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Does the rising tide lift all boats? : Navigating datascapes at the local level

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Introduction: The rhetoric surrounding data in tourism studies has undergone a shift from that of data scarcity to that of superabundance (Weaver, 2021), but how does this actually play out with stakeholders on the ground? Utilizing data for decision making, including the prospects of machine learning, AI, and Big Data, will likely play an increasingly important role in tourism related planning and decision making (Li et al., 2018; Ivars-Baidal *et al*., 2019). This transformation and growth in computing capabilities has resulted in what many call the "data deluge" (Faniel & Zimmerman, 2011), a flood of potential that can get unprepared users swept up in a torrent of data points. While this deluge has typically been met with great optimism, there has been growing concern that the 'rising tide lifts all boats' philosophy is actually leaving some stakeholders more 'high and dry' while others flounder under the waves (Terrizzano *et al*., 2015; Tarantino, 2020).

Literature Review: One way in which to navigate the waters of these increasingly hydrological metaphors for actual data realities is by recognizing the different states in which stakeholders find themselves in relation to data access and use. This can be conceptually organized into a 'datascape', a bounded system that encapsulates the processes between databases and human activity that result in the creation of localized hybrid digital–physical ecologies (Kabisch, 2008). Reyes *et al*. (2023) see this as an extension of Appadurai's (1990) theoretical 'scapes' to be used as a generative tool and resource to explore these interactions.

Through his 5 dimensions (ethnoscapes, mediascapes, technoscapes, financescapes, and ideoscapes), Appadurai (1990) posits that the '-scapes' suffix allows him to understand the flows and irregularities of various entities as well as indicate that these relationships are not objective, rather they are deeply perspectival constructs, inflected by the situatedness of the actors. Because of this focus on differing actor perspectives, this -scapes approach provides a useful paradigm for exploring cultural and technical dispersion and has been applied to fields such as fashion (Richardson, 2019), financial capital (Heyman & Campbell, 2009), education (Reyes *et al*., 2022; Miglani & Burch, 2021), literature (Torresi, 2013), technical infrastructure development (Yuliantari, 2020), information and communication technology (Faulkner *et al*., 2019), and tourism (Chen *et al*., 2020) to name a few.

Methodology: Using a modified Delphi interview strategy, 17 interviews were conducted with high level tourism professionals in the resort township of Osoyoos, BC, Canada, in May of 2023 (n=14 were conducted in person, n=2 were conducted via Zoom, and n=1 was conducted via email correspondence; A sectoral and organizational breakdown of the interviewees can be found in **Appendix A**). Interviews ranged from ~20 min - ~60 min and served as an audit and discussion for how data was utilized at each organization, and what the main organizational struggles in relation to data procurement and use were. The lead questions served as the main

categories of inquiry and themes were broken down into sub themes that emerged during the data analysis.

Results: There was a sundry of current data problems among the interviewed organizations (see **Appendix B**). In order to more succinctly navigate these problems, three encapsulating categories will be used: Problems concerning the data itself, problems collecting or finding the data, and problems with human capacity.

The main data problems concerning the data itself are that much of the data these organizations are working with are not timely, relevant to their geographic scope, or even complete. The timeliness of data sets was especially pertinent, as many felt pre-Covid data sets were not particularly useful to their operations. There were also qualms regarding the geographic scopes of different data sets and the granularity, especially at the community level, where many of these organizations operate.

In terms of finding and collecting data, almost every organization had a POS system and other accounting software to track sales as well as things like inventory and expenditures. It is typically when other sorts of data are needed (e.g. visitor demographics) that things start to become more complicated, especially when there is not a standardized way to collect and categorize this data. This is even more evident when it comes to tracking environmental or sustainability data, and it gets to the point where some organizations do not even bother.

But by far the greatest single complaint across all industries was the lack of time and capacity for individuals to properly engage with the data. Most of the time data analytics and planning were done off the corner of decision maker's desks and between other duties, especially in the smaller organizations that did not have a dedicated person or team to focus on the analytics.

