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Finding the emic in systemic design: Towards systemic ethnography

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Finding the *emic* in systemic design: Towards systemic ethnography

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Abstract (150 words) This paper proposes a framework for assessing the emic or etic orientation of a research project and examines the role of etic (from outside) and emic (from within) perspectives in systemic design. I make the case that systemic design projects should be driven from as emic an orientation as possible—that to do otherwise will result in flawed intervention, possibly leading to grave consequences for the stakeholders of the system. Drawing from theory on ethnography and qualitative research, I situate processes and principles of emic understanding to the practice of systemic design in order to establish the research orientation framework. I test this framework in an exploratory assessment of case studies in systemic design, demonstrating how they may be used to show differences in researcher orientation and lead to success or failure.

Keywords: systemic design, emic, etic, research methods, stakeholder perspective

1. Introduction

An under-emphasized dimension of work in systemic design is the research orientation of practitioners: the degree to which practitioners' understand the problem at hand from stakeholders' perspectives. Systemic design processes that are not executed with the direct and explicit engagement of stakeholders—to the extent of achieving an *emic* (or from within) understanding of the system—are potentially flawed at their foundation. While the discipline has roots in empathic methods (especially in recent years; see Kimbell, 2011), it is easy for systemic designers to adopt research methods that do not produce understanding from stakeholder perspectives. By fostering recognition of the importance of an emic perspective, and by providing a framework of principles, practices, and process to accomplish systemic design with this perspective, I hope to ensure that systemic design processes are as accurate and valid as possible with respect to the stakeholders of the system.

This is not to suggest that systemic design practice is "too etic". In fact, with roots in design, systemic design is often deliberately emic. Systemic designers make use of designerly tools that help the researcher to build empathy with system stakeholders (e.g., soft systems methodology, critical systems heuristics, appreciative inquiry; Jones, 2015). They often seek to engage stakeholders in the systemic design process and include reflective analysis of what has been learned in order to assess where deeper engagement with the system is required (Ryan, 2014). That said, with the advent of crowdsourcing (the facilitated involvement of the general public in problem solving, usually using online tools; Lukyanenko & Parsons, 2012) and data science (the use of computational tools to analyze and understand large quantities of data; cf. Provost & Fawcett, 2013), it is likely that data-driven methods will increasingly influence systemic design practice. This data-driven direction presents a powerful opportunity, but it underscores the need to develop principles and best practices for assessing and directing research orientations as we gain more data from these tools.

In section 2, I explain the concept of emic understanding with reference to scholarship from qualitative theorists. I draw from theory to construct a emic research orientation framework including a process and key techniques to help researchers assess and direct their research perspective. In section 3, I test this framework by applying it in a critique of two systemic design case studies, examining the emic orientation of the procedures they use and the results they report in order to understand the role and value of emic efforts in the discipline. The fourth section concludes with a discussion of the contributions and limitations of this work while suggesting next steps for research on this issue.

2. Emic Perspectives

In general, emic research seeks to understand events from the mind of the researched; etic research seeks to understand events from outside, as an observer (Harris, 1976). The emic mode is not necessarily better than the etic mode. At etic approach helps to develop understanding generalizable

from the researched domain to other domains. Etic understanding is therefore necessary in the development of theoretical absolutes, and in social research etic understandings are often developed once several emic views have been captured (Fetterman, 2005b). Emic understanding, on the other hand, is relativistic. Emic methods "[…] help the fieldworker understand why members of the social group do what they do, in contrast to a priori assumptions about how systems work from a simple, linear, logical perspective—which might be completely off target […]" (Fetterman, 2005a). As Geertz (1973, p. 28) writes: "The aim is to draw large conclusions from small, but very densely textured facts; to support broad assertions about the role of culture in the construction of collective life by engaging them exactly with complex specifics."

