

The Emergent Field of Organizational Frontlines

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Abstract

Advances in frontline interface technologies and devices are profoundly disrupting how organizations and customers interact to create and exchange value. Where once customer interactions were limited in variety, multiplicity, and complexity, today's broadband Internet and wireless connection technologies defy limitations to enable organization-customer interactions of ever-increasing diversity and consistency across multiple points of customer contact. No longer are the frontlines inert backgrounds for organizational action involving customers; rather, they are evolving as sites of vibrant innovations and interventions that engage customers, enhance customer experiences, and motivate value (co)creation. To anchor this emergent field, we define organizational frontlines at the intersection of interfaces and interactions that connect organizations and their customers. We historically trace the use of "organizational frontlines" from its initial application in military and management domains through its current and proposed position in both academic and practitioner contexts. We illustrate our definition to highlight research opportunities and underscore the strategic implications for effectively managing organizational frontlines to secure competitive advantage. We conclude with a discussion of special issue articles and the exciting agenda they collectively engage.

Keywords

organizational frontlines, customer interactions, customer interfaces, frontlines definition, organization-customer contact

Frontlines of service organizations are at the frontier of innovation, growth, and competitive advantage, yet much scholarship and inquiry is guided by frameworks and theories that typically view "frontlines" as an *adjective* to qualify some substantive phenomenon of interest (e.g., frontline employees and frontline knowledge). As an adjective, frontlines hold meaning only in the context of the phenomenon they qualify. This special issue initiates a discourse that conceives frontline as a *noun* to situate a substantive phenomenon at the site of a service organization's contact with its customers that warrants attention in its own right. As a noun, we will argue, along with the papers in this special issue, that frontlines are meaningful because the phenomenon that happens at this site is distinct (unlike what happens inside the organization), relevant (what happens at this site matters), nontrivial (organizational effectiveness at this site is problematic), and largely unexplored (outstanding what, how, when, and why questions).

Moving from an adjective to a noun conception for organizational frontline (OF) research represents a natural progression in bringing clarity and coherence to ongoing research traditions in disparate fields that claim affinity with understanding organizational boundaries, boundary spanning, boundary roles, interaction technologies, exchange platforms, customer contact, customer interactions, and customer service. Where these traditions have progressed independently often in their disciplinary silos, we show that our conception of OFs bridges into these traditions by opening common ground and

germinating new frameworks that permit, even provoke, interdisciplinary scaffolds and synergies. Thus, by defining an emergent field of OF, this special issue establishes an intellectual marker that bridges disparate and disconnected contributions of past research and—more importantly—looks ahead with prescience to guide future scholarly inquiry. We hope to build a foundation upon which like-minded scholars across many disciplines can work from a shared understanding of OFs in all its varied forms. It is appropriate that these ideas appear in a special issue of the *Journal of Service Research*, an outlet dedicated to intellectual advancement without regard to disciplinary boundaries.

We begin by first providing historical context for the term "frontline." Next, we offer our definition of OFs and develop its unique perspective and domain, followed by a discussion of the articles and commentaries that appear in this special issue,

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focusing upon where each article and commentary fit within the domains of OF research.

Historical Perspective

Frontline as a definable term emanated from its usage in the military around the middle ages,¹ where its meaning came from combining *front*—the boundary between opposing armies, with *line*—the specific points of contact or conflict. It was used primarily as an *adjective* to specify the location of war operations (e.g., frontline personnel). Centuries later, “frontline” entered the management field when James Black and Guy Ford published a book on Front-Line Management (1963). A few years later, Smith (1965, p. 388) extended the term to define a large state mental hospital as a prototypical “Front-Line Organization,” where several “peripheral units” work relatively independently, are the locus of organizational “power,” and pose “obstacles” for direct supervision and control. With its focus on a service context, Smith’s work was the first to emphasize frontline features of periphery, power, and obstacles, which, to this today, continue to hold relevance. However, early applications in management implicitly carried baggage of military connotations in the usage of frontlines mainly in (a) referring to an organizational boundary or unit where contact or action of interest is played out, (b) underscoring the organizational challenges to assert control and direct action/contact, and (c) distinguishing organizational features (e.g., resources, personnel, and action) that acquire different meaning when associated with frontlines.

