	(5.912)	(6.139)	(5.748)	(6.164)
Reply customer time	-0.071***	-0.076***	-0.063***	-0.102***	-0.069***	-0.098***
	(0.018)	(0.016)	(0.018)	(0.013)	(0.018)	(0.013)
Message length	-0.051***	-0.058***	-0.049***	-0.053***	-0.050***	-0.058***
	(0.004)	(0.006)	(0.004)	(0.004)	(0.004)	(0.007)
% Non-text messages	-0.302	-0.343	-0.630*	-0.585***	-0.280	-1.408***
	(0.427)	(0.456)	(0.334)	(0.178)	(0.414)	(0.285)
House size	0.000	0.000	0.001	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.350***	0.412***	0.373***	0.355***	0.357***	0.481***
	(0.046)	(0.066)	(0.047)	(0.066)	(0.046)	(0.086)
# Employees	0.358***	0.342***	0.074	0.344***	0.349***	-0.027
	(0.066)	(0.059)	(0.050)	(0.060)	(0.065)	(0.074)
Polite score		0.233***				0.223***
		(0.072)				(0.064)

	(1)	(2)	(3)	(4)	(5)	(6)
Empathy score		0.325				0.480*
		(0.202)				(0.261)
Engaging score		3.447*				3.879**
		(1.766)				(1.794)
% Female employees			0.051			0.021
			(0.176)			(0.251)
Prior connections			0.566***			0.678***
			(0.211)			(0.236)
Customer-to-employee time				0.140***		0.139***
				(0.025)		(0.030)
Customer-to-employee sentiment				0.015		-0.005
				(0.179)		(0.180)
Hesitation score				1.438		1.141
				(0.997)		(0.926)
Doubt score				-0.897		-0.410
				(0.916)		(0.884)
Nonstandard score				-0.907		-2.180
				(1.206)		(1.492)
% Non-worktime messages					0.477***	0.495***
					(0.067)	(0.070)
Constant	-21.615***	-21.990***	-21.609***	-23.514***	-21.746***	-23.085***
	(6.115)	(6.036)	(6.246)	(5.964)	(6.110)	(5.697)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6623	6549	6623	6538	6623	6466
Pseudo R-squared	0.113	0.115	0.116	0.114	0.116	0.125

Panel D

	(1) Chat-to-visit days	(2) Chat-to-visit days	(3) Chat-to-visit days	(4) Chat-to-visit days	(5) Chat-to-visit days	(6) Chat-to-visit days
Reply employee time	0.805***	0.791***	0.798***	0.768***	0.803***	0.756***
	(0.070)	(0.071)	(0.070)	(0.062)	(0.069)	(0.058)
Reply customer time	1.332***	1.372***	1.327***	1.209***	1.331***	1.234***
	(0.102)	(0.099)	(0.109)	(0.127)	(0.101)	(0.131)
Message length	0.104***	0.109***	0.101***	0.092***	0.104***	0.092***
	(0.011)	(0.014)	(0.011)	(0.017)	(0.011)	(0.016)
% Non-text messages	-0.641	-0.655	-0.121	-1.670	-0.624	-0.900

	(2.492)	(2.748)	(2.623)	(3.606)	(2.467)	(4.241)
House size	0.011**	0.011**	0.010**	0.010**	0.011**	0.010**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
# Messages	1.657***	1.663***	1.635***	1.635***	1.656***	1.599**
	(0.184)	(0.240)	(0.202)	(0.320)	(0.186)	(0.434)
# Employees	-0.301**	-0.265*	0.112	-0.320**	-0.294**	0.125
	(0.096)	(0.120)	(0.275)	(0.118)	(0.101)	(0.355)
Polite score		0.555*				0.563*
		(0.272)				(0.269)
Empathy score		-1.224*				-1.185
		(0.590)				(0.697)
Engaging score		-5.087				-4.952
		(4.645)				(5.293)
% Female employees			-0.230			-0.293
			(0.633)			(0.617)
Prior connections			-0.809			-0.768
			(0.413)			(0.463)
Customer-to-employee time				0.805***		0.808***
				(0.176)		(0.174)
Customer-to-employee sentiment				0.251		0.330
				(0.572)		(0.690)
Hesitation score				3.478		4.888
				(3.008)		(3.197)
Doubt score				-0.042		-1.331
				(2.198)		(2.901)
Nonstandard score				-2.562		-1.968
				(3.899)		(4.592)
% Non-worktime messages					-0.359	-0.672
					(0.447)	(0.447)
Constant	2.150**	4.870*	1.939**	1.617	2.301**	3.981
	(0.730)	(2.085)	(0.656)	(2.530)	(0.611)	(2.081)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3579	3412	3579	3553	3579	3390
Adjusted R-squared	0.134	0.135	0.135	0.142	0.134	0.143
Panel E						
	(1)	(2)	(3)	(4)	(5)	(6)