For a hypothetical example, say one wants to develop a theory of consumer behaviour. An etic perspective might at the outset ascribe the behaviour to general economic principles (e.g., "Jeeps are durable vehicles, thereby consumers who buy them value saving money"). Emic research may then reveal important cultural aspects of the consumer behaviour unique to jeep purchasers—something about the experience of using the jeep. As those emic units of understanding are gathered and combined, the researcher may develop a new etic theory of consumption that can be abstracted and applied to other consumer subcultures.

In many social research domains, then, both etic and emic modes of study can be necessary in order to develop accurate theory. Recall, however, that practitioners of systemic design attempt to make progress on wicked problems (see Rittel & Webber, 1973)—and that a cardinal attribute of wicked problems is that the understanding of one wicked problem cannot be generalized to others. In other words, entering a systemic design challenge with an etic understanding of the problem risks immediate irrelevance—and the practitioner may be ignorant of their irrelevance. In systemic design, then, an emic approach must be essential to developing an accurate understanding. The question becomes: in a given project, how might we construct a more emic perspective?

2.1. How are emic perspectives constructed?

A process for emic research

To this end, Clifford Geertz' seminal "Thick Description: Toward an Interpretive Theory of Culture" (found in *The Interpretation of Cultures*, 1973, chapter 1) is essential reading. Geertz presents a thorough if meandering articulation of the significance of emic interpretation, but one phrase arguably sums up the key takeaway: emic research must be executed "with a great deal of care" (Geertz, 1973, p. 14). Through the chapter, Geertz (1973) makes the argument that emic understanding is obtained through the thick description of the researched. This means "understanding … normalness without reducing particularity. It renders them accessible; setting them in the frame of their own banalities, it dissolves their opacity" (p. 14). This involves, in a rough and repeating order:

1. acknowledgement and systematized capture of our initial interpretations of the research domain (p. 15, paragraph 1);

2. capturing the flow of symbols (including speech), behaviours, events, and artifacts, along with the attribution of meaning or roles (or uses, in the case of artifacts) to these phenomena in relation to the actors who engage with them, if possible (p. 17, paragraphs 2-3);

3. constructing coherent meaning from these observations (p. 18, paragraph 2)—"tracing the curve of a social discourse; fixing it into an inspectable form" (p. 19, paragraph 1); and

4. appraising captured perceptions and constructed meaning as to whether they are thick enough to effectively achieve our goals (p. 16, paragraph 3).

How do we know we're making progress in emic understanding? "A study is an advance if it is more incisive—whatever that may mean—than those that preceded it; but it less stands on their shoulders than, challenged and challenging, runs by their side" (Geertz, 1973, p. 25, paragraph 2). How about when to end? "Every serious cultural analysis starts from a sheer beginning and ends where it manages to get before exhausting its intellectual impulse" (Geertz, 1973, p. 25, paragraph 3) as "cultural analysis is intrinsically incomplete, […] the more deeply it goes, the less complete it is" (Geertz, 1973, p. 29, paragraph 2). In other words: we make progress by adding to what we already know, developing a deeper internal perspective of the study domain, and we stop when we have to.

Procedures of emic research

So we know roughly what emic research should look like (the four steps above, plus the kinds of progress we should observe when executing them), but we do not have a good handle on what emic research consists *of*. Geertz (1973) himself does not prescribe precise principles for these four steps; indeed, one can assume that any activity that allows the researcher to achieve steps 1 through 5 above will help advance an emic understanding of the studied domain. However, Creswell & Miller (2000) provide a highly cited framework used to assess the validity of qualitative inquiry that may translate here. They highlight nine procedures across three research paradigms (postpositivist, constructivist, and critical) that foster the perception of validity across three stakeholders: the researcher themselves, the participants, and the audience of the research (Creswell & Miller, 2000, page 126, table 1). The nine procedures are described briefly below.

Triangulation

Does the described understanding come from the convergence of multiple sources of information? Triangulation suggests that researchers examine a given concept from multiple angles in order to confirm their understanding of the concept from several of those angles. As reported by Creswell & Miller (2000, p. 126-127), Denzin (1978) "identified four types of triangulation: across data sources (i.e., participants), theories, methods (i.e., interview, observations, documents), and among different investigators".