Building on these themes, Berry (1981) was probably the first scholar to introduce the term to the service field to emphasize the significant role of “frontline employees” who work at the boundary of the organization as stewards of customer contact and service. Indeed, early applications of frontline in services focused almost entirely on its use as an adjective to identify employees in customer contact and service roles (Bateson 1985; Bitner, Booms, and Mohr 1994; Hartline and Ferrell 1993; Heskett et al. 1994; Schneider and Bowen 1985; Singh 2000). More generally, frontline concepts acquired focal point status in virtually all service models to date where they are represented in a variety of terms, including functional quality (Gronroos 1984), service delivery (Rust and Oliver 1994), service concept (Heskett et al. 1994), service role stress (Singh, Goolsby, and Rhoads 1994), and interaction quality (Brady and Cronin 2001), to name a few. Frontline concepts are also referenced in terms of event time such as “moment of truth” (Gronroos 1988; Normann 1983) and “zero moment” (Lecinski 2011) to indicate the temporal imperative and transience of interactions that occur at this site.

A fundamental shift in thinking about the conception of frontline occurred when the concept migrated from an adjective to a noun or, more precisely, from a modifier of an interesting phenomenon to the intrinsic phenomenon of interest. The study of frontline employees, for instance, focuses on employees who happen to staff frontline functions, while the study of frontlines focuses on what happens at the frontlines. Early work references

boundary work (e.g., Singh 1990) and contact interfaces (e.g., Hartline and Ferrell 1996) to study frontline activities. Subsequent work examined contact interfaces including self-service technologies that invite customers to fill frontline employee roles, cocreation platforms that mobilize the collective wisdom of frontline employee(s) and customer(s) in creative problem solving, and smart artificial intelligence (AI) systems that mine customer behavioral data to empower individual employees (and customers) for more effective frontline interactions with the firm (de Ruyter and Wetzels 2000; Meuter et al. 2000; Zeithaml, Parasuraman, and Malhotra 2002). More recent work is examining the nature and dynamics of myriad interactions that define frontline activities for an increasing number of service organizations. The variety, multiplicity, and complexity of customer interactions is enabled by relentless innovation in broadband Internet and wireless connection technologies. Prevalent interaction modes include digital- (e.g., web chats and twitter communications), robotic- (e.g., AI system such as Watson), machine- (e.g., self-management automation, Interactive Voice Response [IVR]), and human-mediated (e.g., voice) interactions as well as asynchronous (e.g., e-mail) communications and problem-solving. Such rich and ever-increasing diversity of interactions and interfaces has, in turn, broadened the nature, quality, and scope of frontline phenomena.

Defining the Field

We define *OF* as the study of interactions and interfaces at the point of contact between an organization and its customers that promote, facilitate, or enable value creation and exchange. By *interactions*, we indicate the characteristics of actions, communications, and processes that occur over the duration of the contact between the customer and organization. By *interfaces* we indicate the characteristics of modes, agents (or robots), artifacts, and servicescapes that serve as the medium for the contact between the customer and the organization. Past research has established the relevance of interactions (Mikolon et al. 2015; Ramani and Kumar 2008), interfaces (Ackerman and von Wangenheim 2014; Yadav and Pavlou 2014), and their combinations (Bolton and Saxena-Iyer 2009; Polo and Sese 2016; Yoo and Arnold 2016) to customer contact and service organizations. In defining OF, we build on these efforts in three ways: (a) broaden the conception of interactions and interfaces, (b) develop these constructs for relevance to frontlines, and (c) theorize the OF field at the *intersection* of interactions and interfaces.

