

Beyond Bourdieu, Foucault and Habermas: Review and Assessment of Critical Information Systems Research

Full Paper

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Abstract

This paper presents a literature review of critical information systems (IS) research. Specifically, it focuses on how IS researchers have responded to Myers and Klein's (2011) call to consider critical approaches and theorists in addition Bourdieu, Foucault and Habermas. The review identifies and discusses three types of critical IS research "beyond Bourdieu, Foucault and Habermas": work based on a) (other) critical grand social theories, b) postcolonialism and c) data-focused critical methods (i.e., Capabilities Approach, Critical Discourse Analysis, Critical Heuristics and Design, Frame Analysis and Phronetic Enquiry). Based on the literature review, the paper maps the landscape of critical approaches and theories and identify their origins. This analysis is helpful for IS researchers interested in conducting critical IS research by charting the range of critical research approaches beyond Bourdieu, Foucault and Habermas.

Keywords: Critical Theory, Frankfurt School, social theorists, critical research, emancipation.

1 INTRODUCTION

The critical approach to information systems (IS) research, in line with this conference's theme, seeks "to make the world a better place with IS" (cf. Walsham 2012). Critical IS research works toward these ends by highlighting social issues, potentially solvable with IS; or revealing cases in which IS brings unintended negative consequences, to raise awareness and call for action. That is, critical IS research does not only describe the world "as is" but also asks "how could or should things be otherwise?". It seeks emancipation of people (e.g., citizens, workers, women, minorities, "the others") currently disadvantaged by power structures including those embedded in information systems. Critical IS research is therefore differentiated from other research paradigms – such as positivist and interpretivist paradigms – in that it not only seeks to understand and explain, but also seeks to empower and emancipate (Cecez-Kecmanovic and Kennan 2013).

An centrally important paper in critical IS research is "A Set of Principles for Conducting Critical Research in Information Systems" by Myers and Klein (2011). That paper introduces a set of six principles of critical IS research. Of those six principles, the first principle– "using central concepts from critical social theorists" (p. 31) – is of particular importance because it distinguishes critical IS research from other approaches, including interpretivist IS research. That is, critical IS research does not merely critique some IS phenomena in isolation, but endeavours to build on and contribute to an existing critical discourse that may apply to IS phenomena. Accordingly, Myers and Klein (2011, p. 26) explicitly warn that the lack of engagement with critical social theory in critical IS research limits the strategies available to researchers seeking to explore the world critically.

In relation to this first principle, Myers and Klein (2011) discuss three theorists (Bourdieu, Foucault and Habermas) as the by far most commonly used and cited. At the same time, they emphasise that "there are many other critical theorists whose work could be very relevant" (p. 21) and call for "the introduction of new authors into the critical stream of IS research" (p. 21). To date, there has been no review of how the IS research community has responded to this call over the past decade. Our paper seeks therefore to answer the research question: *How has critical IS research been informed by critical approaches beyond those of Bourdieu, Foucault and Habermas?*

To answer this question, we conducted a literature review of critical IS research papers published in the 2010s (2011-2019). To find papers, we conducted searches for papers published at IS outlets that either cite Myers and Klein's (2011) paper (as a centrally important paper in critical IS research) or identify themselves as critical IS research by using terms such as "critical social theory" or "emancipation" (more details about the literature review method are provided in Section 2). We filtered the initial corpus of 649 papers down to 49 relevant papers. The analysis of these papers allowed us to identify several categories of critical IS research. Beyond paper building on Bourdieu, Foucault and Habermas, we classified research being based on a) other critical grand social theorists (e.g., first-generation Frankfurt School), b) the work of postcolonial theorists and c) critical approaches focusing on particular form of data collection or analysis (we refer to these as "data-focused critical methods" to emphasise their central concern with particular forms of data collection or analysis within a "critical theory" worldview). This review is useful for researchers wishing to consider critical-theoretical approaches beyond Bourdieu, Foucault and Habermas for studying IS phenomena.

The remainder of this paper is organised as follows. Section 2 describes the literature review process. Section 3 discusses the above three critical-theoretical IS research approaches "beyond Bourdieu, Foucault and Habermas" – namely, approaches based on a) (other) critical grand social theorists, b) postcolonialism and c) data-focused critical methods. Section 4 charts the overall "landscape" of critical (IS) theory and theorists. Section 5 concludes this paper by discussing its limitations and contributions.

2 LITERATURE REVIEW METHOD

Our literature corpus was constructed following a hermeneutic approach of conducting a literature review (Boell and Cecez-Kecmanovic 2014).

We operationalised the approach through three initial database searches. The first database search used Google Scholar's forward citation tracking functionality to search for papers citing Myers and Klein (2011). To capture any critical IS research not citing Myers and Klein (2011) but still engaging with critical social theory, we performed two follow-up searches for critical social theory ("critical AND social AND theory") and emancipation ("emancipation OR emancipatory OR emancipate") through a library of 133 IS journals using our Scopus-based platform, www.litbaskets.io (Boell and Wang 2019). Our library of 133 journals consisted of journals included in the AIS Basket of 8, 41 AIS SIG journals, 35 IS journals listed by Chan et al. (2015), and/or the 94 IS journals listed by Stewart et al. (2017).

