

EXTENDING PROFESSIONALIZATION BOUNDARIES IN RESEARCH MANAGEMENT AND ADMINISTRATION

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ABSTRACT

The article establishes how a membership association, following shared and intersecting strategies around competency and professional recognition frameworks, extends research management and administration (RMA) professionalization. Computer-mediated design using asynchronous sources provided data for thematic, narrative analysis within an interpretive, qualitative approach. The Association was found to be an expert organization proficient in using boundary-spanning strategies that were shared systemically to advance RMA professionalization, specifically in the Global South. Individual research managers and administrators (RMAs) also may claim their experiential spaces more powerfully, even in contradictory academic domains where qualifications are prized. This is supported by an open-ended system, emblematic of

the complexities of this day. The setting of standards for professionalization of RMA has secondary, yet targeted, impact on policies and practices of funding agencies and governments who invest in science and research. The study has surfaced the nature of boundary spanning within RMA professionalization focusing on competency and professional recognition frameworks, areas on which literature is mostly silent. The strategic credibility of creating systemic 'openness' across intersecting, yet distinct domains, has been posited.

Keywords:

research management and administration; professionalization; professional recognition; professional competency framework; boundary spanning; boundary objects; openness; non-formal accreditation.

INTRODUCTION

"In the very near future credential evaluators, especially when engaged in professional recognition, will be confronted with an increasing number of applications for the recognition or assessment of qualifications resulting from non-traditional learning..., in the realm of international recognition, [this would]...lead to a focus on the assessment of competencies rather than formal qualifications" (Divis, 2004).

The 'near future' referred to in the above quotation is a current reality. With the global covid-19 pandemic, people pivoted to virtual work, or shuttled between engaging virtually and based on the 'waves', cautiously, in person. For some, such as international/regional organizations, it has reinforced

or added to routine ways of work; for others, it has been a dramatic shift in known boundaries. Competencies of the workforce are therefore required to span boundaries, seeking ways to remain relevant, credible and to keep apace within volatile and uncertain environments. In Schieman & Badawy's (2020) conception, permeable boundaries, such as between work and home; between virtual and actual and between manual and technological have now become a dominant paradigm. Tapscott & Williams (2013) address this as 'openness', defined as deliberate and spontaneous systemic sharing, engagements, and collaboration. Boundary spanning has become systems spanning, a growing area of novel exploration that this article also seeks to extend. We posit that boundary spanning is both necessary and systemic within RMA. We trace this argument through first establishing a conceptual framework that assumed the RMA professionalization process as distinctly phased processes. The three main themes arising from the data showed that the processes were mutually reinforcing and systemically inter-related. We therefore revised the conceptual framework accordingly.

Within higher education contexts, boundaries were, and could be, drawn between professional staff and academic staff where the boundary is defined by distinct and traditional conceptions of RMA job descriptions, confined to support services and not venturing into the academic sphere (Whitchurch, 2008). However, the complexity of higher education has proliferated, such that university boundaries are now viewed as highly porous. This evolution has RMA impelled to adopt boundary spanning competencies, which have been identified as a distinct and enduring feature of their hybrid, progressive roles (Whitchurch, 2008). Boundary spanning roles are "distinct but flexible... [including being a]... problem solver, technical expert, advocate, and engagement champion" (Weerts & Sandmann, 2010, p. 642). It might be said, then, that professions that are boundary spanning have an edge in the current, so-called 'new normal' of working ecologies. Safford et al. (2017, p. 561) venture that "the credibility and legitimacy" of boundary spanning functions are "foundational keys to success" in organizations—and perhaps now even more so? Drawing on the work of Roux et al. (2006), these authors claim that workplace credibility is gained through competence made visible

through "accomplishment, originality, relevance, technical knowledge and the ability to communicate" with these dimensions summed up as "competence credibility". Harnessing the principles of this credibility, competency frameworks have become embedded in most professions (Rich, 2019, p. 3), and are used as benchmarks to define and develop the talent for different workforce roles. Acquiring the 'credentials' to establish such credibility, trust and legitimacy in these roles tables the notions of traditional and non-traditional ways to attain professional recognition (Saks, 2012). Professional recognition may be acquired through formal qualifications, yet, as the argument above highlights, it is the performance on the job that critically matters and therein lies the opportunity to leverage "non-traditional" pathways, anchored in competency frameworks that benchmark expertise and performance acquired in the workplace itself (Divis, 2004). "Competence credibility", it would seem, may be better established by evidence of how people perform in their portfolios, for instance, in day-to-day practice, as opposed to academic or theoretical conduits of learning (Safford et al., 2017).

Thereto, Portfolios of Evidence (PoE), credit and modular learning systems, recognition of prior learning (RPL) and vocational training, in relation to competencies, are being considered in Organization of Economic Cooperation and Development (OECD)-anchored investigations, to recognize the 'standards' of their workforce. The different methods might evolve as part of on-the-job training and development, formal qualifications, and/or as supplementing the formal learning route (Werquin, 2010). The OECD studies also attest to competency frameworks being foundational to the growth of such expertise of workforces (Directorate for Education and Skills, 2016; OECD, 2019). In line with the practice of competency frameworks that institutionalize the acumen of an occupation or profession, RMA has developed competency frameworks that describe work performance and anchor accreditation (Kerridge & Scott, 2018; Williamson et al., 2020). This current article references a customized Professional Competency Framework (PCF) of which the development was facilitated by a professional Research Management Association (Williamson et al., 2020) in order to trace how the PCF spurred professional recognition designations being conferred for RMA. We

also reflect on the Associations' evolving experiences of advancing professional recognition in unchartered territories within the Global South.

BACKGROUND

The Southern African Research and Innovation Management Association and professionalization

The Southern African Research and Innovation Management Association (SARIMA) is part of a global RMA community which develops the professionalization of RMAs in public and private sectors. SARIMA works collaboratively with other Research and Innovation Management Associations (RIMAs) to share and strengthen global RMA standards while also customizing to RMA contexts within different gradients of development.