Disconfirming evidence

Researchers should strive to invalidate their interpretation of a concept by seeking out evidence that opposes their conclusions. Unfulfilled effort to disconfirm a concept is validating.

Researcher reflexivity

Researcher reflexivity involves making explicit the researcher's own assumptions and biases, critiquing these beliefs, and doing so early. In doing so, a researcher makes transparent their approach (for external evaluation and critique) and may be able to suspend these influences throughout the research.

Member checking

This simply means involving the research participants in the study by presenting data and conclusions to them for feedback. By, say, convening a focus group or providing participants with a copy of the raw data and analysis, participants themselves have an opportunity to critique the researcher's interpretations and confirm (or disconfirm) their concepts.

Prolonged engagement

Prolonged engagement is self-descriptive: it means to engage in the research within the context and with the participants for a prolonged period of time. To do so is to build rapport with participants, gaining increasing access to the domain and to the opportunity to study longer term trends/to see phenomena that may otherwise have been missed.

Collaboration

Participants may be involved in qualitative inquiry as co-researchers. Creswell and Miller (2000) give some examples: involve participants in the formation of research questions, in the collection and analysis of data, or in the writing of the research narrative. To do so is to construct the research with the participants view as well as your own.

The audit trail

Another approach to establishing validity is the creation of an audit trail through transparent documentation of the research process and the decisions made therein. A reviewer can then assess the trail and attest to the credibility of the process, or the researcher can make the audit available to readers.

Thick, rich description

Creswell & Miller (2000) suggest that thick descriptions of the research objects (e.g., the setting, the participants, or other themes) provide credibility. Such thick descriptions contextualize the research and help readers transport themselves into the process of the research, too.

Peer debriefing

An example of peer debriefing is the peer review process. When fellow researchers critique a study, they offer new perspectives, challenge assumptions, offer additional methodologies, and so on. Passing through a peer review or debrief process suggests that the research was robust enough to survive these critiques and still be accepted by other researchers.

2.2. Developing a framework

These nine procedures provide several routes through which a researcher may check and establish the validity of a given qualitative research project. Not all of them directly support emic

understanding, however. **Triangulation**, for instance, would only validate emic research if the researcher is triangulating concepts obtained from within the studied domain. In other words, triangulation is important—but only if the data triangulated includes some that has been obtained from an emic perspective. Likewise, **disconfirming evidence** is an important technique, but evidence invoked from outside of the studied domain has little bearing on an emic phenomena, by definition. Thus, to validate an emic perspective, evidence that disconfirms an interpretation should be found within the studied domain. **Researcher reflexivity** has some value, too. By articulating their assumptions in advance of a study, a researcher can literally establish the etic concepts they bring to the project. The other techniques can then be used to integrate or disregard these concepts in the emic perspective of the domain. **Member checking and collaboration** have obvious value in the construction of emic interpretations, as they involve the perspectives of those internal to the domain in the creation of the research product. **Prolonged engagement** further adds emic value; as suggested above, longer exposure generally leads to greater access and exposure to the studied domain, making it more likely that the researcher will observe something they would otherwise have missed (or have been prevented from seeing).

The remaining three techniques: the audit trail; thick, rich description; and peer review have little emic value—except that they may be used to reinforce the validation garnered from the other six techniques. Member checking, for instance, may be augmented by giving the participants "thicker" descriptions to critique. Likewise those participants may be more likely to engage in authentic critique if rapport has been built through prolonged engagement. So, these techniques feed into one another, but it is not necessary to seek the above three techniques in every emic research project.

The six techniques bolded in the paragraph immediately above provide us with a framework with which to assess the emic validity of a given project. This analysis finds intuitive credibility in the organizing framework of Creswell and Miller (2000). They suggested that triangulation, disconfirming evidence, and researcher reflexivity are each techniques for validating research *from the perspective of the researcher*, while member checking, collaboration, and prolonged engagement are each techniques that foster validation *from the perspective of the researched*. Note that emic research in systemic design focuses on both the researcher and the researched, as both actors are key stakeholders ensconced in a project domain.