As we read and analysed the 649 papers, we created categories and then compared, redefined, sometimes removed, merged, separated and reconsidered them several times as our understanding matured. This included both the “descoped” and “in scope” categories (Figure 1).

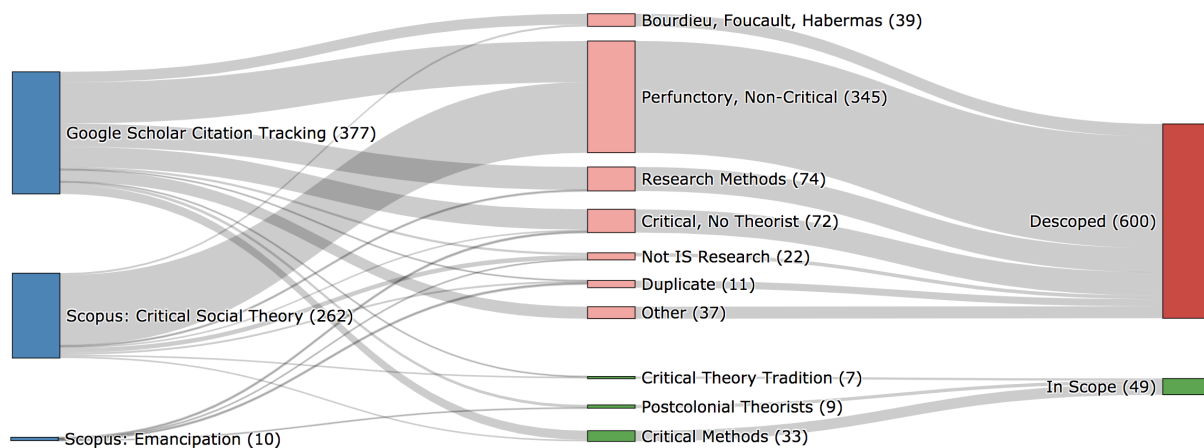


Figure 1. Sankey Diagram of Database Search Outcomes.

600 of 649 papers were “descoped” for different reasons. These reasons included: adopting Bourdieu, Foucault or Habermas as their theorist of choice (descoped because of the particular intention of this paper being to complement rather than replicate Myers and Klein’s 2011 analysis); being of an inherently positivist or otherwise not-critical nature; presenting rather than using research methods; not substantially engaging with critical theory or critical methods; not being about IS; being a duplicate; or being unsuitable for any other reason (e.g., being written in a language that we were not able to read).

49 of 649 papers were “in scope” and are hence discussed in the next section.

3 FINDINGS

The 49 papers can be classified into three categories based on the type of “critical theory” they are locating themselves in.

3.1 Critical Grand Social Theory

Seven of the papers that we reviewed (see Figure 1) were informed by the work of theorists other than Bourdieu, Foucault, and Habermas, but generally following the critical grand social theory tradition (i.e., theories about the overall power structures of the social world).

Some papers engaged with theories “upstream” from these three “core” social theorists. That is, they were based on older work than that of Bourdieu, Foucault, and Habermas. Most immediately upstream from the core theorists is the early Frankfurt School (Theodor Adorno, Max Horkheimer, Herbert Marcuse, themselves inspired by Karl Marx) whose original “critical theory” foundation grounds critical IS research approach (Myers and Klein 2011; Cecez-Kecmanovic 2011). These early Frankfurt School’s (or “first-generation” Frankfurt School; Habermas can be seen as “second-generation” Frankfurt School) concepts of “culture industry”, “cultural commodification” and “surplus exploitation”, originally developed in the age of industrial mass production, have been interpreted in the context of the digital age by Christian Fuchs (2016) to develop a critical view of information technology. In the papers reviewed, such a tradition has enabled broad theorisation about critical issues in the digital age (Ossewaarde 2019), particularly in relation to social media (Jones 2017).

Some papers engaged with theories “downstream” from the core social theorists. That is, they were based on later work than that of Bourdieu, Foucault and Habermas. Two examples in the papers reviewed were based on developments of the work of Bourdieu. The first was Social Stratification Theory, which extends Bourdieu’s concepts of “social capital” and “habitus”. This extension uses also the work of Weber (1978) to understand how groups of individuals are formed into different classes within a stratification scheme determined by their situation/location, norms/values, and intention/purpose, and, in a critical IS context, enables a deeper understand of how researchers may focus too much on certain stakeholders in IS projects while erroneously overlooking others (Berente et al. 2011). The other example in this category was Social Capital Theory, which extends Bourdieu’s concept of social capital and habitus. This extension uses the work of Putnam (2000) who introduces concepts of “bonding capital” (between those who are similar) and “bridging capital” (between those

who are different) and, in a critical IS context, enables a deeper understanding of democracy and discourse in the age of social media (O'Hallarn 2016; Ali et al. 2019). We recognise that, as with all theories and theorists discussed in this paper, not every application of Social Capital Theory in IS research results in critical IS research. However, the examples here show the potential for Social Capital Theory to inform critical IS research when applied critically.

