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Who do you know, or what do you know? Board intellectual capital components for non-profit board role fulfilment

Authors:
Hanli Mulholland[1]
Gert Human[1]

Affiliations:
[1]Department of Business Management, Faculty of Economic and Management Sciences, Stellenbosch University, Stellenbosch, South Africa

Corresponding author:
Hanli Mulholland,
hmulholland@sun.ac.za

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Purpose: Nonprofit organisations (NPOs) are crucial in building stable and equal societies. NPOs remain under pressure due to increased societal needs and a competitive funding environment. The board of directors (BOD) is responsible for the organisation's long-term success. Guidelines for the BOD of NPOs are limited, which leaves NPOs vulnerable. This research gap was addressed by exploring board intellectual capital components, specifically human (HC), social (SC), structural (STC) and cultural capital (CC), sufficient for nonprofit board role fulfilment.

Design/methodology/approach: Exploratory, qualitative research was conducted. Sixteen registered social services NPOs in South Africa were selected through purposive sampling methods. The NPO was considered from a case-based perspective through fuzzy-set qualitative comparative analysis (fsQCA).

Findings/results: STC and SC proved sufficient for nonprofit board role fulfilment. Specifically, STC proved sufficient for the monitoring role, SC for the advisory role, and STC and SC were conjointly sufficient for the provision of resources role of the BOD.

Practical implications: By prioritising the SC and STC of the BOD, NPOs can fulfil all three board roles independently of HC. Rather than relying on individual expertise, this approach leverages networks, relationships, and organisational structures to sustain board functionality, thus enabling NPOs to drive long-term sustainability without being dependent on the availability of specific skills or professional experience.

Originality/value: This research adopted a case-oriented approach to the BOD of NPOs in South Africa. The findings broaden the understanding of nonprofit governance by highlighting SC and STC as sufficient alternative pathways for fulfilling nonprofit board roles.

Keywords: board intellectual capital; board role fulfilment; fuzzy-set qualitative comparative analysis; non-profit organisations; human capital; social capital; structural capital; cultural capital.

Introduction

The non-profit sector (NPS) of South Africa, which makes up 1.2% of the gross domestic product (GDP), aims to address (among other things) the challenges that exist in society concerning inequality, unemployment, education and poverty (Swilling & Russell, 2002). The NPS furthermore contributes to the economy of South Africa by being a significant employer, with the number of employees exceeding that in national government, construction, transport and financial services combined (Swilling & Russell, 2002).

The NPS worldwide remains under immense pressure because of increased societal needs, especially in developing countries like South Africa. Furthermore, the NPS is facing an ever-increasing battle for funding and support. Balancing the increasing societal need with increased competition for funding leaves non-profit organisations (NPOs) with an almost impossible task of delivering consistent services to society over the long term. The environment in which NPOs must survive is highly complex, with many stakeholders and beneficiaries to consider. Managing the complexities of the environment is the responsibility of the organisation's leadership, precisely that of the board of directors (BOD). The BOD is ultimately accountable and responsible for an organisation's long-term planning and future success (Miller-Millesen, 2003). Non-profit organisations differ from for-profit organisations, with the most important distinction being the so-called non-distribution constraint, which prohibits NPOs from distributing earnings to those

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who control or own the organisation (Du Bois et al., 2007). This fundamental difference between NPOs and for-profit organisations makes the direct application of research findings on the BOD of the for-profit sector to the NPS risky. An over-reliance on for-profit research into the BOD has proven detrimental by steering NPOs away from their purpose (Viader & Espina, 2014). Theories on the BOD of for-profit organisations should thus be considered a start but expanded upon for the non-profit context.

Limited research exists in terms of the BOD of NPOs. Where such research does exist, the focus is mainly on the formal characteristics of the individual members of the BOD, such as age, gender and experience, instead of viewing the BOD from a holistic system perspective (Hillman & Dalziel, 2003). Nicholson and Kiel (2004) propose that the BOD should be considered part of a holistic social system where multiple unique inputs deliver desired outputs through a transformative process. The BOD facilitates the transformative process through their individual and collective board intellectual capital (BIC) components and board roles. Access to BIC components of the BOD will foster change and ensure equilibrium in the holistic system (Nicholson & Kiel, 2004). Different BIC components, namely human capital (HC), social capital (SC), structural capital (STC) and cultural capital (CC), are theorised to enable the monitoring, advisory and provision of resource roles of the BOD of NPOs (Heemskerk et al., 2015).

Considering the BOD from a holistic system perspective necessitates a method that compares BIC components and board role fulfilment from a collective, case-based point of analysis (Nicholson & Kiel, 2004). Qualitative comparative analysis, more specifically, fuzzy-set qualitative comparative analysis (fsQCA), considers NPOs and the BOD as collective cases (Schneider & Wagemann, 2012). Insight into the holistic system of the BOD, specifically through this case-orientated approach of BIC components towards board role fulfilment, could provide novel insights and enable a sustainable NPS for South Africa.

The research will firstly expand on the holistic system of the BOD of NPOs, explicitly focusing on BIC components and board roles. Secondly, fsQCA will be presented as a comparative method. Thirdly, the results of the particular BIC components and board role fulfilment will be provided, upon which conclusion and recommendations will be offered in the context of the NPS of South Africa.

Literature review

The NPS is critical in influencing a country's economic growth and societal development (Anheier & Salamon, 1998). Although the importance of the NPS in the developing world has evolved, there is limited understanding of the NPS, and what is understood is mostly still through the lens of the NPS in the developed world. However, NPS is more heterogeneous in a developing context than in a developed one. This heterogeneity spans from the large, multibillion-dollar professional institutions that operate similarly to some for-profit organisations to small, all-volunteer organisations providing essential services or advocating for change (Casey, 2016).

