Research Methods Article

Interactive Management Research in Organizational Communication

Management Communication Quarterly
2023, Vol. 0(0) 1–19

DOI: 10.1177/08933189231159386
journals.sagepub.com/home/mcq
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Abstract

In this research methods essay, we describe Interactive Management Research (IMR), a participatory action research methodology with extensive applications in organizational settings but new to organizational communication research. IMR offers possibilities as a participant-centered methodology that is particularly well suited for complex organizational design situations requiring a systems perspective. We detail two versions of IMR, an interview-based method (IMRi) and a group-based method (IMRg), using a case study of each method to illustrate their application to organizational communication research. We believe IMR is an approach to participatory action research that can provide unique insights into the systems thinking and communication that shapes organizations and organizing.

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Keywords
interactive management, collective intelligence, interpretive structural modeling, participatory action research

In this essay, we describe and illustrate a participatory action methodology, Interactive Management Research (IMR), that allows researchers to investigate participants' perceptions of interdependencies among factors affecting a complex organizational situation. Consistent with existing approaches to organizational communication research, IMR can be used as a methodology for participatory action research and engaged scholarship (McTaggart, 1991; Putnam & Dempsey, 2015). Both interviews and surveys (the most widely used methods in organizational communication research, see Stephens, 2017) generally involve a researcher-driven focus, with the researcher choosing questions to ask in the interview or survey questions to implement in a questionnaire. The researcher will also commonly have specific hypotheses or research questions in mind, which will influence the selection of interview questions and survey scale items. In the context of action research, however, the methodological commitment of the researcher shifts focus toward context-specific and participant-centered modes of data collection (McTaggart, 1991). In this grounded approach, research questions are often informed by participant input, methods are often negotiated and iteratively modified, and the researcher becomes a broker or facilitator of the participants' collective input (Greenwood et al., 1993).

Driven by stakeholders' needs, communication scholars have applied IMR with a variety of groups and research questions, including promoting peacebuilding efforts in Cyprus (Broome, 2004), enhancing governance in Native American tribes (Broome, 1995a, 1995b), and creating an inclusive college campus (Broome et al., 2019). Furthermore, IMR has been used for recent communication studies doctoral dissertations (Brenneman et al., 2017; Chen et al., 2016; Razzante et al., 2020; Valianos et al., 2014), further establishing its legitimacy as a research methodology within the field of communication. However, IMR is missing from organizational communication literature. We suggest that the field of organizational communication is a prime location for scholars to implement IMR as a methodology of action research and applied communication research that centralizes participants' collaborative learning in creating change.

We present two versions of IMR—an interview-based method (IMRi) and a group-based method (IMRg)—to illustrate how organizational communication researchers can use the methodology as a form of participatory action research. We first share the metatheoretical and methodological foundations of IMR, followed by describing the two approaches to IMR. We then offer two case studies to illustrate the methodology's potential for organizational communication researchers who are engaged in participatory action research.

We conclude with limitations and considerations for future application.

Interactive Management

Interactive Management (Warfield, 1976), and its more recent methodological development under the label Collective Intelligence (Hogan et al., 2014, 2017), is a qualitative, systems methodology that centers diverse stakeholders' expertise and experience as a catalyst for problem solving and applied system design work. Interactive Management (IM) is rooted in the interpretive paradigm and is informed by systems theory where relational thinking and identifying interdependencies among factors is central. By helping individuals and groups understand how key factors of a complex situation relate to each other, IM offers groups deeper intersubjective understanding that can provide a catalyst for action.

Similar to common interpretive organizational communication research methods such as interviews and surveys (Stephens, 2017), IM provides a grounded approach (Charmaz, 2006; Glaser & Strauss, 1967; Strauss & Corbin, 1990) to understanding perceptions and perspectives of organizational members. However, it goes further than standard approaches by engaging participants in constructing a framework that depicts the *flow of influence* among individual factors in a complex organizational situation. By employing a systems methodology, researchers are able to explore mental models of groups or individual participants, depicting ways in which various factors are perceived as impacting one another.