Using critical theory in IS research has often produced theorisations about the emergent global structures that recent trends in technology are creating. One such theory, building directly on Fuchs' work, is an IS interpretation of World Systems Theory as exemplified by Lennerfors et al. (2015) to develop a holistic view of the ecological impact of IS artefacts, with the view that the global economy is composed of stratified levels of economic power ranging from a wealthy "core" to an underpaid "periphery". However, we observed two other theories regarding technology on a global scale. One was the concept of "heteromation" (Ekbja and Nardi 2014). In a heteromation view of the world, IT-enabled automation and job redundancy are gradually reducing human workers to units of computation – referred to as "human computation" in the crowdsourcing literature (Schlagwein et al. 2019, p. 814) – that can be given input data and produce useful outputs just like a computer, albeit capable of uniquely creative types of processing that computers are not (yet) capable of. One article (Bailey et al. 2018) provides insights about the differences between two types of "heteromated" labour (cognitive vs. emotional) previously described by Ekbja and Nardi (2017), as implemented in a bank-related information system, and how workers in such arrangements conceptualise their role in the system. Lenartowicz (2017), however, critiques such "pessimistic AI takeover scenarios" (Lenartowicz 2017, p. 35) by presenting an alternative theoretical explanation, that of the "global brain". In this alternative view, the modern interconnected world is one big conscious being encompassing the entire planet, forming a brain-like structure in which networks of humans and electronic computers are comparable to neurons in a biological brain. In this view, then, increases in automation and heteromation do not represent the hegemony of machine over human, but instead, an opportunity to facilitate peaceful coexistence and mutual emancipation.

3.2 Postcolonialism (Said, Spivak, Bhabha)

Nine of the papers that we reviewed (see Figure 1) were informed by postcolonialism. Postcolonial theory sensitises researchers to the harmful effects of colonialism. Myers and Klein (2011, p. 21) had suggested that critical IS research could or should draw on postcolonial theory.

In response to such suggestions, and based on prior work (Ravishankar et al. 2013), Tsibolane and Brown (2016) identified three streams of literature corresponding to three postcolonial theorists: Edward Saïd, Gayatri Chakravorty Spivak and Homi K. Bhabha. In the first stream, postcolonial theory enables the understanding of not just the current state but also the historical conditions leading to it. For example, due to the historical dominance of the West (Europe) over the East (Asia), early research in this stream focused on such "orientalist" analysis as centrally exemplified by Edward Saïd's (1978) book "Orientalism". In the second stream, postcolonial theory stems from Antonio Gramsci's (1971) concept of "hegemony": the culture and discourse created by those in power (the "hegemon") to maintain dominance over a subordinate group (the "subaltern"). A pivotal theorist in this stream is Gayatri Chakravorty Spivak (1988) who describes hegemony beyond simply one culture over another, but also, for example, cases of gender discrimination. Finally, the third stream focuses on how the cultures of the hegemon and the subaltern blend together. Ravishankar et al. (2013) draw particular attention to Homi K. Bhabha's (1994) description of how the process of "mimicry" (wherein the subaltern copies the cultural practices of the hegemon) blends with the subaltern's existing cultural practices, creating patterns of "hybridity". Similar to the three core social theorists, the three streams of postcolonial theory are not mutually exclusive and build upon one another. Papers that we reviewed drew on all three to understand IS implementation in indigenous communities (Lin et al. 2015), IS development offshoring (Ravishankar et al. 2013; Ayoun 2016), and postcolonial theory in library and information sciences (LIS) research (Khanal 2012).

Of the nine papers we reviewed in this category, six were about ICT4D. Indeed, Tsibolane and Brown (2016) explicitly target their principles towards ICT4D research, and Lin et al. (2015) frame their work as an example of ICT4D in the context of Taiwan's indigenous population. The paper by Ravishankar et al (2013) is actually unusual among IS papers with a postcolonial perspective in that it is not about ICT4D. These ICT4D postcolonial papers (Dé et al. 2017; Krauss 2012; Lin et al. 2015; Masiero 2018; Tsibolane and Brown 2016; Young 2017) often cite Avgerou's (2008) critique of ICT4D projects failing to consider sociocultural conditions such as those highlighted by postcolonial theory. They also often draw from other theories beyond postcolonial theory, including Arturo Escobar's (1992) development theory (Dé et al. 2017; Krauss 2012), Partha Chatterjee's (2004) "politics of the governed" (Masiero

2018), Paulo Freire's (1970) "pedagogy of the oppressed" (Young 2017) and, of course, Bourdieu's practice theory (Krauss 2012).

3.3 Data-Focused Critical Methods

33 of the papers that we reviewed (see Figure 1) were informed by "critical theory" in the form of critical methods. That is, the reviewed papers cite particular critical methods as their key critical reference. These critical methods include the Capabilities Approach, Critical Discourse Analysis, Critical Heuristics and Design, Frames Analysis and Phronetic Enquiry.

