

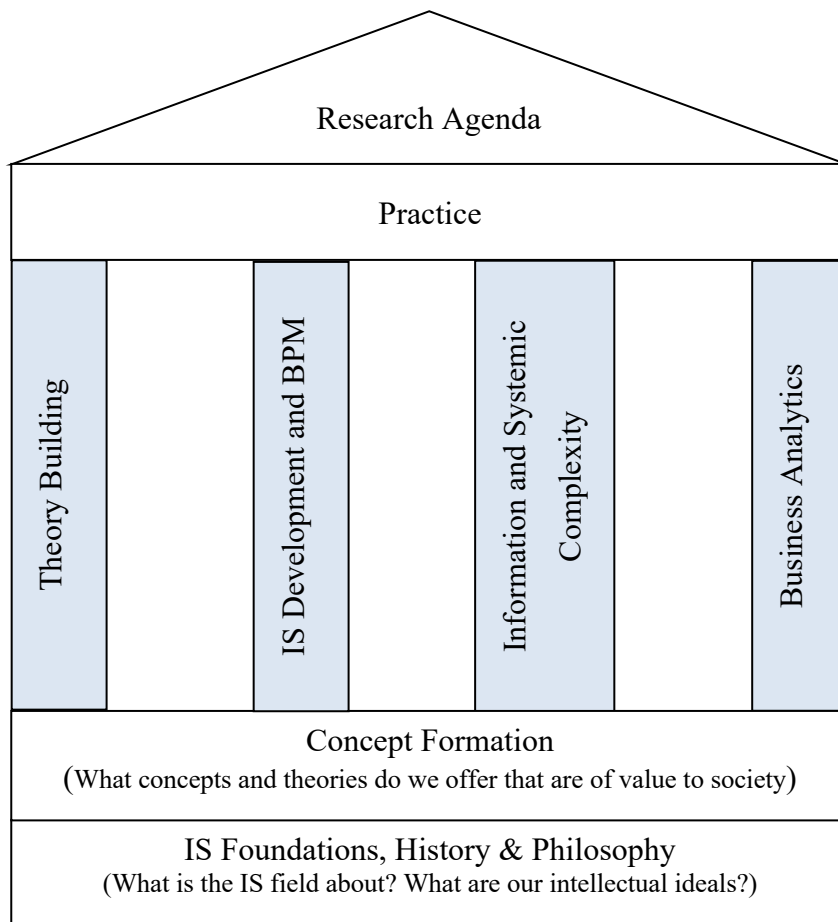
# Research Philosophy Statement

---

*Nik R. Hassan, PhD  
University of Minnesota Duluth  
(Revised 1/1/2020)*

My research philosophy for information systems (IS) is rooted in the belief that IS as a field needs to accept the enormous responsibility that it carries as a critical component of modern society. In other words, the concerns of the society should be reflected in IS research. As Peter Keen (1991) noted when IS as a field was emerging: “Until relevance is established, rigor is irrelevant.” In order to successfully carry this burden of responsibility, research in IS should be focused on the creation of knowledge that will transform the field from the "fragmented adhococracy" it is today into a distinct, vibrant and influential field that is capable of working hand-in-hand with other disciplines and fields of study. The rapid technological changes and often undesirable impacts on society that are overwhelming its researchers and stakeholders imply that IS has to develop faster than other established fields. Unlike physics, biology or economics, IS cannot wait 100 years to develop. Instead, IS researchers need to develop endogenous and native concepts and theories that will enable them to contribute to interdisciplinary work with other disciplines and field of study, and henceforth solve real-world problems.

Fortunately, recent developments in the IS field are beginning to address the rapid changes taking place in the digital world. The historical research paradigms of user satisfaction, IS success, technology adoption, and strategic IS that made up the early foundations of the IS field, are being superseded by more urgent concerns such as technologies that are disrupting not just businesses and their processes, but also threatening security and privacy and even political and societal stability. These disruptions are enabled by social media technology, technological mobility and ubiquity (e.g., Internet of Things), big data and the ever-increasing complexity of systems that are increasingly being embedded into our day-to-day activities. These concerns are where the future of IS lies. My research agenda addresses these concerns via an integrated research program that studies common themes running through all these contemporary topics. The overarching theme for my research program is that all these technological capabilities can be marshalled for the good of mankind. An overview of these common themes is shown in Figure 1.