	Sign	Sign	Sign	Sign	Sign	Sign
Reply employee time after visit	-0.170**	-0.146	-0.168**	-0.187**	-0.167*	-0.152
	(0.085)	(0.115)	(0.078)	(0.088)	(0.085)	(0.093)
Reply customer time after visit	0.013	0.014	0.009	0.038	0.017	0.044
	(0.047)	(0.069)	(0.039)	(0.062)	(0.049)	(0.066)
Message length after visit	-0.053***	-0.060***	-0.053***	-0.061***	-0.051***	-0.088***
	(0.013)	(0.015)	(0.014)	(0.016)	(0.013)	(0.021)
% Non-text messages after visit	0.955**	0.143	0.901*	1.743***	0.914**	0.853
	(0.381)	(0.595)	(0.475)	(0.415)	(0.408)	(0.717)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages after visit	0.433*	0.496	0.440**	0.433**	0.437*	0.607
	(0.223)	(0.382)	(0.216)	(0.205)	(0.229)	(0.374)
# Employees	0.157	0.172	0.077	0.188	0.151	0.149
	(0.194)	(0.181)	(0.322)	(0.188)	(0.195)	(0.278)
Polite score after visit		-0.452				-0.498
		(0.501)				(0.411)
Empathy score after visit		-2.247				-2.100
		(1.667)				(1.833)
Engaging score after visit		5.718				13.557***
		(4.718)				(3.549)
% Female employees			-0.670**			-0.967**
			(0.287)			(0.417)
Prior connections			0.123			0.021
			(0.464)			(0.517)
Customer-to-employee time after visit				0.021		0.013
				(0.051)		(0.043)
Customer-to-employee sentiment after visit				-0.687**		-0.871***
				(0.309)		(0.267)
Hesitation score after visit				-5.631*		-4.217
				(3.415)		(4.343)
Doubt score after visit				7.061***		7.973***
				(1.694)		(2.438)
Nonstandard score				-2.677		-4.149
				(3.256)		(3.328)
% Non-worktime messages after visit					0.377	0.531
					(0.259)	(0.324)

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Constant	-3.279*	-4.410	-2.938	-2.890	-3.497*	-8.190
	(1.893)	(3.611)	(1.796)	(4.186)	(1.985)	(5.117)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	779	691	779	721	779	644
Pseudo R-squared	0.122	0.140	0.125	0.152	0.123	0.192

Panel F

	(1) Visit	(2) Visit	(3) Visit	(4) Visit	(5) Visit	(6) Visit
Reply employee time	-0.239***	-0.246***	-0.234***	-0.242***	-0.238***	-0.239***
	(0.030)	(0.032)	(0.028)	(0.031)	(0.030)	(0.030)
Reply customer time	-0.099***	-0.101***	-0.094***	-0.127***	-0.099***	-0.120***
	(0.019)	(0.020)	(0.018)	(0.020)	(0.020)	(0.021)
Message length	-0.058***	-0.064***	-0.057***	-0.061***	-0.057***	-0.065***
	(0.004)	(0.006)	(0.004)	(0.005)	(0.004)	(0.006)
% Non-text messages	-1.227***	-1.337***	-1.485***	-2.014***	-1.227***	-2.690***
	(0.346)	(0.329)	(0.278)	(0.239)	(0.344)	(0.344)
House size	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
# Messages	0.324***	0.375***	0.342***	0.371***	0.329***	0.465***
	(0.022)	(0.031)	(0.021)	(0.043)	(0.023)	(0.056)
Polite score		0.154**				0.140**
		(0.061)				(0.057)
Empathy score		0.009				0.220
		(0.153)				(0.219)
Engaging score		2.202***				2.497***
		(0.771)				(0.797)
% Female employees			0.379			0.437*
			(0.304)			(0.236)
Prior connections			0.545**			0.730***
			(0.233)			(0.263)
Customer-to-employee time				0.104***		0.099***
				(0.018)		(0.021)
Customer-to-employee sentiment				0.083		0.090
				(0.093)		(0.091)
Hesitation score				0.368		0.200
				(0.660)		(0.538)

Doubt score				0.425		0.722
				(0.601)		(0.490)
Nonstandard score				-2.670**		-3.385**
				(1.048)		(1.338)
% Non-worktime messages					0.410***	0.417***
					(0.049)	(0.061)
Constant	-2.304***	-3.528***	-2.264***	-1.135***	-2.505***	-2.394***
	(0.338)	(0.456)	(0.374)	(0.314)	(0.361)	(0.739)
Month FE	Yes	Yes	Yes	Yes	Yes	Yes
City FE	Yes	Yes	Yes	Yes	Yes	Yes
Employee FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	12664	11956	12664	12435	12664	11752
Pseudo R-squared	0.162	0.164	0.164	0.164	0.165	0.171