

A CRITICAL SYSTEMS APPROACH TO CONFERENCE ORGANISATION

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Abstract

The problem this research addresses is organising an academic conference to cater for stakeholders with various worldviews participants successfully. Organising the conference is often placed on an academic with a specific worldview who may fail to consider the limitations they impose on the conference direction. Churchmann's systems approach widens the conference organiser's perspective to ensure all stakeholders are considered. A holistic view of components and how they interact and influence each other is taken by modelling the conference organisation as an open system. The distinction between the 'involved' and the 'affected,' as proposed by Ulrich, is central to this work, requiring a witness to represent the conditioned reality of the affected. Conference organisers are challenged to review their assumptions and those of others involved to identify limitations and opportunities that may have been overlooked. Minimising the uncertainty surrounding the dynamic changes in different conference streams can ensure a conference's survival and growth. The research is practically demonstrated by analysing the objectives and components of the SAICSIT 2023 and ISSS 2023 conferences. Overall, this research highlights the importance of adopting a systems thinking approach to conference organisation to successfully incorporate many perspectives into their conference planning activity to cater to all participants.

Keywords

Conference organisation, streams, perspectives, critical system research, heuristics

Introduction

In academic research, critical systems thinking practice can serve as a guiding framework for understanding complex systems and their dynamics. This paper explores critical systems thinking and its application in the context of academic conference planning. Various aspects are considered, such as the fundamental principles of systems thinking and the practical implications of incorporating multiple perspectives into the planning and execution of conferences. The view of systems thinking presented here aligns with the work of Churchman (1968) and Ackoff (1971, p. 662), who defined a system as a set of interrelated elements. The coordination of these elements and the emergence of behaviour that goes beyond the individual components, a notion championed by Flood (2010), is also considered. A fundamental view of systems thinking, as supported by Checkland and Scholes (1999) and Ulrich (1983), is incorporating multiple perspectives.

The worldview concept, put forward by Bawden (2010) and Ulrich (1983), states that individual and cultural worldviews shape how people perceive and interact with the world. Ulrich emphasises the importance of awareness of underlying assumptions, extending this awareness to all project stakeholders. The distinction between the 'involved' and the 'affected,' as proposed by Ulrich, is central to this work, advocating for a 'witness' to represent the conditioned reality of the affected. Critical systems thinking also incorporates boundary critique, a concept central to this research, as elucidated by Reynolds (2011) and Midgley (2000). According to Ulrich (1983), there are two boundaries: the boundary of control over resources and environment and the boundary separating the involved and the affected. These boundaries

reflect differing perspectives and conditioned realities incorporated into systems planning activities. The work of Ray Ison (2017) emphasises the interplay between systemic and systematic approaches. This interplay is vital for pragmatic problem-solving while ensuring the broader systems view is not compromised. Ison's ideas regarding organisational learning through systems practice are embraced, where the work of systems practitioners is seen as a valuable source of knowledge for organisations and other practitioners.

Next, the focus is shifted to the practical application of critical systems thinking in academic conference planning. A conceptual analysis using Churchman's five characteristics ensures a holistic view of all components and how they interact and influence each other. In addition, Kant's "totality of conditioned reality" (Kant 1781) suggests that every element or entity within a system is interconnected and influenced by other elements. No single part exists in isolation; each part's existence and nature are determined by its relationships with other parts. The analysis then centres on two distinct conferences: SAICSIT 2023 and ISSS 2023. For each conference, unique challenges and solutions are identified, demonstrating how a critical systems approach can enhance conference organisation and stakeholder engagement. The SAICSIT conference presented the challenge of catering to two distinct academic communities: computer scientists and information systems specialists. In contrast, the ISSS conference aimed to provide a unique experience for participants while adhering to society's objective of promoting systemic thinking. Both conferences integrated reflection into their practice, encouraging participants to reflect on their learning experiences. These reflections contributed to the overall success of the conferences, aligning with the objectives of critical systems thinking and creating a collaborative and informed environment.