Thus, Geertz (1973) provides a well-known conceptualization of the task of generating emic understanding which I have synthesized into a four-step process model. To this model I have added six techniques from Creswell and Miller (2000) as techniques for validation in emic inquiry. Taken together, we have a framework for emic research. This framework is visualized in figure 1.
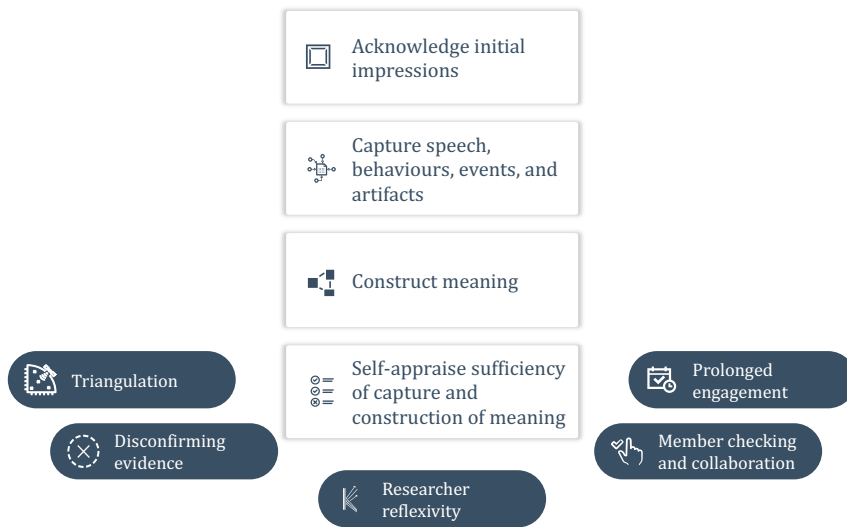
Figure 1. A framework for assessing the emic orientation of systemic design research. An emic project should iterate over the process (the white boxes) and maximize use of the procedures (the teal boxes).
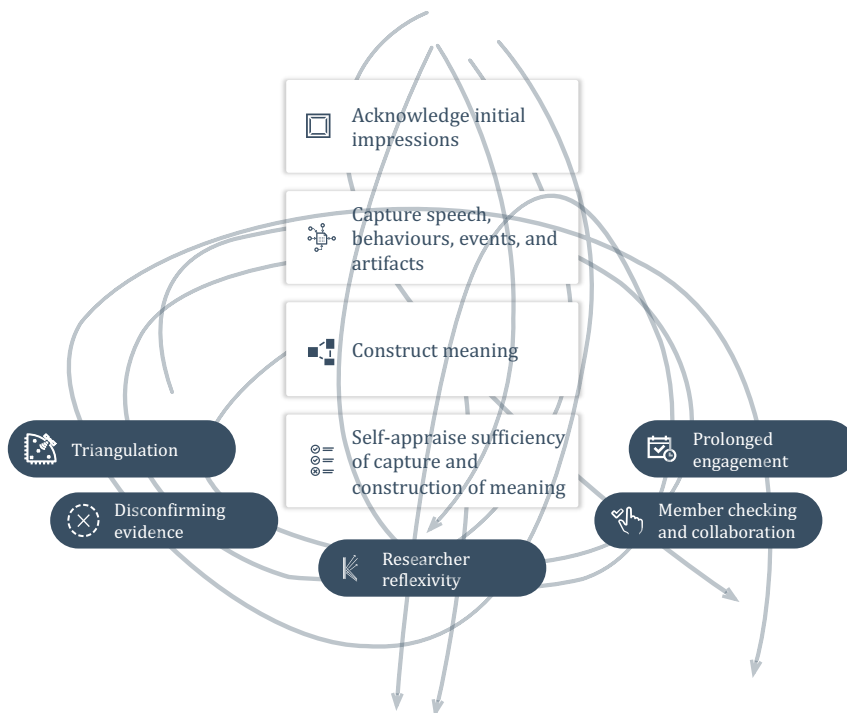
Figure 2. Pathways for emic research. The researcher approaches emic understanding by iterating through the process, using the techniques to further check and enrich their stakeholder-oriented understanding of the problem system.