Before we elucidate these advances, some caveats are in order. Foremost, we view OF as an emergent field that is evolving, and we expect the proposed definition to evolve as well. Also, OF is a transdisciplinary field that bridges computer science, information systems, operations, management, marketing, and services to the extent they study organizational points of customer contact while taking perspectives that reflect their own individual disciplines. A promise of OF as a field is to mobilize the diversity of disciplines through creative tension in working collaboratively toward formulating and

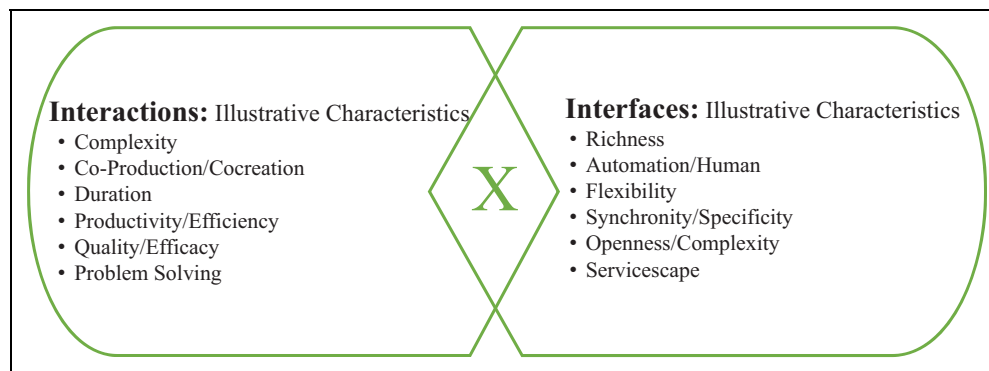


Figure 1. Organizational frontline: where interactions and interfaces intersect.

tackling OF problems. We stand at the infancy of this promise. As the field grows, new perspectives and novel frames are expected and encouraged. Our definition is a work in progress that remains open to amendment, augmentation, and alternatives.

Our conception of OF may also be broadened in the future to go beyond our focus on customer contact. We view customer contact in the tradition of an organization's "moment of truth" and regard its effectiveness in bolstering customer connections as critical for survival and success. Other points of contact are also important and of substantial relevance. As examples, an organization interacts with a range of stakeholders including suppliers, regulators, shareholders, alliance partners, and community groups. With each constituency, a distinct frontline contact may be envisaged for situating a distinct body of knowledge with its own theories, frameworks, perspectives, and problems. Future scholars and students may draw inspiration from our work to initiate consideration of OF conceptions for their focus and interest, as we hope to draw inspiration from these efforts.

Consistent with our understanding of the OF, *organizational frontline research* is *scholarship* that aims to provide a systematic study of OF phenomena. The articles and commentaries included in this special issue underscore this variety of perspectives and disparate theories that guide such scholarship and help illuminate the focal mechanisms. We discuss this variety and its implications for future OF research subsequently. First, however, we elaborate the nature of OF elements and use an illustrative example to highlight the distinctive insight from intersecting interfaces and interactions for advancing the field of OF research.

OF's Distinctive Domain of Inquiry

The domain of organization frontlines inquiry is circumscribed by its distinct elements—interfaces and interactions. Up until the close of the 20th century, service organizations typically relied on face-to-face (personal), or voice-to-voice (phone), or both to interact with their customers. Likewise, the content of interactions was primarily carried by spoken words accompanied by either kinetical cues including facial expressions, gestures, and eye contact (e.g., face-to-face) or vocal cues

including intonation, tone, and inflection (e.g., voice-to-voice). Advances and innovations in frontline technologies that began to escalate since the dawn of the 21st century have significantly disrupted and enhanced the nature and variety of possible frontline interfaces and interactions. To highlight this diversity, Figure 1 shows several distinct features that may be useful to characterize the varied interactions and interfaces. A web-chat interaction, for instance, may have the following features in different degrees: (a) duration—may last 5–20 min, (b) efficiency—conclude without taking too much time and/or effort, (c) quality—provide high experiential outcome, and (d) problem-solving—focus on addressing specific customer issues. Likewise, any given interface is likely to have the characteristics shown in more or less degrees. The characteristics in Figure 1 are not an exhaustive listing of features for uniquely describing *any* given interaction or interface. Rather, they are selected features to highlight the wide variety and diversity of frontline interaction and interfaces.

