Contextual factors impacting on research performance at a young Australian university

This thesis is presented for the degree of
Doctor of Philosophy

Johann P Groenewald

Master's in I/O Psychology (UNW)
Master's in Business Administration (USB)

Edith Cowan University
School of Education
2020

Use of the Thesis

The Use of Thesis statement is not included in this version of the thesis.

Abstract

High-quantitative and quality research performance is critical to the reputation and success of a university and plays a vital role in developing the socio-economic status of a country. There is, however, limited knowledge about the contextual factors that impact on research performance, especially in universities that are new or not yet research-intensive. One such young university is the Another New Research University (ANRU), the setting for this research. To become competitive and sustainable, especially young universities, need to increase both the quality and volume of their research to improve research performance.

The purpose of this qualitative study was to identify and explore which contextual factors impacted on academics' research performance at ANRU. The research drew on organisation development and phenomenological theoretical perspectives to make sense of the socially constructed realities of the participants' lived experience of their research work. A purposefully selected stratified sample of 31 participants was interviewed to explore their experiences of research. The participants included research-active academics and research leaders from both the Humanities and the Natural Sciences Executive leaders were also included as participants. Academics from the departments in the Humanities (DOH), Sciences (DOS), and leaders (RLC) provided three datasets. The transcribed datasets were analysed using Interpretative Phenomenological Analysis (IPA) as the primary technique supported by analysis techniques advocated in grounded theory.

Reported experiences led to the identification of three contextual themes, namely: *personal*, *work* and *external contexts.* These contexts comprise 11 contextual factors in total from the three independent cases. Participants rank-ordered these factors to indicate which three factors most facilitated, and which three factors most hampered, their research. The three most facilitating factors, overall, were the *personal profile*, *academics' interactions*, both from the *personal* contextual theme, and *community impact* from the *external* contextual theme. In contrast, the factors that constrained research performance the most, namely *financial resources*, *work content*, and

environmental capability were all from the *work* contextual theme. Data from the six high impact factors revealed distinct differences amongst the different academic levels and between the two broad disciplines. The *contextual work* theme highlighted the most apparent differences.

Not only did the study contribute new insights about the *personal context* and *external context* to the commonly studied *work context* domain, but it also highlighted the potential and compounded impact that these three contexts could have on research performance. Experiences reported by the participants led to insights about the wellbeing of academics being affected by role identity issues and competing demands. These role identity issues were mainly because of approach-approach conflicts amongst professional, teaching and research sub-identities nested in the academic role.

The results from this research have allowed the development of a theoretical framework and a high-performance adaptive model that could guide the implementation of comprehensive and integrated strategies to improve research performance at mainly young universities.

Keywords: contextual factors, research performance, nested identity, high-performance, personal context, work context, external context, academic wellbeing, competing demands

DECLARATION

I certify that this thesis does not, to the best of my knowledge and belief:

i. incorporate without acknowledgment any material previously submitted for a degree or diploma in any institution of higher education;

ii. contain any material previously published or written by another person except where due reference is made in the text of this thesis; or

iii. contain any defamatory material

[redacted]

Signature:

ACKNOWLEDGEMENTS

I gratefully acknowledge all contributions and support throughout the study as follows:

All the glory and recognition for the grace of God in this work.

- Vadie *(posthumus)* and Moedie for the instilled value of education. Greta's patience, support, and graciously putting up with denied "us time", all my family and friends for support throughout this journey.
- Prof CL (Chris) van Tonder for many years of philosophical discussions and reflections on applied psychology, organisational psychology and organisation development and change. Professors Lynne Cohen and Mark Stoney for the much-needed direction. Dr Ross Yates for the final push into the PhD candidature pool and Dr Jo McFarlane, who was a coach and communication adviser *par excellence* throughout the study.
- Colleagues for their interest and active listening, sometimes, silently humouring my contentedly rambled sensemaking attempts.
- All the respondents who openly shared their inner thoughts and feelings, which shaped this research, with a stranger.
- Francina Whitmore for careful, meticulous, and detailed formatting support.
- Emeritus Prof Mark Hackling (supervisor) for a quick grasp of what I had in mind, cutting out the fluff, allowing guided autonomy, passion for the topic, being a mentor, and extraordinary guidance support and patience.
- Associate Prof Glenda Campbell-Evans (principal supervisor) for taking me on as a student, providing time under immense workload pressure, directional questions, patience, and support.

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Chapter 1: Introduction

1.1 Background

The quality and quantity of research performance are critical to the reputation and success of a university. Research is a core mission of universities generating new knowledge, attracting grants, and driving universities' contribution to socio-economic development (Pinheiro et al., 2019; Pinheiro et al., 2015). Research performance builds a university's reputation, and this attracts international collaboration and better researchers, which creates an even more reliable university reputation (Kwiek, 2020a, 2020b). This reputation attracts more students who provide financial resources to strengthen the institution and the opportunity for increased research performance (Federkeil, 2009; Munisamy et al., 2014).

In their pursuit to build and maintain a reputation, universities and academics grapple with the changes in funding regimes, their expected roles, commitment to research and their research performance (Billot, 2010). It is in universities' interests to focus efforts on improving individuals' research performance since there is ample evidence that organisations with higher-performing employees are higher performing organisations (Brewer & Selden, 2000; Markos & Sridevi, 2010). Ellemers et al. (2004) further, argue that high performing individuals who contribute to team performance result in higher-performing organisations. By implication, researchers with higher research performance, if working in a team will contribute even more to a performing research university.

Researcher behaviour and performance are impacted by contextual factors and changes to these factors, such as government funding regimes (Johns, 2006; Noonan, 2015; Rørstad & Aksnes, 2015). This impact of contextual factors and that of individual attributes on research performance are, however, not adequately researched or recognised by administrators and researchers in higher education institutions (Brew et al., 2015; Diezmann, 2018; Hardré & Cox, 2009; Johns, 2006; Noonan, 2015; Rørstad & Aksnes, 2015). Pertinent questions may be

which contextual factors and individual attributes hinder or facilitate research performance; and how do they impact research performance?

The research performance of research-intensive and some mature universities is evident from their high positions on research and reputation (Douglass, 2014). The generational diversity of universities is shown by older well-established research universities that traditionally achieved research success vis a vis a young university with less of a rich research history that struggled to perform well in research Diezmann (2018). Young universities for this study are defined as universities less than 50 years old which are typically lower on the ERA index like ANRU. Usually, young universities are less competitive, and there is a growing gap between established research-intensive universities and young universities (Beerkens, 2013). To become more competitive, especially young universities, need to improve their research performance on the key performance indicators for research productivity (Agasisti & Haelermans, 2015; Hanover Research, 2015; Ramirez, 2010). This research performance problem also seems to be a complex and multifaceted organisation-wide issue. Organisation Development, a meta-theory, with its multifaceted theoretical approach, will thus be a fitting theoretical framing for the study.

1.2 Problem statement

From the background, it is evident that a high volume of good quality research performance is crucial for the reputation (Miotto et al., 2020) and sustainability of universities. However, not all universities succeed in this endeavour, suggesting there is no simple recipe for achieving and sustaining high quality and quantity research performance. The research literature is quite limited in what it has to say about a coherent framework of contextual factors influencing research productivity (Teodorescu, 2000); this situation did not improve with respect to validated factors or coherent frameworks. However, in an attempt to establish the common strategies employed by universities to enhance research productivity Diezmann (2018) not only identified the commonly utilised strategies but also found that these strategies fit into the bio-ecosystems theory of Bronfenbrenner (1977). The limited research literature about research performance

amongst and particularly young universities could be due to context largely being neglected in organisational behaviour research, the complexity of context, the themes chosen and constructs not being well defined (Johns, 2006). Contextual variables impacting on research performance are nation-specific because they can be heavily impacted by strategic government interventions and are interconnected and complex (Panat, 2014). Institutional factors are widely cited (e.g. Suson et al., 2020) without specifying external factors. The researcher contends that external factors could influence, be influenced, and create a contextual social environment that should be specified in a coherent framework.

Contextual factors and complexity are addressed in the literature and research has generated some useful models, such as Finkelstein (1984, 2006), Creswell (1985), Dundar and Lewis (1998), Teodorescu (2000) and Brocato and Mavis (2005). These models are, however, not specific enough to lead further improvement of a faculty's research productivity and lack comprehensiveness for young universities in Australia (Bland, Center, Finstad, Risbey, & Staples, 2005; Harman, 2005a).