In conclusion, this paper explores the theoretical underpinnings and practical applications of critical systems thinking in the context of academic conference planning. By embracing diverse perspectives, recognising the interdependence of stakeholders, and promoting reflection, critical systems thinking enhances conference organisation and stakeholder engagement, ultimately leading to successful outcomes.

Critical Systems Thinking Practice

Since critical systems thinking practice is the guiding framework for understanding this research project, a short theoretical description is provided as a shared understanding. Since critical systems thinking is a strand of systems thinking, the discussion starts with reflecting on systems and systems thinking. This section aims not to provide a comprehensive literature review on systems thinking but rather to present the view of systems and systems thinking supported by the authors of this paper. This careful approach has been taken since systems thinking developed as anti-reductionist, cross-disciplinary thinking (Chen, 2016), and by providing a definition, one might revert to the very reductionistic ideas that the systems thinking movement strives to overcome. We support the mainstream description of the development of systems thinking by authors such as Midgley and Rajagopalan (2020) and Flood (2010). An attempt to develop "systems thinking" into a general theory and methodology by Cabrera, Colosi and Lobdell (2008) was met with mixed reactions (for example, Midgley (2008)). Cabrera, Cabrera, and Powers (2015) discussed the critique of their original paper, arguing for viewing systems thinking as a dynamic interplay between distinctions, systems, relationships, and perspectives. Any linear definition is likely to be reductionistic. Incorporating multiple perspectives is a core idea of systems thinking (Checkland & Scholes, 1999), and various methodologies have been developed to guide practitioners to include multiple perspectives in problem identification, such as Soft Systems Methodology (Checkland & Scholes, 1999) and Critical Systems Heuristics (Ulrich, 1983).

Our position of systems thinking aligns with the work of Churchman (1968). Churchman also starts from the perspective of Ackoff (1971, p. 662), who defines a system as "a set of interrelated elements". However, he argues that one should also focus on the coordination of the parts. He further describes the following characteristics of a system: (1) the total system objectives (which includes the measures of performance); (2) the environment of the systems (constraints outside the control of the system); (3) the resources of the

system (available to reach the objective); (4) Components of the system (subsystems); and finally (5) the management of the system. In addition to the perspective provided by Churchman (1968), we emphasise the concept of emergence in systems thinking as discussed by Flood (2010), who focuses not only on the interaction of the parts but also on the emergence of the behaviour of the total system which is not present in any of the parts. In summary, our view of a system is, therefore, *a set of interrelating elements working together as a whole to achieve a stated purpose, using resources under its control, subject to environmental factors outside its control, sensitive to the fact that the whole has emergent properties not present in any of the parts*. From this system definition, our view of systems thinking emerges as *making sense of the world using systems sensitive to multiple perspectives*.

However, we also support the ideas of Bawden (2010) that "It has long been accepted that what each of us 'does' in (and to) the world about us in the course of our everyday lived experiences is a reflection of the way that, as individuals and members of particular cultures alike, we 'see' or perceive that world." Our worldview shapes the way we see the world. This view corresponds to Ulrich's (1983) view that a system is the totality of conditioned realities. He refers to the experience of a specific phenomenon by a specific individual as their conditioned reality. Ulrich (1983) is an influential scholar in the critical systems tradition (Reynolds, 2011). For Ulrich (1983), being critical implies that one is, in the first instance, aware of one's assumptions and then also aware of the assumptions inherent in the methodologies one uses. The awareness of underlying assumptions is extended to all involved in the project. We strive to incorporate key aspects of Ulrich's (1983) work in our practice. Ulrich distinguishes between the 'involved' and the 'affected'. The involved are those in a position to influence the outcome of the activities of the systems planner, while the affected are those affected by the system's operations without representation in the process. Ulrich (1983) argues for a 'witness' for the affected to be included in the systems design project team. A distinctive characteristic of Ulrich's (1983) work is his acceptance that one can not and should not expect rational argumentation from the affected about their fears and concerns about the impact of the system in their lives. The witness is responsible for presenting the conditioned reality of the affected in the formal process. We view this as ultimately "putting yourself into the shoes of others", as Churchman (1968) promoted.