A key feature of our proposed definition, shown in Figure 1 by the intersection of interactions and interfaces, is that a study of OF is constituted by specific types of interactions that are enabled by particular choices of interfaces. Each interaction-interface combination represents a potentially distinct frontline configuration. Configurational theories (1) emphasize the distinct patterns of feature combinations that theoretically (are expected to) or empirically (found to) co-occur, (2) consider patterns as appropriate units of theorizing (instead of individual features), and (3) allow for equifinality, where different patterns may be equally effective (Delery and Doty 1996; Fiss, Cambre, and Marx 2013; Miller 1996). Building on configurational theory applications in marketing (Frambach, Fiss, and Ingenbleek 2016; Homburg, Workman, and Jensen 2002; Singh, Verbeke, and Rhoads 1996), Figure 1 illustrates the many viable combinations of interactions and interfaces that constitute the domain of OF research, each of which carries potential implications for frontline management theory and practice.

A key insight from our definition is that OF inquiry is less meaningful, even incomplete, when it focuses independently on either interfaces or interactions. The promise of the OF field is in interrogating at the intersection of interfaces and interactions (cf. Bolton and Saxena-Iyer 2009). Our emphasis on

intersections for motivating OF inquiry is consistent with axioms evoked in well-established theories involving a duality of domains including person-situation field theory and demand-latitude stress theory. These theories illuminate that explanatory content of one domain is conditional on the qualities of the other domain. In Lewin's field theory, situations (or, more generally, environments) illuminate why persons behave differently in different contexts yet these differential patterns adhere to a common and coherent agency of the person (Lewin 1951). Likewise, Karasek's stress theory illuminates why an individual's stress response to vastly varying levels of demands may show coherence and consistency when the individual enjoys concomitantly varying latitude such that autonomy enlarges individual capacity to cope with demands without altering her or his stress response (Karasek 1979).

In a similar vein, understanding the explanatory content of frontline interactions is incomplete, even misleading, without considering the interfaces as crucibles that mediate and situate the nature, processes, and consequences of interactions themselves. For example, Giebelhausen et al. (2014) examined the interdependence between interfaces and interactions by examining how customers use self-service interface technologies for hotel check-in and ordering lunch at a fast-food restaurant. They found that interfaces interfere in the quality of frontline interactions when the frontline employee is engaged in rapport building. Taking a broader view, Schumann, Wunderlich, and Wangenheim (2012) assert that different interface technologies differentially constrain or complement interaction qualities such as control, trustworthiness, and collaboration. They propose a study of interface (technology)-mediated interaction and conclude that smart technologies amplify, not diminish, the need for frontline employees' social interaction skills to ensure that interactions flow effectively over such interfaces. In other studies, scholars purposely exploit the features of interface technologies to enhance the quality of frontline interactions. As an example, Ong et al. (2016) conducted a randomized clinical trial to examine effectiveness of a telemonitoring interface that enables patients discharged from the hospital after heart failure treatment to remotely transmit data on their blood pressure, weight, heart rate, and responses to a telephone call center nurse who routinely interacts with the patient. A key question in Ong's study was whether the telemonitoring interface improves the quality of nurse-patient interactions as indicated by increased patient engagement and diminished patient readmission rates.² In a sense, Van Spall and Ong designed frontline interfaces to moderate the influence of patient interactions on outcomes. These illustrative studies underscore our key definitional point: The domain of frontlines research is at the *intersection* of interactions and interfaces.

The variety of available interfaces and the interactions they enable makes it formidable, if not impossible, to illustrate the distinctive emphasis of OF inquiry by examining all possible intersections. Yet to omit highlighting the nature and scope of intersection research in OF inquiry is to miss an opportunity to outline the distinctive domain of this field and provide a meaningful roadmap for future research. We strike an intermediate

path to consider a particular combination of interfaces and interactions for the purpose of our illustration with the intention that future researchers would take a cue from our development to examine the specific combination that appeals to and fits their particular inquiry. For example, many different points of combination between interface and interaction are implied by Figure 1, with the potential area of inquiry limited only by researcher ingenuity. Our modest proposal of one area of combination and associated inquiry is intended to begin this discussion.