Contextual factors lacking in existing frameworks are factors such as the influence of the external environment, (e.g. government policy) internal contextual factors such as institution-specific mission, strategies, and the specific contextual factors or uniqueness of individual institutions, such as organisational identity, that influence structures and performance (Mintzberg, 1983; Pyne, 2015; Van Tonder, 2011). Le Deist and Winterton (2005) indicate that individuals are engulfed with work context factors which impact on their competence and research performance, albeit that Wissing et al. (2002) found that not many researchers attributed low research performance due to the lack of their capabilities.

Especially young universities struggle to become competitive even with the available identified knowledge of specific research performance factors that contributes to an understanding of institution-specific differences in performance, and what is needed to be a productive research institution in an increasingly competitive environment (Cattaneo, Meoli, & Signori, 2014). There are still unanswered questions concerning those contextual factors that enable and/or hamper research performance, particularly in young universities. Thus, the problem

is that the contextual factors that enable and/or constrain research performance in mainly young universities are neither fully understood nor integrated into a framework. Such a framework could be used as a basis for interventions within young universities, such as Another New Research University (ANRU), which will be the focus of this research.

1.3 Rationale

Commercial organisations are regularly in a competition that drives their productivity and make them financially successful (Auranen & Nieminen, 2010; Judge & Hogan, 2015). Unlike commercial organisations, a university's success is more likely to be measured by its status, defined as reputation stemming from rankings, which is mostly dependent on the funding from government, industry, students and research. This funding is invested in further research, niche study markets and facilities that influence the perception of status. Research performance is, however, an aspect that can be influenced by a university to attract funding and researchers to increase its status and success (Auranen & Nieminen, 2010; Harman, 2005a; Ramirez, 2010).

The need for reputation, which could drive improved research performance is exacerbated at young universities in an increasingly more competitive era, impacted by tighter funding regimes and higher education reform legislation. Universities, handicapped by a lack of research performance and funds, could find themselves delivering poorly on their core missions and become obsolete or absorbed by more successful, higher education institutions (Houston, Meyer, & Paewai, 2006; Noonan, 2015; Rusu & Avasilcai, 2014).

The globalisation of the university sector with easy to access rankings of research performance also results in amplified competition for doctoral students and recognised researchers (Sinclair, Barnacle, & Cuthbert, 2014) whom, when appointed, contribute to research performance and raise the reputation of a university.

Johns (2006) asserts that the impact of context, which has a controlling and defined effect on performance in general, is not adequately recognised or appreciated in organisational behaviour studies. This recognition of context is even

less so in higher education institutions and needs comprehensive qualitative research as a departure point, amongst others for those characteristics that shape a researcher identity (Brew et al., 2015; Hardré & Cox, 2009).

An integrated framework and approach are needed to be successful in these highly competitive and hard economic times. This framework should be the foundation for applicable integrated approaches and interventions to improve research performance continuously. This framework should include all the internal and external contextual factors that hamper or facilitate research performance on individual, discipline, faculty and institutional level (Bland et al., 2005). Further research is required to explore how these contextual factors impact academic research performance. Research performance could improve competitiveness for funding, improve reputation, attract researchers and students and eventually improve the sustainability of young universities such as ANRU and the socio-economic status of Australia (Douglass, 2014; Landabaso, 2014).

1.4 Purpose

The primary purpose of the proposed study was to explore the contextual factors that impact on research performance at Another New Research University (ANRU). The research was conducted through a qualitative approach with semi-structured interviews exploring research-active academics' experience of research within two broad discipline areas. Research-active academics were identified as those that were awarded research performance points in the preceding three years. The findings were to inform the development of an integrated and holistic framework concerning how contextual factors' impact on research performance at ANRU.

1.5 Research questions

The overarching research question is: How do contextual factors impact research performance at ANRU? Subsidiary questions flowing from the overarching question are:

1.5.1 Research question 1

How do research leaders and active researchers perceive the impact of external and internal contextual factors on research performance at ANRU?

1.5.2 Research question 2

How do research leaders and active researchers, from different appointment levels and disciplines, vary in their perceptions of contextual factors impacting on research performance at ANRU?

1.5.3 Research question 3

Which of these contextual factors do research leaders and researchers perceive to have the most positive and/or negative influence on research performance at ANRU?

1.6 Significance

Pressures are mounting on universities for increased research performance, but not much is known about what exactly affects this performance or how to facilitate improvement. Research performance, under the auspices of productivity, performance or output, (unfortunately, not always well defined or described, and the constructs have different calculation formulae), has been studied within various frameworks and models of which some have not been tested (Bland et al., 2005). The specific factors, their interplay and interaction with context remain largely unknown (North, Zewotir, & Murray, 2011). Further research into those contextual factors that enable and/or hamper research is needed for improvement and sustained research to deliver on universities' missions, such as new knowledge development (Abbott & Doucouliagos, 2004; Brew et al., 2015).

The study could contribute new knowledge in the field by identifying those contextual factors and how it impacts on research performance in particularly young universities like ANRU. The outcome of the study could lead to a framework, developed from contextual factors as experienced by research-active academics, which can integrate and explain the impact of the various factors on each other (Bland, Center, Finstad, Risbey, & Staples, 2006). Other schools at ANRU and

comparable schools in especially young universities, like ANRU, will be able to use such a framework to inform interventions designed to lift the research performance of its academics and the performance of the university. This framework has the potential to impact positively on the creation of new knowledge and our capacity to address the economic, social and environmental challenges facing Australia.

The remaining parts of this thesis are organised into eight chapters; Chapter 2: Literature Review, Chapter 3: Methodology, Chapter 4: Results for Academic Department of Humanities, Chapter 5: Results for Academic Department of Sciences, Chapter 6: Results for the Research Leadership Cohort; Chapter 7: Ranking the Importance of Contextual Factors, Chapter 8: Cross-analysis and Discussing the Cases, and Chapter 9: Conclusion.

Chapter 2: Literature Review

Whilst the previous section outlined the rationale for the study and its research questions; the literature review provides an overview of the existing relevant literature. This overview has a specific focus on external and internal contextual factors impacting on research performance as well as a rationale for the Organisation Development (OD) theoretical foundations of the study. Theoretical lenses supporting the OD theory in this study are Systems Theory; Organisational Learning Theory; Planned Change Theory; Social Constructivism Theory; Individual, Identity and Work Theories as well as Self Determination Theory (SDT).

2.1 Overview

The role of academic institutions is to create a positive environment for the creative contribution that could enhance the economic, social and cultural development of the country (Uzoka, 2008). Research performance, especially of young universities plays a significant role in the creative contribution and success of universities. The existing literature (e.g. Brewer & Selden, 2000) holds that individual performances contribute to organisational performance. Therefore, individual research performance could contribute to school and institution research performance. The contribution of individuals is thus implicit in the adoption of widespread individual performance management systems and practices, as it is reported that the more effective the employee, the higher the effectiveness of the organisation (Brewer & Selden, 2000; Combs et al., 2006).

Research performance, which contributes to overall organisational performance, is impacted by contextual factors (Bland & Ruffin, 1992; Brew et al., 2015). A suitable theoretical lens is needed to make sense of how these contextual factors impact research performance. Organisation Development Theory (ODT), as a meta-theory, is commonly used to inform improvements to organisational performance and as such, is a suitable theoretical lens to make sense of research performance. Organisation Development Theory is discussed next.

2.2 Organisation Development Theory

Organisation theory is a way of thinking about how organisation related features can be studied from and implemented with a variety of frames namely structural, human resource, political and symbolic that provide managers with information and skills to react to organisational challenges (Daft, 1992). The researcher believes that strategic organisation development, as interventionist theory, will assist managers in acting proactively and minimise unintended consequences such as non-satisfactorily research performance.

Organisation Development is a field of study and practice discipline that is multifaceted and diverse. Organisation Development applies explicitly well to a wide array of organisational performance challenges with a variety of interventions (Van Nistelrooij & Sminia, 2010). Undoubtedly research performance is a current performance challenge for Another New Research University (ANRU). Reverse engineered Organisation Development Theory (ODT) with its variety of supporting theories, is well placed to support the exploration and sensemaking of the external and internal contextual factors that may hinder or facilitate research performance.