**Figure 1: Research Agenda**

First, no change can take place in the IS field and no progress can be made without critically reexamining its existing foundations to build a new foundation that is capable of holding the new direction of research for IS. This research area in my portfolio covers IS foundations, history and philosophy of IS, theoretical and conceptual development. My previous responsibility as the President of the Special Interest Group on the Philosophy of IS (SIGPhil) helped launch this research program culminating in my recent appointments as (1) Senior Editor for the *Data Base for Advances in Information Systems* journal, (2) Guest Editor for the Special Issue on the Philosophy and Future of the IS field in the *European Journal of Information Systems*, and (3) Associate Editor for the *Communications of the Association for Information Systems* journal’s History and Philosophy Department. Second, I have begun discovering how big data and analytics can link efforts at the micro-

level of society to impact the macro-level by provide interesting answers to questions that we do not yet know. As Pentland (2014) suggest, we can solve macro-level problems using the micro-level big data that are being analyzed to “build a society that is better at avoiding market crashes, ethnic and religious violence, political stalemates, widespread corruption, and dangerous concentrations of power” (p. 17). A new approach that goes beyond replicating data analytics research and practice in computer science and statistics need to be nurtured within the so-called business analytics community in IS. Such efforts hold the potential towards further establishing the IS field’s relevance. This can accomplish by focusing on the element that cuts across business analytics, systems, technology and practice – *information*. Third, all of these areas of study cannot be divorced from the design and development of systems itself, which historically constituted half of all IS research. Eventually a system needs to be built that will have to operate in this new rapidly changing environment, and this area of research is covered by my IS development and business process stream of studies. I leverage the many decades of progress in the area of IS development and adapt them to build the link between the system instances and its application in society, especially in the areas of that are least developed for these technologies, such as customer requirements and deployment. Finally, all of these topics and concerns integrate well into my new research program of information and systemic complexity, a program that takes advantage of all the above-mentioned areas of research and uncovers why and how such socio-technical transformations emerge. This research agenda will help turn the IS field in an intellectually and socially relevant field.

### ***Research Workshops and Tracks Chaired and Organized***

Co-Chair with Leslie Willcocks and Varun Grover, 8<sup>th</sup> SIGPHIL@ICIS, the End of Theory in IS and Analytics: Does Big Data Really Make the Scientific Method Obsolete? International Conference on Information Systems (ICIS 2019), Dec 15-18, Munich, Germany.

Co-Chair with Shirley Gregor, 7<sup>th</sup> SIGPhil@ICIS, *Advancing IS Theories*, International Conference on Information Systems (ICIS 2018), Dec 13-14, San Francisco, CA.

Chair, 6<sup>th</sup> SIGPhil Pre-ICIS Workshop on “What Does Influential and Useful Research Mean to the IS Community? Time for a Paradigm Shift, International Conference on Information Systems (ICIS 2016), Dec 11, Dublin, Ireland.

Co-Chair, with John Mingers and Mary Tate, Methodological and Philosophical Foundations of IS track, International Conference on Information Systems (ICIS 2016), Dec 13-16, Dublin, Ireland.

Chair, 5<sup>th</sup> SIGPhil-ICIS Concurrent Workshop on *Between Grand Theories and Scripted Research-the Proverbial Rock and a Hard Place*, International Conference on Information Systems (ICIS 2015), Dec 13-16, Fort Worth, TX.