Conclusion and Discussion: In this study we found that the majority of data related hurdles stem from organizational problems in human capacity, which requires a different mindset to amend than just a quick technical fix. The current common practice of expecting existing staff to run data and analytics off the side of their desk without the appropriate education and training is as absurd as expecting staff to tackle communications or accounting without appropriate background and training.

Right now the Osoyoos tourism sector, just like many other tourism regions within Canada and abroad, is on the cusp of change. Organizations are waking up to the reality that they need informed data to drive their decisions, and the longer they put off integrating the systems necessary to deal with this reality, the harder it will be to integrate them into their organization's practices going forward. The current datascape is fragmented, and while many argue that there is a vast lake of data out there for the savvy user, this study finds that the reality is much more

complicated. It seems some may drown in data while others die of thirst on the beaches before they ever make it to the shore.

References:

Appadurai, A. (1990). Disjuncture and Difference in the Global Cultural Economy. *Public Culture*, *2*(2), 1–24. https://doi.org/10.1215/08992363-2-2-1

Bawden, D., & Robinson, L. (2009). The dark side of information: Overload, anxiety and other paradoxes and pathologies. *Journal of Information Science*, *35*(2), 180–191. https://doi.org/10.1177/0165551508095781

Behrent, M. C. (2013). Foucault and Technology. *History and Technology*, *29*(1), 54–104. https://doi.org/10.1080/07341512.2013.780351

Brynjolfsson, E., Hitt, L. M., & Kim, H. H. (2011). *Strength in Numbers: How Does Data-Driven Decisionmaking Affect Firm Performance?* (SSRN Scholarly Paper No. 1819486). https://doi.org/10.2139/ssrn.1819486

Buhalis, D., & Amaranggana, A. (2015). Smart Tourism Destinations Enhancing Tourism Experience Through Personalisation of Services. In I. Tussyadiah & A. Inversini (Eds.), *Information and Communication Technologies in Tourism 2015* (pp. 377–389). Springer International Publishing. https://doi.org/10.1007/978-3-319-14343-9_28

Buhalis, D., O'Connor, P., & Leung, R. (2022). Smart hospitality: From smart cities and smart tourism towards agile business ecosystems in networked destinations. *International Journal of Contemporary Hospitality Management*, *35*(1), 369–393. https://doi.org/10.1108/IJCHM-04-2022-0497

Calvino, I. (2014). World Memory. In *The Complete Cosmicomics* (pp. 365–372). Houghton Mifflin Harcourt. https://drive.google.com/file/d/1uMHzuWnDLM0cjd4qFfJ7FJp60ZhUjlQY/view?usp=sharing&usp=embed_facebook

Chen, Z., Suntikul, W., & King, B. (2020). Research on tourism experiencescapes: The journey from art to science. *Current Issues in Tourism*, *23*(11), 1407–1425. https://doi.org/10.1080/13683500.2019.1616679

Chessell, M., Scheepers, F., Nguyen, N., van Kessel, R., & van der Starre, R. (2014). *Governing and Managing Big Data for Analytics and Decision Makers*. IBM. https://www.redbooks.ibm.com/redpapers/pdfs/redp5120.pdf

Crompton, J. L. (2009). Strategies for implementing repositioning of leisure services. *Managing Leisure*, *14*(2), 87–111. https://doi.org/10.1080/13606710902752497

Destination BC. (2022). *Fact-Sheet_TourismWeek2022.pdf*. https://www.destinationbc.ca/content/uploads/2022/05/Fact-Sheet_TourismWeek2022.pdf

Edwards, P. N. (2010). *A Vast Machine: Computer Models, Climate Data, and the Politics of Global Warming*. MIT Press. http://ebookcentral.proquest.com/lib/sfu-ebooks/detail.action?docID=3339172

Faniel, I. M., & Zimmerman, A. (2011). Beyond the Data Deluge: A Research Agenda for Large-Scale Data Sharing and Reuse. *International Journal of Digital Curation*, *6*(1), Article 1. https://doi.org/10.2218/ijdc.v6i1.172