In general, IMR offers researchers a participant-centered methodology for addressing complex situations that exist within organizational settings. The researcher works closely with a representative from the organization to identify (a) a complex situation where organizing efforts need to be focused, (b) a group of informed participants who represent the variety of perspectives necessary for understanding the identified situation, and (c) questions that will guide the generation of ideas and the structuring process. The researcher then works with the participants to identify key factors that impact the situation and engages them in exploring interdependencies among these identified factors. This latter step uses a computer-based structuring method, Interpretive Structural Modeling (ISM), described later in this essay. The resulting structure provides a group with important information that will help them devise a collective plan of action for directing efforts to address the complex organizational issue they are exploring. IMR can be particularly helpful when researchers are attempting to use participant expertise and experience to collectively sense-make in ways that drive action.

More specifically, in a typical IM session, a group of stakeholders (i.e., participants of the study) comes together in an intentionally designed workspace to engage in a facilitated process that involves five steps: (1) generate and clarify ideas in response to a guiding question; (2) select a subset

of these ideas that the group considers to be most important; (3) develop a structural model, using the ISM (Interpretive Structural Modeling) software, to represent participants' consensus-based judgments about interdependencies among the ideas; (4) engage in a discussion of the structural model in order to interpret its meaning and significance for their organization; and (5) develop collaborative solutions, plans, or a vision for the future, referencing the structural model constructed by the group in the previous steps. Often, the IM session leads to specific recommendations for policies, projects, and organizational changes that will help alleviate a problematic situation and/or realize a vision represented by the structural model they generated.

When working *with individuals*, IMRi involves working independently with a number of participants (e.g., 20 people), with each person producing their own separate model. When applied to organizational communication research *with groups*, IMRg involves working with a single group (e.g., $N = 15$) or with multiple smaller groups (e.g., 3 groups, each with 8–10 members) to produce one or several structural models. When a number of structural models are generated—either through multiple interviews in IMRi or several groups in IMRg—these structures can be synthesized to produce a single group-level systems thinking product that reflects the patterns of relationships across the structures (see Figures 1–4 below for visual representations).[1] In the following sections, we further situate IMR within organizational communication scholarship and we describe ISM in greater detail. We then discuss ways the individual (IMRi) and group-based (IMRg) methods align with the metatheoretical and methodological goals of participatory action research.

IMR in Organizational Settings

Interactive management research offers organizational communication scholars a tool to research diverse topics within the discipline of communication studies. For example, IMR would be particularly useful in domains such as the following: identifying ways to promote employee well-being (Riforgiate, et al., 2021); creating diverse, inclusive, and equitable workplaces (Ballard et al., 2020); facilitating organizational sensemaking in response to a crisis (Sahay & Dwyer, 2021); or promoting Corporate Social Responsibility through strategic planning based on stakeholders' input (Maktoufi et al., 2020). Infusing these domains with IMR methods offers a methodological approach that promotes organizing through participants' collective intelligence and communication.

Interactive management research is particularly helpful when researchers are focused on questions related to meaning making, reasoning, relational and systems thinking, consensus-building, collaboration, and communication and coordination dynamics needed to prompt and support these processes (Hogan et al., 2014; Harney et al., 2017). For example, researchers can use IMR to study reasoning processes, including the nature, diversity, congruence, and

consistency of reasoning at the foundation of organizational communication, decision-making and collaborative activity. Going beyond interviews and focus group methods, IMR is specifically focused on facilitating relational thinking and reasoning processes. Thus, IMRi and IMRg research can focus on the nature of idea generation, clarification, and reflective reasoning during deliberation processes (Harney et al., 2012, 2015).

There exist several general benefits of IMR. First, the products that result from IMR research (e.g., field representations, structural models) can support project work in the organization and can serve as a catalyst for action. In addition, analysis of participants' deliberation during IMR can provide valuable insights that are relevant for understanding group dynamics, communication, and decision-making processes. IMR also offers flexibility based on the groups' needs, as it can be adapted for group settings (IMRg) and one-to-one interview settings (IMRi). Finally, IMR facilitates structured communication regarding interdependencies among a set of factors that are important for organizational members to consider. As the set of factors grows, the corresponding set of interdependencies increases exponentially. The larger the number of interdependencies, the more challenging it is for organizational members to keep track and map the relationship among factors in a set. Computer-supported deliberations using IMR helps stakeholders systematically map all interdependencies and develop a shared understanding of complex pathways of influence (Warfield, 1976).[2] In what follows, we detail the computer-mediated software process, Interpretive Structural Modeling, and showcase how it assists participants to identify and deliberate on the relationship among factors.