- Chair, 4<sup>th</sup> SIGPhil-ICIS Concurrent Workshop on *IS Theory: Whence Cometh, Whither Goeth? (Where does it come from and where is it going?)*, International Conference on Information Systems (ICIS 2014), Dec 14-15, Auckland, New Zealand.
- Co-Chair with Alan Litchfield, IS Philosophy Track, and *Foundations of Information Systems Subfields ("Philosophy of ....")* Minitrack, Americas Conference on Information Systems (AMCIS 2014), Aug 7-9, Savannah, GA.
- Co-Chair with Kai Riemer, 3rd SIGPhil-ICIS Concurrent Workshop on *Sociomateriality and Critical Realism: A Nexus?* International Conference on Information Systems (ICIS 2013), Dec 15-16, Milan, Italy.
- Chair, Panel on Value of IS Research with Jay Nunamaker, Izak Benbasat, Robert Briggs and Benjamin Mueller, Americas Conference on Information Systems (AMCIS 2013), Aug 15-17, Chicago, IL.
- Co-Chair with Alan Litchfield, IS Philosophy Track, and *Foundations of Information Systems Subfields ("Philosophy of ....")* Minitrack, Americas Conference on Information Systems (AMCIS 2013), Aug 15-17, Chicago, IL.
- Chair, 2nd SIGPhil-ICIS Concurrent Workshop on *IS Theory: State of the Art*, International Conference on Information Systems (ICIS 2012), Dec 16-17, Orlando, FL.
- Co-Chair with Alan Litchfield, Philosophical Perspectives in Information Systems Track, and *Foundations of Information Systems Subfields ("Philosophy of ....")* Minitrack, Americas Conference on Information Systems (AMCIS 2012), Aug 9-11, Seattle, WA.
- Chair, 1st SIGPhil-ICIS Concurrent Workshop on *Reconciling the Social and Technical* in Information Systems Research, and Session Chair, International Conference on Information Systems (ICIS 2011), Dec 4-7, Shanghai, China.
- Workshop on *Sociomateriality: Combining the Social and the Technical*. Presented at Universiti Teknologi Malaysia (UTM), Skudai, Johor, Malaysia as part of a Visiting Professor program, July, 2012
- Workshop on *Reconciling the Social and Technical in Information Systems Research*, International Conference on Information Systems (ICIS 2011), Dec 4-5, Shanghai, China.
- Workshop on *Philosophy of Science and Technology Studies* and Philosophy at the Americas Conference on Information Systems (AMCIS 2011), Aug 4-7, Detroit, MI.

### ***Publications and Manuscripts in IS Foundations, History and Philosophy***

- Hassan, N. R., Mingers, J., and Stahl, B. C. (2018) Philosophy and Information Systems: Where Are We and Where Should We Go?, *European Journal of Information Systems* (27:3): 263-277.
- Hassan, N. R. and Mingers, John. (2018) Reinterpreting the Kuhnian paradigm in information systems. *Journal of the Association for Information Systems*, 19(7): 568-599.
- Hassan, N. R. (2018). "Taking IS History Seriously," in: *The Routledge Companion to Management Information Systems*. Robert D. Galliers, Mari-Klara Stein (Eds), Routledge: New York, pp. 1-29.
- Hassan, N. R. (2017) Editorial: History and Philosophy Department, *Communications of the Association for Information Systems*, 41(Art 15): 313-333.
- Hassan, N. R. (2016) Editorial: A brief history of the material in sociomateriality. *DATA BASE for Advances in Information Systems*, 47(4): 10-22.