The Capabilities Approach sensitises researchers to the importance of free choice when assessing the benefits of IS. The core concepts in Capabilities Approach are "functionings" (the activities in some practice, for example using the functionalities provided by an IS) and "capabilities" (the freedom to choose between functionings at one's own discretion) (Sen 1990, pp. 43-44). It is of note that the Capabilities Approach is an economic theory critiquing utilitarian economics, describing the true condition of people (e.g., in developing nations) according to their freedom rather than their supposed wealth (Sen 1990, pp. 45-48). However, the Capabilities Approach has been applied in critical IS research to appreciate how mobile phones' capabilities empower refugees (Bisimwa 2017), how Internet connectivity's capabilities empower indigenous populations (de Ville de Goyet 2017), how cocreated technology assets' capabilities empower underserved communities (Lorini 2018), how IS projects' capabilities could empower workers in a developing nation (Takavarasha et al. 2013; Takavarasha et al. 2017; Poveda and Roberts 2017) and how Design Science Research could be shaped into a vehicle for incremental societal improvement (Heusinger 2014). While these examples may seem to present an inherently optimistic view, this is not the case. For example, Bisimwa et al. (2018) describe how power relations can impede capabilities provided by mobile phones. Similarly, Maiye (2012) describes how a government IS project failed because the expected capabilities were not realised due to broader sociocultural issues including corruption, tribalism, bureaucracy and scepticism.

Critical Discourse Analysis sensitises researchers to the meanings of signs and symbols in discourse about IS. In the papers reviewed; some papers cited key pioneers in the development of Critical Discourse Analysis variants as their theorists of choice. Many papers (Stahl et al. 2012; Albert and Salam 2013; Albert 2014; Lemmetti 2016; Pozzebon et al. 2016; Hur et al. 2019) cite Norman Fairclough's (2012) approach, which focuses on analysing how text creates meaning between interlocuters, as well as how text and speech create sociocultural institutions and practices. Other papers (Mpazanje and Chigona 2012; Krauss 2015) cite James Paul Gee's (2008) approach, which is influenced by Foucault's ideas of discursive power construction and sensitises researchers to power relations evident in the linguistic details of a text.

Two methods in the papers that we reviewed proposed guidelines for IS design and implementation as a form of critical IS research, what we broadly could call Critical Heuristics and Design. Such guidelines sensitise researchers to the impacts of IS in cases where there is a diverse range of stakeholders. One example is known as Critical and Participatory Design, a design philosophy based on public engagement and iterative prototyping (Nold 2015). Another example is the set of Critical Social Heuristics introduced by Ulrich (1987) to assess the full social impact of IS development projects. The guidelines consist of twelve questions that project decision-makers ought to ask, ranging from "who ought to be the beneficiary of the system?" to "what are the worldviews of all those affected by the system?" (Ulrich 1987, p. 279). In the reviewed papers, we predominantly observed the use of Critical Heuristics and Design as a set of guiding principles for conducting socially-beneficial Action Research – critical in the sense of critiquing the current state of the world and seeking an improvement through IS-based interventions (Goede 2014a; Goede 2014b; Goede and Harmse 2014; Venter and Goede 2015; Taylor and Goede 2015; Goede 2016; Goede and Taylor 2016; Pinzon-Salcedo and Torres-Cuello 2018). This stream of research explicitly identifies itself as critical IS research, in one instance explicitly tabulating its analysis against Myers and Klein's principle of using core concepts from critical theorists with the statement: "we are using critical social heuristics of Ulrich (1983) to guide our understanding of the problem situation during the diagnosis phase of our action research study" (Taylor and Goede 2015, p. 107). One paper is describing a research study in which Critical Social Heuristics is used outside of an Action Research setting and to critically assess an IS implementation in a publicly-funded emergency services organisation (Johnstone and Tate 2017).

Two methods in the papers that we reviewed use the analysis of interpretative "framings" as the basis for critical IS research. These are similar to Critical Discourse Analysis but instead of focusing on linguistic features, they consider the broader perspectives adopted by stakeholders. This is broadly known as Frame Analysis (Goffman 1974), which informed Kidd's (2011) critique of the use of IS technologies in art galleries. More specifically applied to IS contexts, the Technological Frames of

Reference method sensitises researchers to the discrepancies in how a technology is understood depending on the level of contextualisation. At the first level (“nature of technology”), there is no context; at the second level (“technology strategy”), there is a broad context such as industry or organisation; at the third and final level (“technology in use”), there is a specific context of technology interacting directly with users (Orlikowski and Gash 1994, p. 25). For each level of contextualisation, different stakeholders have different interpretations or “frames”. These frames, varying across people and levels of technology contextualisation, allow researchers to critique, for example, the claim of “successful IS implementation” by revealing the ambiguity of how “success” is interpreted (Orlikowski and Gash 1994). In the papers that we reviewed, we identified one paper (Cranfield et al. 2018) using a the Technological Frames of Reference approach to critique both a case of government IS project failure and its later representation in satirical public discourse.