Interpretive Structural Modeling

A key feature of the IMR methodology is the use of Interpretive Structural Modeling (ISM), a computer-based software program that helps participants identify interdependencies among a set of factors (e.g., barriers, enablers, goals, actions) in a complex situation. ISM is publicly available at no cost to researchers.[3] For illustration purposes, consider the following simplified hypothetical example: Let's say that stakeholders/participants wish to identify factors that contribute to a "a healthy life", and three of the factors they suggest are (a) quality sleep, (b) exercise, and (c) enriching social interactions. Using ISM to explore the relationships among these factors, participants can distinguish which factors they perceive as foundational building blocks for other factors. In this case, through dialogue that involves deliberation and reasoning about the relationships (e.g., incorporating evidence from different sources), participants might determine that exercise (factor b) significantly supports quality sleep (factor a)—and both exercise and quality sleep significantly supports enriching social interactions (factor c). This results in a linear

structure of b → a → c (see Figure 5). In this case, exercise would be considered a foundational factor in promoting a healthy life, impacting both sleep and social interactions.

Logistically, the ISM interface presents a relational question to participants that asks them to consider whether one factor significantly impacts another factor. It takes the form of asking participants to provide a "yes"or "no" to a relational question (see Figure 6). Participants are asked to select "yes" only when they perceive a significant relationship from the first factor (e.g., exercise) to the second factor (e.g., quality sleep). A strong, *significantly supporting relationship* could be thought of as a 4 or 5 on a Likert scale where 5 is an absolute yes. Other criteria agreed by the group (e.g., the strength of effect sizes observed in experiments) could be drawn upon in the reasoning they use to determine if relationships are significant.

During the individual interviews or group deliberations, the researcher asks the participant(s) to share their rationale for why they perceive or do not perceive a significant relationship. These rationales are collected and analyzed to help interpret the ISM structure that results from their deliberations. Of course, the perceived relationship among these three factors might look different if another individual or group were given the same task. The software merely helps the group (IMRg) or individuals (IMRi) work through the series of paired relational questions that allows participants to identify the system of relationships they perceive among the factors. In this way, the data output (ISM flowchart) is directly tied to the participants' perceptions and deliberations around those perceptions, thus centralizing communication as an inherent component of IMR.

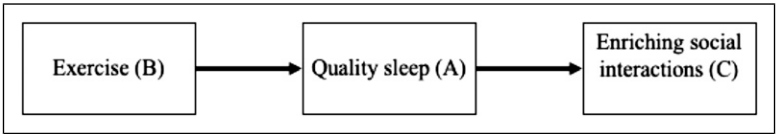

Figure 5. Visual representation depicting flow of influence.

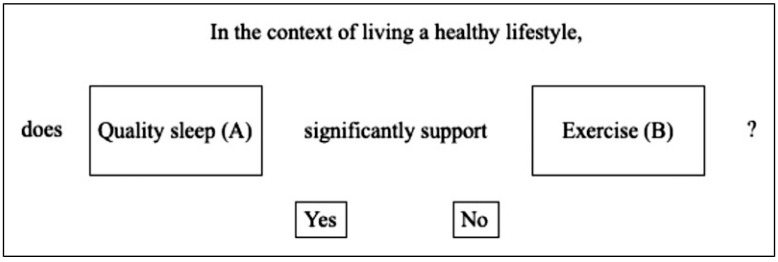

Figure 6. Recreated visual representation depicting the ISM software interface.

The ISM software records participants' Yes/No responses to the relational questions in a matrix built across the *X* and *Y* axes with the set of ideas generated by the participants. In the cell representing the pair of ideas currently being discussed, a 1 (Yes) or 0 (No) will be entered to designate the participants' response to the relational question. As the participants' responses are entered into the matrix, the software utilizes algorithms to automatically fill in any other cells of the matrix that can be computed from all previous responses. These algorithms are based on Boolean algebra and transitive logic (e.g., if A impacts B, and B impacts C, then A is inferred to impact C). The freely available software—as discussed in footnote 2—determines the next pair of ideas to structure, attempting to minimize the number of queries necessary to consider the full set of ideas. The efficiency gained from these algorithms with a small set of ideas (4–5) is not high, but when the idea set is larger (10 or more), the efficiency factor can be significant, allowing an individual or group to proceed through the structuring process in a manageable time frame. Groups are usually able to structure a set of 12 or more factors in a 4–6 hour time period, while individual interviews require significantly less time since there is no discussion with other participants (although the facilitator still asks the individual to provide a rationale for decisions).[4]