Organisation Development assists managers with a planned, accepted, standardised action research process, from diagnosing issues through to addressing and evaluating the corrective action in well-defined structured phases (Van Tonder, 2008). Roodt and Van Tonder referred to and analysed 18 frequently used definitions of Organisation Development and then offered the following, very comprehensive and well thought through, definition:

> OD is a scientific discipline and field of practice concerned with multifaceted change processes, primary of a planned and sustainable nature, with the purpose of enhancing the adaptive and self-renewing capabilities of organisation systems in response of, or in anticipation of shifts in stakeholders' needs or demands, as reflected by diagnostic data generated mainly through the application of behavioural science knowledge and technology and interpreted through collaborative and collective sensemaking and learning processes facilitated by (a) change agent(s) and which involve a critical mass of organisational members in a manner that will ultimately contribute to improve individual, organisational and societal wellbeing. (Roodt, 2008, p. 55)

The above definition summarises the field of Organisation Development. A more direct, though still adequate definition is provided by Scherer (2010).

> OD is the application of behavioural science, action research and systems theory to larger organisations and larger human systems, using participative processes with all those affected, with the objective of increasing the internal and external effectiveness of the organisation, especially in managing change. (p. 92)

The researcher, with due cognisance of these and other definitions, will for this study define Organisation Development as a meta-theory of people and systemic theories and practices that guides the improvement of overall organisational wellbeing, efficiency and effectiveness which integrates behaviour in structures, systems, and processes with embedded values and principles, through which the organisation collaboratively interprets and learns. This definition explains how OD draws on respected theories such as psychology, sociology, economical, and natural sciences for its application in practice. Organisation Development meta-theory thus postulates that wellbeing of an organisation can be achieved through facilitation of recognised business, people, and systemic practices based on comprehensive theoretical foundations, principles, and humanistic values.

Organisation Development practitioners are divided into two broad camps, the humanistic and task performance followers. Humanistic advocates have as an objective to develop people in the organisation to maximise performance. In contrast, task performance advocates tend to focus on meeting the goals of the organisation (Mitchell & Sackney, 2015). The latter also led to a movement of establishing yet another field description of organisation development, namely, organisation effectiveness (Martins & Coetzee, 2009). However, to be true to the holistic nature of Organisation Development and the notion of organisational wellbeing, an integrated approach is needed, such as in a socio-technical approach (Trist, 1981). Refer Figure 2.1 for a depiction of such an approach. This approach signifies the holistic, integrative nature of Organisation Development interventions, necessary to achieve sustainable research performance.

Theory and practice in Organisation Development did not change much since 1987 with the introduction of appreciative enquiry (Burke, 2018). While organisations and how they apply workers changed the erstwhile Organisation Development interventions are just ‘dressed-up’ in new clothes (Kaiser, 2018). The core principles of Organisation Development are still egalitarian inclusion,

participation, and freedom of speech to capture employee context during all the phases of change (Kaiser, 2018). Roodt and van Tonder (2008) summarised the Organisation Development discipline and practice with the core as foundations, principles and foci. This core is still premised on a shared, collective engagement of the issues, with agents of change and the client system intimately collaborating from the initial conceptualisation of the symptomatic behaviour through to the shared diagnosis, interpretation and considered collective action in response to needed change. Burke influenced the field of Organisation Development through reflective learning, strategic change, positive contributions and critique, the rigour of scholar-practitioners, leadership, and social dynamics and organisational systems perspectives (Church & Pasmore, 2020).

Organisation Development embraces a wide array of theories (Appelbaum, 1997; Lynham et al., 2004). Of those theories, the following are essential for this research, for example systems, work, organisation learning, change, social constructivism, social identity and Self Determination Theory (SDT).

2.3 Systems Theory

Systems theory is the foundation of a systemic view of organisations. A prominent figure in systems theory, Von Bertalanffy (1972) in his biology research, concluded that research into separate aspects of phenomena does not provide insight into the interaction between or amongst the parts. He suggested that to obtain a complete picture of phenomena, the method of analysis should include investigation of the interaction amongst their parts, and this approach is described as systems theory.

A university can be considered to be an integrated system consisting of technical and social systems divided into subsystems namely, technology and task subsystems, structural subsystems, and psychosocial subsystems, goal subsystem, culture, external interface and climate (socio-emotional) subsystems (Friedlander, 1977; Roodt, 2008). Both the referenced authors omitted the climate subsystem in their diagrams. Climate should be considered as it affects the motivation and mediates between the needs of the individual and task requirements (Litwin & Stringer Jr, 1968). Figure 2.1 represents an adapted

diagram of the suggested socio-technical and subsystems framework in which researchers can operate.

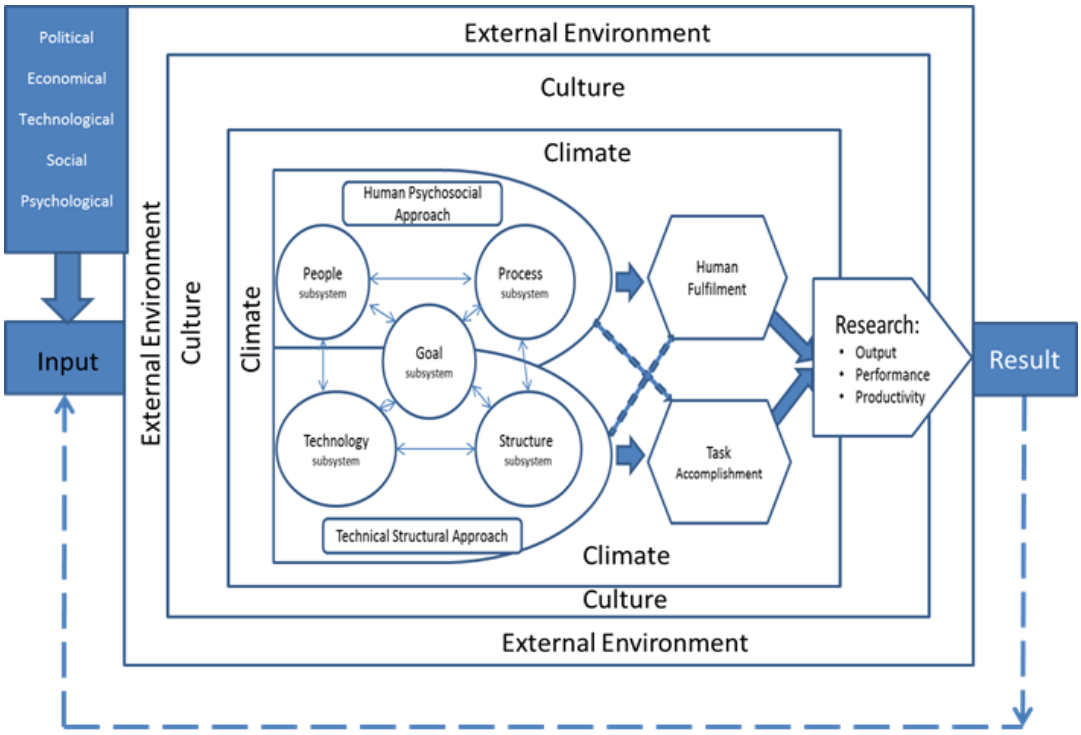

Figure 2.1: Socio-technical and Subsystems Research Framework. Based on Friedlander (1977) and Roodt (2008).

This figure illustrates the systemic nature and integrating parts of an organisation to be kept in mind in exploring organisation phenomena such as the contextual factors impacting on research performance. Senge (1994) further argued that the institutionalising of systems thinking provides the basis for the organisation's collective understanding and learning. In addition, another prominent figure (Bronfenbrenner, 1979, 1988, 2005) in the bioecological perspectives of the human being took his own theory further by applying it to study the development of the human being in context. Bronfenbrenner in his ecological perspective of human development argues that development of the individual and thus actions from the individual is an outcome of the interface between the individual and its environment and hinges on the proximal and distal distances between the individual and the environment dependent on the person, but also the context and time involved by means of five intertwined ecosystems. These ecosystems have lately been linked to how several universities apply research strategies towards research

performance (Diezmann, 2018). As such the theories and findings provide insight into the impact of the internal and external environments on academics and should explain how the factors have more or less impact on their research performance distal and proximity distances as referenced by Bronfenbrenner and Ceci (1993), King and Vaiman (2019) and Myer and Moore (2006). These integrated systems further evolved in the working environment through work design as high-performance work systems and practices (HPWS & P) that support performance (Combs et al., 2006; Rabl et al., 2014), such as organisational learning.