Finally, Phronetic Enquiry sensitises researchers to the need for wisdom and practical judgement, not just information and facts. Phronetic Enquiry comes from Aristotle’s concept of “phronesis” wherein wisdom is a third kind of knowledge distinct from declarative/scientific (“episteme”) knowledge and procedural/engineering (“techné”) knowledge (Ngwenyama et al. 2018). Our literature review did not reveal a consensus how Phronetic Enquiry is performed. For Ngwenyama et al. (2018) and their analysis of a failed IS implementation project, Phronetic Enquiry is a distinct kind of Critical Discourse Analysis that seeks to understand how wise or unwise decisions are made. For Pauleen et al. (2016) and their analysis of Big Data, Phronetic Enquiry (or, Social Practice Wisdom, as they call it) is about augmenting episteme and techné with ethics and aesthetics. For Krauss et al. (2015) and their ICT4D study, Phronetic Enquiry is about rejecting the pressure for social sciences to mimic the natural sciences’ obsession with values-free and methodologically rigorous-research, instead recognising wisdom-producing social sciences research as that which is values-laden and contextually-relevant.

4 LANDSCAPE OF CRITICAL (IS) THEORY

As per the above analysis, critical IS researchers refer to a diverse range of critical theorists and apply their theories to examine and reveal negative social implications of IS or to address social concerns (poverty, inequality, discrimination) via IS. This needs to be brought into a larger, historical picture.

The diverse landscape of critical theory available to critical IS researchers, as per the papers reviewed, is summarised in Figure 2 below. This diagram places the “core” group of Bourdieu, Foucault and Habermas, but shows the diverse variety of critical theories and theorists that are part of the critical research tradition. The purpose of the diagram is to summarise the many options available to critical IS researchers and the origins and relations of these options.

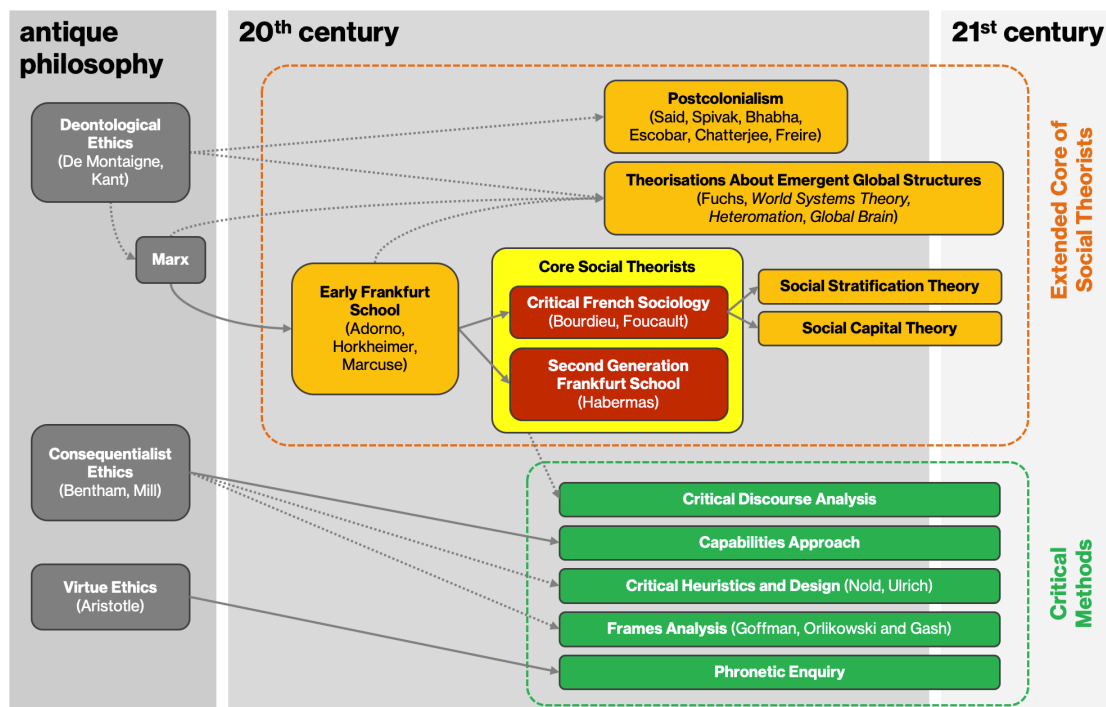


Figure 2. Mapping the Landscape of Critical (IS) Theory.

Figure 2 plots the development of the theories and methods discussed above in such a way that illustrates the lineage of families of theories over time. The arrow trace the lineages of theories from their foundations in three different traditions of ethics in ancient (Greek) philosophy as per Stahl's (2008; 2012) analysis. The landscape of critical (IS) research is held together by a shared concern with "ethical questions", even if there are different foundational ideas as how to establish "ethicality". Solid lines in Figure 2 indicate an explicit continuation of a lineage whereas dotted lines indicate more indirect influence. The "extended core" has its foundations in deontological ethics according to which particular arrangements are inherently wrong (e.g. exploitation). In contrast, many "critical methods" (e.g. the Capabilities Approach) can be linked to consequentialist assessments of arrangements on a case-by-case of its utilitarian outcomes. Phronetic Enquiry is based on Aristotle's concept of wisdom and follows in the tradition of virtue ethics.