This process of identifying the interdependencies among a set of factors leads to the creation of an ISM influence structure, which is visually a flowchart that is read from left to right, showing the most influential factors on the left (see case examples below). The ISM influence structure offers a representation for how groups/individuals perceive the relationship among the key factors they identified during the idea generation step of IM. The ISM structure then becomes the data from which a group or individual can map their future action based on their perceptions of how to move forward.

IMRi – the Case of Workplace Inclusion

Although IM was originally designed for application with small groups (Warfield, 1976; 1994), the methodology has been adapted for one-on-one interviews (Brenneman et al., 2017; Broome et al., 2019; Chen et al., 2016; Valianos et al., 2014, & Razzante et al., 2020). IMRi offers two particular benefits. First, participants may have limited time away from other commitments (e.g., family, work) and one-on-one interviews create more time-flexibility for research engagement. Whereas IMRg requires a group to convene together, usually for full-day periods or longer, one-to-one interviews can work around participants' schedules and usually require 2 hours or less of individuals' time. Second, IMRg sessions ask participants to be open and forthright with their co-participants. While openness can be beneficial in discussing shared issues, some participants may feel the need to censor

themselves, especially when sharing information with someone of a higher authority and/or a dominant group identity. Thus, there are advantages of using IMRi in certain situations, especially when 1–1 interviews enhance participants' ability to communicate authentically. These advantages and limitations are discussed in more detail below. First, we detail a specific case example of IMRi research.

As part of broader organizational well-being initiatives, equity, diversity, and inclusion (EDI) are increasingly recognized as important. Organizational and workplace scholars and practitioners have argued that inviting diverse groups to the table is insufficient to support inclusion (Johnson, 2019; Wilhoit Larson, et al., 2022). Rather, inclusion occurs when diverse stakeholders' voices are woven into organizational decision-making processes. In a recent research project, IMRi was used with a healthcare organization interested in learning how its marginalized employees identified pathways of an inclusive workplace (Razzante et al., 2020). More specifically, the Office of Diversity & Inclusion (ODI) invited the research team to support ongoing organizational efforts, specifically, by facilitating and reporting on employees' localized knowledge (i.e., collective intelligence) through the IMRi methodology.

The guiding question posed to the participants was: *In your experience, what are key characteristics of an inclusive workplace?* Rather than generating responses to the guiding question as a group and in-person, participants responded using a Google Form, which was completed asynchronously on the participants' own time. Analysis of these survey responses revealed a total of 255 unique workplace inclusion characteristics identified by participants. Through a process of coding and categorization, these 255 characteristics were distilled to 14 core and common factors (i.e., conditions) of inclusion (see Table 1). Individual interviews were conducted with marginalized healthcare workers using ISM to understand how they perceived the relationship among the 14 conditions of workplace inclusion.

For illustration purposes, we include one participant's ISM structure (see Figure 1), which shows their relational thinking about the 14 conditions. The model in Figure 1 is to be read from left to right, with paths in the model interpreted as 'significantly enhances.' This one participant reasoned that policies create inclusion because, even if people do not agree with it, they will follow along to stay in compliance with organizational policies. At the same time, policies would help keep leadership in check: "ideally leaders will actively seek to create inclusion, if not for any other reason but just to be in line with the policy." The relational thinking between leadership behavior and policy is further understood by analysis of the ISM structure: *leaders actively seeking to create inclusion* and *policies that promote inclusion* in the workplace are located on the left side of the structure, meaning that these two conditions are influential drivers that increase the likelihood that the subsequent conditions to the right will manifest.

Table 1. 14 Condition Used for the ISM Interviews.