2.3. Relating the framework to systemic design

As discussed above, a systemic designer searches for ways to make progress on wicked problems. These problems—eradicating homelessness in St. John's, Newfoundland & Labrador; reforming gun law in the USA; and changing global industry to prevent climate change are all examples—are

defined by their inability to be universally defined and understood. In other words, these challenges look different in different places and from the views of different stakeholders. They may only be understood *emically*. A systemic design project is therefore an emic research project, and—as suggested by Geertz (1973)—they must be executed with a great deal of care.

The model described immediately above, then, provides us with a framework for syst*emic* design as a structure with which we can check whether sufficient care was taken. Systemic design projects should show evidence of methods that invoke the "four steps" of Geertz' (1973) ethnography, and they should likewise search for validation with at least some of the nine techniques provided by Creswell & Miller (2000).

I propose that a project that follows the steps (to demonstrate depth of emic understanding) and/or invokes the validation techniques (to demonstrate qualitative validity) will be more likely to reflect an accurate emic understanding of the problem domain than one that does not. This understanding should translate into greater efficacy of the interventions identified by the project, and ultimately into more powerful impact according to the goals of the project.

3. Applying the framework: A pilot study

In this pilot study, I applied the framework to two case studies selected via a purposive, paradigmatic sampling strategy (Stake, 2005; Flyvbjerg, 2006). I used phenomenological hermeneutics to analyze the chosen case studies (Eberle, 2014, p. 196; cf. Wernet, 2014). In plain words, this simply means a careful reading and interpretation of the phenomena observed in a given research case. By reviewing the outputs and results of systemic design projects as they relate to etic and emic understandings, I may be able to judge the value of etic vs. emic meaning in these projects.

The first case study (the National Youth Leadership and Innovation Strategy Summit; MaRS Studio Y, 2017; see also Stauch & Cornelisse, 2016) served as inspiration for this research. I was present for the summit and personally authored the case; it is available but could not be included in the present submission due to length restrictions. This example consisted of a two-day systemic design workshop involving hundreds of representatives for across the country—the goal of which was to develop national policy. The second case study was chosen from Ryan and Leung's (2014) cases. It describes a redesign of public procurement processes at a Canadian university. It was selected as an explicit demonstration of systemic design and one of the earliest such cases available in the literature. By examining and comparing this case I may find important contrasts to the experience described in the NYLIS case. Thus, while I explore NYLIS as a potentially flawed systemic design project (as that is what sparked my interest to begin with), the Ryan and Leung (2014) case is supposedly an exemplar of a successful systemic design practice. Across both cases, then, we have a good sample of the systemic design paradigm.

In each case, I examined the step-by-step procedure and any associated notes about the experience of the researchers and participants involved. In each step or experience, I looked for evidence of the

four steps of emic understanding or the six techniques of emic validation reported above. Figure 3 summarizes the resulting analysis; a full discussion is available but outside the scope of this paper.

Canadian National Youth Leadership & Innovation Strategy Summit (NYLIS)

- Prep documents
- Self-reports & dialogue
- Data team → report-backs → Analysis and writing team
- The team was resistant to critical analysis
- Groups did not mix. Only one type of data was collected
- Not discussed
- Critiques were *acknowledged*
- *Two days*
- 200+ people from across industries and demographics

Public procurement at the University of Toronto (Ryan & Leung, 2014)