2.4 Organisational Learning Theory

Organisational Learning Theory (OLT) refers to organisations in which all people at all levels persistently and communally strive to produce those things they want to accomplish, most commonly, through double-loop learning (O'Neil, 1995). Whereas single-loop learning is intended for changing only outcome behaviour, double-loop learning reflects on the full process and internalises the improvement, for example, people behave in accordance with the learning, and enculturation of organisational learning takes place (Jashapara, 2003; Korth, 2000). Triple loop learning also questions the values and principles through engaging the whole system, thus supporting lasting change (Disterheft et al., 2015) and action theory as a basic premises of OD in learning from failure (Church & Pasmore, 2020; Simonin, 2017). The Bioecological theory (Bronfenbrenner, 1977, 1979, 2005) links closely to OLT and triple loop learning. This theory explains the importance of human development in interrelated systems and levels of specific contexts (Bronfenbrenner & Ceci, 1993), for example from the interpersonal context, the meso-system, to external contexts or the exo-system with reciprocal impact over time. Triple loop learning and human development are of interest in this study as it assists the diagnosing of tacit knowledge by examining the context systemically and simultaneously stimulates organisational learning (Dixon, 2017; Peschl, 2007; Simonin, 2017) for research performance.

OLT has the further aim of creating a learning organisation that could ensure quick adaptation to change when embedded. Continuous and sustainable improvement and with an apparent effect on performance are further benefits

(Murray & Donegan, 2003; Wang & Ahmed, 2003; Yeo, 2003), which is used as such in OD change initiatives.

2.5 Planned Change Theory

Change is inherent to Organisation Development (OD); hence some theorists and practitioners refer to Organisation Development and Change (e.g. Cummings & Worley, 2014). However, the researcher asserts that change is already encapsulated in the term Organisation Development, its values, principles, and practices. Organisations initiate different types of change, through new projects that introduce new systems, processes, and technology, from culture change to organisational restructurings to mergers and acquisitions. The latter introduces different team compositions and/or team interactions that require new skills and ways of working in changed conditions from both individuals and teams (Zuber-Skerritt, 2002).

As a prominent figure in social and organisational change theory, Kurt Lewin (1947), introduced a three-step approach to planned organisational change, namely unfreeze, moving or change, and refreeze. This process explains how people should be made aware of the need for change, creates a need for the specific change that is required for an autonomous or volitional perception leading to acceptance of the change (Gagné et al., 2000), institutionalising the change and then internalising and creating sustainability for the change (Kaminski, 2011). By involving people in data-gathering and through feedback, people are made aware of the situation. By creating an understanding of the need to change it lessens resistance to change (Straatmann et al., 2016) or even move them towards improved research performance.

The process of planned change includes Organisation Development techniques such as brainstorming, data-gathering and survey feedback, stimulating dialogue, sensemaking, and commitment. Various interventions and approaches should be considered and implemented in concert such as top-down and bottom-up approaches to organisational and systemic change (Davis et al., 2020), with a particular focus on the culture within the Academy for success (Greer & Shuck,

2020). Coincidently these techniques are also exemplifying social constructivism theory in practice.

2.6 Social Constructivism Theory

Some authors use the constructs constructivism, social constructivism and social constructionism interchangeably, although they are well defined and distinct different processes (Andrews, 2012).

Constructivism is the individual cognitive process of making sense of one's experiences, thus an epistemological view of 'how we know' and develop meaning (Young & Collin, 2004). Social constructivism, on the other hand, has less interest in the cognitive process, but rather how knowledge and learning are created and sustained through social interaction. It is anchored in historical and cultural experiences (Young & Collin, 2004). Young and Collin (2004) also mention that some authors use a sub-variety of the two constructs, namely, social constructionism. Social constructionism, which is proposed as a replacement for social constructivism, suggests that all sensemaking is the result of extensive social interaction aimed at creating social artefacts from and within the community (Young & Collin, 2004).

Vygotsky (1980) explains social constructivism in terms of the individual in interaction with others (social constructivism) on an inter-psychological dimension, developing solutions and then internalising (constructivism) the learning on an intra-psychological dimension. Organisational sensemaking involves social construction as the members of the organisation create new understandings and learn (Steinbauer et al., 2015). It is from these social learning processes that individuals internalise work factors, which are of interest in OD approaches for adapting work processes, habits and motivations that might improve performance. As such social constructivism is a helpful lens for organisational learning through which the lived experiences or sensemaking of academics could be interpreted and explained.

As a meta-theory Organisation Development embraces several theories that can be applied coherently for optimal impact (Schein, 2005; Wallis, 2010). The descriptions of the chosen supplementary theories highlight the meta-theoretical

framework Organisation Development provides and used to frame the proposed study. Organisation Development expertise can assist in designing interventions that incorporate these theories suited to the specific context, aspirations, and performance drives of the institution (Debowski, 2007). At this stage, it is fitting to alert the reader that several phases constitute the OD value chain; however, only the diagnosis and feedback phases fit within the exploratory scope of the study. Nonetheless, to support the interventions and ensure optimal basic needs satisfaction and thus intrinsically motivated performing employees, it is necessary to review individual, identity and work theories impacting on motivation.

2.7 The Individual, Identity and Work Theories

It is beyond the scope of the study to explore individual personality theories in-depth. However, of importance in this study is that individual behaviour is viewed as a function of personality and context. Lewin et al. (1936) formulated this behaviour function as f(PS). The formula was expanded by Bronfenbrenner (1988) to describe the ecological development of the individual as D=f(PE) and the directional effect of the person on the environment and vice versa. Furthermore, a reference to the proximity (Merçon-Vargas et al., 2020) of the environmental impact experience, or lack thereof, is crucial as it represents the context for the individual, of interest in this study. This reference also provides an alert for the importance of definitions used in surveys and the impact on formulas.

Motivation is an individual experience that drives behaviour. This drive is due to the individual's identification, needs, knowledge and meaning-making of particular contexts, such as the work environment (Billig & Tajfel, 1973; Deci & Ryan, 1985a; Deci & Ryan, 2012; Lewin et al., 2011; Sturman, 2003; Tajfel & Turner, 1979). The impact of the context determines how employees commit, identify with their organisation and collectively assisting in creating an organisation identity (Van Tonder, 2011). They also craft jobs which not only deters dissatisfaction but also support professional identity (Cohen, 2006; Cohen & Veled-Hecht, 2010; Jiang et al., 2019; Pratt et al., 2006; Skinner et al., 2018; Willetts & Clarke, 2014).

However, in the changing landscape of higher education, academics are not always sure what their roles or identities are (Clegg, 2008; Kumar, 2020; White, 2012) and need robust introspection to manage interdisciplinary and balancing role expectations (Debowski, 2012). Within universities, one finds academics that have discipline-specific expertise which provides them with the passion for teaching the subject. Some of these academics do have professional accreditations and teach others for accreditation that makes their commitment to the professional identity quite durable (Snyder & Spreitzer, 1984; van Lankveld et al., 2017). Not all academics are inclined to research, whereas others enjoy both teaching and research (Boyd & Smith, 2016; Brew et al., 2015; Guerin, 2013). Teaching and research could be viewed as professional sub-identities of an academic. There is a need to create an environment where academics are comfortable with their teaching and research professional sub-identities (Anikina et al., 2019) as well as their overall professional identity. A robust researcher identity could lead to improved research performance (Prinsloo, 2014).

However, robust identification with research needs to be supported by the university's internal environment or context through appropriate work design. Work design (Hackman & Oldham, 1976; Parker, 2014) is supported by theories describing job demands and resources and control (Bakker & Demerouti, 2017; Karasek Jr, 1979). The autonomous management of job demands and resources and control, together with opportunities of job crafting, that is alignment with their expectations of work, could lead to improved job satisfaction (Masood et al., 2020; Smerek & Peterson, 2007). Job satisfaction can impact and satisfies basic psychological needs (Thibault-Landry & Whillans, 2019) and leads to motivated workers (Deci et al., 2017) applying a Self-Determination Theory (SDT) lens.

2.8 Self-Determination Theory (SDT)

While SDT proposes that satisfaction of the three basic psychological needs of competence, autonomy, and relatedness supports enhanced performance, the denial of those needs could hamper their sense of agency, creativity and wellbeing (Deci & Ryan, 1985a; Deci & Ryan, 2000; Gagné & Deci, 2005; Ryan & Deci, 2000a). It is essential for professionals in developing

organisations, such as researchers, scholars, leaders, managers and practitioners, to understand the contribution of motivation towards an individual's and institution's performance in areas such as research. This relational impact of motivation on individual and individual on the organisation in context is implicit in the adoption of widespread different performance management systems and practices, as it is assumed that the more highly motivated and productive the employee, the higher the effectiveness of the organisation (Brewer & Selden, 2000; Combs et al., 2006; Rico et al., 2016; Urdan, 2001; Van Knippenberg, 2000).