The non-profit sector of South Africa

Apart from the heterogeneity in size, NPOs in South Africa are classified and registered by legal entity and objective. Most NPOs in South Africa (94.7%) are registered as voluntary associations, traditionally informal organisations serving the communities in which they exist (Lehohla, 2015). The large majority (40%) of these voluntary associations have the objective of providing social services (Lehohla, 2015). The *Nonprofit Organisations Act, No. 71 of 1997*, provides a regulatory and administrative framework encouraging NPOs to maintain adequate governance, transparency and accountability standards in South Africa. Specific information regarding the structural elements of the BOD and mechanisms for governance exists to register as an NPO. The *Act* is, however, not prescriptive; neither does it guide the structure or operations of the BOD. The BOD is thus required for registration, but no further guidance or advice is provided.

A well-established and actively functioning BOD is crucial to the ability of an NPO to deliver services to society in the long term. Fama and Jensen describe the BOD of an organisation as the 'apex of the firm's decision control system' (1983:311). The BOD of NPOs faces complex, multifaceted tasks that involve decisions and processes of a strategic nature (Forbes & Milliken, 2008; Jackson, 1992). The complexity of the task, the limited guidelines given and the requirements placed on the BOD of NPOs cause concern.

Agency theory is one of the most regarded theories on the BOD and describes the risk-sharing problem that arises when groups work together but have a different view of risk (Eisenhardt, 1989). This differing view of risk is addressed by looking to an agent to ensure optimal decisions from the principal's viewpoint. The BOD is a crucial monitoring group representing the principal's interest and monitoring the problems arising from a principal-agent relationship (Wan Yusoff, 2012). The agency role of the BOD from for-profit literature is concerned with serving shareholders' interests (Barney et al., 2001). Regarding the NPS, the agency role is more complex as the BOD of NPOs must serve the interests of multiple heterogeneous stakeholders such as founding institutions, beneficiaries, donors and society (Viader & Espina, 2014). In addition to agency theory, resource dependency theory is often looked at in the context of the BOD. Resource dependency theory acknowledges the need for environmental linkages between the organisation and outside resources and suggests that the BOD is responsible for acquiring and maintaining resources to ensure the survival and sustainability of the organisation (Miller-Millesen, 2003; Viader & Espina, 2014; Wan Yusoff, 2012). The BOD, as a provider of resources, is not supposed to intervene in

the management of the NPO but should provide access to resources that could be a strength to the organisation (Viader & Espina, 2014). While agency theory and resource dependency theory provide valuable insights into the role of the BOD, they offer somewhat fragmented perspectives. To address these limitations, Nicholson and Kiel (2003) propose a more integrative approach, viewing the BOD as a holistic system. When considered as part of this holistic system, the BOD facilitates the transformation of inputs into outputs by strategically fulfilling multiple board roles (Nicholson & Kiel, 2004).

Roles of the board of directors of non-profit organisations

The BOD represents the interest of multiple stakeholders and serves as the organisation's primary internal control mechanism, often called monitoring (Boyd, 1990; Jensen & Meckling, 1976) or the control role (Boyd, 1994; Forbes & Milliken, 1999). At a conceptual level, these two terms differ but are applied with the same focus on (1) the separation of ownership and control and (2) monitoring managerial behaviour to ensure alignment with stakeholder expectations (Miller-Millesen, 2003). This monitoring role of the BOD includes monitoring management, strategy implementation, planning for management succession and evaluating, motivating and rewarding management (Hillman & Dalziel, 2003). In South Africa, the Department of Social Development requires the existence of a BOD and alludes to specific reporting requirements for NPOs to register as legal entities. The monitoring and control role of the BOD of NPOs often takes precedence over other roles because of these legal requirements. This focus towards monitoring and control is consistent with research suggesting that the BOD is ultimately responsible for adherence to legal standards and is expected to take prominence (Miller-Millesen, 2003).

The BOD is further expected to provide access to possible resources. This role of provision of resources stems from resource dependency theory, suggesting that organisations are open systems embedded in the conditions of their environment (Barney et al., 2001). The BOD must mitigate the environmental uncertainty that arises by generating external contingencies through their ability to connect necessary resources to the organisation (Hillman & Dalziel, 2003). Resources in the context of the BOD can be defined as tangible or intangible assets (Barney et al., 2001). The activities of the provision of resource role are diverse and can include activities that provide resources that could deliver legitimacy (Selznick, 1949), strengthen the public image of the organisation (Selznick, 1949) and connect the NPO to expertise (Baysinger & Hoskisson, 1990); linking the organisation to essential stakeholders and entities (Hillman et al., 2001); facilitating access to funding (Mizruchi & Stearns, 1988) and diffusing innovation and aiding in the formulation of strategy (Hillman & Dalziel, 2003). Resource provision is under-researched in the context of the BOD of NPOs, as the monitoring role is still seen as the primary focus of NPOs in South Africa (Miller-Millesen, 2003).

Furthermore, the BOD advises the organisation's management, sometimes called the role of providing service (Carpenter & Westphal, 2017). This so-called service role is sometimes seen as an extension of the provision of resource roles (Wan & Ong, 2005). In the context of the BOD of NPOs, it is vital to consider the advisory role separate from the role of resource provision, as it is typically overlooked and underutilised. The role of advice to the management of the NPO is crucial for the survival and sustainable existence of the NPO while also providing a competitive advantage by bringing information to the organisation that would not have been otherwise available (Carpenter & Westphal, 2017).

The prominence of these three BOD roles differs significantly for different situations. Miller-Millesen (2003) explains that apart from the influence of the external environment on board role fulfilment, several internal factors, such as the size of the NPO, the life-cycle stage of the NPO, organisational stability and demographics of the members of the BOD, may influence how and with what level of urgency each of the roles of the BOD will be executed. Nicholson and Kiel (2003) posit that in the specific context of the external and internal environment, the three board roles necessitate specific BIC components to deliver on the transformative process of the BOD.