5 CONCLUSION

This paper contributes to critical IS research. It reveals a landscape of critical IS research grounded in and engaged with a range of critical social theories and theorists. It depicts the lineage of families of critical theories over time and in key ideas. This is important for understanding the development of critical IS research and its relevance for addressing a wide range of ICT implications for individuals, organisations and societies. The paper seeks to inspire and empower IS researchers interested in a critical approach to IS research. In particular, it reveals critical approaches adopting a variety of theories beyond Bourdieusian, Foucauldian or Habermasian perspectives.

We acknowledge several limitations inherent in our approach. We have taken research published since Myers and Klein (2011) as a sample of critical IS research. While this has been fruitful, we acknowledge that the full landscape is even broader. There are opportunities for follow-up studies that extend beyond 2011-2019 (in both directions, accounting for earlier and later work). Concerns with (and searches for) "discrimination", "inequality", "oppression", "exploitation", "domination", "self-actualisation", "liberation", etc. may reveal other approaches that could be classified as "critical". Also, critical IS research needs to be seen in relation to critical management/business research more widely, work in the field of philosophy of technology and, generally, critical studies in any contemporary academic field.

As per literature review outcomes in Figure 1, there are almost as many "critical" IS research papers that do not engage with critical social theory as there are "critical" papers that do. While there may be numerous reasons for work outside a particular tradition, some authors may simply not be familiar with the entirety of critical theory and research options available. The landscape that we have illustrated here (Figure 2) outlines a rich intellectual base that invites IS researches to both engage with and contribute to its development. The purpose of this review and overview is, in line with this conference's theme, to help "make the world a better place with information systems" by clearly outlining the landscape of critical IS research approaches and encourage the continuation of this important research tradition.

6 REFERENCES

- Albert, C. S. 2014. "Dark side of information systems and protection of children online." UNC Greensboro.
- Albert, C. S., and Salam, A. F. 2013. "Critical discourse analysis: Toward theories in social media", presented at the Americas Conference on Information Systems, Chicago (USA).
- Ali, M., Azab, N., Sorour, M. K., and Dora, M. 2019. "Integration v. polarisation among social media users: Perspectives through social capital theory on the recent Egyptian political landscape," *Technological Forecasting and Social Change* (145), pp. 461-473.
- Avgerou, C. 2008. "Information Systems in Developing Countries: A Critical Research Review," *Journal of Information Technology* (23:3), pp. 133-146.
- Ayoung, D. A. 2016. "Investigating Telecentre implementation through the lens of Design-Reality Gap framework and Postcolonial Theory: the case of the Ghana Community Information Centre (CIC) initiative." Brunel University London.
- Bailey, D. E., Diniz, E. H., Nardi, B. A., Leonardi, P. M., and Sholler, D. 2018. "A critical approach to human helping in information systems: Heteromation in the Brazilian correspondent banking system," *Information and Organization* (28:3), pp. 111-128.
- Berente, N., Gal, U., and Hansen, S. 2011. "Ethical implications of social stratification in information systems research," *Information Systems Journal* (21:4), pp. 357-382.
- Bhabha, H. K. 1994. *The Location of Culture*. Routledge.