To support the unfolding RMA profession, Canada, Australia, the United States of America and the United Kingdom, as examples, created routes for professional training, qualifications and accreditation (Kerridge & Scott, 2018). Such respective initiatives were indicative of an increased focus on value for money, emanating from funders and/or governments, as they sought to strengthen systems of science and innovation. In Southern Africa, and Africa at large, most practitioners become RMAs based on a variety of educational and professional backgrounds, but not necessarily with specialized qualifications in RMA and/or other means of professional recognition/accreditation, given that no qualifications existed in Africa before 2018.

Professional development opportunities, directly aligned with the needs of RMAs, had been both developed and implemented, yet lacked a strategic and programmatic approach. Using its mandate from members, SARIMA thus initiated a first phase of professionalization, using a collaborative program, to achieve a PCF for RMA in southern Africa. While frameworks existed in other parts of the globe (Kerridge & Scott, 2018), Africa lacked such a framework. Similarly, to the trends in the Global North, funders and governments who fund science and research in the Global South had increased their focus on value for money for their investments, requiring an enhanced focus on better management of those funds. SARIMA affirmed these value principles through

a formal mode of career stage escalation, such as professionalization, in the RMA discipline (Williamson et al., 2020). Concurrently, SARIMA advanced professionalization in Innovation/Technology Transfer Management (See: www.sarima.co.za).

Professional Competency Framework (PCF)

The PCF outlines nine key competency areas (KCAs), with detailed sub-competencies across three levels of RMA hierarchical roles, namely: strategic; management; operational. In addition, each of these levels has transferable competencies understood to be integral to that level, while also having fourteen transferable competencies across all three levels (Williamson et al., 2020). Competencies might be highly specific (technically anchored) as well as incorporate hybridized, transversal qualities that involve relational and processual components. As such, competency may encapsulate legitimacy, expertise, authority, and autonomy (Noordegraaf, 2020).

According to SARIMA (www.sarima.co.za), the competencies of the PCF are thus shared to: "...assist individual and organisations to assess skills levels, write job descriptions, plan professional development and career paths, benchmark practices, design organisational training interventions [and] ensure... succession planning...". Yet, additionally, SARIMA endorses that the PCF is still formative, and at its crux, it is to be relevant through feedback, revision, and iterations.

Saks (2012, p. 6) indicates, however, that the acts of drawing of professional boundaries, be they "more or less permeable" still define and delineate a profession. He also acknowledges that boundaries appropriately have flex and adaptability based on the volatility and interplay of global material forces experienced by societies. Noordegraaf (2020) highlights, too, that this interplay may suggest the withering away of professionalization in the now-connected, open-endedness of professionals who inevitably rely on deepened integration with societal and technological dimensions to be successful. Hybridity is therefore a distinct contour of professionalism. Terming this movement as "connective professionalism", Noordegraaf (2020) advocates that professions therefore need to

open up their trajectories, growing with, and attending to, broader structures rather than closing down, or in, on overly specified expertise. Tapscott & Williams (2013) speak of these modes as value systems of openness, co-operation, and critical information-sharing. Such ideas suggest laminating individual professionalism with diverse layers drawn from a connected, complex society.

Professional Recognition and non-formal learning

In consideration of such a multiplier effect of the PCF, the latter thus opened up an important standard-setting foundation for conferring professional recognition, using 'non-traditional' certifying means, as conferred through an independent professional recognition body. Dovetailing, therefore, with the SARIMA professionalization programme, an International Professional Recognition Council (IPRC) was formed in 2017, as a next stage to maturing the RMA profession, in Africa in particular. Members of the IPRC were elected to be representative of the African and international RMA community and central to the peer recognition process inherent in the standards of the professional recognition.

The IPRC (<https://iprcouncil.com/>) has a special focus on being the RMA benchmark for Africa. The IPRC thus confers an escalation of professional recognition and continuous professional development in promoting the quality of, and standards for, RMA in Africa in relation to global trends (International Professional Recognition Council, 2021). The IPRC therefore reviews the PoEs of practising RMAs, recognizing their prior learning, experience and achievements across progressive accreditation levels, as opposed to practitioners pursuing a formal qualification route. Such definition of professional competency as well as professional recognition policies and implementation are within the remit of global practice on non-formal learning. In this regard, too the IPRC has created governance structures as well as standard-setting guidelines (Werquin, 2010).

Werquin (2010) in an OECD-published report specifically provides a review of formal and non-formal professionalization learning routes, which included twenty-two countries. The formal means for credentialling is thus to follow a university degree, with all the formalized examinations that have to be passed, assuming there are accessible degrees for the

chosen profession, as is found globally, for instance, for Chartered Accountants. As the background noted, formal university-based qualifications of RMA were not well established on the African continent, and career development relied on short course programmes. The IPRC therefore encourages the non-formal global professionalization process in promoting the application dossier for RMA professional recognition. The non-formal pathway thus uses work experience and 'know-how' to be demonstrated through a dossier of evidence which could include interpretive case studies, discussions of how various professional situations would be handled, write up of specific practical areas typically found in a profession's workplace, etc. Within this path, there is no formal studying or examinations, and acumen is demonstrated through assessing the value of an applicant's experiential, applied and 'real-life' skills. It is this pathway that SARIMA follows, using the PCF as the professional competency basis and the IPRC as the professionalization process to acquire credentialling. We posit that this is a boundary-spanning model. Werquin (2010), therefore, highlights how professional recognition might be gained through certified learning outcomes without following a formal, expensive means to gain a formal qualification. There are a number of methods associated thereto with PoEs as a highly subscribed method (Werquin, 2010, p. 9, 44, 47). For the IPRC professional recognition process, a PoE is required to show the nature of acquired knowledge, experience and achievements attained over a specific period, depending on the professional category. The professional status is valid for five years, and renewal of the status requires continued contributions and accumulation of training points to encourage continued professional development. This PoE and training points are accredited by the IPRC. Non-formal learning is also covered in the OECD Working Paper, where Fialho et al. (2019) discuss the investment returns and value gained from non-formal learning. Useful in this paper is their clarification of non-formal training or learning as: "... institutionalised learning.. programme[s].. because the provider is not recognised as being part of the country's regular education system ([but are] e.g. professional organisations, private commercial companies, non-governmental organisations)" (Fialho et al., 2019, p. 27).