OF as Intersection Inquiry

Figure 2 displays a framework that illustrates a distinctive domain of OF inquiry by intersecting, in a 2×2 matrix, interfaces that vary to the extent they permit different variety and quantity of informational bits (lean to rich)³, with interactions that vary to the extent they involve problem-solving and knowledge-based creativity (simple to complex). The selection of these axes stems from discussions with business leaders and consultants as well as feedback from conference presentations of this work.⁴ The 2×2 framework is an illustrative device to highlight the distinct nature and dynamics of OF inquiry in the four quadrants that define the intersection between interfaces (lean to rich) and interactions (simple to complex). An illustrative device uses specific choices, concepts, and examples to liven the theoretical framework. Consistent with this illustrative stance, the 2×2 framework uses *five* dimensions to develop our notion of OF as an intersection inquiry: (a) idea, to indicate a theoretical concept that is typical of a quadrant; (b) focus, to indicate the outcomes that are typically of interest for a quadrant; (c) fields, to indicate the diverse disciplines that typically study the ideas and focus of a quadrant; (d) technology, to indicate the technical advances that are relevant for a quadrant; and (e) examples, to indicate typical practice applications relevant for a quadrant. We view these dimensions as representative rather than exhaustive and, similarly, the illustrations as clarifying examples rather than comprehensive descriptors organized by priority or importance.

The distinctive idea in the *lean (interface)-simple (interaction) quadrant* is execution of process scripts for efficient service delivery that are learnt and honed from past experience. Cost efficiencies that do not diminish service quality are a desired focus in this quadrant, and a wide range of self-service and automation technologies are enabling novel modes of interactions that prioritize customer convenience and control for relatively simple problem-solving tasks. An important challenge for service organizations is to simplify complex problem-solving tasks by injecting advanced automation technologies as a way to lower costs and enhance customer convenience. The challenges of this quadrant have attracted the attention of a wide range of disciplines including information technology and systems, computer science, operations management, and service marketing. As an example, consider Best Buy's startup Smart Home Ventures that entered the home automation market by introducing Peq, a wireless hub that allows customers to

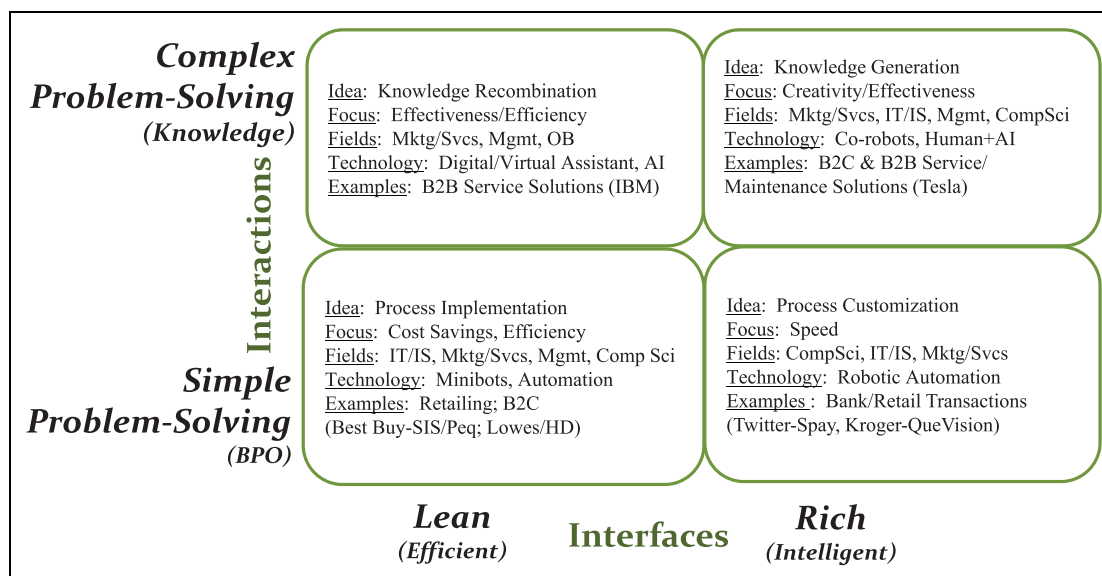


Figure 2. A framework for organizational frontline inquiry.

hook up security devices (e.g., cameras and controllers) on their own and to self-monitor their home security status on owned mobile devices (LaMonica 2014). Peq is an exemplary service that simplifies the complexities of home security needs by enabling self-service functionality; however, what is interesting about this service is that it permits digital capture of customer interactions, as they engage with the Peq interface to fulfill their service needs. Such real-time interactional data, especially as the Peq hub expands to manage customer's service needs for energy management (e.g., thermostat control) and centralized device control (e.g., refrigerators and washers/dryers), are likely to become a fertile source of novel research opportunities that are likely to feed innovation and create value in the frontlines.