Boundary critique is central to critical systems thinking (Reynolds, 2011) and shapes our critical systems practice, as Midgley (2000) described. We concur with Ulrich (1983) that there are two boundaries to consider: the boundary of control of the resources and the environment in terms of the characteristics described by Churchman (1968) and the boundary separating the involved and the affected. We view the involved and the affected as perspectives, each with a conditioned reality. We strive to incorporate many perspectives into our systems planning activity.

We incorporate the final two aspects in our systems practice from the work of Ray Ison (Ison, 2017). In the first instance, we support his ideas on the interplay between systemic (having broad systems view) and systematic (focusing on the detailed task at hand). This interplay is required from a pragmatic perspective to get the job done, to put in the long hours to ensure that every little detail is attended to. Secondly, we support Ison's ideas of organisational learning through our systems practice. We view our work as systems practitioners as a source of knowledge in organisations. We are motivated to assist those in similar conditioned realities to learn from our experience.

The following section provides a conceptual analysis of conference planning from our critical systems practice position described here.

Conceptual analysis: How does this relate to academic conference planning?

The responsibility of coordinating an academic conference is frequently assigned to an academic with a particular perspective, which might result in overlooking potential constraints imposed on the conference's trajectory. To enhance the conference organiser's outlook and ensure a careful consideration of all aspects, an analysis of an academic conference using Churchman's five characteristics ensures a holistic view of all

components and how they interact and influence each other. Conference organisers can make more informed choices by considering the objectives, environment, resources, components, and management aspects. More effective communication among stakeholders can be ensured as everyone understands the different aspects of the system and its operation.

1. Total System Objectives: The total system objectives represent the goals and purposes the academic conference as a system is designed to achieve. These objectives give the academic conference its purpose and direction as a system. The conference theme and overarching objectives of the conference must be identified, such as knowledge dissemination, networking facilitation, fostering interdisciplinary dialogue, and promoting academic collaboration. Measures of performance are the metrics used to assess how well the system is achieving its objectives to provide a quantifiable way to evaluate the system's activities' effectiveness, efficiency, and impact. Performance measures such as attendance numbers, participant engagement levels, feedback surveys, the quality of presentations, the citations received by conference papers and the extent of knowledge exchange can be used to gauge the conference's success.

2. Environment of the System: The academic conference environment comprises external factors that influence or constrain the system's operations but are beyond the direct control of the system itself. Aspects to consider that influence the conference experience are the physical venue, its accessibility, and its surroundings. The cultural context, including cultural norms, local customs, and practices, impacts how attendees interact and engage. Economic conditions may affect attendees' ability to travel and participate, and laws and regulations related to event organisation, intellectual property rights, and data protection need to be considered.

3. Resources of the System: Resources of the academic conference as a system refer to the assets and inputs necessary to achieve its objectives. Resources enable the system to function effectively and efficiently. In the context of an academic conference, financial resources such as the budget allocation for venue rental, catering, marketing, materials, and other expenses need to be considered. Human resources to consider are the organising committee members, volunteers, speakers, presenters, and event staff who contribute to planning and execution. Finally, the technological resources include audiovisual equipment, internet connectivity, online platforms for virtual components, and technical support.

4. Components of the System: The components of the academic conference as a system are the subsystems or parts that work together to fulfil the system's objectives. They are interrelated and interdependent, contributing to the system's overall functioning. In an academic conference, one must consider different tracks, sessions, workshops, and panels that address specific topics or themes. Speakers and presenters contribute their expertise through talks, presentations, and workshops, and attendees engage with the conference content, interact with speakers, and network with peers. Using subsystems to separate the academic programme from the logistical organisation is also valuable. In a conference where accommodation and transport are included in the conference organisation, it is helpful to treat the accommodation of participants as a subsystem and their transport as another. A strong connection between subsystems exists, and substantial quality control may be achieved by exploring the connections. For example, transport arrangements can be used to check the accuracy of the accommodation arrangements.