#	Conditions	Clarification
1	Being validated for who I am	Being in a workplace where I can be my authentic self and be recognized as my authentic self.
2	Offering programs that promote inclusion	Continuing education, speaker-series, employee resource groups, opportunities to talk with other caregivers, etc.
3	Displaying respect for other's religious, political, and personal differences	Having an environment where people can have differing opinions but demonstrate respect, acknowledgement—and if necessary, make accommodations.
4	Leaders actively seeking to create inclusion	Intentional action of creating Conditions that support inclusion.
5	Ability to listen to the diverse needs of those in the organization	Being able to listen to the needs and concerns of others.
6	Policies that promote inclusion in the workplace	Having policies that reflect the cultural needs of our caregivers.
7	Celebrating diversity as an asset for growth and innovation	Embracing each other's cultural differences for personal and enterprise growth.
8	Presence of diverse people across all levels of the organization	The presence of diverse people across the enterprise (race, ethnicity, gender, etc.).
9	Being open-minded to different ideas	Recognizing that others may not share the same ideas as me.
10	Decision-making that includes minority voices	Including the experiences of minorities to help shape fair policy.
11	Supportive and caring organizational culture	Change may be uncomfortable yet a supportive organizational climate increases my willingness to be vulnerable.
12	Advocating equity (within and beyond the organization)	Knowing that the organization is committed to fair treatment (within and beyond the organization).
13	Being free to ask questions without being judged	Being invited to share thoughts and opinions without judgements.
14	Knowing that my perspectives and contributions will be valued by the team	Teamwork enables us to provide the best care for patients and colleagues.

After all interviews were conducted, the next step was to create an aggregate representation of all individual structures synthesized into one collective 'meta-structure' (see Figure 2). The purpose of a meta-structure was to reveal the reasoning of participants at the group level in terms of structural relations among key themes that were grounded in specific ideas representative of these themes. In the IMRi case study, the meta-structure highlights that the organization should not rely on

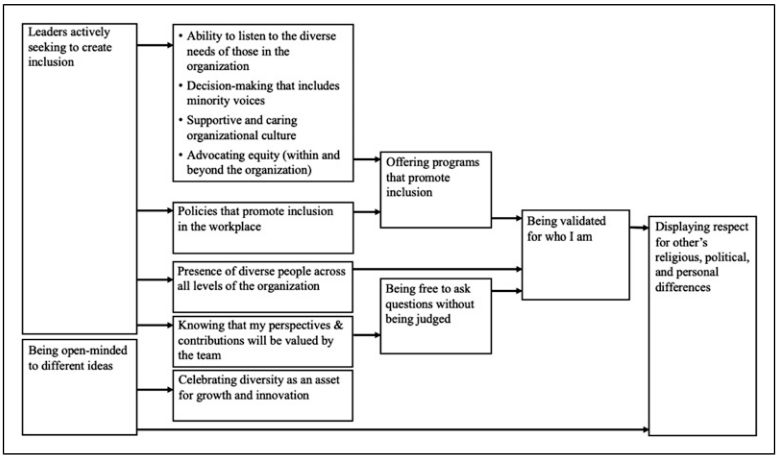

Figure 1. Sample ISM interview structure. Arrows indicate the flow of support from one condition to the next.

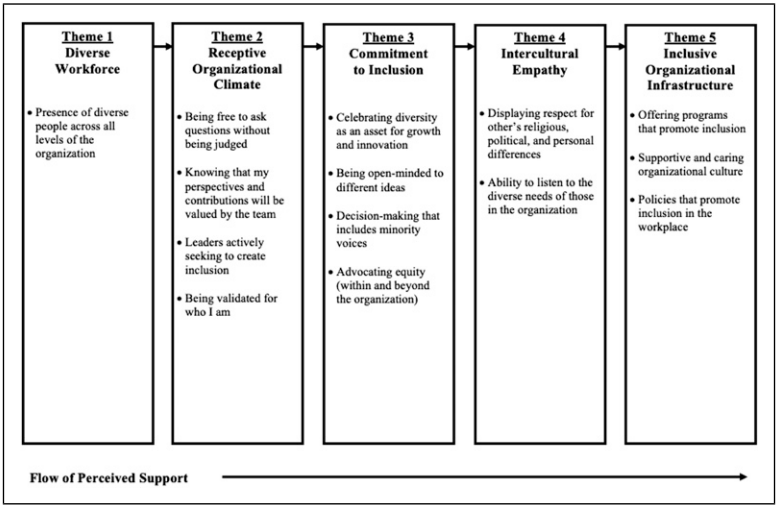

Figure 2. Theme-based meta-structure.

intentional hiring practices alone. In addition to intentional hiring practices, they should also work to create a receptive organizational climate through psychological safety. At the same time, offering educational programming provides space for employees to enact intercultural empathy and advocate for an inclusive organizational infrastructure. The inclusive organizational infrastructure should favor intentional hiring practices to diversify employees at all levels of the organization.

