



Contents lists available at ScienceDirect

European Journal of Operational Research

journal homepage: www.elsevier.com/locate/ejor

What is Community Operational Research?

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ARTICLE INFO

Article history:

Received 20 December 2016

Accepted 8 August 2017

Available online xxx

Keywords:

Community operational research
Community-based operations research
Engaged OR
Problem structuring methods
Process of OR

ABSTRACT

Community Operational Research (Community OR) has been an explicit sub-domain of OR for more than 30 years. In this paper, we tackle the controversial issue of how it can be differentiated from other forms of OR. While it has been persuasively argued that Community OR cannot be defined by its clients, practitioners or methods, we argue that the common concern of all Community OR practice is the *meaningful engagement of communities*, whatever form that may take – and the legitimacy of different forms of engagement may be open to debate. We then move on to discuss four other controversies that have implications for the future development of Community OR and its relationship with its parent discipline: the desire for Community OR to be more explicitly political; claims that it should be grounded in the theory, methodology and practice of systems thinking; the similarities and differences between the UK and US traditions; and the extent to which Community OR offers an enhanced understanding of practice that could be useful to OR more generally. Our positions on these controversies all follow from our identification of ‘meaningful engagement’ as a central feature of Community OR.

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1. Introduction

Community operational research is a child of the wider operational research (OR) movement, and the history of its emergence and institutionalization has been extensively documented (e.g., Carter, Jackson, Jackson, & Keys, 1987; Johnson, 2012a; Mar Molinero, 1992; Midgley & Ochoa-Arias, 2004a; Parry & Mingers, 1991; Ritchie, 1994; Ritchie, Taket, & Bryant, 1994a). While it can be defined very broadly as “OR... for community development” (Midgley & Ochoa-Arias, 2004a, p.3), more detailed definitions can attract controversy due to the diversity of practitioners, clients and methods involved (Bryant, Ritchie, & Taket, 1994; Ritchie & Taket, 1994; Ritchie, Taket, & Bryant, 1994b, 1994c). Most Community OR practitioners value participating in an inclusive research network, embracing a variety of traditions, and overly restrictive definitions can create unwelcome exclusions (Midgley & Ochoa-Arias, 2004a). We will, however, revisit the possibility of a consensual definition of Community OR in this paper.

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<http://dx.doi.org/10.1016/j.ejor.2017.08.014>

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The term ‘Community OR’ was first coined in the United Kingdom (UK) in the mid-1980s at a time when public and private sector OR was in decline (Fildes & Ranyard, 1997), and the Operational Research Society was looking for new application domains for the expertise of its members (Ritchie & Taket, 1994; Rosenhead, 1986). However, it is important to acknowledge that a good deal of work applying OR to community development had already been done prior to that. In the United States (US), OR practitioners had been working with community groups since the late 1960s (e.g., Ackoff, 1970) and in the UK since the mid-1970s (e.g., Jones & Eden, 1981; Noad & King, 1977; Trist & Burgess, 1978). Nevertheless, creating the label ‘Community OR’ in the 1980s facilitated the emergence of a new, relatively coherent research community in the UK. As a result, the number of community-based interventions significantly expanded (Ritchie & Taket, 1994). It would be some years later that the same burgeoning interest would manifest in the USA under the label of ‘Community-Based Operations Research’ (Johnson, 2012b). The similarities and differences between the UK and US traditions will be commented upon later in this paper. While Community OR is much more widely international (for examples of practice elsewhere in the world, see Ochoa-Arias, 2004; Waltner-Toews, Kay, Murray, & Neudoerffer, 2004; Shen & Midgley, 2007;

White, Smith, & Currie, 2011; Foote, Baker, Gregor, Hepi, Houston & Midgley, 2007; Foote, Ahuriri-Driscoll, Hepi, Midgley, & Earl-Goulet, 2016; Velez-Castiblanco, Brocklesby, & Midgley, 2016; Beall & Brocklesby, 2018; Espinosa & Duque, 2018; Laouris & Michaelides, 2018; Morgan & Fa'au, 2018; Pinzón-Salcedo & Torres-Cuello, 2018; Romm, 2018; Ufua, Papadopoulos, & Midgley, 2018), it is nevertheless the UK and US traditions that have been most influential to date.

In writing this paper, we have two interlinked objectives. First, we will revisit a question that is frequently avoided due to the controversies it can raise (Ritchie et al., 1994b; Midgley & Ochoa-Arias, 2004a): is there something that differentiates Community OR from other forms of OR, beyond the broad idea that it involves applications to community development? We will argue that the answer is 'yes': it is the *meaningful engagement of communities* that matters, although there is no consensus on what counts as 'meaningful' (Ufua et al., 2018) or even what constitutes a 'community' (Midgley & Ochoa-Arias, 1999). However, disagreements on these things are not a problem for Community OR because they provide useful stimuli for deliberation and learning. Indeed, there are other disagreements in our research community, and the second objective of the paper is to discuss four more controversies that have implications for the future development of Community OR and its relationship with its parent discipline. Our positions on these controversies all follow from our identification of 'meaningful engagement' as a central feature of Community OR.