5. Management of the System: Management of the academic conference involves planning, coordinating, and executing activities to ensure that the system's objectives are met effectively and efficiently. In an academic conference, one must consider the team responsible for planning, scheduling, coordinating logistics, and overseeing the event. The schedule and logistics need careful planning and management, considering arranging the conference program, setting session times, planning breaks, and managing attendee registration. Communication and marketing related to publicising the conference, managing registrations, and providing participants with relevant information. No single part exists in isolation; each part's existence and nature are determined by its relationships with other parts. When applied to the

organisation of an academic conference, this concept emphasises that all stakeholders are interdependent, and their roles and perspectives collectively contribute to the success and effectiveness of the conference.

We promote the system's idea of putting yourself in the shoes of different stakeholders and participants to optimise individual experiences. This supports Kant's totality of conditioned reality, which is considered to understand the problem environment objectively through understanding conditioned and interconnected perspectives. Stakeholders are interdependent, and their roles and perspectives collectively contribute to the success and effectiveness of the conference. Let us now explore how Kant's concept could apply to different stakeholders involved in organising an academic conference:

- The *organising committee's* decisions and actions impact the overall structure and execution of the conference. Their coordination affects the experience of attendees, speakers, and sponsors.
- The *technical programme committee* ensure the quality of papers contributing to the conference's standing and integrity.
- The quality of *academic presenters and speakers'* presentations influences attendees' engagement and the conference's reputation. Presenters' insights can shape the direction of discussions and interdisciplinary exchanges.
- The *attendees'* participation and interactions contribute to the conference's dynamic nature. Their questions and feedback can influence speakers and organisers. *Virtual attendees* engage in virtual sessions to extend the reach and accessibility of the conference.
- The support of *sponsors* affects the resources available for the conference, which can impact the quality of facilities, materials, and networking opportunities.
- The *local community's* involvement and perceptions influence the event's atmosphere and broader impact. Local businesses may provide services, and community members might attend sessions.
- The quality of the *venue and hospitality services*, including catering and technical support, directly affects the attendees' experience and the smooth running of the conference.
- *Academic institutions'* reputations and resources contribute to the conference's credibility. Their faculty members' involvement can attract diverse perspectives.
- *Regulatory bodies* require compliance with regulations to ensure a legally sound conference, and their oversight may impact certain aspects of the event.
- *Technology and service providers* provide technical infrastructure and support that affect the delivery of presentations, virtual components, and communication tools.
- *Media* give coverage and promotion, shaping the conference's visibility and influencing attendance and stakeholder engagement.
- *Interdisciplinary experts* bring diverse viewpoints, enriching discussions and promoting multidisciplinary learning.
- *Environmental groups* ensure the conference minimises its ecological footprint and respects sustainable practices.
- *Cultural and diversity advocates* promote inclusivity and ensure representation from various cultural perspectives.

Kant's concept underscores the interdependence of such stakeholders involved in organising an academic conference. Each stakeholder's role and perspective contribute to the conference's totality, shaping its direction, outcomes, and overall success. Recognising this interconnectedness can lead to a more collaborative, informed, and holistic approach to conference planning and execution.

In the context of conference organisation, Ulrich's notions of "involved" and "affected" provide a framework for understanding different stakeholders' degrees of influence and participation in a particular situation. These notions emphasise the varying levels of engagement and responsibility stakeholders hold

in shaping the outcome of an event like a conference. Balancing the involvement of those who actively shape the event with the needs and impacts of those who experience its outcomes helps create a more inclusive, meaningful, and successful conference experience for all parties involved.

Involved stakeholders actively participate in decision-making processes, contribute to planning and execution, and directly influence the conference's design and outcomes. They are engaged participants who play a significant role in shaping the event. In the context of an academic conference organisation, involved stakeholders might include:

- Members of the organising committee: They actively plan and coordinate the conference, make crucial decisions, and oversee its execution.
- Keynote speakers and workshop facilitators: Their expertise and contributions directly impact the content and quality of the conference.
- Sponsor organisations: Their financial support and input can influence the resources available for the event.