- Stated objective
- *Tabula rasa*
- Team shadowing
- Listening
- Snowballing recruitment
- Synthesis into personas
- Reframed objective
- Co-creative journey mapping and prototyping
- Planned transitions vs. when they were ready?
- Defer to the stakeholders
- Different stakeholders, different artifacts
- Not discussed
- 6 weeks of empathy
- 4 co-creative work
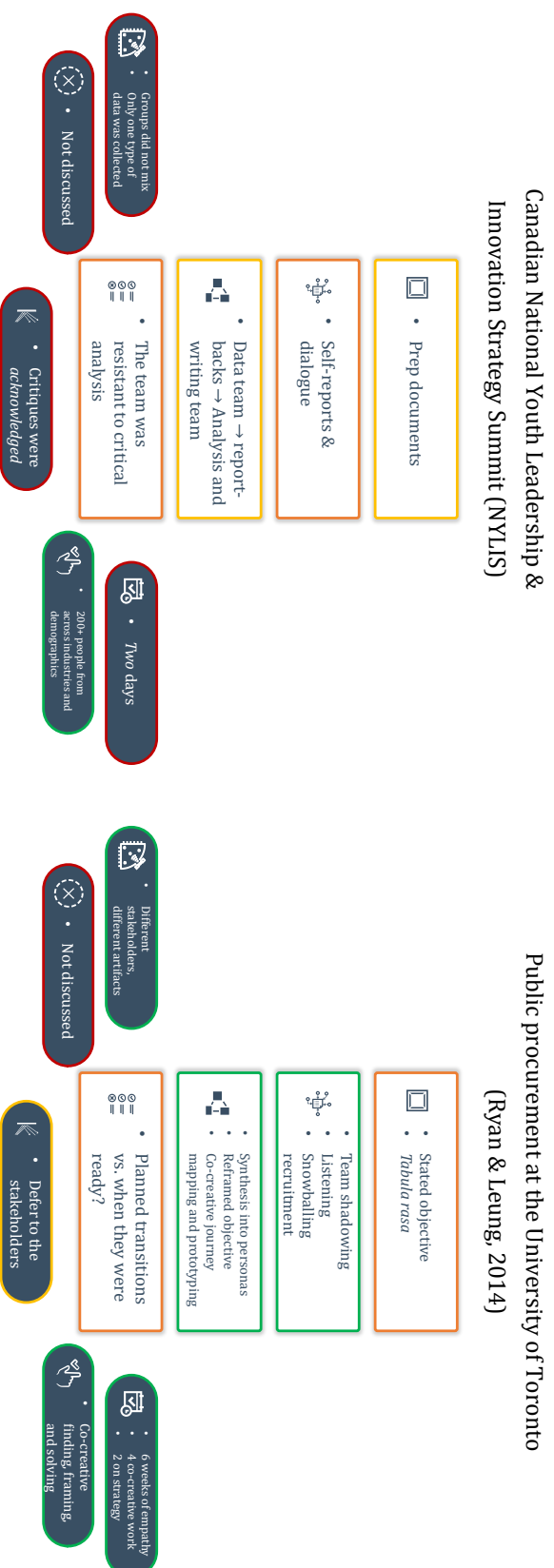- 2 on strategy
- Co-creative finding, framing and solving

Figure 3. A summary visualization of the analysis of the two case studies. Adherence to the process and techniques of emic research is indicated via colour-coding from red (poor evidence) to green (strong evidence), and observations of each component is commented on in the relevant boxes.

4. Discussion

4.1. Contributions

Intensivist and Extensivist Systemic Design

One thing is obvious: these two cases illustrate two profoundly different approaches to systemic design. In one approach, systemic designers attempt to bring the system to them. Stakeholders are gathered as participants in isolation, and the systemic designers use a lot of facilitation and tools of systemics and design to attempt to understand the system and to identify opportunities for innovation. I call this the "intensivist" approach. Like the type of physician that shares the term, intensivist systemic design uses technical procedures and facilitating machinery to suspend the system in place. While the system is suspended, the intensivist systemic designer pokes, prods, and prompts, developing a hyper-clear picture of how it works and where the problems lie. They may even develop and start interventions while they have the system artificially in their grasp. The intensivist approach is fast, controlled, and scales easily.

