Commentary

Synergies at the Intersection of Retailing and Organizational Frontlines Research

Jagdip Singh [a,*], Todd Arnold [b], Michael Brady [c], Tom Brown [d]

[a] *Weatherhead School of Management, Case Western Reserve University, Cleveland, OH 44106, United States*
[b] *Spears School of Business, Oklahoma State University, Stillwater, OK 74078, United States*
[c] *College of Business, 307 RBA, Florida State University, Tallahassee, FL 32306, United States*
[d] *Spears School of Business, Oklahoma State University, Stillwater, OK 74078, United States*

Forces shaping retailing today share an affinity with forces underlying the emergent field of organizational frontlines.[1] This note explores the untapped synergies at the intersection of these forces with the aim to nurture and encourage research that exploits these synergies.[2] Several disruptive forces are currently shaping the future of the field. For instance, the exploding variety of multitudinous contact points of interactions involving both customer-retailer and peer-to-peer customer interactions represents a revolution that is (a) forcing retailers to offer a fully integrated consumer experience (Zhang et al. 2010), (b) fueling development of interactive retail services that are critical in retailing and (c) making customer-generated content ubiquitous and influential in the retailing marketplace. Other scholars tie retailing's disruptive forces to technological advances. Grewal, Roggeveen and Nordfalt (2017, p. 2–5), note that "new technologies are . . . the future of retailing," while Inman and Nikolova (2017, p. 8) observe that "shopper-facing [interface] technologies have. . . revolutionized retailing."

Interfaces and interactions are the fundamental concepts that define the emergent field of organizational frontlines (Singh et al., 2017). In conceiving frontline as a noun to situate a substantive phenomenon at the site of an organization's contact with its customers, Singh et al. (2017, p. 3) noted that "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 us, the forces that propel frontlines to the foreground of vibrant innovation and intervention are cousins to the disruptive forces that are shaping, transforming, and revolutionizing retailing. Where retailing seeks to study and enhance the efficiency and effectiveness of customer interactions involved in varied retail functions and activities, the field of organizational frontlines centers broadly on the variety, multiplicity and complexity of ***interactions*** at the interfaces that connect the organization and its customers. Likewise, whereas retailing attends to technologies that enable customers to search, select, shop, exchange, experience, and engage with the retailer for the products/services they seek, organizational frontlines focuses broadly on ***interface*** technologies that serve as the medium (e.g., human, device, artifact or machine) for the contact between the customer and the organization. The parallels between retailing and organizational frontlines are hard to miss. The special section aims to encourage research that builds on these parallels, and we add our voice to this aim.

Specifically, we aim to stimulate research at the intersection of organizational frontlines and retailing fields. Our approach is to outline the potential and possibilities of synergistic research along three directions: (a) Time as a key dimension, (b) Beyond dualities, and (c) Logics of Ecosystems (see Table 1). Each provides a scaffold for advancing and contributing to both fields of inquiry, and to broaden the scope and impact of these literatures. We do not intend to indicate that these three directions are the only or the most important routes to synergies. Rather, our intention is to illustrate the kinds of directions that are available to researchers interested in situating their work at the boundary

* Corresponding author.
   E-mail addresses: jagdip.singh@case.edu (J. Singh),
todd.arnold@okstate.edu (T. Arnold), mbrady@business.fsu.edu (M. Brady),
tom.brown@okstate.edu (T. Brown).

[1] The study of organizational frontlines has a long history of interdisciplinary research including in computer/information sciences, design, management, marketing, operations, retailing, and service research. The first formal symposium of organizational frontline research (OFR) was convened during April 16-18, 2015 and has been an annual event thereafter.

[2] We express our gratitude to the Special Section editors for their willingness to include this commentary to complement articles that focus on the intersection of organizational frontline (OF) and retailing research.

Table 1
Retailing research at the organizational frontline.

Time as a key Dimension – theorizing the role of time in understanding frontline interactions and interfaces in retailing
- How can the varied conceptions of time as a theoretical construct be used to advance the study of patterns and predictions of the evolving nature of customer interactions and interfaces in retailing?
- How might the effects of key variables studied in retailing be altered if time is included as a key construct or theoretical mechanism in a research model?
- How might theories be adapted to adequately include one or more time dimension in retailing studies?
- Which conception(s) of time as a construct are likely to be influential within a retailing context, and why?