The above cited paper also endorses that a sample of national policies recognize competences, inclusive of

soft skills, as a means to deliver non-formal learning recognition. These views dovetail with SARIMA's and the IPRC's positioning and orientation.

Research Question

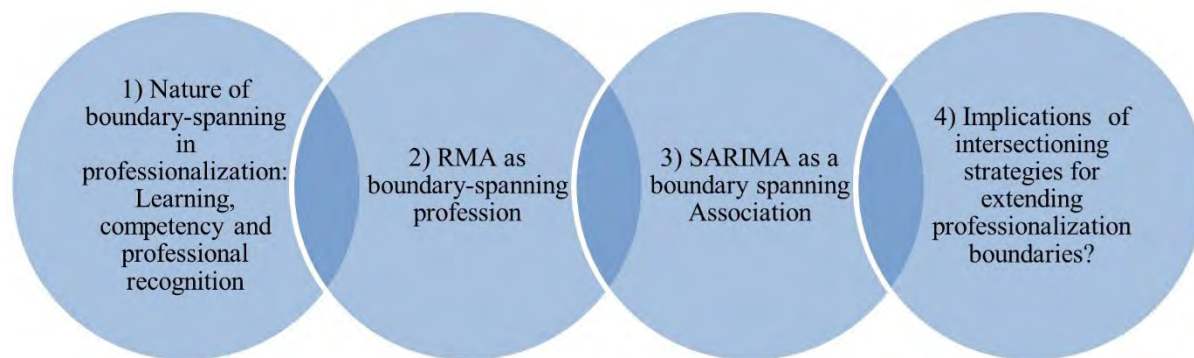
Having considered literature and the trajectory of the PCF and the IPRC, we posed the following research question: How might distinct, yet intersecting RMA strategies, extend professionalization boundaries?

Concepts of the research question are hereto delineated. As noted in the background, SARIMA followed a programmatic strategy for RMA professionalization. The PCF provided, as Rich (2019, p. 2) states, "a shared mental [and documented] model of performance standards at particular milestones along the professional career continuum" inclusive of expressing both ways of 'being' (transferable competencies and working core competencies). Given open linkages between the PCF and the professional recognition process, advanced professional recognition for RMAs, in alignment with their career stage through peer review by the IPRC, came about. In implementing these strategies, we explore how SARIMA holistically acknowledges RMA professionalization through non-traditional certification alongside traditional qualifications, thus conceptualizing fluid, open-ended and permeable boundaries (Saks, 2012).

Conceptual Framework

The conceptual framework (Figure 1) is depicted in overlapping circles (1-4). As noted above, we contend that non-formal accreditation, as achieved through judging experiential competencies, spans learning and work boundaries (Circle 1). Equally so, RMA spans role and identity boundaries (Whitchurch, 2008). (2), SARIMA, as an organization, also coalesces on boundary spanning in the multi-faceted roles around RMA together with innovation management, as well as its work across Higher Education, Government, Funding Agencies and Private Sector research (3). SARIMA's work on its framework and related accreditation signals it to be an expert body, willing to pronounce or 'regulate' on the "nebulous" nature of competence and demarcate core and transversal "attributes for... professional judgement" and "authentic... performance" (Rich, 2019, p. 2). SARIMA may therefore be seen to be comfortable working 'the boundary'. We investigate this as an exploratory question (4). In this initial conceptualization, we assume firm lines for each distinct domain (circled), while also providing Venn diagrams to show that, as per the research question, there are overlapping strategies, which are to be investigated. The conceptual framework informed our theorizing process, which we then operationalized methodologically through exploring the narratives of each distinct element of the framework, using narrative interview methods.

Figure 1
Conceptual Framework for the Current Study



In setting the conceptual framing, we follow Lester (2005, p. 460, 458) who states that the concepts are the “argument... for investigation and [the] anticipated relationships” of the research question. Frameworks “develop deep understanding by providing a structure for designing... interpreting data [for]... studies, and drawing conclusions.”

For this paper, working definitions of the framework concepts include professionalization and non-formal learning, as discussed under the definitions and references within the remit of the SARIMA PCF and IPRC, as above (see: Williamson et al., 2020 and <https://iprcouncil.com/>). RMA reverts to Kerridge & Scott (2018, p. 2) as the activities of “leadership, management or support” for research actions and performances. We posit a working definition of boundary spanning and blurring as a continuum of deliberate-to-intuitive intelligibility that people leverage for a cognizant and valuable flow across, and among, structures, peoples, knowledge sources and disciplines for productive, generative outcomes. Additionally, for this paper, there are also a number of acronyms, which are summarised hereunder:

IPRC:	International Professional Recognition Council
KCA:	Key Competency Area
PCF:	Professional Competency Framework
PoE:	Portfolio of Evidence
RIMA:	Research and Innovation Management Association
RPL:	Recognition of prior learning
RMA:	Research management and administration
RMAs:	Research managers and administrators
SARIMA:	Southern African Research and Innovation Management Association

Literature related to the conceptual framework

Initiating the formal notion of boundary work has been attributed by to Gieryn (1983) where he constituted the demarcating style, adopted by scientists, to define inclusion and exclusion characteristics around intellectual activities that then construct a social and ideological boundary between systems of knowledge. Gieryn (1983) described the notions of boundaries to capture the tensions inherent in singularity (of discipline and episteme, for instance) meeting multiplicity; when

science and “non-science” trade off (Houf, 2021). Working from a generally accepted distinctiveness orientation, purists would claim specificities of domains using inclusion and exclusion criteria, with distinctive and closed-off repositories. Yet, dynamic and living processes inevitably open up systems and include the shuttling, transferals, make-overs and transformation of components of knowledge, acumen and practice that co-create collective, inter-mingled, as well as respective “maps and territories”. Houf (2021, p. 293) indicates that there is boundary work that “functions to demarcate, incorporate, and expel particular ideas, groups, and practices from a field or profession” alongside boundary objects that “enhance the capacity of ideas, practices, and theories to translate across different groups.” Boundary spanning would both encompass and disrupt these two central constructs.