While the lean-simple quadrant is centered on the idea of process implementation, the *rich-simple quadrant* emphasizes process customization by relying on intelligent interfaces to respond to, even anticipate, demands of individual customers, situations, events, or problems. The challenge of customizing is achieving dynamic responses to changing local conditions with speed and efficiency. When local conditions vary along limited dimensions ("simple problem solving"), rich interfaces provide agile capabilities for customized response even when response repertoires are complex, varied, and unpredictable (a priori). As Schumann, Wunderlich, and Wangenheim (2012) note, interfaces capable of dynamic customization include robotic, automated systems that need not involve direct interactions with customers. As an example, consider Kroger's QueVision interface that won the 2014 top retail innovation award in InformationWeek's Elite 100 (McLaughlin 2014). Credited for reducing average wait time in stores by over 85% from 4 min to less than 30 s, QueVision is a complex technology with a frontend simulator that helps adjust store layout and staffing levels, a data warehouse of historical transaction logs modeled with predictive analytics to anticipate

store traffic by time of day/month, and infrared heat sensors that count incoming customers and track store traffic to dynamically adjust queuing predictions (Taylor 2015). To enable frontline action, QueVision calculates "the magic number of registers needed—in real time and looking ahead 15 and 30 minutes" to ensure that customers who have completed their shopping wait no longer than one turn (McLaughlin 2014, p. 1). Deploying QueVision technology in an open platform so that everyone in the store, including customers, can view wait times, and predictions⁵ is found to set customer expectations for superior store experience and enhance friendliness of store associates in customer interactions due to shorter lines and reduced stress (Jargon 2013). Interfaces with capacity to process diverse and complex data generated in the frontlines, like QueVision, are a disruptive force in shaping and directing frontline interactions and, consequently, hold competitive advantage. Not surprisingly, customer interfaces are viewed as the new frontier of "value creation and profit" (Goodwin 2015); yet, there is little scholarly research dedicated to understanding interfaces and how they influence customer interactions or outcomes.

The top quadrants in Figure 2 consider OF phenomenon when problem-solving is complex and requires frontline knowledge work. A distinctive feature of knowledge work is "nonroutine problem-solving" involving expertise and judgment that depends heavily on tacit knowledge (Coelho and Augusto 2010; Kiffin-Petersen, Murphy, and Soutar 2012; Staats and Upton 2011). Several service contexts require deviating from service scripts to creatively generate novel solutions including, for instance, technically complex services (e.g., computer maintenance), life sciences services (e.g., medical care), and personalized services (e.g., weddings) in addition to situations involving service failure and complaints (Agnihotri, Rapp, and Gabler 2013; Singh 1988; Wang and Netemeyer 2004). The *rich-complex quadrant* considers

service contexts where complex problem-solving is enabled by rich interfaces that permit communication of wide bandwidth and diversity. In this quadrant, generating new knowledge is a key conceptual idea, and frontline focus is on creativity and effectiveness in problem-solving. Human face-to-face communications are well suited to creative problem-solving; however, “smart” technologies capable of natural language processing and real-time learning are increasingly in use (and under development) to complement human interactions and enhance problem-solving effectiveness. Human interactions and problem-solving have received attention in the literature, but the infusion of AI and deep-learning technologies opens exciting avenues in frontlines research that are attractive to a wide range of scholars including those in computer science, information systems, and management science. Schumann, Wunderlich, and Wangenheim (2012) provide numerous examples in Business-to-Business (B2B) and Business-to-Consumers (B2C) frontline contexts that are illustrative of this quadrant. As an example, remote technologies for troubleshooting and repair mediate between users and providers in real-time interactions to facilitate effective problem resolutions. One of the most notable examples involves the use of IBM Watson technology in facilitating physician-patient interactions for effective diagnosis (Cohn 2013). Relying on Watson’s ability to quickly process massive data and respond to natural language queries, physicians expect to interact more effectively with patients to enhance diagnostic quality and accuracy (McMillan and Dvoskin 2015). Human interactions enabled in collaboration with AI is an uncharted area of frontline research, where theory and research lag the technological advances that continue to be deployed in practice.