Beyond Dualities Dichotomies, such as human vs. machine or touch vs. tech, are useful to establish contrast and highlight distinctions, are proving too simplistic for understanding the nuanced and varied features that characterize today's frontline interactions and tech-nological interfaces
- How to develop meaningful typologies and taxonomies to promote a systematic theoretical and empirical analysis of the exploding variety in technology deployment and devices that blend human and machine functions in retailing?
- What is the evolving nature of human considerations in human-technology interface and interactions across the retail purchase process?
- What are the role and influences of empathy and social context constructs in a technology-infused retail landscape?
- What combinations or configurations of human (touch) and machine (tech) functions are most effective for what interactions and by using what interfaces in customer retail journeys?

Logics of Ecosystems – ecosystems as an embedding system that institutionalizes logics to coordinate and innovate the interfaces and interactions for continuity and consistency in customer experiences
- How do the logics of ecosystems inform research at the intersection of retailing and the organizational frontline?
- Why do some ecosystems that support retail technologies function effectively, and why do others fail and falter?
- How and under what conditions are the logics of ecosystems adopted or resisted by frontline agents and customers it connects in retailing?
- What are the contexts and conditions that favor customer-, firm-, and intermediary-coordinated ecosystems, and how do they differ in their impact for customers, retailers and intermediaries?
- What are the contexts, phenomena, and advancements that impact and/or alter the frontline ecosystem for retail firms?

of organizational frontlines and retailing, and to stimulate this interest by highlighting the impact that pursuit of such work is likely to engender.

Time as a Key Dimension

Time as a dimension of empirical analysis is regularly included to examine boundary and/or dynamic effects and may not necessarily require inserting time as a conceptual construct in theorizing the phenomenon itself. However, for some phenomenon, time has a more central theoretical role. While a full discussion of theories of time is not our intention, we draw attention to the role of time and suggest directions for its integration with the study of interactions and interfaces in retail theory. George and Jones (2000) offer six conceptualizations for the role of time in theorizing including (a) *subjective experience of time* as in the concepts of flow, temporal focus, and telescoping, (b) *time aggregations* as in the concepts of bracketing, assimilating and contrasting, (c) *duration and rates of change* as in the concepts of stability, plasticity, velocity and acceleration, (d) *discontinuity of change as* in the concepts of chronicity, shock, and shift, (e) *rhythms of change* as in the concepts of cycles, synchronicity, and frequency, and (f) s*pirals of change* as in the concepts of interdependence, intensity and trajectory.

Heretofore, conceptualizing time as a dimension of theorizing has received limited attention in organizational frontlines and retailing research. An exception is the concept of customer journey that integrates consideration of time in mapping customers' engagement with interfaces and in interactions in a linear representation of time (cf., Lemon and Verhoef 2016) but falls short of substantively theorizing the role of time itself. Likewise, within organizational frontlines research, consideration of time

has received attention in studying how organizations transition interfaces and interactions to keep pace with technology (e.g., human-machine; Rust and Huang 2018), but theoretical development of the role of time in frontline research has received scant attention. The six blocks of George and Jones's conceptualization for theorizing the role of time offer useful foundation for advancing understanding while exploiting synergies between organizational frontlines and retailing research. Undoubtedly, human interactions are inextricably bound, embedded and connected in time, and the past and future are reflected in the present, which certainly will influence both present and future interactions. Further, capturing time only in relation to "standard time," or time as related to the objective passage of time on a clock or calendar, oversimplifies the role that time is playing (George and Jones 2000), as well as time's influence on customer judgments in regard to the retail organization.

Examining the future of retailing in relation to organizational frontlines research calls for a closer examination of the intersection between interactions and interfaces in the context of retailing from the perspective of time as a fundamental dimension of theorizing. Specifically, as it becomes clear that the customer journey will evolve and change, is it enough to focus upon the nature of interactions and interfaces as static dimensions? That is, although some customer journeys may be relatively discrete to permit a static or cross-sectional study, it is apparent that the vast majority of interactions/interfaces between retailers and consumers can only be accurately captured through a much broader lens – a lens where *time*, and the respect of its meaning, plays a more critical role.