The idea of exchanges across the boundary, spanning and breaching the boundaries of systems further advanced Gieryn’s (1983) foundational idea, proliferating into different contexts and with diverse theory-practice underpinnings: “According to the boundary work perspective, members of different occupational communities make, break, and remake boundaries between themselves in a dance that follows occupational purposes and contexts of interaction” (Ungureanu & Bertolotti, 2018, p. 426, 444). These authors trace what might be seen to be a strategic life-cycle approach to boundary states, specifically related to academics and practitioners (theory-practice domains), the very ‘stuff’ of RMA. Times of newness or insecurity called for boundary building and observing protocol-driven deliberate modes of engagement. As relationships matured and confidence grew, emergence and boundary breaching occurred, bringing about substantive knowledge exchanges and opening up novel areas for the merging parties. Their findings are then summed up:

...interaction strategies that are programmed beforehand and grounded in preferred roles lead to circumscribed or superficial knowledge transfer. Conversely, strategies that emerge spontaneously and imply boundary-breaching are more likely to lead to translation or to transformation (p. 444).

As already noted, for this study, RMA, as a boundary-spanning profession, is foregrounded (Whitchurch, 2008, p. 385; Kerridge & Scott, 2018). Whitchurch (2008) undertook a study of professional staff in higher education and concluded that such staff blur and work across and beyond boundaries. Specifically, she included RMAs in her study, describing them as “niche specialists”. Her studies (2008; 2012) converge on how staff built credibility and their professional identities through their interpretive expertise in their lateral use of threshold spaces as opposed to formal locations within organogram boundaries. Whitchurch (2012, p. 114) advances that so-called “third space” workers specifically enter arenas of learning that are discontinuous and outside of the comfort zones of the institution to take both their learning and work to a different level. Whitchurch (2012, p. 115) reflects that these appear as deliberate acts to do what needs to be done and not necessarily be “bound by [organizational] convention”.

While not specifically focusing on RMA, Gustafsson et al. (2019, p. 181) expand on boundary spanning at the organizational level, referencing the different knowledge systems which boundary spanning organizations incorporate in their work. Their study spotlights collaboratively focused “expert organisations” that use boundaries purposefully, disruptively and organically to set and re-set different knowledge systems. As may be seen from the research question around distinct, yet intersecting RMA strategies, extending professionalization boundaries, this view translates into the work of SARIMA. However, such organizations may be part of systems that work through expulsion and expansion. Expulsion jettisons elements while expansion aggregates or adds in additional system elements, using criteria founded on claims of legitimacy. These authors’ work therefore ties in with the argument of Safford et al. (2017) that also advance credibility and legitimacy within boundary-spanning domains, while recognizing boundary traversing as a form of hybridity that enables people to survive many complex dynamics within current ecosystems.

Using the Gustafsson et al. (2019) concepts of expulsion and expansion, non-formal certification routes may therefore gain traction by expanding on the age-old traditions of Higher Education qualification-based learning, while also expelling pedagogic learning to

further experiential and interpersonal learning within daily dynamics of the workplace. Additionally, the more privileged qualification routes are expelled in the interests of equality of working people, combining the award of certification with their impetus to be within the workforce. The practitioners themselves may well wish to opt out of the qualification route.

Methods

Ethical clearance was obtained (H21/05/28) through a membership Ethical Review Board (Institutional Review Board). In order to explore how a constituency-active Association amplifies RMA professionalization, we adopted inductive qualitative studies. Within this context, we understood the role of human-technological mediated dialogue and interpretive engagements between the researcher and the participants, inclusive of subjective expressions of value (Kivunja & Kuyini, 2017). Our research followed computer-mediated design (CMD) owing to the covid-19 risk. Based on perceived online fatigue, we opted for asynchronous e-interviews, which were narratively focused. The CMD allowed for participants to be reflective, consult documents in order to send through their responses, not to be overly influenced by the interviewer for impression management and achieve ease of response (Salmons, 2015). An introductory email provided for in-principle participation. The researchers thereafter emailed the ethically based schedules with the participants responding in his/her/their own time. The participants could choose to type into the schedule, or in the body of an email. The e-schedule elicited narrative accounts following Ten Dam & Waardenburg (2020, p. 191) who argue for the strengths of an “interpretative, composite narrative approach...[whereupon] researchers put together narratives about a certain topic by collecting fragments of narratives from several actors”. We did this to trace how stakeholders experienced, and reflected upon, the interlocking strategies between the PCF and the professional recognition process, inherent within their views on the broader evolution of RMA professionalization and SARIMA programs.

International participation came from two strata: RMAs who had received a conferred professional recognition designation, and then IPRC members. Our sample is, by nature, small as there are a limited number of participants with whom we could interpret this study’s

worldview and who consented. There currently are 21 recognized professionals and 19 Council Members. Although our sample initially included ten participants, three declined owing to work pressure. Therefore, we had three recognized professionals or award participants (named as 'AW' in data) and four IPRC members (named 'C'). We bolstered the study with the sample of a document review, inclusive of 12 documents (D) centrally related to the PCF development and the IPRC. These included working documents on the PCF, the PCF itself, draft and adopted guidelines for the IPRC and the 2021 Professional Recognition Programme Call (<https://iprcouncil.com/>). The authors also reviewed respective webpages on the PCF and professional recognition, which also included a promotional write-up on the recognized professionals. Besides these 20 data sources (participants, documents and websites), two of the authors have worked on the professionalization strategy of SARIMA and inception around the professional recognition, thus providing participant observation insights which were used when reviewing the data sources.