In the second approach, systemic designers go to the system itself. They use ethnographic methods to engage with stakeholders, observing the behaviour of the system as it unfolds. They involve the stakeholders of the system in the work, sharing their insights with them for feedback and co-creating models and innovations. I call this the "extensivist" approach. Extensivist systemic designers extend throughout the system as much as possible. For the duration of the study, at least, they become part of the system—foreign, yes, but purposefully so. By growing into the system, the extensivist learns about its structure, because they must in order to keep participating. They begin to recognize deeply rooted issues and what sustains those issues. The extensivist approach is slow, adaptive, and difficult to scale.

Intensivist systemic design provides the researchers with an immense sense of power over the system— but that power can be artificial, like the suspended system from which it is obtained. Extensivist systemic design provides the researchers with a sense of the power of the system, and the dependencies that exist between the stakeholders that comprise it—but that sense can be difficult to wield; it must be communicated to the stakeholders in order to make change.

If it isn't obvious, this is not to suggest that one approach is better than the other. If the present case studies are any indication, the extensivist approach (demonstrated by case 2) generates a more emic understanding of the system than the intensivist approach (demonstrated by cases 1 and 3). Depending on available timing, however, an intensivist approach may be the only chance an organization has in order to understand a system, as a full intensivist can be organized and executed at immense scale with little time. Nonetheless, case 2 appeared to have greater success at creating systemic change than cases 1 or 3. This may be a weak indication that the extensivist approach is more likely to achieve impact if the systemic designer has the time and access to make it work.

Assessing emic understanding is important

As the analysis of the cases show, it is possible to examine the level of emic research of a given systemic design project. An emic understanding is crucial in the domain of systemic design challenges; etic understandings are simply insufficient to be able to develop deep, changemaking innovations. That means that assessing emic understanding is an important aspect in evaluating the success of a systemic design project.

At face value the proposed framework provide a useful way of comparing the otherwise incomparable. The emic understanding (already uniquely contextual) generated by different researchers using different methods in different domains with different stakeholders can still be judged by whether or not the author sought to observe phenomena, triangulate their observations, and so on. Now that this issue has been raised and a basic methodology has been provided, it should become an imperative component of evaluating systemic design.

5. Next steps and further research

5.1. Refine the criteria for emic understanding

As the results of the case analysis show, performance on different emic criteria matters less than others (e.g., none of the cases showed a search for disconfirming evidence). This reveals a problem with the criteria. Some are necessary but not sufficient to demonstrate that an emic understanding has been achieved. Others—e.g., prolonged engagement—may be sufficient to show that a significant degree of emic understanding has been achieved, but it is not necessary that a study use prolonged engagement to establish emic understanding. Or is it? These criteria are proposed here as a starting point, but they must be further scrutinized and refined.

5.2. A test of the criteria with fieldwork

Hypocritically, the present research is an etic critique of emic studies. A stronger proof-of-concept would come from a test of these criteria on a real, in-field systemic design project. It should be possible to follow a systemic design team as they undertake a project, studying their behaviour with ethnographic methods to assess the use of etic or emic approaches. Such a study would be able to observe phenomenologically when, with precision, etic versus emic knowledge is collected, interpreted, synthesized into the project's models, and used to generate systemic innovations. It is an obvious extension of the current study, but it is necessary—if for nothing else than to avoid being called out for sanctimony.

6. Conclusion

The point is that while emic understanding is important, it does not have to be hard. Each of the criteria hint at ways for systemic designers to integrate emic perspectives into their understanding of their systems. Simple tweaks and additions to method—from self-report to observation, checking the accuracy of a systems model with stakeholders—can make a rich difference in the contextual understanding we are able to achieve. In turn, our contextualized insights may be more powerful than any we are otherwise able to grasp.