Board intellectual capital

Intellectual capital can be described as the competence of individuals within a group and their willingness to use their knowledge, skills and attributes for the organisation's success (Ulrich, 1998). In the context of the BOD of NPOs, BIC is typically classified as the combination of HC, SC, STC and CC (Nicholson & Kiel, 2003).

Human capital (HC) is defined as the innate and learnt abilities, expertise and knowledge of the members of the BOD (Johnson et al., 2013; Nicholson & Kiel, 2003). Human capital is the foundation of BIC, which can be enhanced by other BIC components and what is needed at a minimum for successful boards (Nicholson & Kiel, 2003). However, the mere presence of HC is not equivalent to the effective use thereof (Bužavaitė & Korsakienė, 2022). Although the HC of the BOD is generally considered fundamentally important, limited research in the context of NPO exists (Forbes & Milliken, 2008; Ngepah et al., 2021). Previous research into HC focused on generic, related-industry, industry-specific and organisation-specific knowledge and experience. Such HC influences how members of the BOD process information and is positively associated with organisational growth (Castanias & Helfat, 2001; Kor & Sundaramurthy, 2011). However, HC concerned with functional expertise such as human resources, marketing, finance and general business or organisational acumen has received limited attention within NPOs (Forbes & Milliken, 1999). Board-specific skills that are directly related to the skill set of the BOD, such as general management, motivation and retention of leadership, are often overlooked but should also be included when considering the HC of the BOD (Nicholson & Kiel, 2004).

Some researchers argue that such heterogeneity and a unique combination of skills, knowledge and experience could provide a competitive advantage to the BOD and NPO (Barney et al., 2001; Nicholson & Kiel, 2004). Further to the HC, the relationships of the BOD with different stakeholders were considered.

The investment in social relationships to deliver returns for the organisation is referred to as SC (Lin, 2001). The social relationships that individual members of the BOD hold, if made available to the group, assist the BOD in goal attainment (Gabbay & Leenders, 1999; Ihm & Shumate, 2019; Johnson et al., 2013). To determine the SC of the BOD, these relationships, their nature and the resources available as a result of these relationships need to be understood (Nicholson & Kiel, 2004). Furthermore, SC exists at three levels: (1) intra-board relationships between the members of the BOD, which determine the productivity of exchanges of the BOD; (2) board-management relationships and goodwill between the BOD and managers of the organisation and (3) individual, extra-organisational relationships between board members and external parties who might be of benefit to the organisation (Nicholson & Kiel, 2004). External relationships specifically relevant to NPOs include links with governmental institutions, other community organisations and educational bodies (Leana & Pil, 2006). Social capital is multi-dimensional, as it is concerned with the individual connection and the nature of the connection (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998). The nature of the connections is further context specific and is thus considered in the specific context and environment of the NPO (Pil & Leana, 2009).

Human capital and SC are rooted in the attributes of individual members of the BOD (Castanias & Helfat, 2001). On the other hand, structural capital (STC), or the routines and procedures of the BOD, is a function of the entire group. Structural capital facilitates the use of the HC and SC of the BOD and can turn individual knowledge, experience and connections into group property (Bontis, 1998). The STC of the BOD is typically both explicit and implicit as it is concerned with the general approach towards board routines. As such, STC not only helps focus the work of the BOD but also assists in developing the BOD's decision-making style (Inglis & Weaver, 2000; Nicholson & Kiel, 2004). The routines of the BOD are primarily enabled through different committees within the BOD, such as audit committees (Klein, 2002), remuneration committees (Conyon & Peck, 1998) and nominating committees (Vafeas & Theodorou, 1998). Research, mainly in the for-profit sector, suggests a relationship between the presence of (certain) board committees and the effectiveness of the BOD (Raimo et al., 2021). Such relationships are underpinned by specific elements of HC, which suggests that STC enables the BOD at a group level based on individual HC (Westphal & Milton, 2000).

Further to STC, CC also considers the BOD as a group and the social identification of the individual in the context of the group's values, norms and rules (Nicholson & Kiel, 2003). Cultural capital has developed over three generations since the 1970s, and contemporary empirical research on CC has become increasingly pluralistic, international and methodologically diverse (Arioglu, 2020; Davies & Rizk, 2018). On a micro-level, CC is a core element of face-to-face interactions manifesting through rituals (Collins, 2004). Rituals are any interaction in which people assemble in small groups with barriers to outsiders and where a mutual focus is attained (Davies & Rizk, 2018). Successful rituals generate a sense of group membership and social confidence, whereas unsuccessful rituals deplete emotional energy levels and negatively affect an individual's motivation to engage (Davies & Rizk, 2018). According to Collins (2004), CC is critical in invoking shared symbols representing the group. These shared symbols can be in the form of knowledge of basic vocabularies, concepts and styles, and as such, CC is a resource that facilitates interaction in any group (Davies & Rizk, 2018). In the context of the BOD, CC refers to the resources captured through social identification with the group's values, norms and rules (Lin, 2001). Although CC refers to social identification within a group context, it differs from SC in two ways. Firstly, CC is expressed in terms of social categories by which individuals define themselves, such as gender and occupation (Rose & Tajfel, 1983). Secondly, CC is concerned with the degree to which the BOD shares norms, values and rules within the group environment and not each other as individuals (Nicholson & Kiel, 2004). Cultural capital thus allows access to resources in instances where members of the BOD do not share a direct relationship or SC does not exist.