The authors used narratively informed thematic data analysis that was systematized and integrated through

ATLAS.ti™ Version 9 (Nowell et al., 2017; Ten Dam & Waardenburg, 2020). The coding followed attribute codes, obtaining descriptive understanding of the data and then focused coding for refined, higher-order theoretical codes and sub-themes, integrated with the literature (see column 2, in Table 1). Thereafter, we generated themes (Saldaña, 2015).

We followed integrity criteria of trustworthiness. The article was reviewed by an international RMA reference group (see Authors' Note section) requiring the authors to make their decisions and reasoning transparent. ATLAS.ti also provides "dependability" and "audit trails" and therefore data are confirmable and credible. Overall, we present that there is traceable logic between the raw data (quotations), the codes and the themes (Table 1) providing evidence for the results of the study (Nowell et al., 2017, p. 3).

Findings

Data is first presented to preface the results of the study. The thematic analysis provided the following data trail within Table 1.

Table 1:
Data analysis trail for thematic analysis

Concise theme and anchor scholars within the conceptual framing	Sub- Themes	Sample Codes (ATLAS.ti™ Version 9) <i>AW= Participant who has been awarded Professional Recognition</i> <i>C=Member of IPRC</i> <i>D=Document/website</i>
<p>1) Collaboratively-focused expert organisation</p> <p>Gustafsson, <i>et al.</i> (2019, p. 181)</p>	<p>Benchmarking & Collaborations: African-based PCF and professional recognition; Creation and sharing of boundary objects</p>	<p>C_SARIMA credentials in African & international contexts C_SARIMA strategically positions professionalization C_SARIMA recognised need for credentialing research management openness C_SARIMA facilitating knowledge sharing & maturing of research management C_benchmarking-new & unique for African continent AW_PCF needs to bolster career growth more convincingly AW_benchmarking-SARIMA needs to do more AW_benchmarking-regular communication with practitioners AW_SARIMA need for popularization</p>
<p>2) Boundary objects: Intersecting strategies for professionalization</p> <p>Houf (2021, p. 293)</p>	<p>The PCF; PoEs; Professional recognition & the IPRC</p>	<p>C_professional recognition and PCF are strongly linked C_evolution of IPRC from PCF and professionalization process-open-ended C_IPRC-pre-pilot activities C_IPRC and PCF-embodiment of professionalization C_organisational embeddedness needed for impetus & traction to PCF and IPRC AW_PR is going to be compulsory requirement AW_PCF drives specifications & codification of research management in organisations AW_PoE for professional recognition is integral to PCF-cannot do PoE without PCF</p>
<p>3) Life cycle of strategic boundary spanning</p> <p>Ungureanu and Bertolotti (2018, p. 426; 444)</p>	<p>Deliberate; Formalised</p>	<p>C & AW_SARIMA's deliberate promotion of process for professional recognition C_formalised process for professional recognition undertaken C_guidelines for IPRC adopted C_IPRC-pre-pilot activities AW_IPRC validates career progression AW_PCF closely related to research management functions for disciplinary coherence C_benchmarking-market analysis & responsiveness C_benchmarking -challenges in developing world contexts; D_IPRC as African initiative.</p>
	<p>Process-based</p>	<p>C_evolution of IPRC from PCF and professionalization process C_IPRC & PCF processes iterate various reviews C_IPRC following process-based route for professionalization D_IPRC follows autonomous, open-ended processes</p>

Analysis of Data

Theme 1: SARIMA's role as a collaboratively focused expert organization

SARIMA has been established, in the background section, for its standing as a RIMA yet keeping a mindset of open-ended progression. The participants were vocal in their recognition of SARIMA's collaborative credentials in Africa and internationally, co-producing, and technologically, using efforts that span work and role boundaries thereto (Tapscott & Williams, 2013). Gustafsson et al. (2019, p. 181) address the pivotal nature of the "expert organisation" doing co-creative boundary spanning work, highlighting how this happens within the organization itself, among policy shapers, outside of the organization, and through including junior and senior experts. SARIMA's way of working, both virtually and in person, within an expansive openness paradigm (Tapscott & Williams, 2013) enhances such an approach.

According to the data, SARIMA has a track record of the same using a mixture of expertise and geographic coverage: The mix of members provided expertise and consistency in overseeing the quality and standards of professional certification, [for] the Southern African region (initially, but this was eventually expanded to include the rest of the continent) (C-Participant 2).

In line with this view by Gustafsson et al. (2019), the participants, within the remit of the research question around the PCF and professional recognition processes, recognized that SARIMA consistently works within the strategic practice of consulting members and policy shapers in RMA. SARIMA targets progressive expertise through undertaking training by senior experts of the junior experts, while also following evidence-based benchmarking. The PCF was seen as a documented benchmark against which these actions happened, with the IPRC noted as senior experts who could knowledgeably accredit PoEs and set accreditation standards. Kaschig et al. (2013) in their model of knowledge maturing activities, emphasize the importance of a competency roadmap and finding the right people who embody and embed such competencies. This creates a sophisticated systematic design and protects valuable knowledge assets for sustaining professional niches.

I think professional recognition in research management is not going to be voluntary in the future. It is going to be a thumbscrew; you will have to have the professional recognition or a qualification. You will have to measure up to the PCF—you will write your CV with those competencies (AW-Participant 1).

These dimensions aggregate towards SARIMA building RMA through strategically positioning professionalization for Southern Africa (Williamson et al., 2020), while also inclusive of Africa as including collaboration with international RIMAs. As such, SARIMA is seen to support career progression through formal and informal routes, which facilitates both the conversion and the maturing of knowledge domains around RMA (Kaschig et al., 2013). However, SARIMA was also put in the spotlight for needing to escalate professionalization and popularize the PCF and the professional recognition processes more conscientiously.

Yet, there has to be more work done on popularising the PCF—for career growth to come out of the PCF or the IPRC: that still feels like a long way to go (AW-Participant 1).

Gustafsson et al. (2019) reference how boundary spanning organizations "claim" and validate "truth" specifically around "issues of participation in knowledge production" through deploying and recognizing who are the "knowledgeable actor[s]" and how evolving knowledge may be codified, working within a boundary-transecting systems approach. As such, a knowledge system, which they define as a legitimized set of formal and informal-developed propositions, matures in an openness viewpoint.