Affected stakeholders experience the consequences of the conference but do not play a direct role in its planning or decision-making processes. They are impacted by the event's outcomes, logistics, and content without actively shaping them. In the context of a conference organisation, affected stakeholders might include:

- Physical and virtual attendees: Participants who benefit from the knowledge exchange, networking opportunities, and presentations but do not contribute directly to the event's planning.
- Local community: People living near the conference venue who may experience changes in traffic, economic activity, or local atmosphere during the event.

Understanding the involved vs. affected stakeholder distinction is essential for effective conference planning and stakeholder engagement. Involving key stakeholders ensures their expertise is incorporated, their needs are considered, and their perspectives shape the event's direction. At the same time, acknowledging affected stakeholders' experiences and considering their needs contributes to a well-rounded and considerate conference.

Demonstration: ISSS 2023 / SACISIT 2023

SAICSIT 2023: Bridging Two Worlds

The 44th South African Institute of Computer Scientists and Information Technologists (SAICSIT) conference was held in July 2023 (www.saicsit2023.org). The main driver behind the conference is the South African Institute of Computer Scientists & Information Technologists (www.saicsit.org), particularly the council. A primary strategic activity of the Institute has been the annual conference, which started in 1981. As per the constitution, the conference aims to support education, training and research for its members. The conference is rotated yearly between willing academic institutions in South Africa, giving them a chance to host the conference. Each hosting institution has its own worldview and research focus, which tends to drive the conference objectives, skewing the objectives initially set out. Considering these difficulties, analysing the SAICSIT conference according to the objectives, system characteristics, stakeholders, and interrelationships is essential.

A **significant** driving objective is found in the SAICSIT organisation's title. The Institute and the conference serve two groups - Computer Scientists and Information Technologists. Reviewing the conference proceedings over many years, one finds that the term Information Technologists has been replaced with Information Systems, which is broader in scope as Information Technology is a subset of Information Systems focusing on how technology solves business problems and supports organisational processes. Organising the SAICSIT conference with two distinct streams in computer science and information systems requires careful planning, effective communication, and the ability to address the unique challenges and complexities that arise from catering to two distinct academic communities. For this purpose, a critical systems approach can ensure that the SAICSIT conference successfully accommodates both streams.

Historically, the SAICSIT conference is managed by a conference organiser of the host institution that changes yearly, with a particular worldview determined by their computer science or information systems exposure, as supported by Ulrich's view that a system is the totality of conditioned realities. The organiser chooses a technical programme committee based on their experience and worldview. Papers are placed in one pool, from which the technical programme committee can select papers to review. Papers are chosen for presentation and publication in the proceedings by a committee with a particular bias, leading to unhappiness and distrust. The conference focus was skewed into a specific direction each year, causing many potential authors not to submit papers, leading to dwindling conference submission numbers.

To address these concerns, we strive to incorporate **critical** aspects of Ulrich's work by distinguishing between the 'involved' and the 'affected'. The involved are those in a position to influence the outcome of the activities of the systems planner, while the affected are those affected by the system's operations without representation in the process. The SAICSIT council, as an involved stakeholder and a 'witness' for the affected, took a more holistic view to ensure that those affected are accommodated to ensure a better outcome. The following strategy was devised. Two separate technical programme committees were formed to accommodate the two worldviews, each with its own chairs. The chairs selected their programme committee members, leading to two balanced groups. The approach influenced the worldview of the conference organiser, whose worldview was altered by being exposed to each stream's needs and requirements posed by the respective chairs.

The paper submission and review process per group was separated to ensure fairness in the review process. These choices affected all other system components and stakeholders, as a conference schedule was created to accommodate parallel sessions for both streams. Appropriate topics were chosen to cater to the interests of both computer scientists and information systems specialists. The quality of keynote speakers' presentations influences attendees' engagement and the conference's reputation, so they were selected carefully to represent each stream. Delegates could attend all keynote sessions to ensure better interdisciplinary exchanges between streams. The conference was effectively marketed to both computer scientists and information systems specialists. Registration was supported for delegates interested in both streams. Sufficient resources were allocated for both streams, such as rooms, time slots, and budget. Finally, feedback was incorporated from both streams to enhance the future conference experience. Delegates reported being more satisfied with their conference experience and were more optimistic that they would return the following year. By ensuring that the affected stakeholders of the SAICSIT conference were better accommodated, the conference is on a new trajectory to meet the objectives of the South African Institute of Computer Scientists & Information Technologists. Acknowledging affected stakeholders' experiences and considering their needs contributes to a well-rounded and considerate conference.