Research methodology

The broad conceptualisation afforded by BIC facilitates a multi-dimensional perspective for understanding the performance of the roles of the BOD at a case level (Nicholson & Kiel, 2004). In the absence of research in the public domain that focuses on the BOD of NPOs at a case (collective group) level, this study employed exploratory, qualitative research methods and followed an epistemological approach of critical realism. Critical realism was considered necessary for the research in the context of the NPS as it demands interaction between the researcher and the research environment when creating knowledge while considering the social and historical context (Creswell, 2009; Herman & Renz, 2008; Mertens, 2007).

Interdependencies of conditions regarding holistic systems or sets are facilitated through set-theoretic methods of social sciences, specifically QCA research approaches (Schneider & Wagemann, 2012). Qualitative comparative approaches regard the conditions (BIC) for an outcome (board role fulfilment) as components of interrelated structures and not as entities examined in isolation. Set-theoretic methods consider the holistic environment by (1) identifying which cases belong to which sets through membership scores, (2) considering relations between social phenomena as set relations and not individual relationships and (3) interpreting the nature of the

set relationships in terms of sufficiency (SUIN) and necessity (INUS) conditions (Schneider & Wagemann, 2012). The research concerning BIC and board role fulfilment was conducted using fsQCA that considers full membership and non-membership and allows for point(s) of indifference indicating a degree of presence or absence of the concept. Fuzzy-set qualitative comparative analysis collects data about cases (NPOs) in the target population and calibrates each case based on a specific set of characteristics. Based on the characteristics of such a case, the case is deemed to belong to a particular set of cases or not. As a method, fsQCA then constructs truth tables and deduces complex, intermediate and parsimonious solutions. Fuzzy-set qualitative comparative analysis is specifically used where measures of uncertainty tend to be less standardised and more closely related to judgement by the researcher than in more quantifiable statistical approaches (Schneider & Wagemann, 2012). Fuzzy-set qualitative comparative analysis was deemed most appropriate for the specific research as the BIC and board role fulfilment are believed to have varying degrees of prominence and uncertainty across sets (NPOs). To achieve the objective of determining the BIC components of board role fulfilment with the use of fsQCA, the researcher made use of primary data with the specific aim of understanding the context of each case (NPO) and calibrating each case accordingly in terms of BIC and board role fulfilment.

Case selection and data collection

The target population of potential cases was defined as NPOs that operated within South Africa and were registered with the Department of Social Development as voluntary associations with the objective of providing social services. Registration with the Department of Social Development was crucial as it necessitated the existence of a BOD, which was the minimum requirement for the research. Voluntary associations with the objective of social services were chosen as these organisations represented the largest group of NPOs in South Africa. Lastly, the age of the registered NPOs was considered because the life cycle stage of an organisation is known to affect the activities of the BOD (Simon, 2001). For the research, NPOs older than seven years were considered as these typically constitute mature organisations in the context of NPOs. Case selection in fsQCA does not typically involve a so-called statistics-style sampling procedure. Cases must be selected purposefully to display some variation in aspects such as the conditions and outcomes but must also control for specific features in a quasi-experimental way by controlling for standard background features (Ragin, 2000). An umbrella NPO that provides advisory and managerial oversight and support to multiple independent NPOs in South Africa provided access to a relevant group of NPOs for case selection. Purposive and, more specifically, judgement sampling was used to select specific NPOs within the group of organisations (Schindler, 2022). The number of cases selected for fsQCA is expressed as a function of the number of conditions (number of cases = $2^{\text{number of conditions}}$), namely HC, SC, STC and CC, and equated to 16 (De Villiers, 2017).

The researcher selected the specific cases (NPOs) in consultation with the management body of the umbrella NPO. A micro-meso-macro distinction was considered while selecting cases of NPOs. Exploring cases from macro-, meso- and micro-levels enriched the case knowledge and enabled case diversity, specifically on two levels, for the NPOs and their board members. Firstly, concerning the macro- and meso-level, the operational context of the NPO displays its own physical, psychological, social, economic and political characteristics, each of which intertwines with the others. Secondly, the micro-level of distinct attitudes, beliefs and behaviours of individual members of the BOD of each NPO added to the initial complexity in macro- and meso-level cases (Byrne et al., 2012).

A mixture of primary data methods was used to develop a deep case understanding for each of the 16 selected cases. The combination of data collection methods included surveys and focus groups. The first round of case exploration required data that would provide extensive insight into the specific case (NPO), its operational context, the BIC components and board role fulfilment. Telephonic interviews were conducted with the manager of each NPO to introduce the research, explain the need for the data collection and the collection process and gain buy-in for the research. The telephonic contact with management ensured respondent cooperation and aimed at eliminating the typically low response rate of e-mail surveys (Babin et al., 2012). Upon agreement, the manager of the NPO distributed self-administered questionnaires via e-mail to the members of the BOD.

The primary focus of the e-mail survey was to collect data that provided deep case knowledge of the selected NPOs. Firstly, information about the NPO's historical and current context and characteristics was considered. The number of operational years, yearly budget, number of beneficiaries that directly benefit from the services provided, number of paid staff, number of volunteers and province and region where the NPO operates were assessed. Secondly, specific to the BOD of the NPO, individual demographic characteristics were collected, such as age, gender, level of education, total years' experience as a member of the BOD of non-profit and for-profit organisations, occupation and income level. Thirdly, BIC and board role fulfilment were assessed using items from previous research (Table 1). Human capital considered formal education level and field of studies. The specific institutions where formal education was received were also considered as part of HC (Johnson et al., 2013). General business experience, as well as board-specific skills and experiences, such as risk management, marketing management, human resource management and innovation and strategic management, was also considered for HC (Castanias & Helfat, 2001). Social capital concerned with intra-board and board management SC was evaluated following Hyatt and Ruddy (1997) through statements such as 'the board members willingly share information with one another' and 'there is commonality of purpose in the board of directors'. External

TABLE 1: Operationalisation of board intellectual capital and board role fulfilment.