Faulkner, C., Molnar, G., & Kohe, G. (2019). “I Just Go on Wi-Fi”: Imagining Worlds Through Professional Basketball Migrants’ Deployment of Information and Communication Technology. *Journal of Sport and Social Issues*, *43*(3), 195–218. https://doi.org/10.1177/0193723519836396

Goldston, D. (2008). Big data: Data wrangling. *Nature*, *455*(7209), Article 7209. https://doi.org/10.1038/455015a

Government of BC. (2020, May 25). *Province supports tourism marketing organizations to be ready for recovery | BC Gov News*. https://news.gov.bc.ca/releases/2020TAC0022-000927

Hall, C. M. (2019). Resilience theory and tourism. In J. Saarinen & A. M. Gill (Eds.), *Resilient Destinations and Tourism: Governance Strategies in the Transition towards Sustainability in Tourism* (pp. 34–47).

Heyman, J. McC., & Campbell, H. (2009). The anthropology of global flows: A critical reading of Appadurai’s `Disjuncture and Difference in the Global Cultural Economy’. *Anthropological Theory*, *9*(2), 131–148. https://doi.org/10.1177/1463499609105474

Ivars-Baidal, J. A., Celdrán-Bernabeu, M. A., Mazón, J.-N., & Perles-Ivars, Á. F. (2019). Smart destinations and the evolution of ICTs: A new scenario for destination management? *Current Issues in Tourism*, *22*(13), 1581–1600. https://doi.org/10.1080/13683500.2017.1388771

Kabisch, E. (2008). Datascape: A Synthesis of Digital and Embodied Worlds. *Space and Culture*, *11*(3), 222–238. https://doi.org/10.1177/1206331208319147

Kashyap, V., & Sheth, A. (1996). Semantic Heterogeneity in Global Information Systems: The Role of Metadata, Context and Ontologies. *Cooperative Information Systems: Current Trends and Directions*, *139*, 178.

Li, J., Xu, L., Tang, L., Wang, S., & Li, L. (2018). Big data in tourism research: A literature review. *Tourism Management*, *68*, 301–323. https://doi.org/10.1016/j.tourman.2018.03.009

Li, S., Dragicevic, S., Castro, F. A., Sester, M., Winter, S., Coltekin, A., Pettit, C., Jiang, B., Haworth, J., Stein, A., & Cheng, T. (2016). Geospatial big data handling theory and methods: A review and research challenges. *ISPRS Journal of Photogrammetry and Remote Sensing*, *115*, 119–133. https://doi.org/10.1016/j.isprsjprs.2015.10.012

Lippert, I. (2015). Environment as datascape: Enacting emission realities in corporate carbon accounting. *Geoforum*, *66*, 126–135. https://doi.org/10.1016/j.geoforum.2014.09.009

Loukidou, L., Loan-Clarke, J., & Daniels, K. (2009). Boredom in the workplace: More than monotonous tasks. *International Journal of Management Reviews*, *11*(4), 381–405. https://doi.org/10.1111/j.1468-2370.2009.00267.x

Merendino, A., Dibb, S., Meadows, M., Quinn, L., Wilson, D., Simkin, L., & Canhoto, A. (2018). Big data, big decisions: The impact of big data on board level decision-making. *Journal of Business Research*, *93*, 67–78. https://doi.org/10.1016/j.jbusres.2018.08.029

Miglani, N., & Burch, P. (2021). Education reform imaginaries: Mapping -scapes of philanthropic influence. *Discourse: Studies in the Cultural Politics of Education*, *42*(5), 682–698. https://doi.org/10.1080/01596306.2020.1836747

Novotny, M., Dodds, R., & Walsh, P. (2022). Developing a Scalable Data-Driven Decision-Making Tool for Smart Destination Management. *TTRA 2022*.