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References

Creswell, J. W., & Miller, D. L. (2000). Determining Validity in Qualitative Inquiry. *Theory Into Practice*, *39*(3), 124–130. https://doi.org/10.1207/s15430421tip3903_2

Denzin, N. (1978). *The Research Act: A Theoretical Introduction to Sociological Methods*. New York, NY: McGraw-Hill.

Eberle, T. S. (2014). Phenomenology as a Research Method. In U. Flick (Ed.), *The SAGE Handbook of Qualitative Data Analysis* (pp. 184–202). Los Angeles, Calif. [u.a.]: Sage. Retrieved from https://www.alexandria.unisg.ch/228374/

Fetterman, D. M. (2005a). Emic Perspective. In *Encyclopedia of Evaluation* (pp. 124–124). Thousand Oaks: SAGE Publications, Inc. https://doi.org/10.4135/9781412950558

Fetterman, D. M. (2005b). Etic Perspective. In *Encyclopedia of Evaluation* (pp. 136–136). Thousand Oaks: SAGE Publications, Inc. https://doi.org/10.4135/9781412950558

Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, *12*(2), 219–245. https://doi.org/10.1177/1077800405284363

Geertz, C. (1973). *The interpretation of cultures: Selected essays* (Vol. 5019). Basic books.

Harris, M. (1976). History and Significance of the Emic/Etic Distinction. *Annual Review of Anthropology*, *5*(1), 329–350. https://doi.org/10.1146/annurev.an.05.100176.001553

Jones, P. (2015). Design Research Methods for Systemic Design: Perspectives from Design Education and Practice. *Proceedings of the 58th Annual Meeting of the ISSS - 2014 United States*, *1*(1). Retrieved from http://journals.isss.org/index.php/proceedings58th/article/view/2353

Kimbell, L. (2011). Rethinking Design Thinking: Part I. *Design and Culture*, *3*(3), 285–306. https://doi.org/10.2752/175470811X13071166525216

Lukyanenko, R., & Parsons, J. (2012). Conceptual modeling principles for crowdsourcing (pp. 3–6). ACM. https://doi.org/10.1145/2390034.2390038

MaRS Studio Y. (2017). *A strategic framework for youth leadership & innovation in Canada: Insights from the 2016 National Youth Leadership and Innovation Strategy Summit*. Toronto, ON. Retrieved from http://www.studioy.marsdd.com/wp-content/uploads/2016/12/MaRS_NYLIS-strategic_framework_Final.pdf

Provost, F., & Fawcett, T. (2013). *Data Science for Business*. USA: O'Reilly Media.

Rittel, H. W., & Webber, M. M. (1973). Dilemmas in a general theory of planning. *Policy Sciences*, *4*(2), 155–169. Retrieved from http://link.springer.com/article/10.1007/BF01405730

Ryan, A. (2014). A Framework for Systemic Design. *FORMakademisk–Research Journal for Design and Design Education*, *7*(4). Retrieved from https://journals.hioa.no/index.php/formakademisk/article/view/787

Ryan, A., & Leung, M. (2014). Systemic Design: Two Canadian Case Studies. *FormAkademisk - Research Journal of Design and Design Education*, *7*(3). Retrieved from https://journals.hioa.no/index.php/formakademisk/article/view/794

Stake, R. (2005). Qualitative Case Studies. In *The SAGE Handbook of Qualitative Research* (3rd edition, pp. 443–466). Thousand Oaks, Calif.: SAGE Publications.

Stauch, J., & Cornelisse, L. (2016). *Canada Next: Learning for Youth Leadership and Innovation*. Calgary, AB: Institute for Community Prosperity, Mount Royal University, and MaRS.

Wernet, A. (2014). Hermeneutics and Objective Hermeneutics. In U. Flick, *The SAGE Handbook of Qualitative Data Analysis* (pp. 234–246). 1 Oliver's Yard, 55 City Road London EC1Y 1SP: SAGE Publications, Inc. https://doi.org/10.4135/9781446282243.n16