Self-Determination Theory (SDT) consisting of six mini theories is a well-known macro theory of individual motivation with a fundamental premise that intrinsic motivation or motivation from within the individual is vital in facilitating self-determination (Deci & Ryan, 2000; Ryan & Deci, 2017). Intrinsic motivation stems from those internal forces that drive an individual's behaviour, while external extrinsic motivation involves forces stemming from the context in which the individual performs (Deci & Ryan, 2000; Dyer & Parker, 1975). SDT is well researched, with a focus on essential aspects such as the impact of the social environment on the motivation, affect, wellbeing, job characteristics, and job resource demands, in the workplace (Deci & Ryan, 2008; Gagné & Deci, 2005; Ryan & Deci, 2017). Motivation and personal growth occur when individuals are nurtured in meeting these needs (Deci & Ryan, 2000a), which could lead to fostering a professional identity through an improved sense of belonging to social and professional groups. This thesis does not attempt to explore the in-depth and vast SDT knowledge available and explained by the continuum from amotivation to intrinsic motivation (Deci & Ryan, 1985b; Ryan & Connell, 1989; Ryan & Deci, 2000b), but does take cognisance of the fact that individuals may encounter discordant feelings with approach-approach and or avoidance conflicts with potential impacts on their role identity[s] (Deci & Ryan, 2000; Dyer & Parker, 1975; Ryan & Deci, 2017).

An individual develops intrinsic or extrinsic motivation and reward commitment from and identifying with a role (Snyder & Spreitzer, 1984) or vice versa as the social environment could also impact the researcher's professional identity (Ghazanfari et al., 2018). An abundance of research building on social

identity from the seminal work of Tajfel and Turner (1979) followed. Identity work expanded into organisations on a spectrum of how the individual defines themselves to work identities in strategic partnerships (Driver, 2018; Ellemers et al., 2004; Pratt et al., 2006; Ungureanu et al., 2019). Further research includes the individual's identification with their work and satisfaction (Jiang et al., 2019; Skinner et al., 2018; Van Knippenberg, 2000; Willetts & Clarke, 2014) and stemming from that some research is available on the sub-identities of academic, professional identity in Higher Education namely teaching (van Lankveld et al., 2017) and research (Åkerlind, 2008; White, 2012). From these studies, one can surmise that multiple identities exist in the workplace and that academics not only may struggle with authenticity between teaching and researcher identities but also their professional accredited roles in addition to their family roles. In authenticity, within multiple identity roles, research Caza et al. (2017) found amongst others that people are mentally drained and suffer cognitive fragmentation in their attempts to be authentic in complex work contexts with multiple identity expectations. Draining of emotional energy supports finding by Norris (2016) that where people struggled with work-related identity conflict, it could lead to psychological distress. Distress and the role it has in the level of personal satisfaction impact on subsequent performance (Judge & Bono, 2001a) responsibilities such as research.

2.9 Research Performance

Performance is defined as the competence or effectiveness of a person or thing in performing an action or the capabilities, productivity, or success of a person when measured against a standard (Proffitt, 2016). Failure in performance directly leads to a lack of competitive advantage (ALDamoe et al., 2013). It is therefore essential for academics, researchers, scholars, leaders, managers, and practitioners to understand what contributions, such as individual performance, could contribute to improved organisational performance.

Within the research literature, there is a lack of consensus regarding definitions for research performance, research productivity and research output. Universities often define research output as research activities completed and made public through publication (Hoffmann et al., 2015). The lack of consensus is

perhaps because research output, performance and productivity are mostly not well-defined (e.g., Cattaneo et al., 2014). The terms are furthermore used interchangeably in research publications (Auranen & Nieminen, 2010). According to Teodorescu (2000, p. 206), research productivity in academia is often defined as a “self-reported number of journal articles and chapters in academic books; the respondent published in the three years before reporting”. This definition of productivity is based on research outputs and neglects research inputs such as time, resources, and grants, which are often part of the productivity formulae. Although Bland et al. (2002) utilised the construct productivity and referred to previous studies that did not use accepted definitions or measures for productivity, a definition for the construct is not evident in their seminal work. There are clear distinctions amongst the constructs; they should be reported, and definitions, with the exact formulae, acknowledged as such for comparative studies.

The definition of research used by Excellence in Research Australia (ERA) states “Research is defined as the creation of new knowledge and/or the use of existing knowledge in a new and creative way to generate new concepts, methodologies and understandings” (Commonwealth of Australia, 2012, p. 3). Indicators of research activity, based on the ERA definition, at Another New Research University include research income (various types), research training completions, research engagement and research outputs. Another New Research University further distinguishes between the quantity and quality of outputs at a standard. It is thus fair to refer to research outputs at ANRU as research performance against a standard.

Data from individual performance management provides more conclusive evidence of the link between individual and organisational performance. Robust performance management systems hold employees accountable for behaviours which, in turn, increase organisational performance. From a meta-analysis of 92 studies, small but significant correlations between reliable performance management systems and organisational performance of .15 ($p<.01$) are reported (Combs et al., 2006). It could, therefore, be accepted that individual researcher performance will contribute to their school performance which in turn will contribute to their institution’s research performance.

Several studies investigated research performance and or research productivity institution-wide (Tekneci, 2014; Wissing et al., 2002) or focussed on specific departments (Brocato & Mavis, 2005; Soutar et al., 2015). Some reviewed factors and its effect (Dundar & Lewis, 1998; Edgar & Geare, 2013; Wilton & Ross, 2017) or the standard and expectation (Hardré & Cox, 2009) that impact on research performance. Others focused on an aspect such as women in research (Dever & Morrison, 2009; Isfandyari-Moghaddam et al., 2012) or specific aspects such as motivation and stress (Bailey, 1999; Martin-Sardesai & Guthrie, 2018; Yusoff et al., 2013). However, less research has investigated the impact of external factors on research performance, and to the researcher's knowledge none on the differences between Humanities and Sciences in a young university, that is a university established in the last 50 years.

Young universities are typically lacking published research in volume, quality, and impact (Khor & Yu, 2016). Research impact is viewed as the influence of research on the broader economic, social, environmental domains and academia (Kane, 2013; Penfield et al., 2014). Currently, the impact of research performance is evident from research-intensive and some mature universities as depicted on research and reputation rankings (Douglass, 2014). Usually, young universities do not feature on these rankings and hence become less competitive, with a growing gap between older, research-intensive universities and young universities (Beerkens, 2013).

In addition, some young universities might also serve a broader cross-section of the population, which is evident in developing countries such as Africa (Singh, 2011), with smaller budgets, larger classes per academic and higher teaching loads that provide less time for research (Pifer et al., 2014; Rørstad & Aksnes, 2015). These factors, impacting on research, are examples of contextual factors within institutions. The environment young universities operate in become even more complicated (Lund, 2019) than research-intensive universities with the impact of a broader array of contextual factors.

2.10 Contextual Factors

The Latin word *contextus*, which means to weave, gave rise to the word ‘context’ that hints at the interwoven range of factors influencing activity (Edwards & Steins, 1999). Context matters due to its inherent interconnectivity of present factors (Friemel, 2008) such as the influence of values and norms on employees found by Vine (2019) which could influence a research climate and culture.

Earlier research viewed context separated as the outer (economic, social, political and sector aspects) and inner (organisational structures, culture and political aspects) context which dynamically affect the entities (Edwards & Steins, 1999; Kronsbein et al., 2014; Pettigrew et al., 2001). Contextual factors could thus be defined as those entwined, internal and external, factors systemically impacting the organisation and its people.

Johns (2006) asserts that the impact of context, which has a controlling and defined effect on research outputs, is not adequately recognised or appreciated in organisational behaviour studies by researchers. This assertion is supported for the case of higher education institutions where context variations are not well researched and might even have received lesser attention in such studies (Hardré & Cox, 2009) or focused on research-intensive universities (Janger et al., 2019). This inattention to the impact of context could be due to a lack of a holistic view of the internal and external interaction of context.