ISSS 2023: Embracing Diversity in Africa

The 67th International Society for Systems Sciences (ISSS) meeting was held in the Kruger National Park in South Africa in 2023. The ISSS aims to promote the development of the systems sciences by developing a general systems theory and creating a networking environment for systems thinkers. This overall objective

of the society guided the objective of the meeting. Traditionally, the President of the society and the Board of Directors select the venue. The President of the ISSS2023 meeting was from South Africa. It was the first time the meeting was held in Africa. Participants came mainly from North America and Europe. The President typically selects a theme for the meeting to guide the contributions. In 2023, the theme was “Systems Practice for Professions”. This theme was chosen to open the conference as a learning activity for all professionals interested in incorporating systemic practice into their activity. This was required to accommodate South Africans beyond the focused discipline of systems sciences. To have a strong South African involvement was important in terms of the society's objective to provide a networking environment.

We wanted to ensure that participants who travelled for days to reach Kruger Park experienced many different perspectives and worldviews, challenging their position. A conference in Africa must differ from one in Europe, Australia, America, or any other continent. In this regard, we had several entertainment activities showcasing African music, dance and food. Each conference meal included at least one traditional dish. Most importantly, five of our keynote speakers were from Africa. Three used Ubuntu as a guiding philosophy in their talk. This had the desired effect because Ubuntu became a shared reference throughout the conference.

The organising committee viewed keynote speakers as part of the conference's resources as a system. As indicated, selecting keynote speakers is crucial to achieving the overall objective of the conference. Apart from the speakers from Africa, we had three well-known scholars, two of whom were past presidents of the society. Both talked about systemic practice. We had a two-day workshop on systems thinking in practice to achieve further the conference's objective regarding advancing systemic practice. The workshop had a group assignment spanning the entire conference. A diverse group enabled all the participants to experience different perspectives throughout the conference. About 40 of the 100 conference participants participated in the workshop. In this case, the venue was seen as a resource, although we were very aware of the logistics constraints. The Kruger Park allowed us to provide practical experience of not only the culture and nature but also the inequalities of the past, which are still unresolved regarding land claims.

The venue was also the source of most conditions from our systems environment in the Churchman sense. The Skukuza Lodge does not handle individual bookings from conference participants since they require a 50% deposit of all fees six months before the event. Our partner, the North-West University, generously provided an advance for the amount required for 100 participants. We strongly advised all international visitors to fly into the Skukuza airport. This decision added a major administrative burden. The venue had a strong impact on what we viewed as subsystems. The conference planning committee had to handle all accommodation requests, dietary preferences and transport information for all the participants. The Skukuza airport is 15 km (10 miles) from the conference venue, and participant arrivals were spread over four days due to the option of attending the pre-conference workshop. Subsequently, all logistics became a subsystem, along with the academic programme as another subsystem, with a crucial impact on achieving the overall objective. Management of the interactions of the subsystems was used to ensure emergence. The conference booklet of abstracts and programme is evidence of the emergence achieved by carefully planning the conference from different perspectives.

In terms of representing the affected, care was taken to empower the local communities by sourcing conference resources such as bags and entertainment. We were also very sensitive to the members of the society who did not have the resources to travel. Although it was not logistically possible to have a hybrid conference, care was taken to share videos of keynote addresses online. Our logistics group was very sensitive to the physical well-being of participants. There were elderly participants, and we provided extensive travel advice to all who requested advice. More than 1,000 email messages were answered before the conference from the participants, board members and the NWU to ensure we limit our decisions' unexpected consequences.

Finally, we added reflection as part of a research project that encouraged conference participants to reflect on their learning experiences throughout the conference. Regarding our reflection on the conference's success, we consider the overall objective again. We were able to further systemic practice and provide a networking environment for participants. Very few logistical problems occurred, and all the planned programme activities and talks took place. The organising committee is proud of a successful conference.

