THE CONVENIENCE STORE REVOLUTION: COMPUTER NETWORKS, LOGISTICS, AND THE REINVENTION OF RETAIL IN JAPAN

Marc Steinberg
Concordia University

Convenience stores in their current, most globally popular form were born in the US, reinvented in Japan, and re-exported to or reinvented in large parts of Asia and the world. No company better illustrates this transnational trajectory than 7-Eleven. Founded in the US in 1927 by Southland Corporation, the store concept was licensed to Japanese retailer Ito-Yokado in 1973. From the 1970s to 80s 7-Eleven's operations were essentially reinvented through a combination of the introduction of fresh foods, the logistical innovation, the introduction of novel networked information systems that allowed information gathering and new ordering systems, and rapid if geographically selective expansion through Japan (Marutschke, 2011; Whitelaw, 2018). 7-Eleven Japan's success led it to buy out Southland Corporation in 1991 when it was in financial difficulties, leading the Japanese company to subsequently expand rapidly throughout Asia and reconfigure its existing stores in the US – in the Japanese model.

This history of convenience stores may seem far removed from the interrogation of Internet revolutions this conference asks us to engage. And yet, as I'll argue in this presentation, the Japanese convenience store offers the best site to rethink histories of networked computing and the "revolution" of the Internet in a non-Western context – furthering the project of "de-Westernizing" or regionalizing Internet studies (Davis and Xiao, 2021; Steinberg and Li, 2017). Retail is in fact crucial to developments in surveillance and accounts of networked media. As Joseph Turow (Turow, 2017) points out in his work, networked computing and surveillance are as much a part of retail history as of Internet history. Jesse LeCavalier (LeCavalier, 2016) similarly charts the humble life of the barcode as a source of information gathering and Walmart as an innovator in information technology in his account of the company.

In this paper, I turn my attention to another humble, often-overlooked, yet crucial site for thinking critically, historically, and globally about the discourse of Internet revolutions: the franchised convenience store. Three reasons drive this turn and will form the structure of my paper. *First*, recent discussions of the commercial internet figure

convenience as a key reason for the uptake of services from Amazon to Netflix to Apple Pay, to name just a few (Lotz, 2017; West, 2022), or for what Draper and Turow (Draper N.A. and Turow J., 2019) aptly term the "digital resignation" to the tradeoff of privacy for convenient services. Convenience is hence a key term that needs to be critiqued and rethought from within Internet studies – and more generally (Berlant, 2022; Neves and Steinberg, 2020). *The Convenience Revolution* (Hyken, 2018) – as one recent business tome symptomatically sums up this line of discourse – is intimately bound up with the commercial internet. Yet convenience as a keyword, a value, a discourse, and a series of practices stretches back much farther than the advent of the Internet (Shove, 2003; Tierney, 1993). The Japanese iteration of the convenience store offers one place to trace this logistically-supported, pre-and post-Internet iteration of convenience.

Second, the *convenience* of the Japanese convenience store is intimately bound up with various movements in the information revolution that tell a different story of the Internet itself – and hence offer a crucial site for Internet research. Computer networks were a major part of business operations long before the Internet, with protocols like Electronic Data Interchange (EDI) powering 7-Eleven Japan's computer systems and point-of-service terminals before the Internet's spread, and eventually coexisting with it. Focusing on this parallel industrial history of the Internet allows us to tell a rather different story about networked computing that challenges the common narratives of a fall-from-grace that is the commercialization of the Internet. The Japanese convenience store's early adoption of information technologies and logistical management, particularly in the 1980s, tells a different, longer story of networked (and subsequently Internet-based) "revolutions" happening within industrial contexts. That 7-Eleven in the late 1990s saw itself as a competitor to e-commerce giants like Amazon or Rakuten via a "clicks-and-mortar" strategy is only one example of this. Even before this time, the number of Japanese books on 7-Eleven's information strategies bearing the keyword *revolution* in the title is notable, and reach back to the mid-1980s. To name just a few examples we have: *7-Eleven's POS Revolution: The Challenges of Information Individualization* (Kunitomo, 1986); *The Logistical Information Revolution of Ito-Yokado's 7-Eleven* (Ogata, 1991); *7-Eleven's Information Revolution* (Kunitomo, 1993). That these revolutionary developments are firmly linked to corporate strategies of information gathering and order management offer a different angle onto the history of the networked (or Internet) revolution.