Finally, the *lean-complex quadrant* is a context of relatively complex problem-solving with lean interfaces that, for instance, may not require human interaction altogether. Such contexts are increasingly feasible with deep learning technologies that can effectively and efficiently combine and reconfigure knowledge learned from past interactions to yield novel solutions. Effectiveness and efficiency of problem-solving are focal objectives. Technologies that enable such problem-solving are a recent phenomenon and are lean in the sense of having limited capacity for handling uncertain and equivocal information but relatively advanced in processing massive historical data. Examples of such technologies includes autonomous interfaces that enhance capabilities for self-service (e.g., customers internalizing service functions), provider-active service (e.g., service provider performs service with minimal customer interactions), or machine-to-machine service (e.g., machines internalize service function with minimal human interaction). Consider the “Ask Watson” feature that IBM plans to make available on smartphones as an autonomous “service agent” that works for the customer (Upbin 2013). As a trickle-down application of IBM’s Watson technology, the “Ask Watson” feature will allow customers to query massive databases across various channels to effectively and efficiently solve everyday problems (e.g., book flights/restaurants, track market/device performance, plan itineraries/events),

thereby enhancing their self-service capabilities. Frontline interactions enabled by such interfaces are poorly understood today; novel theoretical frameworks drawn from grounded empirical research will probably be needed as technological advances continue to expand the opportunities in, and applications of, this quadrant.

OF Agenda: Moving Forward

The special issue articles and commentaries are an initial step in moving forward to engage the OF agenda. The first OF symposium at Oklahoma State University in 2015 sowed the seeds for the special issue by bringing together scholars, many of whom had never worked together, in thematic teams to theorize originally about the OF phenomenon. We gave these teams little more than a blank slate and a supportive network of scholars who met, debated, and discussed over the 2-day Symposium to engage and challenge them to theorize conceptual frameworks that advance this nascent, emergent field. Over the next 18 months, each team diligently worked to nurture, grow, refine, and sharpen their contributions as they went through three rounds of double-blind review process to address the many constructive and critical comments of our review team who worked with generous commitment under a tight turnaround schedule. To open up and provoke frontline thought, we also leaned on thought leaders to develop position briefs for Symposium presentation that outlined their conception or controversy of a frontline issue or topic of their interest. A selected set of these position briefs were subsequently developed formally and reviewed as short commentaries. Together, the five team-led contributions and thought leaders’ commentaries are the initial scaffolds of an emergent field that offer ideas, frameworks, and theories to engage OF scholars and advance OF agenda.

Each contribution in this special issue develops a distinctive OF theme. In Lam et al., the power of big data to enhance frontline interactions with customers is held in check by not taking its payoffs for granted. Instead, Lam and his team develop a process theory to unpack the pathways that carry the power of big data and balance its benefits with costs, and moderated by absorptive capacity processes that regulate the flows of big data insights. In its dimensionality and scope, big data can crowd out insights from other sources within the organization and, in the process, diminish its payoffs. Lam et al. work this insight to argue that “small data” generated by individual frontline employees in customer interactions is a crucial key to unlock the payoffs from big data insights. In their theory, small data make big data insights tractable for frontline use and help release its benefits to advance customer value.

Keeping their focus on frontline interactions, Marinova et al. examine smart technologies capable of autonomous learning (e.g., becoming smarter) as well as of enabling learning for frontline employees and customers (e.g., making smarter). Trade-offs in effectiveness and efficiency of service interactions are largely undisputed constraints of managerial agency with roots in the inescapable choice between revenue and cost

emphasis. Marinova and her team theorize mechanisms for resolving this “long-standing” effectiveness-efficiency tension by leveraging the potential of smart technologies to empower pragmatic and deliberate learning—something that has heretofore remained untapped. In Marinova et al.’s conception of a service world enabled by smart technologies, frontline employees would be freed from the drudgery of repetitive and routinized work to “engage in unstructured innovation” and “pursue epistemic value for professional growth.” These are exciting possibilities for OF agenda.