Conclusion

A programme committee can make sense of the daunting task using a critical systems thinking approach for conference organisation. Churchman's characteristics of the system guide a programming committee to identify a strong objective for the conference—an objective which guides all other activities, such as identifying subsystems. Understanding the interconnectedness between subsystems can lead to a more collaborative, informed, and holistic approach to conference planning and execution. Although the logistics planning is often outsourced to an events planner, this subsystem can be highly instrumental in ensuring emergence in terms of the overall experience of the conference participant. In the case of the ISSS conference, the venue and the care in the logistics planning profoundly impacted the participant's overall experience. As a subsystem responsible for selecting keynote speakers and paper presentations, the programme committee should explicitly support the conference's objectives and, therefore, the society's objective. The opportunity should be taken to use the venue and entertainment to support the conference objective.

Balancing the involvement of conference organisers and their worldview, who actively shape the event, with the needs and impacts of those who experience its outcomes helps create a more inclusive, meaningful, and successful conference experience for all parties involved. Putting yourself in the shoes of each participant is a tedious process that requires a lot of time and resources but is worthwhile in terms of the overall experience of the conference participants. Both conferences illustrated the ideas of Ison's organisational learning through our systems practice. Our work as systems practitioners is a source of knowledge for those who need to do conference planning and can assist them to rise above their conditioned realities by learning from our experience. As there are always unforeseen problems in conference planning, a systematic approach to implementing systemic planning well in advance minimises unforeseen problems during the event.

References

- Ackoff, R. L. (1971). Towards a system of systems concepts. *Management science*, 17(11), 661-671.
- Bawden, R. (2010). Messy issues, worldviews and systemic competencies. In *Social learning systems and communities of practice* (pp. 89-101). Springer.
- Cabrera, D., Cabrera, L., & Powers, E. (2015). A unifying theory of systems thinking with psychosocial applications. *Systems Research and Behavioral Science*, 32(5), 534-545.
- Cabrera, D., Colosi, L., & Lobdell, C. (2008). Systems thinking. *Evaluation and Program Planning*, 31(3), 299-310. <https://doi.org/https://doi.org/10.1016/j.evalprogplan.2007.12.001>
- Checkland, P., & Scholes, J. (1999). *Soft systems methodology in action*. John Wiley & Sons.
- Chen, H. T. (2016). Interfacing theories of program with theories of evaluation for advancing evaluation practice: Reductionism, systems thinking, and pragmatic synthesis. *Evaluation and Program Planning*, 59, 109-118. <https://doi.org/https://doi.org/10.1016/j.evalprogplan.2016.05.012>
- Churchman, C. W. (1968). *The systems approach*. Delta.
- Flood, R. L. (2010). The Relationship of 'Systems Thinking' to Action Research. *Systemic practice and action research*, 23(4), 269-284. <https://doi.org/10.1007/s11213-010-9169-1>
- Ison, R. (2017). *Systems practice: How to act: In situations of uncertainty and complexity in a climate-change world*. Springer.

- Kant I (1781) *Critique of pure reason* (translated and edited by Paul Guyer & Allen W. Wood). Cambridge: University Press., Facsimile edition: London
- Midgley, G. (2000). *Systemic intervention*. Springer.
- Midgley, G. (2008). Response to paper "Systems thinking" by D. Cabrera et al.: The unification of systems thinking: Is there gold at the end of the rainbow? *Evaluation and Program Planning*, 31(3), 317-321. <https://doi.org/https://doi.org/10.1016/j.evalprogplan.2008.04.002>
- Midgley, G., & Rajagopalan, R. (2020). Critical systems thinking, systemic intervention, and beyond. *Handbook of systems sciences*, 1-51.
- Reynolds, M. (2011). Critical thinking and systems thinking: towards a critical literacy for systems thinking in practice.
- Ulrich, W. (1983). *Critical heuristics of social planning: A new approach to practical philosophy*. Wiley. (Paul Haupt)