2. Defining Community OR

So far, there have been four edited books on Community OR (Ritchie et al., 1994a; Bowen, 1995; Midgley and Ochoa-Arias, 2004b; Johnson, 2012b), and all of them use general phrases like "OR... for community development" (Midgley & Ochoa-Arias, 2004a, p.3). However, they stop short of offering a formal definition of our field. Ritchie et al. (1994b, p.1) say:

"Let's admit it, we're going to cop out here and not offer a precise, neat and tidy definition of either Operational Research (OR) or community Operational Research (Community OR). The OR profession has struggled for many years to reach a succinct statement of OR which achieves broad agreement across OR practitioners and has any meaning to a wider audience. It hasn't got there yet (some would argue it never will)... The view we take here is that precise definitions don't really matter, or more positively: 'the proof of the pudding is in the eating'".

Midgley and Ochoa-Arias (2004a, p.1) argue that over-defining the field can result in marginalizing the concerns of some members of our research community. As a result, they portray Community OR "as a label used by a variety of people engaged in a debate and on-going learning about their own and other people's community development practices". However, Midgley and Ochoa-Arias (2004a) go on to say that all Community OR practitioners have two things in common: "a desire to make a contribution to change in communities" (p.2) and "a concern with the design of methodologies, processes of engagement, methods and techniques" (p.2). Of course, the latter is common across all branches of OR.

As hinted at in the previous sentence, a useful starting point for a definition of Community OR is to look at how OR more generally has been understood, given that the former is a sub-domain of the latter. A variety of definitions of OR have been offered over the years, although (as acknowledged by Ritchie et al., 1994b) none have been universally accepted. We do not expect our own offering to generate a consensus across our diverse research community, but we can nevertheless highlight a couple of widely-recognized characteristics of OR that are relevant to Community OR too: *intervention for desired change* and *the use of modeling*. Our rationale

for focusing on these two characteristics can be found in the [online supplementary material](#) to this paper.

So, we argue that Community OR has inherited the focus on modeling for intervention from its parent discipline, but what defines it as different from other forms of OR? Bryant et al. (1994) offer a really useful clarification of what *cannot* be used to define Community OR. First, it cannot be defined by the characteristics of its practitioners. While some have formal training in OR, others come to it from a wide range of different disciplines and practices, such as mathematics, systems science, the social sciences and even the humanities. Our anecdotal observation here, however, is that many 'immigrants' to our research community already have an interest in application, transdisciplinarity and/or action research, which makes the development and use of generic modeling methods for intervention appealing to them.

Also, Community OR practitioners have a wide range of motivations (Wong & Mingers, 1994), including "social, religious, personal, career development, research and other reasons" (Bryant et al., 1994, p. 232). So there is no one motivation that can be singled out as definitive of Community OR.

It cannot be defined by a set of methods either: an extraordinary variety of methodologies, methods and techniques have been deployed (Bryant et al., 1994). There is certainly more of an emphasis on the use of problem structuring methods than is found in the rest of the OR literature, and some writers claim this is because community contexts entail greater complexity and pluralism of perspectives than most industrial and public sector contexts (e.g., Jackson, 1987a, 1988), but for these methods to be a *defining* characteristic of Community OR, they would have to be used by everyone in all projects, and they are clearly not: there have been a number of uses of quantitative methods reported in the UK literature (e.g., Thunhurst & Ritchie, 1992; Thunhurst, Ritchie, Friend, & Booker, 1992; Cohen & Midgley, 1994; Mason, 1994; Pepper, 1994; Ritchie & Townley, 1994; Ritchie, 2004). Indeed, these constitute the *majority* of applications in the USA (Johnson, 2012b).

Bryant et al. (1994) hint that there may be something that is common across all Community OR projects concerning the *process of application* of OR techniques. We will return to this insight later in the paper, not to suggest that it is a defining feature of Community OR, but to point to what OR more generally can learn from the *critical attitude* that is commonly found in Community OR theory, methodology and practice.

Finally, Bryant et al. (1994) argue that Community OR cannot be defined by its clients. This is arguably their most important observation, as it is very tempting, when we are asked what Community OR is, to simply say that it is OR with grass-roots community groups and voluntary organizations. This is arguably how the field started out (e.g., Thunhurst et al., 1992; Gregory & Jackson, 1992a, 1992b; Thunhurst & Ritchie, 1992), but it rapidly went beyond serving these more 'obvious' clients: the literature reveals applications with business organizations (e.g., Mason, 1994; Ritchie & Townley, 1994; Ufua et al., 2018; Weaver, Crossan, Tan, & Paxton, 2018), the public sector (e.g., Pindar, 1994; Midgley, Munlo, & Brown, 1998; Grubestic & Murray, 2010; Foote, et al., 2016), voluntary organizations providing services with statutory funding (e.g., Cohen & Midgley, 1994) and multi-agency teams or networks spanning the public and voluntary sectors (e.g., Vahl, 1994; Midgley & Milne, 1995; Gregory & Midgley, 2000; Johnson, Gorr, & Roehrig, 2005; Boyd et al., 2007; Hare, Alimadad, Dodd, Ferguson, & Rutherford, 2009; Johnson et al., 2015), as well as many projects with the more 'obvious' clients mentioned above. See also Johnson and Smilowitz (2007) and Johnson (2012b) for many other examples of applications stretching beyond community groups and voluntary organizations. Of course it could be argued that these applications are not actually Community OR and have been mislabeled, but in our view this would be a retrograde step because it would impose

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