With this study, the Office of Diversity & Inclusion (ODI) sponsored an IMRi study to understand how employees perceive pathways for creating an inclusive workplace. IMRi supported in-depth communication with individual employees and the integration of individual systems thinking models to better understand and prompt collective reflection on pathways for creating inclusion. The time spent with this project allowed administrators and employees a deeper dialogue and connection with the characteristics of an inclusive workplace. At the time of writing this essay, ODI, employee resource groups, and diversity councils are designing strategic plans to act in ways that align with its employees' perceptions of what constitutes an inclusive workplace. As demonstrated here, researchers can use IMR effectively in 1-1 interviews. In what follows, we turn to showcase how researchers can use IMR in group deliberation (i.e., IMRg).

IMRg – the Case of Organizational and Societal Well-Being

In our second case example, we describe how IMRg was used to facilitate organizations focused on well-being in Irish society. Notably, government, community, and business organizations around the world are working to develop new ways to measure and enhance well-being. The Commission on the Measurement of Economic Performance and Social Progress (CMEPSP), chaired by Joseph Stiglitz, proposed several well-being domains for measurement and a strategy for the development of such well-being measures (Stiglitz et al., 2009). In our early analysis of work in this area, we discovered that government organizations often used simple survey and focus groups methods to understand well-being values, goals, and potential indicators. In no case was there an administrative effort to work with stakeholders to facilitate deeper communication and deliberation. Our subsequent study used IMRg with project stakeholders and experts as a catalyst for national and organizational well-being project work in Ireland (Hogan et al., 2015). In this context, IMRg facilitated deeper communication among participants working to collectively understand, measure, and promote well-being.

The first stage of the group communication and systems thinking process focused on understanding barriers to well-being in Ireland. Figure 3 illustrates the systems thinking model generated by our well-being in Ireland group in response to the trigger question, *What are barriers to well-being in Ireland?* The model is to be read from left to right, with paths in the model interpreted as 'significantly aggravates.' Boxes with two or more factors together indicate reciprocally interrelated factors. Tracing one path of negative influence through the model, stakeholders identified the absence of holistic approaches to healthcare, lack of a space for dialogue on holistic views of well-being, lack of understanding as regards the nature of well-being and how to measure it,

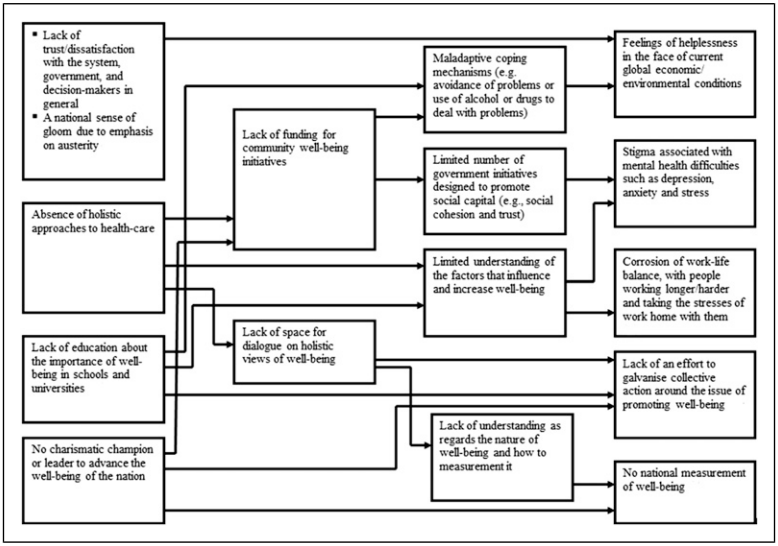

Figure 3. Influence structure of barriers to well-being in Ireland.

and no national measurement of well-being as critical barriers to well-being in Ireland (Hogan et al., 2015).