Olwig, K. R. (2005). Representation and alienation in the political land-scape. *Cultural Geographies*, *12*(1), 19–40. https://doi.org/10.1191/1474474005eu321oa

Reyes, V., Phillips, L., Hamid, M. O., & Hardy, I. (2023). Navigating datascapes: Mapping testing practices within and across national and global contexts. *Learning, Media and Technology*, *0*(0), 1–13. https://doi.org/10.1080/17439884.2023.2218645

Richardson, T. (2021). The Global Scapes of Postmodernity: A Proposed Model for "Global Cultural Flow" in Fashion Education. *Fashion Theory*, *25*(6), 819–835. https://doi.org/10.1080/1362704X.2019.1686245

Shah, S., Horne, A., & Capellá, J. (2012). Good Data Won't Guarantee Good Decisions. *Harvard Business Review*, *90*(4), 23–25.

Statistica. (2022). *Travel and tourism: Share of global GDP 2021*. Statista. https://www.statista.com/statistics/1099933/travel-and-tourism-share-of-gdp/

Szromek, A. R., Kruczek, Z., & Walas, B. (2019). The Attitude of Tourist Destination Residents towards the Effects of Overtourism—Kraków Case Study. *Sustainability*, *12*(1), 228. https://doi.org/10.3390/su12010228

Tarantino, M. (2020). Navigating a datascape: Challenges in automating environmental data disclosure in China. *Journal of Environmental Planning and Management*, *63*(1), 67–86. https://doi.org/10.1080/09640568.2019.1659132

Terrizzano, I., Schwarz, P., Roth, M., & Colino, J. E. (2015). Data Wrangling: The Challenging Journey from the Wild to the Lake. *Conference on Innovative Data Systems Research*. https://www.cidrdb.org/cidr2015/Papers/CIDR15_Paper2.pdf

Torresi, I. (2013). The polysystem and the postcolonial: The wondrous adventures of James Joyce and his Ulysses across book markets. *Translation Studies*, *6*(2), 217–231. https://doi.org/10.1080/14781700.2013.774531

Town of Osoyoos. (2023). *About Osoyoos*. History of Osoyoos. https://www.osoyoos.ca/community/about-osoyoos/history-osoyoos

Vecchio, P. D., Mele, G., Ndou, V., & Secundo, G. (2018). Creating value from Social Big Data: Implications for Smart Tourism Destinations. *Information Processing & Management*, *54*(5), 847–860. https://doi.org/10.1016/j.ipm.2017.10.006

Yuliantari, A. P. (2020). Technoscapes and mediascapes influence on village and city relations in Manggarai, East Nusa Tenggara. *Simulacra*, *3*(1), Article 1. https://doi.org/10.21107/sml.v3i1.7112

Zwitter, A. (2014). Big Data ethics. *Big Data & Society*, *1*(2), 2053951714559253. https://doi.org/10.1177/2053951714559253

Appendix A

Interviewee Sectoral Breakdown

Sector	Subsector	#
Accommodation	*Property management*	1
	Hotel/Motel	2
Activities	*Cultural/History/Informative*	1
Food & Beverage	*Wineries*	4
	Distillery	1
	Restaurant	1
Tour Operators and Rentals	*Bike Rentals*	2
Tourism Support and Dev.	*DMO*	2
	Consultant	1
	PR and Marketing Agency	1
	Event Management	1

Interviewee Organizational Position Breakdown

Position	#
General Manager	3
Restaurant Manager	1
Tasting Room Manager	1
Managing Broker	1
Floor Manager	1
Consultant	1
Director of Sales	1
Sales	1

Executive Director	1
Founder and President	1
Owner & General Manager	1
Marketing and Communications Coordinator	1
Marketing Manager	2
Association President	1

Appendix B


Current data problems
Data collection issues, 11%
Need for centralization, 11%
Problems collecting or finding the data
Lack of time to engage with the data, 23%
Lack of funding, resources, or access, 6%
Lack of data literacy or analytical ability, 6%
Lack of will to utilize available data, 5%
Not knowing what data is needed, 2%
Data Paralysis, 1%
Problems with human capacity
Anecdotal data, 7%
Data not timely, relevant, or complete, 27%
Problems concerning the data itself
Problems concerning the data itself
Problems collecting or finding the data
Problems with human capacity