These ideas are summed up in a participant's response:

The professionalization initiatives of SARIMA and key partners have established a "Professional Development Escalator" at various levels of development in research management career pathways. The PCF is the underpinning framework for all of these initiatives...the IPRC plays a critical role in terms of endorsement and quality control (C-Participant 1).

Theme 2: The PCF, PoEs and IPRC as boundary objects creating intersecting strategies for professionalization of RMA

Theme 2 considered Houf (2021, p. 293) and the notion of "boundary objects". In the remit of the study, we considered such objects as the developed programme artefacts that have been concretely created within the SARIMA and partners' professionalization strategies. These artefacts then need to be open-endedly built into the sustained practices of stakeholders (Spee & Jarzabkowski, 2009). These objects are deemed as the PCF, the PoEs of those applying for professional recognition, together with the IPRC as the accrediting Council with its mandated guidelines. In a formal qualification, boundary objects would be the formal curriculum, study materials and published books, examinations, examination rubrics and examination committees, which are codified through tradition and practice and quite distinct from the non-formal qualification pathway. Houf (2021, p. 293) argues that boundary work and boundary objects are often conflated and lose their distinctive meaning and utility for theorization. Her article therefore differentiates the two, whereupon she states: "Boundary work functions to demarcate, incorporate, and expel particular ideas, groups, and practices from a field or profession. Boundary objects enhance the capacity of ideas, practices, and theories to translate across different groups."

This article considered boundary-spanning work and therein acknowledges the tensions of the same. Boundary work creates a distinctive place for RMA, which emanated, ironically, from the very boundary blurring and spanning that RMAs are impelled to do

in daily work. In alignment with Houf's (2021) thesis, we present the data on the PCF, the professional recognition/IPRC and the PoEs to show how these artefacts have been tangible intersecting, opened-up strategies for RMA professionalization.

There was unanimous agreement that the PCF was vital as a precursor to the professional recognition/IPRC. Unanimity of views continued to state that the PCF is strongly foundational in how the IPRC has the 'tools' to accredit. A participant reflected on how the PCF, in time, will drive how universities specify and codify RMA strategies and practices. Without the PCF, the preparation of the PoE and the professional recognition/IPRC would have had a credibility gap: one could not do the PoE without the PCF. The PCF therefore appears to offer "competence credibility" and creates internal boundary-spanning capability (Safford et al., 2017).

You have to look at the details of the PCF and be intimately familiar with them. To fulfil the requirements, you have to translate the contents into your PoE. It is a fundamental requirement to function at the competencies of the PCF; you cannot submit the PoE without the PCF (AW-Participant 1).

Participants who put their experiential portfolios and skills forward for the awarding of professional recognition acknowledge the centrality of the PoE. Boundary objects are seen as documents/technologies which evince a set of standards, and which may include different groups, (or individuals) who express shared goals and then are shared across time and space (Houf, 2021).

Over the span of my career, I have built a portfolio which includes research ethics and integrity, grants management, and research support and development. This portfolio of evidence informed my decision to apply for professional recognition. I completed my [POE] application and submitted to IPRC. I received feedback from the Secretariat that my application was successful (AW-Participant 2).

In line with Houf's (2021) argument, we also deemed that the PoEs are unique, distinctive and personalized presentations of the heterogeneity of experience, talent and expertise, and with this study, are mindfully created by the RMAs who are working in diverse and different organizations. As boundary objects, PoEs open up spaces of innovation, creativity and, once accredited, distribute power more evenly in a professional group. As Houf (2021, p. 299) has stated: "Boundary objects keep grand scale power open for specific groups' localized goals."

A participant reflected the same as to why the PCF and the professional recognition are important:

It is about pushing individualised barriers but is that enough to translate into change of university mindset? The participant continued: So in doing this [research management work within the University], there seemed no growth opportunities. This was very frustrating...I also did not want to be treated like a pen pusher...I think there is a long way to go before there is a mindset change in university...The biggest impact has been external opportunities. SARIMA networks have credibility within the research management circles and it has definitely built confidence (AW-Participant 1).

Another participant reflects on how it created impetus for embedding RMA work collaboratively, in the organization, and endorses the notion of open working using co-operating boundaries even while the same boundaries are, in contradiction, being demarcated and bolstered (Langley et al., 2019).

This [accreditation] is so encouraging and helps me...setting up a dedicated unit for research support in our institution (AW-Participant 3).

The PoE therefore reinforces the notion that "collaborative partnerships" might well "aspire to modify the 'rules of the game'" (Kislov et al., 2017).

Importantly, as the introduction and background of this article highlighted, the awarding of accreditation using a PoE spans the boundary between experience and formal qualification, and thus, again opens up both power and space for workers who might not follow a formal qualification route.

The IPRC call therefore addressed this without having to go the qualification route (AW-Participant 1).

The IPRC, using the PoEs and their mandated guidelines performs the accreditation and confers the award of professional recognition.

As our document review showed, professional recognition constitutes an award of professional status, which acknowledges the expertise and accomplishment of RMAs through the review of a PoE by peers on the Technical Review Committee of the IPRC. The PoE provides documented proof of prior learning, competencies, experience, contributions and achievements.

Participants variously reflected on the role of the autonomous IPRC as an accrediting governance structure that may afford integrity and authority. Importantly, the opening up around Africa was viewed as both important and groundbreaking, as reflected in these participant views:

Whether one is a research manager, lawyer or physician, professional development is for staying on top of... your profession. The IPRC recognizes the accomplishments of both the training and application of one's knowledge achieved through SARIMA and other professional societies (C-Participant 3).

With the current emphasis on international collaboration and the gearing of international agency funding towards multi-partner, interdisciplinary consortia projects, it is essential for research managers to hold their own with counterparts...in advanced economies and being able to contribute fully (C-Participant 2).

Benchmarking is looking to a point of reference. [This] has established something new and unique on the African continent (C-Participant 3).