The group subsequently came together to focus on well-being measurement. In advance of the second IMRg session, participants generated a list of strategic objectives in response to the following question: *In the context of developing a new national well-being index for Ireland, what are the strategic objectives that should guide our efforts to enhance the well-being of the people of Ireland over the coming decade?* Participants then voted to select their top objectives from the list. ISM was then used to structure interdependencies among the highest ranked objectives (see Figure 4). The figure is to be read from left to right and arrows indicate 'significantly enhances.' As can be seen from Figure 4, participants reasoned that *promoting leadership and governance with an emphasis on community participation* is a fundamental driver in the system and promoting this objective is thus likely to increase the chances of achieving all other objectives in the system of interdependent objectives. The results of this study have informed ongoing work in Ireland, with government, community, and business organizations, in particular, focused on the development of a new well-being index (NESC, 2021).[5]

From an organizational communication perspective, this research (1) provided insight into the values, goals, and preferences of stakeholders; (2) engaged participants in a democratic, consensus building process that facilitated buy-in and enhanced the legitimacy of decision-making groups; (3) facilitated transparent understanding of the reasoning that informs the systems

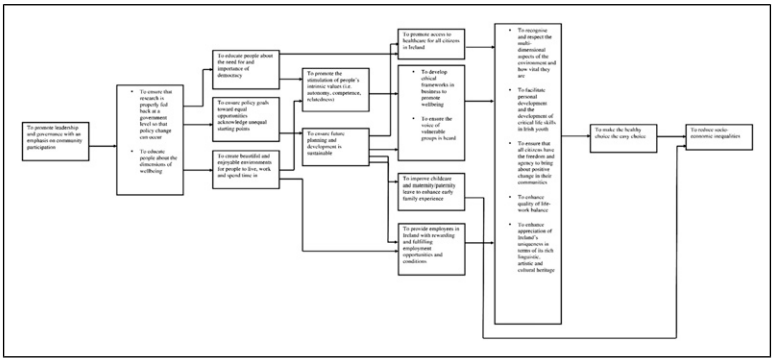

Figure 4. Well-being in Ireland conference strategic objectives structure.

thinking of organizational members; and (4) promoted a systemic orientation that moves beyond local structures to interdependent local and global systems and from individualized, fragmented deliberation to a collective movement for social progress. Overall, while the two case studies presented here illustrate how IMR can elucidate the system thinking of organizational members, we conclude this essay with cautions and limitations for using IMR in organizational communication research.

Conclusions

We have attempted to show in this essay how IMR offers a unique approach to organizational communication action research that extends and enhances what can be gained from interviews, surveys, and focus groups alone. We have described how IMR offers a methodology that centralizes participants' collective intelligence and systems thinking as a catalyst for organizational activities. IMR can be especially useful for organizational communication researchers seeking grounded and participant-centered methods that begin with organizational issues, draw directly upon the experience and localized knowledge of organizational members, and use this insight as a catalyst for action. In this section, we conclude by offering several cautions in applying IMR.

In order to realize the potential of IMR, several cautions need to be kept in mind. First, IMR requires a significant amount of time from both the researcher and members of the organization. The ISM process requires that participants engage thoughtfully in deliberation about interdependencies. IMRg usually requires a full day of group work, and often it necessitates two or more days to adequately move through the idea generation and structuring processes. Time can also be a factor with IMRi, which can require two or more hours of each participant's time. Researchers should be prudent and determine

whether IMR is appropriate given time constraints, especially for organizations that are unwilling to dedicate sufficient time for research. In addition to the actual group or individual deliberations, time is also needed to broker and set up IMR sessions—identifying the guiding question(s), collating votes and selecting factors for structuring, and supporting reflections on products that emerge from individuals or group sessions. At the same time, IMR's flexibility offers a variety of modalities that organizations, participants, and researchers can use to modify the methodology to meet key stakeholder needs and any particular time pressures organizational members must address throughout the process of engagement with IMR facilitators. This flexibility includes recent innovations in online delivery and facilitation of IMR sessions (Hogan et al., 2022).

Second, when considering IMR as a grounded methodology that relies upon member input, a key consideration is the quality of contributions from participants. Careful thought needs to be given to identifying key stakeholders with a diversity of perspectives who can provide the variety of views that need to be considered in the situation. If key expertise is missing from the group or set of individuals, the systems thinking products generated through the IMR process will be limited and perhaps misleading. Additionally, if participants are rushed in their deliberations, or if they are not invested in providing thoughtful input, the results will be of limited value. Quality deliberation takes time and focused energy. However, when participants dedicate time and energy to the process, the results provide a deeper level of thinking about the organizational situation.