Components	Questionnaire elements	Measures	Sources
Human capital	Knowledge, education, field of study, institution of study	Counts and frequencies	Johnson et al. (2013)
	Experience functional and general	5-point Likert scale	Castanas and Helfat (2001)
Social capital (intra)	Intra-board social capital and intra-board-management social capital	7-point Likert scale	Hyatt and Ruddy (1997)
Social capital (extra)	Bridging, external individual ties (number and nature of the relationship)	Count and frequencies	Leana and Pil (2006)
Structural capital	Processes, procedures, policies	7-point Likert scale	Bontis (1998)
	Number and type of committees	Count and frequencies	Nicholson and Kiel (2004)
Cultural capital	Individual values and norms fit with group values and norms	Count and frequencies	Barrett (2012)
Monitoring role	BOD self-evaluation of role	7-point Likert scale	Wan and Ong (2005); Gkliatis (2014)
Resource provision role	BOD self-evaluation of role	7-point Likert scale	Wan and Ong (2005); Gkliatis (2014)
Advisory role	BOD self-evaluation of role	7-point Likert scale	Wan and Ong (2005); Gkliatis (2014)

Note: Please see the full reference list of this article, Mulholland, H., & Human, G. (2025). Who do you know, or what do you know? Board intellectual capital components for non-profit board role fulfilment. *South African Journal of Business Management, 56*(1), a4696. https://doi.org/10.4102/sajbm.v56i1.4696, for more information.
BOD, board of directors.

individual ties, or external SC, were incorporated in the evaluation of SC by requesting specific information on external ties to education bodies, governmental institutions, and other community organisations. Exact details on the number of institutions, their names, years of affiliation with the institutions and the nature of the ties were collected. For STC, 15 scale items were used to gain insight into the processes, procedures and policies of the BOD (Bontis, 1998). Specifically, items such as 'board processes support the work of the board of directors', 'systems allow easy access to information' and 'board procedures support innovation' were included. Cultural capital required respondents to select 10 phrases accurately describing the BOD following Barrett (2012).

Board role fulfilment was assessed through self-evaluation by the members of the BOD. The monitoring role included items such as 'monitoring top management decision-making', 'analysing budget allocation versus performance' and 'engaging in succession planning for top managers'. The fulfilment of the advisory role of the BOD was self-evaluated by asking for responses to statements such as 'are aware of environmental trends', 'are involved in mission articulation' and 'understand current and forthcoming legislation'. Finally, the role of access to resources was considered. Specifically, items such as 'serve as a link to government agencies' and 'promote goodwill and support of stakeholders' were used following Wan and Ong (2005) and Gkliatis (2014).

A minimum of three members of the BOD were required to provide a completed response to the questionnaire for the case to be considered ready for calibration. The collected data were evaluated and offered deep case knowledge, after which a value between 1 and 7 was determined for each BIC component and board role, thus preparing each case for calibration.

Before the data could be analysed, the 16 cases were calibrated to transform measures into fuzzy-set membership scores. A qualitative, direct calibration method was used (Schneider & Wagemann, 2012). Qualitative calibration is theory guided and did not change during the calibration process. At the start of the calibration process, each concept was clearly defined for both the conditions (BIC) and the outcomes (board role fulfilment). The calibration process was further conducted over two stages. The first stage of calibration considered the individual survey responses of the members of the BOD for each case (micro-level case) for BIC and board role fulfilment together with the social and historical context of each case. The point of indifference concerning membership and non-membership was decided and applied (Schneider & Wagemann, 2012). Theoretical knowledge gained from literature and industry information in conjunction with the quantitative scales of the questionnaire was used to formulate the calibration strategies. In other words, the data collected through the electronic surveys, together with external data pertaining to the cases, were used to assign set membership (Schneider & Wagemann, 2012). Different set-membership scores were considered for each concept as the meaning of the concept, and thus, the meaning for the respective set could differ (Schneider & Wagemann, 2012). For all concepts, the qualitative anchors were decided, i.e., what constitutes full membership (1), full non-membership (0) and the point of indifference (0.5).

Upon considering theoretical knowledge and industry information, the final calibration decision criteria remained the same for all BIC and board role fulfilment (Table 2). This decision was deemed appropriate, as the selected group of NPOs was mostly homogeneous in nature. All NPOs were voluntary associations with social services as their objective. Furthermore, the NPOs were established and registered with the DSD for over seven years. The BOD of the NPOs has, therefore, been well established. The differing levels of BIC and board role fulfilment between cases were thus deemed not to reflect the difference in the setup of the NPO and the BOD but a true reflection of the nature and performance of the case. The calibration criteria were then used to tabulate the data according to set memberships in a data matrix.

Upon completing the first stage of calibration, the calibration across cases was reviewed in consultation with the management team of the umbrella organisation using a focus group. The goal of the focus group was to confirm the set scores for each case in relation to one another. The management team of the umbrella organisation consisted of experts in the NPS with specific knowledge of the 16 NPOs. The set memberships for each component and outcome were evaluated across the 16 NPOs and adjusted where necessary.

TABLE 2: Calibration decision criteria.

Scale point from	Scale point to	Set membership score
6.55	7.0	1.0
6.01	6.5	0.8
5.55	6.0	0.6
5.01	5.5	0.4
4.01	5.0	0.2
1.00	4.0	0.0

The focus group provided an enriched understanding of each case but was specifically valuable for the cross-case comparison (Byrne et al., 2012). Ethical approval was obtained from the research institution before engaging in data collection to ensure the privacy and safety of the respondents.

Data analysis

The calibrated set scores were used to construct the truth tables for each board role with the BIC components. The truth table is a data matrix comprising $2^{\text{number of conditions}}$ rows. Each row within the truth table displays a specific combination of conditions and the result of the combination on the output, as well as the number of cases for which that particular combination delivered that specific output. The truth table lists all possible combinations of conditions, with some rows showing many, some only a few and some no empirical cases that displayed these combinations (Leischnig et al. 2014).