Like the PCF, the IPRC is seen to be open to deepened growth and learning. The participants reflected variously on these boundary objects as being still early in an institutional life cycle, and in fact speak even of pre-pilot activities. Certainly, each needs more stakeholders and role-players to promote and give organizational meaning to their espoused positions. Two of the participants reflected on how these boundary objects need to leapfrog the boundary so as to become organizationally embedded in universities and policy structures. Each respectively and mutually needs to be better described, widely shared and advocated.

Notwithstanding these drawbacks, the evidence gives credence to the claim that the PCF, the PoEs and the IPRC are intersecting strategies within the goal of embedding standards for RM's professionalization.

Theme 3: Life Cycle of strategic boundary spanning activities within the professionalization of RMA

Theme 2 raised issues of the emerging nature of the boundary work and concepts within this current study. Any novel strategy follows a life cycle (Lester et al., 2003, p. 340). Ungureanu & Bertolotti, (2018, p. 426, 444) link life cycle stages to boundary work within contexts of acquiring and maturing knowledge processes. They highlight how there is an open-ended continuum of deliberate and process-based strategies used by the role players in such knowledge exchanges. The data for this research suggest the same. As demonstrated in the boundary objects theme, the PCF, PoE and IPRC are deliberate programmed mechanisms to demarcate professional boundaries in RMA. Within each one of these boundary objects, the participants provided a plethora of data that show planned strategy activities such as: formulation of a deliberate strategy, pre-piloting, piloting, testing, use of reference groups, write up of detailed competencies, guidelines and implementation projects.

In 2012, during the Annual Conference, SARIMA discusses the professionalization priorities of stakeholders. Based on recommendations, SARIMA conducted a survey in 2013. The results indicated that professional certification with a practical work-based approach was an immediate priority (C-Participant 1).

SARIMA's commitment to this area was reconfirmed when the professionalization of research management remained a strategic goal. This included a strategy for Capacity Building and Professionalization (C-Participant 1).

There is also continual, pervasive benchmarking. Participants felt that more could be done on benchmarking and spreading the work on the various intersecting strategies. Jarzabkowski (2004) while noting that benchmarking is a deliberate strategic practice, does highlight that it is about converging on best practice as opposed to opening up work for disruption, creativity and innovation. Participants also highlighted that benchmarking should be nuanced across different contexts.

It is also important to spread the idea across the continent, especially in the French-speaking countries where the professionalization of research management is still unknown by most of research institutions and universities (AW-Participant 3).

Customisation [through benchmarking] then could happen more appropriately per context. There is more than one platform and SARIMA has made an attempt at internationalisation (AW-Participant 1).

Additionally, participants covered how SARIMA purposefully promoted the professionalization projects.

Any key professionalization activities, stemming from SARIMA, including the continuous refinement of the PCF, will ultimately be endorsed by the IPRC (C-Participant 1).

...the Advocacy Committee (AC) is playing a key role in terms of promoting the professional recognition process and other key research management professionalization initiatives stemming out of SARIMA and its key partners (C-Participant 1).

The documents for the IPRC show SARIMA respected an autonomous process unfolding for the IPRC so SARIMA could have an arm's length relationship with the accrediting process. Ownership is to open to the Continent and not only Southern Africa. Investing in such processes is seen as providing a stronger value proposition in that boundary work needs to move beyond its origination or focal organization (Velter et al., 2020). This contention is consistent with theme 1's claim of SARIMA being the collaboration-based organization that leads openness in times of novel strategies. Velter et al. (2020), in drawing on the work of Zott and Amit (2010, p. 216) see the importance of "a system of interdependent activities that transcends the focal firm and spans its boundaries". Evidence from participants to this effect is reflected as follows:

SARIMA facilitates the process while the IPRC does the actual assessment and review. SARIMA is Southern African-specific while IPRC is Africa / global (AW-Participant 2). SARIMA functions as the secretariat of the IPRC supporting implementation, monitoring and evaluation, quality assurance, marketing and awareness raising (C-Participant 2). The

key considerations in the composition of the IPRC included representation from the Southern African region, the African continent and internationally. The mix of members provided expertise... in overseeing the quality and standards of professional certification of research managers, aimed at the Southern African region (initially, but this was expanded to include the rest of the continent) (C-Participant 1).

I believe that this program is unique and still being developed. The above referenced societies are country specific, while SARIMA is expanding this program to not only other African RIMAs, but also other countries (C-Participant 3).

In the same vein, SARIMA also has followed more emergent and process-based strategies for the PCF (Williamson et al., 2020), as reflected by accounts of the participants in terms of these inter-linked boundary objects.

...the need for an accreditation body...was raised by the project leaders on numerous occasions. It was also flagged as one of the primary deliverables of the project (C-Participant 3).

IPRC members helped to shape the process and their role through active participation and pilots, and the IPRC is now well established and ready to undertake this task.

It did, however, become clear that there was comparatively less process-based work on the professional recognition/IPRC with quite deliberate stages and milestones being achieved, as shared by council members. Equally, the relationships between SARIMA, the IPRC and the funders, both on the continent and globally, were also based on deliberate strategies

and followed compliance in the light of good governance and to avoid any perception of conflict of interest. Ungureanu & Bertolotti (2018, p. 425) indicate that there is richer knowledge exchange through the more open-ended boundary work. They argue: “intentional boundary building triggers more limited knowledge exchanges (knowledge transfer) than emergent boundary breaching (new understandings).”