A third caution is specific to IMRi, where structural models are constructed by individuals. When conducting 1–1 IMR interviews, participants generate mental models for how they alone perceive the interdependencies among key factors. It is only when individuals' mental models are merged in an aggregate metastructure where a collective understanding emerges. IM was originally designed as an in-person, group-based methodology, in which participants could openly share their rationales with others during the steps of generating and structuring ideas. This element offers space for participants to learn through open conversation at each step of the IM process. Nevertheless, IMRi does involve a dialogue with the facilitator, which supports a participant's reflection on their own reasoning process and systems thinking. Since the individual interviews require each participant to provide a rationale for each relation they consider, these individual interviews allow for intimate and focused deliberation and a potentially broader set of rationales across the group as a whole.

With these cautions kept in mind, IMR can be a powerful tool for both researchers and the organizations they work with. Organizational issues are usually complex, impacted by multiple factors. IMR can help researchers map this complexity in ways that are manageable for individuals, groups, and organizations. It is often the case that at least 10–20 factors are critical to consider in any problem-solving or design exercise, and manually exploring

interdependencies among these factors can be very time-consuming. IMR allows for a complex system of interdependencies to be understood by considering the relationship among a larger set of factors, thus reducing cognitive load while slowly building a model describing relations among all factors. In so doing, the reasoning underlying systems thinking can be recorded and understood as part of ongoing organizational communication and activity planning.

In conclusion, organizational communication researchers may find IMR a useful tool for exploring the deeper logic of complex organizational issues. By understanding the system of interdependencies among factors that affect organizational communication and activity, groups are in a position to address influential factors impacting their organization, rather than devoting resources primarily to highly-salient or highly-rated factors in isolation. By directing efforts to the system drivers, there is an increased possibility that structured organizational communication allows groups to better address complex organizational issues.

Acknowledgments

The authors would like to thank The Hugh Downs School of Human Communication, The Transformation Project, The I4C Collective, The ICGlobal Collaborative, The Graduate and Professional Student Association at Arizona State University, and the Cleveland Clinic Foundation for their support in the early stages of this essay. The authors would also like to thank their editor and peer-reviewers for their supportive feedback along the way.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

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Notes

1. Space limitations prevent us from offering a full explanation of how a number of single structures are synthesized. Examples of past IMRi scholarship showing how a metastructure is created can be found in Broome (1995a), Broome et al. (2019), and Razzante et al. (2020).

2. For example, if we take 3 factors, any effort to understand interdependencies implies a need to consider 6 relationships: 3 x (3–1). A group can do this systematically without any facilitation support. As the number of factors increases, however, the number of relationships that must be considered grows exponentially. For example, a set of 10 factors implies mapping 90 relationships: 10 x (10–1). This number of comparisons would generally be too large for a group (or facilitator) to keep track of without the aid of matrix structuring software as used in ISM. This is one reason that groups seldom explore interdependencies in a systematic manner. They might engage in ranking factors in terms of importance or some other criterion, but to understand the deeper logic embedded within a system, it is necessary to explore the *relationship* among each element, not just the perceived importance of each element.
3. Readers can access the Interpretive Structural Modeling software at: https://www.jnwarfield.com/ism-software.html. John Warfield intentionally designed the software to be open-source and available to practitioners and researchers. The software is free and is functionable with a Windows operating system. Those interested in using the software can contact the corresponding author for coaching on how to use the program.
4. See Warfield (1976) for more details about the matrices and algorithms utilized by ISM. For more information about the logistics of using the ISM software, please refer to Collective Intelligence Support Network Web site: https://michaelhoganpsychology.com/collective-intelligence-network-support-unit-cinsu/ and the following YouTube video: https://www.youtube.com/watch?v=Zm2j6fzIffA&lc=UgxGItpUpEudj2r_IdR4AaABAg
5. See https://www.gov.ie/en/campaigns/1fb9b-a-well-being-framework-for-ireland-join-the-conversation/?referrer=http://www.gov.ie/wellbeing-framework/

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