The truth tables were considered from two perspectives. Firstly, the truth tables were viewed from a descriptive perspective to highlight potential core similarities across cases that differed in their case demographics and context. Secondly, these cases' narratives were examined comparatively to discover descriptive results and inform solution terms (Byrne et al., 2012). The frequency and consistency of the BIC components for each board role were assessed (Ragin, 2006). Frequency considers the extent to which the combination of conditions was represented empirically. Typically, the frequency cut-off, defined by the researcher, ensures that the assessment of subset relations only occurs for configurations that exceed a specific number of cases. Low-frequency cases are, therefore, deemed logical remainders as they are considered not to have substantial enough empirical evidence (Leischnig et al., 2014). The frequency cut-off for the study was set at 1, which is appropriate for research with fewer than 50 cases (Ragin, 2006). Consistency assesses the extent to which the cases sharing a given causal condition or combinations of causal conditions agree in exhibiting the outcome in question (Ragin, 2006). Consistency is calculated as the number of cases sharing a given combination of causal conditions and outcome divided by the number of cases that exhibit the same combination but do not show the outcome. The minimum acceptable consistency level was 0.80 (Rihoux & Ragin, 2009). The intermediate and parsimonious solution terms were calculated for all three board roles. In the context of NPOs, it was deemed unnecessary to consider the complex solution terms, as resources are typically scarce in terms of the BOD of NPOs. Although accurate, the complex solution terms would most likely not be practical or useful.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Stellenbosch University Research Ethics Committee (No. ONB-2020-13186).

Results

The results of the fsQCA must be placed in the context of the specific NPS and NPOs. The findings from the deep case exploration across the 16 registered social services voluntary association NPOs in South Africa indicated that all NPOs have been in operation for more than 7 years. More specifically, most NPOs have been operational for over 20 years and were all in the maturity life cycle stage. The yearly budget of the selected cases was more than R1 million, with some as high as R24 million. Permanently employed staff varied between 5 and 500 individuals across the NPOs, with the number of volunteers varying between 5 and 100. The NPOs all serve large communities, ranging from 200 families in some cases to over 3000 individuals in others.

Specific to the BOD of the selected cases, the size of the BOD for all cases ranged between six and eight members, with most of the members being male (72%) and over 50 years old (80%). More than half of the members (53%) of the BOD across the 16 NPOs reported a gross monthly income above R35 000.00. Furthermore, most members of the BOD in the sample received formal education. More specifically, 56% of the respondents held a postgraduate qualification, primarily in business management and accounting. Most respondents only served one NPO as a member of the BOD. The maximum number of NPOs that a single respondent served as a member of the BOD was four. The average number of years of experience as a member of the BOD in the NPS of South Africa was 14 years, with the maximum equating to 40 years. Very few respondents served as members of the BOD of for-profit organisations, and the total number of years of experience within the for-profit sector as a member of the BOD varied drastically between respondents, with the average being 10 years. All respondents indicated that their roles as members of the BOD were voluntary, for which no compensation was received. In the context of the deep case analysis for each of the 16 NPOs, the truth tables were considered for the fsQCA analysis.

The truth tables for each board role were considered separately. For each truth table, cases in the same configuration cluster were reviewed and found logically and practically equivalent (Rihoux & Lobe, 2012). The truth table for each board role was then interrogated for contradictory configurations, where the board role was present and absent, and no conflicting configurations were found (Rihoux & Lobe, 2012). Further, no conditions were found to be necessary for the monitoring, resource provision or advisory roles of

the BOD of NPOs. For all three board roles, the parsimonious and intermediate solution terms were identical (Table 3).

Board intellectual capital configurations for the monitoring role

Two sufficient conditions for the monitoring role of the BOD were calculated. The fsQCA analysis proved that HC or STC were sufficient conditions for the monitoring role of the BOD. The solution coverage and consistency for the monitoring role were above 0.8 (Ragin, 2006).

Firstly, HC was found to be sufficient for the monitoring role of the BOD. As the BOD is ultimately responsible for adherence to legal standards, among other things, the HC is often seen as critical in fulfilling the monitoring role (Miller-Millesen, 2003). Furthermore, regarding subject-specific knowledge and experience of the BOD in the for-profit sector, HC is typically associated with higher levels of governance (Heracleous & Luh Luh, 2002). Because HC is multifaceted and extends further than education and knowledge or organisational-specific experience, it could be valuable in the context of the NPS to consider and explore the different components of HC further for the monitoring role of the BOD.

Secondly, STC was sufficient for the monitoring role of the BOD of NPOs. Structural capital provides policies, procedures and processes for decision-making, which is the essence of the monitoring role of the BOD (Rose-Ackerman, 2017). What is, however, essential to note in the context of NPOs is that STC, on its own, without the presence of HC, was found to be sufficient for the monitoring role of the BOD. This finding could suggest that fulfilling the monitoring role of the BOD is possible without the need for members of the BOD to be highly educated or experienced. In a resource-scarce environment such as the NPS, where it remains difficult to attract and retain members of the BOD, the sufficiency of STC alone in terms of the monitoring role could prove valuable.

When multiple sufficient causal paths exist, Ragin (2006) indicates that the coverage between the paths provides an estimate of the empirical importance of each path, with higher coverage indicating the importance of the causal configuration. For the monitoring role, the unique coverage of STC (0.77778) was higher than HC (0.488889). Thus, even though both configurations were sufficient for the monitoring role, STC was deemed most appropriate for fulfilling the monitoring role (Ragin, 2006).

TABLE 3: Summary of fuzzy-set qualitative comparative analysis.