Wissing et al. (2002) found that numerous factors thwarted research performance, particularly in the work context domain. This finding might be an indication that while the internal work context domain has not yet been solved, institutions lack focus on the more distal yet important external contextual factors.

2.10.1 External Contextual Factors

Various studies describe external contextual factors as those that could affect the entity from the outside, for example, the broader social, political, economic factors from within the same institutional sector that the entity operates (Edwards & Steins, 1999; Pettigrew et al., 2001; Whiteley, 2005). Government bodies and governments could be influenced by stakeholders. These stakeholders like leaders and pressure groups could thus direct decision-maker and essential

external community influences for policy (Whiteley, 2005). However, the art of politics or influencing is two-directional. Individuals' norms, values and behaviours are shaped by the influences of the community and vice versa (Whiteley, 2005). It thus stands to argue that individuals can influence Governments (Harman, 2005b) and vice versa. Stakeholders and external contextual factors that may influence research performance are discussed next.

2.10.1.1 External Stakeholders

There is a traditional stakeholder role expectation driven by government and communities. The role of universities from an external (and internal, e.g. mission and niche markets) perspective creates the context within which a university operates. Traditional sandstone universities were initially created with a core mission being the independent pursuit, conservation and dissemination of knowledge commonly referred to as teaching, which set the basis for future universities (Boulton & Lucas, 2011; Pinheiro et al., 2015). A second mission, namely research for knowledge creation, emerged. The research mission was extended and followed by a third mission: that is, a contribution to global social, cultural and economic wellbeing (Pinheiro et al., 2015). Governments respond to these global challenges by introducing policies that drive university funding, such as for research, in ways that address the challenges (Australian Government, 2015b; Etzkowitz & Stevens, 1998). Trade Unions are concerned about job security and the wellbeing of staff and in particular casualisation of the workforce and the impact of the teaching and services expectations on research (McCarron, 2020). Influences from stakeholders could impact and shapes international, national, and internal university competitiveness, reputation, practices and policies.

2.10.1.2 Research Policy and Funding

University research funding is heavily impacted by policy reforms from Governments seeking to fund research that influences national social and economic development (Pinheiro et al., 2015). The Australian Research Council (ARC), established in 1946, remains an essential agent in Government research policy and funding. The ARC administers the National Competitive Grants

programme and was given an enhanced role in 1999, which included oversight of Excellence in Research for Australia (ERA). Excellence in Research for Australia is tasked with the quality evaluation of research produced by universities, and this impacts on the research grant awards to universities (Australian Research Council, 2015). The ARC's involvement in allocating grants according to predetermined national criteria, and the subsequent impact on universities, is an example of an external contextual factor in the university sector.

Since 1950, with the Mills Committee (Jackson, 2003) reporting on finances in the university sector, the Australian Government has had a substantial impact on Australian education and research. Several Acts, such as The Higher Education Act 1988, the Australian Research Council Act 2001 (Jackson, 2003), and the Higher Education Support Act (HESA) 2003 form the basis of the Commonwealth's research funding model.

Funding schemes for Higher Education are facilitated by the Higher Education Support Act (HESA) 2003 as amended in March 2014. The research block grant (RBG) funding comprises several schemes, each with a specific purpose, and is governed by conditions such as eligibility, Commonwealth Grant Scheme Guidelines, quality and accountability requirements, funding agreements and compacts, student contribution and tuition fees. The allocations are according to performance-based formulae using inputs from research income, research publications, research student load, and total research student completions. Table 2.1 summarises the research block grants available to Australian universities as at 2015.

Table 2.1: Summary: Research Block Grants And Related Schemes (Australian Government, 2015a; Australian Government DET., 2014b)

No	Grant	Purpose of the grant
1	Research Training Scheme (RTS)	To fund the teaching of higher degree by research (HDR) students and incentivise their completions.
2	Joint Research Engagement (JRE)	To encourage and support collaborative research undertakings between universities, industry and end-users.
3	Joint Research Engagement (JRE) Cadetships	To support HDR studies and those students participating in a Cadetship with Businesses that requires the student to be involved in R&D Activities that are eligible for support under the R&D Tax Incentive Scheme.
4	Sustainable Research Excellence in Universities (SRE)	To support higher education providers' (HEPs) Australian competitive grant (ACG) research with supporting HEPs research and research capability.
5	Research Infrastructure Block Grants (RIBG)	To maintain and strengthen Australia's knowledge base and research capabilities by developing the infrastructure required to support research.
6	International Postgraduate Research Scholarships (IPRS)	To attract and support top quality international postgraduate students to areas of research strength in HEPs and Australia's research effort.
7	Australian Postgraduate Awards (APA)	To support postgraduate research training and provide financial support to postgraduate students of exceptional research promise who undertake their higher degree by research at an eligible Australian higher education provider.

The most notable impact on Higher Education (HE) has been the Research Training Scheme or RTS (Kemp, 1999). The RTS supports PhD and Master students and provides block grants according to a fixed formula of weighted Higher Degrees by Research completions, total research income and research publications (Kemp, 1999). Universities' research training practices and policies were radically revised in response to the RTS to ensure higher completion rates and to secure funding from the scheme. It is evident from the large number of funds that universities receive from this scheme that government policy has influenced how universities view their research mission. The reasoning behind the introduction of the RTS was to incentivise completion of Higher Degrees by Research that impact on the socio-economic development of Australia and is a factor external to universities that has impacted strongly on organisational priorities and practices. The research block grant programs were replaced by the streamlined Research Training Program (RTP) and the Research Support Program (RSP) at the start of 2017 (Australian Government, 2017).

The continued impact from Government policy and funding is evident in the research funding and policy review the Australian Government announced in 2015 (Pyne, 2015). The terms of reference of the Government's Agenda for Action under the Boosting the Commercial Returns from Research strategy guided review (Australian Government DET., 2014a; Department of the Prime Minister and Cabinet, 2014; Pyne, 2015). The Government of the day accepted all 28 recommendations of the Watt Review into research policy and funding. The review provided advice to the Government concerning the quality of university research that fosters engagement with industry and commercialisation. This review also considered the development of engagement metrics, assessing the impact of research on socio-economic development, which drove funding (Australian Government, 2015a; Birmingham, 2016). This Governmental impact is an external contextual driver and a bold move from the Australian Government to ensure that they provide funding programs to universities that deliver on their third mission. This external driver, in turn, focuses internal perception and actions onto research performance. Universities will not only have to deliver high output in credible

journals but also ensure a high quality of research (Prinsloo, 2014). As such, research is a core mission of universities (Soutar et al., 2015).

2.10.1.3 University Rankings

Historically universities were ranked in terms of their longstanding institutional reputation. Traditional ranking systems usually include measures such as research, teaching, community impact (Montesinos et al., 2008) reputation and alumni outcomes and may have limitations that should be considered (Hanover Research, 2015; Wilsdon, 2015). Some ranking systems might be biased. For instance, the measures used in traditional rankings overvalue sandstone universities, thus creating a negative bias towards tertiary institutions in developing countries (Douglass, 2014; Hanover Research, 2015). An increased rank in the traditional system is boosted by research performance which could be because of an increased research funding (Hanover Research, 2015). In contrast, multi-dimensional and user-driven rankings are becoming more prevalent (Hanover Research, 2015). They are popular due to graded indicators which allow users to decide on factors of importance to them (Hanover Research, 2015).

Ranking contributes significantly to the reputation of a university; however, the metrics driving the rankings are questionable, and research is needed to ensure, amongst others that performance is measured correctly (Wilsdon, 2015). University rankings systems are driven by comparator data such as publication citations and the impact factors of journals in which researchers published (Baldock, 2013; Coulthard & Keller, 2016; Komotar, 2019; Muñoz-Suárez et al., 2020). Research performance is one of the key performance indicators for global (Stratilatis, 2014) and national ranking systems. Others include (a) number of global prizes, (b) citations and awards, (c) number of papers published, (d) average per individual research performance, (e) peer reviews, and (f) staff-student ratio (Rust & Kim, 2012). Without defining performance Roberts (2019) indicates that performativity, production and accountability is a process of transforming knowledge as an object of economic value. He further questioned the validity of performance metrics, especially in relation to the definition of quality in relation to “by whom, what, and in what ways; and under which circumstances and contexts”.

The researcher agrees with these notions about the rigour that needs to apply to metrics in terms of quality and quantity aligned to the specific context of the research. Such rigour, developed by the research community (Gavriş, 2020) could ensure that knowledge creation does not become simply a tool for purely economic gain.