- Bisimwa, K. B. 2017. "Mobile phone use for empowerment in the context of social exclusion: an ethnographic study of urban refugees in South Africa." University of Cape Town.
- Bisimwa, K. B., Brown, I., and Johnston, K. 2018. "Mobile phones use by urban refugees in South Africa: Opportunities and challenges", presented at the HICSS Conference, Hawaii.
- Boell, S. K., and Cecez-Kecmanovic, D. 2014. "A Hermeneutic Approach for Conducting Literature Reviews and Literature Searches," *Communications of the AIS* (34), pp. 257-286.
- Boell, S. K., and Wang, B. 2019. "www.litbaskets.io, an IT Artifact Supporting Exploratory Literature Searches for Information Systems Research", presented at the Australasian Conference on Information Systems, Perth (Australia).
- Cecez-Kecmanovic, D. 2011. "Doing critical information systems research – arguments for a critical research methodology," *European Journal of Information Systems* (20:4), pp. 440-455.
- Cecez-Kecmanovic, D., and Kennan, M. A. 2013. "The methodological landscape: Information systems and knowledge management," in *Research Methods: Information, Systems, and Contexts*, K.J. Williamson, G. (ed.). Tilde Publishing.
- Chan, H. C., Guness, V., and Kim, H.-W. 2015. "A method for identifying journals in a discipline: An application to information systems," *Information & Management* (52:2), pp. 239-246.
- Chatterjee, P. 2004. *The Politics of the Governed: Reflections on Popular Politics in Most of the World*.
- Cranefield, J., Oliver, G., and Pries-Heje, J. 2018. "Political Satire and the Counter-framing of Public Sector IT Project Escalation," *Communications of the AIS* (43), pp. 133-158.
- Dé, R., Pal, A., Sethi, R., Reddy, S. K., and Chitre, C. 2017. "ICT4D research: a call for a strong critical approach," *Information Technology for Development* (24:1), pp. 63-94.
- de Ville de Goyet, G. 2017. "Evaluating How Information and Communication Technology (ICT) Interventions Affect the Wellbeing of Indigenous Communities in the North Rupununi, Guyana." The Open University.
- Ekbia, H. R., and Nardi, B. A. 2014. "Heteromation and its (dis)contents: The invisible division of labor between humans and machines," *First Monday* (19:6).
- Ekbia, H. R., and Nardi, B. A. 2017. *Heteromation, and other stories of computing and capitalism*. MIT.
- Escobar, A. 1992. "Reflections on 'development': grassroots approaches and alternative politics in the Third World," *Futures* (24:5), pp. 411-436.
- Fairclough, N. 2012. "Critical Discourse Analysis," in *The Routledge Handbook of Discourse Analysis*.
- Freire, P. 1970. *Pedagogy of the oppressed*. New York: Herder and Herder.
- Fuchs, C. 2016. *Critical Theory of Communication: New Readings of Lukács, Adorno, Marcuse, Honneth and Habermas in the Age of the Internet*. London: University of Westminster Press.
- Gee, J. P. 2008. *Social Linguistics and Literacies: Ideology in Discourses*. UK: Routledge.
- Goede, R. 2014a. "A critical systems perspective on research methodology for research in e-learning in information systems classes", presented at the Annual Meeting of the ISSS, Washington DC.
- Goede, R. 2014b. "Using Critical Social Research and Projectbased Learning to Emancipate Students in Computer," *International Journal for Digital Society* (5:3), pp. 956-962.
- Goede, R. 2016. "Listening to the affected", presented at the Proceedings of the Computer Science Education Research Conference 2016 on ZZZ - CSERC '16.
- Goede, R., and Harmse, A. 2014. "Using Social Media To Improve The Work-Integrated Learning Experience of ICT Students," in *Perspectives on Social Media: A Yearbook*. pp. 90-97.
- Goede, R., and Taylor, E. 2016. "Using critical systems thinking in emancipatory postgraduate supervision", presented at the Annual Meeting of the ISSS, Colorado.
- Goffman, E. 1974. *Frame Analysis: An Essay on the Organisation of Experience*.
- Gramsci, A. 1971. *Selections from the Prison Notebooks*. International Publishers Co.
- Heusinger, J. M. 2014. "On the 'Impossibility' of Critical and Emancipatory Design Science Research," in *Enterprise Information Systems*. pp. 331-348.
- Hur, I., Cousins, K. C., and Stahl, B. C. 2019. "A critical perspective of engagement in online health communities," *European Journal of Information Systems*, pp. 1-26.
- Johnstone, D., and Tate, M. 2017. "Improving IT project governance: A reflective analysis based on critical systems heuristics," *Australasian Journal of Information Systems* (21).

- Jones, S. 2017. "Doing social network ethics: a critical, interdisciplinary approach," *Information Technology & People* (30:4), pp. 910-926.
- Khanal, N. 2012. "The lens of postcolonial theory in LIS research and practice." University of Illinois.
- Kidd, J. 2011. "Enacting engagement online: framing social media use for the museum," *Information Technology & People* (24:1), pp. 64-77.
- Krauss, K., Simuja, C., and Conger, S. 2015. "ICT education practices in marginalized rural schools in South Africa: considerations for adequate sensemaking and practical immersion", presented at the SIG GlobDev Annual Workshop, Fort Worth (USA).
- Krauss, K. E. M. 2012. "You can only interpret that which you are able to perceive": Demonstrating critical reflexivity in ICT4D work", presented at the SIG GlobDev Annual Workshop, Barcelona.
- Krauss, K. E. M. 2015. "Discourse and Discourse collisions: Understanding the experiences of Information Systems students at a South African University", presented at the International Conference on Social Implications of Computers in Developing Countries, Negombo.
- Lemmetti, J. 2016. "Construction of Enterprise Architecture in Discourses Within the Public Sector," in *Electronic Government*. pp. 287-298.
- Lenartowicz, M. 2017. "Creatures of the semiosphere: A problematic third party in the 'humans plus technology' cognitive architecture of the future global superintelligence," *Technological Forecasting and Social Change* (114), pp. 35-42.
- Lennerfors, T. T., David, K., Dr Kai Kimppa, D., Fors, P., and van Rooijen, J. 2015. "ICT and environmental sustainability in a changing society," *Information Technology & People* (28:4).
- Lin, C. I. C., Kuo, F.-Y., and Myers, M. D. 2015. "Extending ICT4D Studies: The Value of Critical Research," *MIS Quarterly* (39:3), pp. 697-712.
- Lorini, M. R. 2018. "Collective empowerment through information and communication technologies: co-creation processes in underserved communities in Cape Town." University of Cape Town.
- Maiye, A. 2012. "ICTs and development: a capability perspective of Nigeria's experience with the National Identity Project." Brunel University.
- Masiero, S. 2018. "Subaltern studies: Advancing critical theory in ICT4D", presented at the European Conference on Information Systems, Portsmouth (UK).
- Mpazanje, F., and Chigona, W. 2012. "How the mobile phone saved properness: The case of professional women in Malawi", presented at the e-Leadership Conference on Sustainable e-Government and e-Business Innovations, Pretoria (South Africa).
- Myers, M. D., and Klein, H. K. 2011. "A Set of Principles for Conducting Critical Research in Information Systems," *MIS Quarterly* (35), pp. 17-36.
- Ngwenyama, O., Klein, S., Hassan, N. R., Mingers, J., and Stahl, B. 2018. "Phronesis, argumentation and puzzle solving in IS research: illustrating an approach to phronetic IS research practice," *European Journal of Information Systems* (27:3), pp. 347-366.
- Nold, C. 2015. "Micro/macro prototyping," *International Journal of Human-Computer Studies* (81).
- O'Hallarn, B. 2016. "The public sphere and social capital: Unlikely allies in social media interactions?," *First Monday* (21:10).
- Orlikowski, W. J., and Gash, D. C. 1994. "Technological frames: making sense of information technology in organizations," *ACM Transactions on Information Systems* (12:2), pp. 174-207.
- Ossewaarde, M. 2019. "Digital transformation and the renewal of social theory: Unpacking the new fraudulent myths and misplaced metaphors," *Technological Forecasting and Social Change* (146), pp. 24-30.
- Pauleen, D. J., Rooney, D., and Intezari, A. 2016. "Big data, little wisdom: trouble brewing? Ethical implications for the information systems discipline," *Social Epistemology* (31:4), pp. 400-416.
- Pinzon-Salcedo, L. A., and Torres-Cuello, M. A. 2018. "Community Operational Research: Developing a systemic peace education programme involving urban and rural communities in Colombia," *European Journal of Operational Research* (268:3), pp. 946-959.
- Poveda, S., and Roberts, T. 2017. "Critical agency and development: applying Freire and Sen to ICT4D in Zambia and Brazil," *Information Technology for Development* (24:1), pp. 119-137.
- Pozzebon, M., Cunha, M. A., and Coelho, T. R. 2016. "Making sense to decreasing citizen eParticipation through a social representation lens," *Information and Organization* (26:3), pp. 84-99.
- Putnam, R. D. 2000. *Bowling alone: The collapse and revival of American community*.