Building on a futuristic world where smart technologies abound, van Doorn et al. turn their attention on service providing humanoid robots capable of social exchanges and presence that, while automated, are sufficiently rich with social content and cues to lubricate service interactions with humans. How will this world of Automated Social Presence look like? What theories can help map the mechanisms that Automated Social Presence harbor and activate? When is Automated Social Presence likely to help or hinder customer (human) interactions? These questions are the intrigue for van Doorn et al.’s contribution.

Rapp and colleagues provide a discussion of the drivers of increasing integration of the sales and services functions at the boundaries of the organization. Such integration often fosters a need for greater employee ambidexterity in dealing with multiple roles and activities in interactions with customers. Importantly, the authors note the implications of the multilevel nature of the situational context surrounding frontline workers. In terms of our general interactions and interfaces framework, Rapp et al. primarily address the human interface with customers across a potentially wide variety of interactions. Accordingly, these ideas are applicable and might be tested in a range of different contexts.

Not all of the articles in the special issue, however, adopt a broad focus. Zablah et al. take a deep look into the shared frontline experience, defined in terms of emotional convergence, of frontline workers, and customers engaged in relational exchange. Most extant literature on the influence of one individual’s emotions to another at the OF consider only transactional exchange, yet many interactions at the frontline take place between individuals engaged in longer term relationships. These authors argue that over time, a shared frontline experience may arise at the dyadic level that is driven by other dyad level variables relevant for relationship-sustaining behaviors. As such, a shared frontline experience normally would involve the human interface, perhaps mediated by technology, in longer duration interactive contexts and (perhaps) greater homophily between employee and customer.

The final paper presented in the special issue represents the work of many noted scholars within the domain of OF. Instead of reflecting upon past work, however, we asked each author to provide informed commentaries as to where the domain of OF research may evolve in the future. Although many of the authors focused upon the impact of technology, it is apparent that it is not technology alone that dictates the bounds of future research in this domain. Further, in relation to the point of intersection between interactions and interfaces, as highlighted in Figures

1 and 2, it also is apparent that areas of investigation for future research are relatively boundless, as perceived by these scholars.

Concluding Notes

OFs are the site of unprecedented evolution wrought by unrelenting advances in interface technologies and devices that are enabling a diversity and novelty of interactions unimaginable heretofore. Evolution are times of exciting discovery and research. Even as evolutionary times call into question what we know, they invite inquiries into what we do not yet know. This *special issue* takes a first step in defining this evolving field and including conceptual and thought contributions that begin to set an engaging agenda for this emergent field. We thank the authors for their dedicated commitment, as they gave countless hours to develop their contributions as well as the reviewers who helped to craft and hone each contribution. We view this *special issue* as a harbinger of the exciting discoveries and research that inspire and await us as we learn how to harvest frontline advances for enhancing organizational and customer effectiveness at the intersection of frontline interfaces and interactions.

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Notes

1. Usage of “frontline” in the military is dated around 1842, although it is known to have been used in earlier texts that date back to 1520s, also in a military context (e.g., as in “foremost part of an army”).
2. Van Spall and Ong found that, while the telemonitoring interface does not significantly diminish patient readmission rates, it significantly enhances the 180° quality of life experience for patients.
3. In reference to Figure 1, information richness could be considered a characteristic of individuals or of mediating technologies. The notion of “lean-to-rich” quality of interfaces is based on media richness theory (Daft and Lengel 1986). Defining “richness” as the ability of information to “change understanding within a time interval,” media richness theory aims to understand, evaluate, and differentiate communication media (e.g., interfaces, whether personal or mechanical) in terms of its capacity to communicate equivocal, complex, and uncertain information.
4. We thank the participants of the 2016 *Organizational Frontline Research Symposium* for feedback on the earlier versions of the proposed framework.

5. Popular press reports that this open deployment was championed by a frontline store manager who argued against R&D's proposal to limit access to store managers and employees only.

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