Despite the disagreement on the compilation and methodology of these rankings (Stratilatis, 2014), they do act as a forceful reputational external driver of internal policy. Reputation and performance are linked (Sroufe & Gopalakrishna-Remani, 2019) and an essential influencing lever for high ranking institutions (Uslu, 2017). Innovative research and competent researchers attract grants and improve reputation. Rankings are essential building blocks for a reputation (Marginson, 2007) whereas citations and reputation are used as metrics in determining rankings and reputation. These positive ranking and reputation facilitate healthy, motivated researchers (Ball & Crawford, 2020; Wu, 2020) and research teams (DeChurch & Mesmer-Magnus, 2010). Motivated people are more satisfied and performance indicators show improvement when their basic psychological needs (BPN) such as competence and relatedness are fulfilled (Baard et al., 2004; Deci et al., 2001). Reputation then attracts international collaboration and better researchers, which again build a reputation, and increases research performance (Kwiek, 2015a) which should lead to improved rankings.

2.10.1.4 The Case for Competitiveness

Higher population growth required more universities to fulfil growing educational needs. This need resulted in newer universities who do not have the same reputation, research culture and resources as older universities. In a more commercialised and competitive environment, these universities compete poorly for researcher resources and become less attractive for researchers, students and industry partners. This competition widens the gap between young universities and established research-intensive universities (Marginson, 2006).

Competition from the global market is thus another external factor in that universities compete for students, researchers, and industry research grants. In contrast, non-university research institutions compete for researchers and research

grants. Knowledge contribution to the world community creates a reputation for Australian researchers who are then in demand for overseas posts. Competition, as an external contextual factor, forces research universities to improve their ranking position by succeeding with strategies and policies that optimise their position (Marginson, 2007). To stay competitive universities, need to globalise, adopt the language of business, and commercialise. All of this is needed while performing the core educational missions of universities, including the pursuit of knowledge (Gaffikin & Perry, 2009).

The improved ranking also allows universities to compete for top researchers and research talent (Marginson, 2007). However, universities on the fringes, of the core of high-ranking universities, need massive reform measures to catch up on the ranking ladder (Rust & Kim, 2012). This reform could be built on sound foundations with policies informed by research evidence about key contextual factors as a critical ingredient.

2.10.2 Work Context Factors

A wide range of other internal organisational factors could affect research performance (Rørstad & Aksnes, 2015). Contextual factors such as complexity and changes in the individual domain could impact on the individual's performance. For example, close monitoring can affect predisposed individuals' performance (Rietzschel et al., 2014). Research performance is further impacted by factors such as competing demands, structures, systems, (Aiston & Jung, 2015; Bellas & Toutkoushian, 1999), age [which is different from career progression or tenure], workload, mentoring and funding (Afshar et al., 2011; Beerkens, 2013; Rodriguez et al., 1999).

Research literature and models relating to researcher productivity, such as Finkelstein (1984), Creswell (1985), Dundar and Lewis (1998), Teodorescu (2000) and Brocato and Mavis (2005) are useful. However, they are not specific enough to direct further improvement of a faculty's research productivity (Bland et al., 2005). An example is the lack of reference to researcher identity (Prinsloo, 2014) or even organisational identity (Van Tonder, 2011) both playing a role in shaping performance. It seems neither has been explored within different contexts

nor specific locations to clearly understand the relation of these constructs to contextual factors and/or the impact on each other.

Contextual factors have generally been studied within frameworks in which their interaction and how they enable and constrain research performance are mostly not integrated into a comprehensive, holistic framework. Furthermore, the base model (Bland et al., 2002) which informed some of these studies seemingly does not stem from a proper qualitative approach, but rather aspects taken from literature reviews, without indicating if this list is comprehensive or valid for the specific university or faculty. These aspects were included in three broad internal contextual constructs, namely individual-, institutional- and leadership features in the model of Bland et al. (2002). Although Bland et al. (2002) searched for a systemic model, no reference is made of how external contextual aspects may affect internal contextual aspects or personal characteristics in the suggested model and thus research performance.

Although studies in research performance have gained momentum since the 1970s (Hedjazi & Behravan, 2011), research leaders' limited understanding of contextual factors such as researcher development and acknowledgement of the complexity, width and multidimensionality of research development (Evans, 2012; Hedjazi & Behravan, 2011) is lacking. Tekneci (2014) suggested, after a comprehensive quantitative study of 94 universities, that the university culture, management practices and capabilities are probably the most critical factors in higher research performance. The challenge with the Tekneci (2014) report is that the study accepted some indicators from a mix of previous qualitative and quantitative studies as a basis to determine what factors drive research performance. This was done without mentioning if this list is complete or even if it was a good fit for the sample of universities. A similar exploration study was completed by Wissing et al. (2002) after possible factors were brainstormed and vetted by a pilot group of academic staff for a short survey in which 237 out of their 457 staff members participated. The results revealed inhibiting factors such as limited time, work overload and a lack of support. Competence was not offered as an inhibiting factor except on the lower levels, which also showed a need for mentoring.

The lack of validated data could also be indicative of the impact of context and the fact that those factors influencing research performance are mostly not well understood, studied or assessed (Bland et al., 2002) within a well-designed framework, model or theory (Isfandyari-Moghaddam et al., 2012). This lack of a comprehensive understanding of this phenomenon could also be real for particularly young universities in Australia (Harman, 2005a). Bland et al. (2005) and Harman (2005a) reported the lack of a cohesive theoretical framework through specific theoretical lenses and their inconclusive theoretical frameworks. Research gaps concerning factors such as appointment types and culture were also reported as lacking in the research performance domain (Bland et al., 2006). These potential gaps in research and suggestions show the need for further research culminating into an integrated research performance framework.

Even though several aspects of research performance have been investigated, there are still questions about the source of the contextual factors, and individual attributes and how they impact performance. For example, the study of national context and the uniqueness of young universities are omitted mainly in known frameworks of academics' performance. Furthermore, the lack of connecting relationships in academic research performance with other constructs is questioned by Horodnic and Zait (2015). Brew et al. (2015) suggest that more qualitative research is needed to explore the concept of a research identity. This suggestion further begs the question of how comprehensive and/or institution-specific the current knowledge, about contextual factors and individual attributes impacting on research performance, is.

Current research performance is thus generally studied, at complex institutions, within a framework of which the contextual factors and individual attributes, which enable and constrain research performance and their interaction in a systemic way, are mostly not comprehensively understood. An exploration towards a systemic view of the phenomenon, to enable ANRU (and perhaps other young universities in Australia and the globe), to obtain higher research performance is needed. To address the complexity, the challenge should be approached with an appropriate theoretical framework with data obtained from a

grounded, interpretivist, constructivist study to explore and determine the most positive and negative influential factors that impact on research performance.

The work context integration with the individual context, through identity and characteristics, was researched in other settings. Especially for young universities, top rankings are necessary to build a reputation which is possible through appointing academics with suitable profiles that fit the role characteristics, e.g. resilience (Bakker et al., 2010; Bernabé & Botia, 2015; Hackman & Oldham, 1976; Judge & Bono, 2001a). These role characteristics should further suit the personal accepted identity (Billot, 2010; Colbeck, 2008) and sub-identities of the individual with scientific job design principles (Hackman, 2003; Parker et al., 2019; Parker, 2014; Parker et al., 2017). Proper job design should ensure sufficient resources to meet the expectations for the job (Bakker & Demerouti, 2017; Billot, 2010; Brew et al., 2018a; Colbeck, 2008; Hackman, 2003; Hakanen et al., 2008; Parker et al., 2019; Parker, 2014; Parker et al., 2017) and provide an experience that role incumbents are in control (Karasek Jr, 1979; Murayama, 2012; Parkitny & McAuley, 2010) and or being able to craft their roles (Bakker et al., 2012; Brew et al., 2018b; Tims & Parker, 2020). The quoted research, showing the relation of work context with individual context, support this researcher's drive for a more comprehensive integrated focus on which and how the perceived contextual factors impact research performance at ANRU.

2.10.3 Individual Context Factors

A holistic integrated research performance theoretical framework should consider individual context factors and their interaction with one another and other contexts. Relevant, extant literature in the individual domain is reported next.