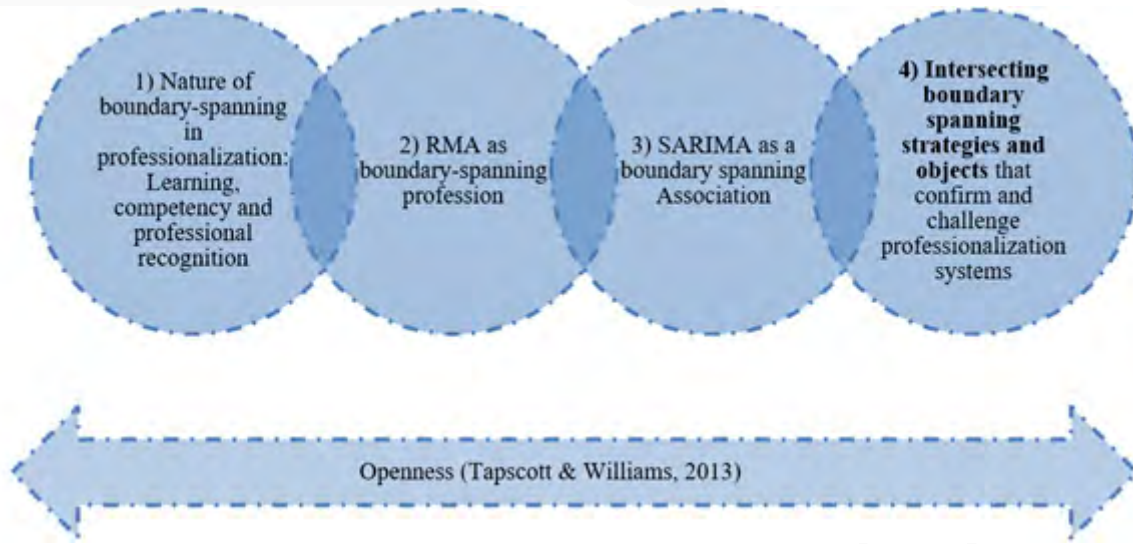
DISCUSSION

The three themes from the data analysis support the conceptual framework of the study, noting a central finding in the adjusted graphic (see Figure 2). The literature established RMA as a boundary-spanning profession that is appropriately supported in its ongoing professionalization by an organization such as SARIMA that, within this study shows its collaborative agility to transact across the frontiers of competence, knowledge, organizations and strategies (Theme 1). In pursuing intersecting strategies (Theme 2) for the development of the PCF and professional recognition/IPRC, SARIMA has surfaced the nature of boundary spanning within RM competency and professional recognition frameworks, an area on which literature and the African context are mostly silent. The study showed how boundary objects of Theme 2 created concatenated momentum—each respectively constituted, yet mutually reinforcing. This impetus (Theme 3) moves RMA closer to a deepened systems level of professionalization that confirms, but also exceeds the organization’s membership, creating energizing forces for regional RM to shift closer to continental and international positioning, while not

losing its unique value proposition. The implication of this finding is that the relevance of the PCF for Southern African, and applicants from other regions, will be an iterative and continuous process. The PCF, PoEs and professional recognition/IPRC, while seemingly statements of demarcated and mandated power lines, also open up distributed power to individual RMA workers, thereby strengthening their ability to claim credibility and legitimacy in their often awkward and fluid third space domains. The sticking blocks of the boundary spanning were also honestly reflected, showing the tensions and uncertainties that novelty brings, as professionalization extends boundaries. The opportunities missed or still to be taken perhaps demonstrate the inevitability of working in a hybridized manner, which disrupts professionally bounded comfort zones.

The conceptual framework left the research question, of distinct yet overlapping boundaries extending professionalization, as open-ended. In our view, that open-ended question may now be replaced with the central finding that the boundary spanning routes within professionalization may fruitfully be followed using both convening and disrupted potentials of the openness of boundaries, as this study has sought to demonstrate. The firm lines of the conceptual framework should instead be dotted lines indicating that outcomes may better be achieved through seeing the inter-linkages, in the Venn diagram (Figure 2) not only as intersecting strategies, but, specifically, as pronounced expressions of boundary spanning created openness that should rupture hard-line demarcated domains.

Figure 2
Central Finding: Revised Conceptual Framework



CONCLUSION

The study responded to the research question in terms of whether bounded, distinct domains could meaningfully intersect to shift a system-level of professionalization. We reviewed literature that placed this question within theorizing RMA within boundary work. Thematic analysis provided three themes that aggregated to conclude that SARIMA’s strategies fulfilled core criteria that professionalization, does not only demarcate and set apart domains but also creates openness: healthy, shared spaces of shifting dotted borderlines towards distributed power and energetic mechanisms for knowledge exchanges that go beyond formal means. The study’s limitations lie in its qualitative narrative methodology, its specific organization and region-based approach, and its predetermined focus on boundary work theory—each of which could be extended through following different research methods such as quantitative or mixed methods studies, exploring professionalization contexts that have benchmarked formal pathways. The limited scope of the study also points to its claims being verified using survey design that includes a larger sample across a broad range of institutions. Identity, trade-off, stakeholder and institutional theories would render alternative viewpoints.

Further research could take the instances of this study and seek individual cases for how the boundary objects and professionalization may become embedded in organizations and therefore truly translate SARIMA’s work into effective impact-based systems change. Evaluation research would be well placed to review the impact of SARIMA’s conception of how to bolster professionalization. Comparative research with other professions, such as found in Accounting or Health Sciences would add value to benchmark SARIMA’s strategies.

Accredited RMAs may indeed claim their experiential spaces more powerfully, even in contradictory academic domains where qualifications are prized, when supported by an open-ended system, emblematic of the complexities of this day. Despite clear mandates that could deliberately dominate, an expert organization (such as SARIMA) may usefully pull and share across the open-endedness of boundaries and even use uneasy intersecting spaces to achieve an aggregated strategic goal.

Equally, the experience of SARIMA and IPRC in setting standards for professionalization of RM have secondary, yet targeted, impact on policies and practices of funding

agencies and governments who invest in science and research. There is an increased sensitization among those who fund research that the RM professional is an important part of the team and plays a central role in successful outcomes from any science or research endeavour. Those who fund research or science in the Global South have an increased interest in seeing the profession of RMA defined even further, and therefore, also thrive. The funders or governments have shared goals with universities and academia when it comes to achieving societal goals and should similarly have shared goals in seeing the importance of professional RMA. Such ideas contribute to the conceptual framework of this study in the pursuit of valuing the important, open-ended connections.

AUTHORS' NOTE

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