- Hassan, N. R. (2017) *Constructing the Right Disciplinary IS Questions*. Paper presented at the 23<sup>rd</sup> Americas Conference on Information Systems (AMCIS), Aug. 10-12, Boston, MA.
- Hassan, N. R. (2016) *Doing Information Systems: Informatizing and Systematizing from a Practice Lens*. Paper presented at the European Conference on Information Systems (ECIS), June 12-15, Istanbul, Turkey: Association for Information Systems.
- Hassan, N. R. (2014) Value of IS Research-A Response to the Rejoinders. *Communications of the Association for Information Systems*. 34(Art. 48), 857-864.
- Hassan, N. R. (2014) Value of IS Research: Is there a Crisis? *Communications of the Association for Information Systems*, 34(Art. 41), 801-816.
- Hassan, N. R. (2014) Paradigm Lost ... Paradigm Gained: A Hermeneutical Rejoinder to Banville and Landry's 'Can the Field of MIS Be Disciplined?' *European Journal of Information Systems*, 23(6), 600-614.
- Hassan, N. R. (2013) *Are We Using the Right 'Paradigms? Comparing Metaphysical, Sociological and Conceptual Paradigms*. Paper presented at the 19<sup>th</sup> Americas Conference on Information Systems (AMCIS), Aug. 15-17, Chicago, IL.
- Hassan, N. R. (2011) Is Information Systems a Discipline? Foucauldian and Toulminian Insights. *European Journal of Information Systems*, 20 (4), 456-476.
- Hassan, N. R. (2010). A Re-Examination of Banville and Landry's "Can The Field of MIS be Disciplined?" Paper presented at the International Conference on Information Systems (ICIS), 12-15 December, St. Louis, MO.
- Hassan, N. R., & Mathiassen, L. (2008). *An Exploratory Study Comparing the Core Concepts of Information Systems Development and Software Engineering*. Paper presented at the Americas Conference on Information Systems, Aug 14-17 (AMCIS), Toronto, CA.
- Hassan, N. R. (2008). *Conceptual Development in IS: The Case of MISQ 1995-2004*. Paper presented at the Midwest Association for Information Systems Conference (MWAIS), May 23-24, Eau Claire, WI.
- Hassan, N. R. (2008). *Courting Multidisciplinary Illiteracy*. Paper presented at the Americas Conference on Information Systems (AMCIS), Aug 14-17, Toronto, CA.
- Hassan, N. R. (2007). *Making IS Research More Valuable (Nominated Best Paper)*. Paper presented at the Thirteenth Americas Conference on Information Systems (AMCIS), Aug 9-12, Keystone, CO.
- Hassan, N. R., & Becker, J. D. (2007). Uncovering Conceptual Gaps in Introductory Information Systems (IS) Textbooks. *Journal of Information Systems Education*, 18 (2), 169-182.
- Hassan, N. R. (2006). New Approaches to Studying Information Technology: Escaping the Organizational Straightjacket. *Informing Science Journal*, 9, 243-258.
- Hassan, N. R., & Will, H. J. (2006). Synthesizing Diversity and Pluralism in Information Systems: Forging a Unique Disciplinary Subject Matter for the Information Systems Field. *Communications of the AIS*, 17(7), 152-180.
- Hassan, N. R. (2003). *Where Should a New IS Researcher Start*. Paper presented at the Americas Conference on Information Systems (AMCIS), Tampa, FL, 2670-2681.

## ***Publications and Manuscripts in Business Analytics***

With Julian Prester, Gerit Wagner and Guido Schryen. *Classifying the Ideational Impact of IS Review Articles: A Natural Language Processing Based Approach*

Hassan, N. R. (2019). *The origins of business analytics and implications for the information systems field*. *Journal of Business Analytics*, (2:2) pp. 118-133.

Hassan, N. R. (2019). Where Are We Headed in Business Analytics? A Framework Based on a Paradigmatic Analysis of the History of Analytics. Paper presented at the 40th International Conference on Information Systems (ICIS), December 15-18, Munich, Germany.

## ***Publications and Manuscripts in Theory Building***

Hassan, N. R. and Leslie Willcocks (Eds). (forthcoming). *Advancing Information Systems Theories: Rationale and Processes*, Palgrave MacMillan: London.

Hassan, N. R., Mathiassen, L. and Lowry, P. B. (2019) The Process of IS Theorizing as a Discursive Practice, *Journal of Information Technology*, 34(3): 198–220.

Hassan, N. R., Serenko, A. (2019) Patterns of citations for the growth of knowledge: a Foucauldian perspective, *Journal of Documentation*, 75(3): 593-611.