Solution terms	Raw coverage	Unique coverage	Consistency
Monitoring role † (= Human capital + Structural capital)			
Human capital	0.488889	0.0888889	0.956522
Structural capital	0.777778	0.3777780	0.897436
Advisory role ‡ (= Human capital + Social capital)			
Human capital	0.589744	0.051282	1.000000
Social capital	0.794872	0.256410	0.815789
Provision of resources role § (= Human capital + Social capital x Structural capital)			
Human capital	0.558824	0.0882352	0.826087
Social capital*Structural capital	0.735294	0.2647060	0.892857

†, Solution coverage = 0.866667, Solution consistency = 0.906977.
‡, Solution coverage = 0.846154, Solution consistency = 0.825000.
§, Solution coverage = 0.823529, Solution consistency = 0.848485.

Board intellectual capital configurations for the advisory role

The fsQCA analysis for the advisory role of the BOD presented HC or SC as sufficient conditions with a solution coverage (0.846154) and consistency (0.825) above 0.8 (Ragin, 2006). Although found to be a sufficient condition for the advisory role of the BOD of NPOs, HC remains elusive in the literature. Furthermore, when considering the coverage of the multiple sufficient conditions of the advisory role, SC was deemed most appropriate with higher unique coverage than HC (Ragin, 2006).

Social capital, as a sufficient condition of the advisory role of the BOD, was consistent with research in the for-profit sector. Social capital in the for-profit sector affects decision-making differently depending on the risk associated with the decision (Jebran et al., 2022). Furthermore, internal and external social capital affect decision-making differently in the for-profit context and could necessitate different requirements from advisory groups (Van Den Heever & Venter, 2019). Internal SC, which focuses not only on the relationships between the members of the BOD but also between the members of the BOD and the management team, could offer a potential explanation as to why SC is deemed sufficient for the advisory role of the BOD of NPOs. However, the nature of SC in all its sub-elements will need to be explored more to understand how SC is sufficient for the advisory role of the BOD of NPOs (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998).

Board intellectual capital configurations for the provision of resources role

Human capital, or the combination of SC and STC, was found to be sufficient for the provision of resources role of the BOD of NPOs. The unique coverage of HC (0.0882352) was much lower than the SC and STC configuration (0.264706). Thus, the SC and STC configuration was deemed most appropriate for the provision of resources role of the BOD (Ragin, 2006).

Social capital, specifically individual external SC, is concerned with the relationships of the members of the BOD with stakeholders outside the organisation (Nicholson & Kiel, 2004). Such relationships typically allow for resources to become available that would not have been available to the NPO otherwise. The number of ties or relationships and the nature of such relationships contribute to SC and could be understood further (Adler & Kwon, 2002; Nahapiet & Ghoshal, 1998). The configuration of SC in conjunction with STC as a sufficient configuration for the provision of resources is in line with Adler and Kwon (2002), who suggest that one of the ways that SC is developed is through structural opportunities. Bontis (1998) further states that STC enables HC and SC by turning individual knowledge and connections into organisational value. It could be interpreted that internal

and external relationships (SC) must be fostered through organisational processes, policies or committees to deliver benefits to the NPO.

Consolidation of results and recommendations

It is important to note the low levels of CC across the sample of NPOs. The low levels of CC in the results as a BIC condition confirm the gap in literature and practice concerning CC and the BOD. Cultural capital was concerned with the degree to which the members of the BOD share group values and norms (Nicholson & Kiel, 2004). According to Barrett (2012), agreement on individual values does not indicate agreement on the group level of consciousness. For the 16 selected NPOs, some overlap of personal values was found, but very little agreement on group values and norms was present. Furthermore, for the BOD of NPOs where shared group values were present, these values were concerned with the internal operational task and not with internal and external collaboration or society at large (Barrett, 2012). Considering the lack of research about CC at the group and board level, the reason for this finding remains elusive. It is, however, agreed that culture impacts all stakeholders and is further argued to impact specifically innovation (Jaskyte & Holland, 2015). Thus, it is imperative that the CC of the BOD of NPOs at the group level be understood and explored further.

The results of the fsQCA analysis were consolidated into a conceptual framework of BIC and board role fulfilment for NPOs (Figure 1). Human capital proved sufficient for all three board roles but had low unique coverage and was thus less important. An accumulation of greater HC (knowledge, skills, education and work experience) is generally agreed to be better for the individual and the organisation(s) in which the individual applies their HC. Such benefits include improved task performance and greater organisational efficiency (Becker & Gerhart, 1996). Human capital specific to knowledge acquired from formal learning and education for the 16 NPOs was of a high level, with all members at least having completed secondary school and most members of the BOD of the NPOs having postgraduate qualifications. It could, therefore, be suggested that the capability of the BOD of the NPOs was high. However, general business experience across business functions was much lower for the sample. More specifically, experience in terms of marketing and fundraising was lacking for most of the NPOs. This lack of experience could indicate that the members of the BOD of NPOs do not regularly expand their embedded, learnt knowledge. Nicholson and Kiel (2003) specifically argue that embedded knowledge alone is not sufficient but must be able to be applied to the decision-making process of the BOD. If the informal knowledge of the members of the BOD in terms of general business experience across business functions is lacking, it could hinder the application of HC in the decision-making processes of the BOD.