Integrating such a relationship to interactions and interfaces, understanding the influence of past/present/future orientations, as well as a customer's likelihood of aggregating time as a series

of inter-related episodes versus distinct episodes may help to uncover customer reactions to change or acceptance/application of technologies. How do varied time aggregations and perceptions influence such things as customer perceived complexity (i.e., the interaction element) and the richness/enjoyment of the interface, for example? How do interactions that occur immediately before – or that are anticipated immediately after – a retail transaction influence current interactions? Does the ability to summon a robot to retrieve clothing that a customer desires to try on negatively or positively influence customer judgments given past experiences of much simpler interaction that was facilitated by a living, breathing human being? Integrating an understanding of how time may influence such judgment may offer new opportunities for exploiting research synergies.

Beyond Dualities

Dichotomies, such as human vs. machine or touch vs. tech, are useful to establish contrast and highlight distinctions, are proving too simplistic for understanding the nuanced and varied features that characterize today's frontline interactions and technological interfaces. Frontline transactions are often multi-stage processes that engage both human and technological interfaces in wide ranging and exponentially expanding combinations and hybrids. Although technologies, especially in the form of information technology have substantively changed the process of value creation and delivery at the frontline, it pays to not neglect human considerations in the wake of increasing attention to frontline technologies (Schneider and Bowen 2019). Technology may replace frontline employees (e.g., self-checkout) or customers (e.g., automated repurchase systems), but it is useful to be mindful that technology is often best deployed as an enabler of human interactions. Effective human engagement and augmentation with relevant technologies across the retail purchase process is a fertile area for frontline research.

One key area for continued research is the identification and exploration of aspects of retail transactions and relationships that cannot effectively be automated. For example, it is unlikely that machines will be able to experience and express empathy to others. At present, sentient technology does not exist to replace this basic human quality (Rust and Huang 2018). Humans in frontlines can empathize with their customers; managers can empathize with employees and customers; and customers can empathize with frontline employees, managers, and other customers. The role and influence of empathy and related constructs in a technology-infused retail landscape will be an important area for scholars and practitioners.

An additional, under-researched topic concerns broadening the focus from single customers or frontline employees operating in isolation (e.g., ATM transactions, lawn care) to retail interactions that take place in the presence of multiple other people, including customers, managers, and employees. The influence of social context on customers and frontline employees engaged in interactions (with or without a technology component) has yet to be fully explored.

Logics of Ecosystems

Interactions over multitude of interfaces across time and space live in an ecosystem that provides a coordinating glue and promotes continuous learning to facilitate a dynamic process of regulation and innovation (Lemon and Verhoef 2016). In the context of services, Tax, McCutcheon and Wilkinson (2013) note that ecosystems may be customer-coordinated (e.g., using self-service technologies), firm-coordinated (e.g., firm ensures continuity) or intermediary-coordinated (e.g., agent or platform managed). Using the example of Magic Band technology and its supporting system of interfaces, Lemon and Verhoef (2016, p. 90) observe that Disney was able to orchestrate a "closed service ecosystem. . . that delivers a seamless, customized and surprisingly frictionless experience to its guests." In this sense, the technology (Magic Band) lives within an ecosystem (connected devices) that is designed with the logic of seamless, customized, and frictionless experiences along individual customer journeys (payoff).

The concept of ecosystems is central to institutional arrangements that add structure and meaning to life, and its logics are norms, practices and rules that efficiently and often effectively guide actors to facilitate coordination and "enable actors to accomplish an ever-increasing level of [performance] under time and cognitive constraints" (Vargo and Lusch 2016, p. 11). Neither the field of organizational frontlines nor retailing has drawn from the logics of ecosystem concept beyond scratching its surface. Yet the logics of ecosystems is a useful glue to connect these fields of inquiry and stimulate synergies.

In particular, technologies that leverage retailing data and infuse insights from analytics and AI have the potential to usher a frontline ecosystem of continuous customer engagement (e.g., Amazon dot and Alexa based innovations), as anticipated by work on omni-channel and customer journeys (Bradlow et al., 2017). The growing use in retail of robotic interfaces and deployment of robots in customer interactions provides opportunities for, even necessitates, designing ecosystems of supporting devices, data, and analytics that ensure smooth and seamless coordination. Such ecosystems are influenced not only by complementary developments in related technologies (e.g., machine learning, artificial intelligence), but also by growing acceptance of views that robotic technology will be perceived as helpful by humans, is cheaper long-term than human employees, and can provide an acceptable degree of information, assistance, and empathy.[3] As developments in physical (e.g., brick and mortar retailer), digital (e.g., virtual reality, virtual worlds, social media shopping), and combined (i.e., augmented) servicescapes highlight, legitimation and institutional processes generalize broadly to understand why some ecosystems function effectively and why others fail and falter, as well as how and under what conditions are the logics of ecosystems adopted or resisted by agents