Third, engaging these developments more carefully in the context of Japan's reinvention of the American convenience store allows me to tell a more global, if provisionally nationally anchored, history of networked computing as well as a longer account of the rise of convenience as a crucial, internet-enabled virtue. Building on previous work on the Japanese commercial Internet and its industry underpinnings (Steinberg, 2019, 2022), on other work on computing and its revolutionary fantasies in the East Asian context (Liu, 2019; Wu, 2022), and on the longer project of internationalizing internet studies (Chan, 2013; Goggin and McLelland, 2009; Peters, 2016) is still underway, this paper hopes to expand the objects of Internet studies. Complementing Turow (2017), this paper treats retail as a crucial site from which to think the history of networked computing and the Internet.

This paper in its three-pronged approach is based on extensive primary archival research into (1) the discursive framing and historical introduction of the convenience store in 1970s Japan (government manuals; newspaper reports; early books introducing the convenience store); and (2) contemporaneous accounts of its subsequent transformation in the 1980s and 1990s via networked computing, including the books mentioned above. Synthesizing this research, this paper will propose we see the "Internet revolution" through the lens of information-based transformations to retail that precede and then proceed alongside the expansion of the Internet and networked computing. In doing so it will chart the longer history of computing in retail environments, internationalizing both Internet research and retail research, which, outside of crucial attention to Alibaba (Zhang, 2020, 2023), and has focused mostly on the North American context or on Amazon in other contexts (Delfanti, 2021).

Though Amazon is the frequent focus of retail analysis today, the convenience store in Japan was at the center of many of the innovations of e-commerce, data-gathering, and logistics over the years; it is presently the site of pitched battles over digital payment services. Charting some of this longer *network* history and *Internet* history leading to the present is another aim of this paper. Expanding Internet history – and continuing the project of de-centering and de-Westernizing Internet studies – is a final component of this research. In this context Internet studies outside the West doesn't offer alternative practices to the corporatization of the Internet but another *angle* onto and crucial *site* from which to understand the ongoing datafication of everyday life and expansion of what Halpern and Michell (Halpern and Mitchell, 2023) term the *smartness mandate* – an imperative to solve all of our problems by recourse to computer networks. This angle and site is the complicated, transnational, logistically-enabled, franchised *convenience store*, with a particular focus on the Japanese reinvention of 7-Eleven.

References

Berlant LG 1957-2021 (2022) *On the Inconvenience of Other People*. Writing matters! Durham: Duke University Press. Available at: https://www.jstor.org/stable/10.2307/j.ctv2rr3g94.

Chan A (2013) *Networking Peripheries : Technological Futures and the Myth of Digital Universalism*. Cambridge, Massachusetts: The MIT Press.

Davis M and Xiao J (2021) De-westernizing platform studies: History and logics of Chinese and US platforms. *International Journal of Communication* 15: 20.

Delfanti A (2021) *The Warehouse : Workers and Robots at Amazon*. London: Pluto Press.

Draper N.A. and Turow J. (2019) The corporate cultivation of digital resignation. *New Media and Society* 21(8): 1824–1839. DOI: 10.1177/1461444819833331.

Goggin G and McLelland M (2009) Internationalizing Internet Studies: Beyond Anglophone Paradigms. In: Goggin G and McLelland M (eds) *Internationalizing Internet Studies: Beyond Anglophone Paradigms*. London: Routledge, pp. 3–17.