Regardless of the low unique coverage, HC should not be disregarded completely (Heracleous & Luh Luh, 2002). The relationship between SC and HC should be noted. Lin

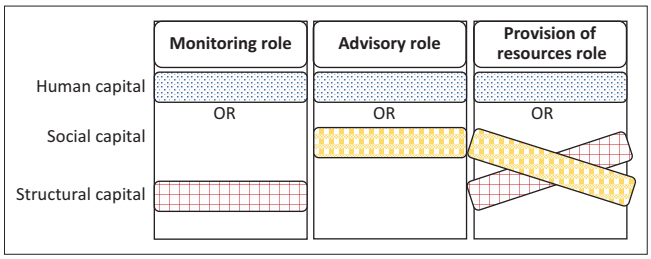

FIGURE 1: A conceptual framework of board intellectual capital components for non-profit board role fulfilment.

and Huang (2005) found that HC plays a role in the development of SC. Kwon and Adler (2014) propose that SC is generated in three ways, namely (1) structural opportunities, (2) motivational norms and values and (3) personal abilities. Human capital is thus associated with SC, as it is one of the ways that SC is developed. To differently put, the amount of SC an individual can accumulate is related to skills and competencies or so-called benefits that the individual has to offer in the network (Kwon & Adler, 2014). Han et al. (2014) further this argument by stating that knowledge variety and disparity are antecedents to SC. More specifically, diversity in HC was positively related to the bridging part of SC, as the members of the BOD will form external ties (bridging) with different individuals or groups based on their diverse HC. The relationship between HC and SC should thus be further explored to understand how the HC of an individual member and the group's combination of HC could influence SC development. Backes-Gellner and Moog (2013) further argue for HC variety by stating that not only is there an interplay between HC and SC, but that a more balanced HC and SC is more beneficial than purely aiming for greater HC. It is argued that a jack-of-all-trades approach concerning HC and SC could be more beneficial.

Further to the HC and SC relationship, SC should also be explored further independently, as SC was sufficient for the advisory and provision of resource role of the BOD. Social capital is a multi-dimensional construct, and the contribution of intra-board SC, board-management SC and external SC in relation to board role fulfilment could be explored further. Apart from the type of SC and the amount of SC or networks, more insight into the nature of the connections could be explored to determine whether certain types of associations could benefit the BOD as a group. For instance, SC, specifically team-bridging SC, has been found to mediate the positive relationship of HC variety towards the creativity of the BOD if the intra-board SC, or bonding SC, is already high (Han et al. 2014).

Structural capital also proved sufficient for board role fulfilment, specifically the monitoring role and the provision of resources role of the BOD. Structural capital is argued to be the enabler of all other components of intellectual capital. Without STC, HC and SC are limited in delivering on their full potential in terms of decision-making (Bontis, 1998). Structural capital further transforms individual capital, such as knowledge and networks, into group property, which

allows individual capital components to become useful to the BOD and the organisation (Bontis, 1998). Structural capital was evaluated as mostly present for all 16 cases, consistent with previous research suggesting that STC is more consistently present in organisations in the maturity life-cycle stage (Chang & Hsieh, 2011). The maturity life-cycle stage of an organisation is typically characterised by strategies pertaining to protecting established operations (Chang & Hsieh, 2011). Even though formalisation and control through bureaucracy are often observed in the maturity life-cycle stage of organisations, this did not seem to be the case for the 16 NPOs. It could, however, be useful for future research to explore how and when this bureaucracy forms to prevent STC from becoming a hindrance to board role fulfilment.

Even though the STC of the BOD of the NPOs was primarily high for the observed cases, the use of committees to assist in the decision-making of the BOD was inconsistent and generally lacking. Board committees are used within the for-profit context where legislation necessitates. For example, it is legally required that public companies appoint an audit committee with at least three independent, non-executive board members. Board committees in the for-profit sector are said to provide benefits in terms of specialisation, efficiency and accountability (Chen & Wu, 2016). Within the NPS, research on board committees and their relationship to board or organisational efficiency is lacking. Further exploration of the potential benefits, structure and types of board committees for NPOs could prove insightful.

Conclusion

South Africa is battling various complex issues, and its NPS is arguably at the forefront of addressing these challenges. Unfortunately, while the challenges the NPS face are increasing, research into the NPS and, specifically, the BOD remains limited. This study contributed to filling this gap by examining BIC components for non-profit board role fulfilment. By adopting a holistic, case-based approach facilitated through fsQCA, this research provided novel insights into the collective functioning of BODs in South African NPOs. Treating BODs as collective cases allows for diverse solutions that do not rely on specific individual traits but rather on the overall capacity of the BOD. Future research into the BOD should consider adopting case-based, qualitative comparative methods to capture these complexities and enhance strategic decision-making.

The limitation of the research presented itself in the selected sample. The chosen organisations were registered NPOs in the maturity life-cycle stage with the objective of social services. The results could prove very different from those of NPOs in earlier organisational life-cycle stages. It is suggested that similar research be conducted in future for younger organisations as well. The objective of the NPOs, which were social services, should also be extended to consider NPOs with differing objectives, such as education, advocacy, etc. The complexity and heterogeneity within the NPS suggest that the BIC components for board role fulfilment could be very different in these different environments. Furthermore, most NPOs in South Africa are registered as voluntary associations, which was also the main focus of the research. As a result, very little is still understood about other types of organisations, such as non-profit trusts or non-profit companies in South Africa. It is suggested that research into BIC and board role fulfilment should also be extended to these types of NPOs.

Finally, while HC has traditionally been prioritised in non-profit board composition, this research highlighted the relative importance of SC and STC over HC for fulfilling board roles. Specifically, the results suggested that fulfilling the three roles of the BOD is possible with sufficient SC and STC. Over-reliance on HC, particularly in the form of knowledge and formal education, can limit board member availability and diversity, especially in unpaid volunteer roles. The findings emphasised the importance of 'who you know' over 'what you know', suggesting a shift in focus towards SC and STC components for non-profit board role fulfilment within South Africa.

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Author's contributions

H.M. conceptualised the article and prepared the draft manuscript, including the methodology and data analysis. H.M. edited and finalised the manuscript. G.H. was involved with the supervision of the research study.

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Data availability

The data that supports the findings of this study are available from the corresponding author, H.M. upon reasonable request.

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