Hassan, N. R., Mathiassen, Lars and Lowry, Paul (2019). *Enhancing Theoretical Contribution in Information Systems Research: The Case of Technology Adoption*. Paper presented at the 27<sup>th</sup> European Conference on Information Systems (ECIS), June 8-14, Stockholm-Uppsala, Sweden.

Hassan, N. R. and Loebbecke, C. (2017) Engaging Scientometrics in Information Systems, *Journal of Information Technology*, 32(1): 85-109.

Hassan, N. R. (2015) *Seeking Middle-Range Theories in Information Systems (Runner-up Best Paper)*. Paper presented at the International Conference on Information Systems (ICIS), 13-16, Fort Worth, TX.

Hassan, N. R. (2014) *Useful Products in Theorizing for Information Systems*. Paper presented at the International Conference on Information Systems (ICIS), Dec 14-17, Auckland, New Zealand.

Hassan, N. R. and Dirk Hovorka. (2011) Sociomateriality and IS Identity. Paper presented at the 22nd Australasian Conference on Information Systems (ACIS), 29 Nov- 2 Dec., Sydney, Australia.

Hassan, N. R. (2009). Using Social Network Analysis to Measure IT-Enabled Business Process Performance. *Information Systems Management*, 26 (1), 61-76.

Hassan, N. R., & Wong, S. Q. (2008). The Relationship between Market Sentiment and Equity Premium: An Artificial Neural Network Analysis. *International Journal of Electronic Finance*, 2 (2), 227 - 240.

Wong, S. Q., Hassan, N. R., & Feroz, E. H. (2007). The Equity Premium Puzzle: An Artificial Neural Network Approach. *Review of Accounting and Finance*, 6(2), 150-161.

Hassan, N.R., Richards, T.C., and Becker, J.D. (2006) "Using Social Network Analysis to Test an IT-Enabled Business Process Reengineering Theory," 39th Annual Hawaii International Conference on System Sciences (HICSS), Lihue, HI, 04-07 Jan, p. 202a.

## ***Manuscripts and Publications in Information Systems Development and Business Process Management***

- Hassan, N. R. and Mathiassen, L. (2017) Distilling a Body of Knowledge for Information Systems Development. *Information Systems Journal*. 28(1): 175-226
- Hassan, N. R., & Mathiassen, L. (2009). *Combining Scientometric and Content Analysis Methods for Identifying Core Concepts and Action Principles of Information Systems Development*. Paper presented at the Americas Conference on Information Systems (AMCIS), Aug 6-9, San Francisco, CA.
- Hassan, N. R. (2009). Using Social Network Analysis to Measure IT-Enabled Business Process Performance. *Information Systems Management*, 26 (1), 61-76.
- Hassan, N. R., & Mathiassen, L. (2008). *An Exploratory Study Comparing the Core Concepts of Information Systems Development and Software Engineering*. Paper presented at the Americas Conference on Information Systems, Aug 14-17 (AMCIS), Toronto.

## ***Manuscripts and Publications in Systemic Complexity***

- Hassan, N. R. (2016) *Doing Information Systems: Informatizing and Systematizing from a Practice Lens*. Paper presented at the European Conference on Information Systems (ECIS), June 12-15, Istanbul, Turkey: Association for Information Systems.
- Hassan, N. R. (2014) *Systemic Complexity and Sociomateriality—A Research Agenda*. Paper presented at the 20<sup>th</sup> Americas Conference on Information Systems (AMCIS), Aug. 15-17, Savannah, GA.
- Hassan, N. R. and Dirk Hovorka. (2011) Sociomateriality and IS Identity. Paper presented at the 22<sup>nd</sup> Australasian Conference on Information Systems (ACIS), 29 Nov- 2 Dec., Sydney, Australia.