Halpern Orit and Mitchell Robert (2023) *The Smartness Mandate*. Collingwood: MIT Press. Available at: https://public.ebookcentral.proquest.com/choice/PublicFullRecord.aspx?p=29673075.

Hyken S (2018) *The Convenience Revolution: How to Deliver a Customer Service Experience That Disrupts the Competition and Creates Fierce Loyalty*. Sound Wisdom.

Kunitomo 国友隆一 Ryuichi (1986) *セブンイレブンのPOS革命：情報個性化への挑戦 (7-Eleven's POS Revolution: The Challenges of Information Individualization)*. ぱる出版. Available at: http://id.ndl.go.jp/bib/000001840214.

Kunitomo 国友隆一 Ryuichi (1993) *セブンーイレブンの情報革命：POSからISDNへ 小さなお店の大きなシステム (7-Eleven's Information Revolution: From POS to ISDN, The Large Systems of Small Stores*. Paru shuppan. Available at: http://id.ndl.go.jp/bib/000002304790.

LeCavalier J (2016) *The Rule of Logistics: Walmart and the Architecture of Fulfillment*. U of Minnesota Press.

Liu X 1982- (2019) *Information Fantasies : Precarious Mediation in Postsocialist China*. Minneapolis, MN: University of Minnesota Press.

Lotz AD (2017) *Portals: A Treatise on Internet-Distributed Television*. Ann Arbor, MI: Michigan Publishing, University of Michigan Library.

Marutschke D (2011) *Continuous Improvement Strategies: Japanese Convenience Store Systems*. Springer.

Neves Joshua and Steinberg M (2020) Pandemic Platforms: How Convenience Shapes the Inequality of Crisis. In: *Pandemic Media: Preliminary Notes Towards an Inventory*. meson press, pp. 105–112.

Ogata 緒方知行 Tomoyuki (1991) *セブンーイレブン・イトーヨーカ堂の流通情報革命：リーダー・鈴木敏文の変化対応経営 (The Logistical Information Revolution of Ito-Yokado's 7-Eleven)*. ティビーエス・ブリタニカ. Available at: http://id.ndl.go.jp/bib/000002133949.

Peters B (2016) *How Not to Network a Nation: The Uneasy History of the Soviet Internet*. Mit Press.

Shove E 1959- (2003) *Comfort, Cleanliness and Convenience : The Social Organization of Normality*. New technologies/new cultures series, 1472-2895. Oxford ; Berg.

Steinberg M (2019) *The Platform Economy: How Japan Transformed the Commercial Internet*. Minneapolis: University of Minnesota Press.

Steinberg M (2022) From Automobile Capitalism to Platform Capitalism: Toyotism as a prehistory of digital platforms. *Organization Studies* 43(7): 1069–1090. DOI: 10.1177/01708406211030681.

Steinberg M and Li J (2017) Introduction: Regional platforms. *Asiascape: Digital Asia* 4(3). Brill: 173–183.

Tierney TF (1993) *The Value of Convenience: A Genealogy of Technical Culture*. Suny Press.

Turow J (2017) *The Aisles Have Eyes : How Retailers Track Your Shopping, Strip Your Privacy, and Define Your Power*. New Haven: Yale University Press.

West E (2022) *Buy Now: How Amazon Branded Convenience and Normalized Monopoly*. MIT Press.

Whitelaw GH (2018) Konbini-Nation. In: Cwiertka KJ and Machotka E (eds) *Consuming Life in Post-Bubble Japan*. Amsterdam University Press, pp. 69–88. DOI: 10.2307/j.ctv56fgjm.8.

Wu AX (2022) The Ambient Politics of Affective Computing. *Public Culture* 34(1): 21–45. DOI: 10.1215/08992363-9435427.

Zhang L (2020) When Platform Capitalism Meets Petty Capitalism in China: Alibaba and an Integrated Approach to Platformization. *International Journal of Communication* 14: 114–134.

Zhang L (2023) *The Labor of Reinvention : Entrepreneurship in the Chinese Digital Economy*. New York: Columbia University Press.