---

[3] As noted above, others disagree by asserting that such projections are uniformed by the limits of machines to mimic human sensitives and for humans to respond humanistically to machine generated emotion and empathy (Rust and Huang 2018).

and customers it connects. Thus, institutional theory provides a scaffold to theorize and examine the legitimacy of ecosystems with varying logics, and its fitness in connecting interactions over time and in activating interfaces that mitigate friction and enhance engagement.

The study of organizational frontlines can be similarly advanced by integrating the concept of institutional logics to theorize ecosystems as an embedding system that helps coordinate and innovate the interfaces and interactions to provide continuity and consistency in customer experiences. Such broadening of the organizational frontlines field is likely to draw synergies from retailing's challenges of ensuring seamless and frictionless customer experiences by providing an empirical ground and practice context for meaningful research.

Moving Forward, Scaffolding Bridges

We aimed to provoke directions for future research that bridge scaffolds between the fields of organizational frontlines and retailing to move forward by exploiting synergies at their intersection. Time, Pluralities and Ecosystems are useful and largely untapped foundations for building scaffolds. Where time adds a third dimension alongside interfaces and interactions in the study of frontlines, pluralities embrace the technological revolution in retailing feeding exploding variety in deployment and devices that blend human and machine functions in ways unimaginable and unstoppable, and ecosystems reject the background-foreground separation to attend to the symbiotic link between context (system) and connection (contact-point) to assert the power of ecology. Selecting and highlighting these exemplars of scaffolding bridges (see Table 1), we offer a glimpse into the possibilities at the intersection of retailing and

organizational frontlines. We hope that scholars, and practitioners who are witness to the revolution of change *from the frontline*, will be motivated to explore and exploit the exciting opportunities we outline to more deeply examine the evolving nature of retailing at the organizational frontline.

References

Bradlow, Eric T., Manish Gangwar, Praveen Kopalle and Sudhir Voleti (2017), "The Role of Big Data and Predictive Analytics in Retailing," *Journal of Retailing,* 93 (1), 79–95.

George, Jennifer M. and Gareth R. Jones (2000), "The Role of Time in Theory and Theory Building," *Journal of Management,* 26 (4), 657–84.

Grewal, Dhruv, Anne L. Roggeveen and Jens Nordfält (2017), "The Future of Retailing," *Journal of Retailing,* 93 (1), 1–6.

Inman, J. Jeffrey and Hristina Nikolova (2017), "Shopper-Facing Retail Technology: A Retailer Adoption Decision Framework Incorporating Shopper Attitudes and Privacy Concerns," *Journal of Retailing,* 93 (1), 7–28.

Lemon, Katherine N. and Peter C. Verhoef (2016), "Understanding Customer Experience Throughout the Customer Journey," *Journal of Marketing,* 80 (6), 69–96.

Rust, Roland T. and Ming-Hui Huang (2018), "Artificial Intelligence in Service," *Journal of Service Research,* 21 (2), 155–72.

Schneider, Benjamin and David E. Bowen (2019), "Perspectives on the Organizational Context of Frontlines: A Commentary," *Journal of Service Research,* 22 (1), 3–7.

Singh, Jagdip, Michael Brady, Todd Arnold and Tom Brown (2017), "The Emergent Field of Organizational Frontlines," *Journal of Service Research,* 20 (1), 3–11.

Tax, Stephen S., David McCutcheon and Ian F. Wilkinson (2013), "The Service Delivery Network (SDN) A Customer-Centric Perspective of the Customer Journey," *Journal of Service Research,* 16 (4), 454–70.

Vargo, Stephen L. and Robert F. Lusch (2016), "Institutions and Axioms: An Extension and Update of Service-Dominant Logic," *Journal of the Academy of Marketing Science,* 44 (1), 5–23.

Zhang, Jie, Paul W. Farris, John W. Irvin, Tarun Kushwaha, Thomas J. Steenburgh and Barton A. Weitz (2010), "Crafting Integrated Multichannel Retailing Strategies," *Journal of Interactive Marketing,* 24 (2), 168–80.