## ***History Behind the Research Agenda***

My industry experience tells me that information offers more than just being a resource for people and organizations. When I travelled with the Prime Minister of Malaysia on his international promotion of Malaysia's Multimedia Super Corridor, a multi-billion dollar IT economic development project, I came across two extremes—the technical and the business. But rarely did I engage anyone who successfully combined an understanding of both the technical and the business imperatives. My experiences as administrator, manager, and entrepreneur exposed the glaring disconnect between theory and practice in the information age, a gap that the IS field has the potential to fill. As Floridi (2003), a renowned philosopher in the computing sciences notes, the landscape of information and its technological enablers has created new problems such that the concerns surrounding them have become philosophically "virgin territory." New conceptual problems, unprecedented issues, novel theories and ideas are increasingly demanding new approaches. When I was an IT consultant working hand-in-hand with the likes of McKinsey, Andersen Consulting (now Accenture), Oracle, Ernst & Young and

Electronic Data Systems (EDS), I was continually looking for “principles” and “standard” approaches that could help me in my work. Sadly, I found few.

Among other reasons, filling this gap prompted me to return to academia in 2002.

Coincidentally, the IS field itself was in the process of soul searching, as if mirroring my concerns. At the same time that I presented at AMCIS 2003 on “*Where Should a New IS Researcher Start?*” (Hassan 2003), Benbasat and Zmud (2003), legends in the IS field, brought the attention of the field back to reexamine the field’s ongoing identity crisis. To respond to these challenges, I studied Heidegger’s (1977) philosophy of technology, his student Jonas (1984) on ethics of technology, Kuhn’s works and that of his supporters and critics and was fortunate to be in the company of Jim Fetzer (1993), one of Hempel's students. In my journey, I soaked in the works of the classics in philosophy and that of modern philosophers including Michel Foucault and Stephen Toulmin. I began writing philosophical papers for conferences and was approached by Lynne Markus to work together on the disciplinarity of IS. During this period, many senior IS authors became mentors and good friends including the late Heinz Klein, Lynne Markus, Rudy Hirschheim, Emmanuel Monod, James Courtney, Ron Weber, and the late Paul Gray who saw value in my work and published “Synthesizing Diversity and Pluralism in Information Systems: Forging a Unique Disciplinary Subject Matter for the Information Systems Field” in the *Communications of the AIS* (Hassan and Will 2006). These relationships have been priceless to me and these authors are part of my network for IS scholars and mentors of the AIS Special Interest Group on Philosophy and Epistemology, of which I was the President. All of them continue to inspire and motivate me to continue on this research track.

## References

- Benbasat, I., and Zmud, R. 2003. "The Identity Crisis within the IS Discipline: Defining and Communicating the Discipline's Core Properties," *MIS Quarterly* (27:2), pp. 183-194.
- Fetzer, J.H. 1993. *Philosophy of Science*. New York: Paragon House Publishers.
- Floridi, L. 2003. "Two Approaches to the Philosophy of Information," *Minds and Machines* (13:4), pp. 459-469.
- Hassan, N.R. 2003. "Where Should a New IS Researcher Start," *Americas Conference on Information Systems (AMCIS)*, Tampa, FL, pp. 2670-2681.
- Hassan, N.R., and Will, H.J. 2006. "Synthesizing Diversity and Pluralism in Information Systems: Forging a Unique Disciplinary Subject Matter for the Information Systems Field," *Communications of the AIS* (17:7), pp. 152-180.
- Heidegger, M. 1977. *The Question Concerning Technology, and Other Essays*. New York: Harper & Row.
- Jonas, H. 1984. *The Imperative of Responsibility*. Chicago: University of Chicago Press.



- Keen, P.G.W. 1991. "Relevance and Rigor in Information Systems Research: Improving Quality, Confidence, Cohesion and Impact," in *Information Systems Research: Contemporary Approaches and Emergent Traditions*, H.-E. Nissen, H.K. Klein and R. Hirschheim (eds.). North-Holland: Elsevier Science Publishers B. V., pp. 27-49.
- Pentland, A. 2014. "Social Physics: How Good Ideas Spread -- the Lessons from a New Science,").