- Ravishankar, M. N., Pan, S. L., and Myers, M. D. 2013. "Information technology offshoring in India: a postcolonial perspective," *European Journal of Information Systems* (22:4), pp. 387-402.
- Saïd, E. W. 1978. *Orientalism*. Pantheon Books.
- Schlagwein, D., Cecez-Kecmanovic, D., and Hanckel, B. 2019. "Ethical norms and issues in crowdsourcing practices: A Habermasian analysis," *Information Systems Journal* (29:4).
- Sen, A. 1990. "Development as Capability Expansion," in *Human Development and the International Development Strategy for the 1990s*, K. Griffin and J. Knight (eds.). MacMillan London.
- Spivak, G. C. 1988. "Can the Subaltern Speak?," in *Marxism and the Interpretation of Culture*, C. Nelson and L. Grossberg (eds.). University of Illinois Press, pp. 271-313.
- Stahl, B. C. 2008. "The ethical nature of critical research in information systems," *Information Systems Journal* (18:2), pp. 137-163.
- Stahl, B. C. 2012. "Morality, Ethics, and Reflection: A Categorization of Normative IS Research," *Journal of the Association for Information Systems* (13:8), pp. 636-656.
- Stahl, B. C., Doherty, N. F., and Shaw, M. 2012. "Information security policies in the UK healthcare sector: a critical evaluation," *Information Systems Journal* (22:1), pp. 77-94.
- Stewart, A., Cotton, J. L., and Adya, M. 2017. "Information Systems: A House Divided?," *Communications of the Association for Information Systems* (41), pp. 544-586.
- Takavarasha, S., Hapanyengwi, G., and Kabanda, G. 2017. "Using Livelihood Profiles for Assessing Context in ICT4D Research: A Case Study of Zimbabwe's Highveld Prime Communal," *The Electronic Journal of Information Systems in Developing Countries* (79:1), pp. 1-22.
- Takavarasha, S., Hapanyengwi, G., and Mlambo, L. 2013. "Poverty reduction and development capacity of artisanal gold mining in Zimbabwe and the role of ICT," *International Journal of Management, IT and Engineering* (3:6).
- Taylor, E., and Goede, R. 2015. "Using Critical Social Heuristics and Project-Based Learning to Enhance Data Warehousing Education," *Systemic Practice and Action Research* (29:2), pp. 97-128.
- Tsibolane, P., and Brown, I. 2016. "Principles for Conducting Critical Research Using Postcolonial Theory in ICT4D studies", presented at the SIG GlobDev Annual Workshop, Dublin.
- Ulrich, W. 1987. "Critical heuristics of social systems design," *European Journal of Operational Research* (31), pp. 276-283.
- Venter, C., and Goede, R. 2015. "A critical systems approach to business intelligence system development", presented at the Annual Meeting of the ISSS, Berlin.
- Walsham, G. 2012. "Are We Making a Better World with Icts? Reflections on a Future Agenda for the IS Field," *Journal of Information Technology* (27:2), pp. 87-93.
- Weber, M. 1978. *Economy and Society: An Outline of Interpretive Sociology*.
- Young, A. G. 2017. "Using ICT for social good: Cultural identity restoration through emancipatory pedagogy," *Information Systems Journal* (28:2), pp. 340-358.

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