Research productivity is influenced by several individual factors such as personal characteristics of faculty members including age, gender, civil status, educational attainment, academic rank, the field of specialization, teaching load, number of years in teaching, and research experience according to Quimbo and Sulabo (2014). Again, coinciding with Suson et al. (2020), these factors were not determined within the specific context of the institution. Quimbo and Sulabo (2014 and); Suson et al. (2020) mentioned institutional factors and omitted external

factors. Institutional and external factors could influence, be influenced, and create a contextual social environment.

Vekeman et al. (2018) noted the importance of congruence between the contextual social environment, within which educators operate, and their characteristics for their job satisfaction. Job satisfaction was measured by dimensions such as research climate, commitment, and motivation constituting the social context and found crucial for academic performance (de Lourdes Machado-Taylor et al., 2016). Job satisfaction could enhance the motivational levels of the person (Vallerand, 2000; Vallerand et al., 2008) that could lead to wellbeing (Manganelli et al., 2018; Seipel & Larson, 2018) or ill health (Barkhuizen et al., 2014; Bianchi & Brisson, 2019; Manganelli et al., 2018; Pignata et al., 2018; Seipel & Larson, 2018). The individuals' mental health impact performance (Deci et al., 2017; Judge et al., 2001b) and eventually impact reputation and rankings (Montesinos et al., 2008).

Another individual performance contributor, age, was reported in a meta-analysis (Sturman, 2003). The meta-analysis, however, supports the notion of age as a malleable performance contributor differing from person to person and in different contexts. As such age should not be generalisable across all job contexts.

Research exploring the experience of the work-family interface (WFI) of the research population and the impact on longstanding career success is deficient (Beigi et al., 2017). Beigi et al. (2017) reported that sound WFI contributes to research performance, but WFI consists of a significant broader body of aspects of which all the contextual interrelations are not explored yet and have a reciprocal relationship with Work-life balance (WLB).

WLB is a state of equilibrium between the demands of work and other aspects of life, typically leisure occupations (Molineux, 2017). Well-resourced jobs and incumbent-fit could facilitate the necessary WLB (Dorenkamp & Ruhle, 2019) and minimise WFI (Dorenkamp & Ruhle, 2019), which could lead to job satisfaction (Crick et al., 2019). Work-life balance is further seen as the balance the worker strikes in the work-family domain (Wayne et al., 2007).

Academics from families where there are no dependent children are finding it easier to integrate their research with their home lives or being away from

home for research (Beigi et al., 2017). In contrast to work-life balance, work-life integration is viewed the concordant integration of a person's work domain with all other personal domains and more specifically the family domain (Ibrahim, Sabariah, et al., 2016; Ibrahim, Yussof, et al., 2016).

When individuals cannot integrate their work and family life successfully, they can experience work-family conflict (Heery & Noon, 2008) which impact job satisfaction in turn together with an all-encompassing context consideration (Crossley, 2010; Friemel, 2008; Lund, 2019; Warr & Inceoglu, 2018). The absence of satisfying any or combination of the work and/or family needs can cause amongst others stress. On the other hand, the needs fulfilment research of Deci and Ryan (2012) confirmed that experiencing motivational components such as passion, joy, and fun promote research performance. These needs and their subsequent effects can be explained through a Self-Determination Theory (SDT) lens.

Crick et al. (2019) hypothesised a mediation SDT model of support variables (factors) obtained from a COACHE data set versus a sample of full-time non-tenure-track faculty members' job satisfaction as a primary wellbeing and performance indicator. They found evidence for the mediation role of two of the basic psychological needs proposed by SDT but did not include the external environment.

2.11 Summary and Conceptual Framework

From the literature review, it is apparent that the contextual factors enabling, and constraining research performance are complex and have not been explored sufficiently to claim that the subject is well understood particularly in young universities. Current research performance models, including Bland et al. (2005), do not shed any light on the multiple factors from the external environment that impact on the institution through to the individual researcher's capacity to publish.

The literature review further confirms the potential of the integrated and reciprocal individual, social, systems and practices contexts impacting performance. The compounded impact of these contexts could also affect the

individual's mental state and performance and eventually research reputation and rankings.

The conclusion is that studies in research performance did not lay a sound foundation with qualitative research such as a phenomenological lens and never through an integrated theoretical motivational lens such as self-determination theory (Ryan & Deci, 2017). Furthermore, strategies for research performance have lacked a systems theory approach or organisation learning and planned change theories and demonstrates a lack of integrative and holistic studies based on solid theoretical underpinnings to improve research performance.

To improve the effectiveness and ensure increased research performance at ANRU, the contextual factors impacting on research performance need to be established from the research experiences of academics. This experience should be investigated within the existing milieu, within a methodology that explores the multiple, psychosocial, and technical, realities of these academics' research lives from an interrelated systems perspective.

Figure 2.2 presents a conceptual framework, derived from the reviewed literature, which shows how research performance may be enhanced or constrained by contextual factors from the internal and external environments.

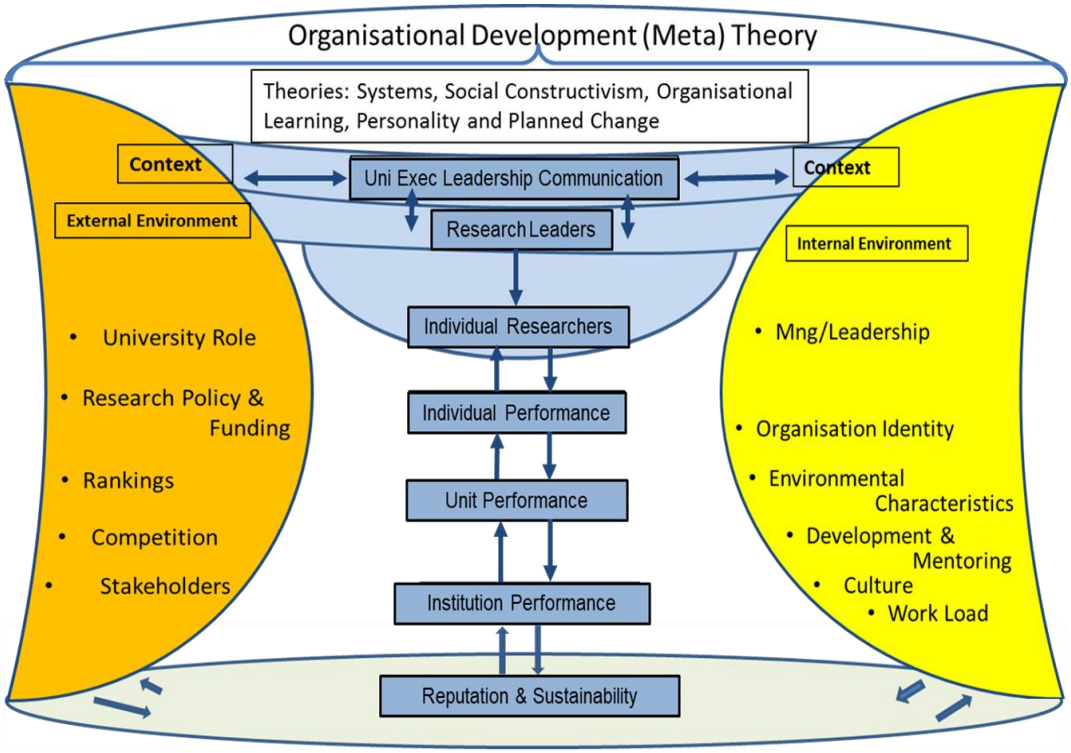

Figure 2.2: Conceptual, Systemic, Research Performance Model

This tentative conceptual framework attempts to illustrate the integrated coexistence, interaction, and influence of the constructs with and upon each other, viewed through an Organisation Development lens.

The conceptual framework shows the variables, not an extensive list, within the external (amber), internal (yellow), and personal (blue) contexts that are expected to influence individual and institutional research performance. The arrows (blue) also show the multidirectional influence and potential impact the variables might have on each other. The arrow illustrations do not exclude other direct or indirect influences any of the variables might have on one another.

People's behaviours within organisations are explained by various theories and Organisation Development, as a meta-theory, attempts to deliver a holistic and integrated approach to improve the work lives of individuals and the organisations in which they work. Academics' research performance, driven by individual attributes, is impacting on the school's performance they work in, which impact on the Institution's performance and subsequently reputation and sustainability.

Current research performance models are not comprehensively presented or researched. The exploration of this phenomenon with a systemic view and strong theoretical framing has the potential to inform interventions that could improve research performance at ANRU and perhaps at other young universities.

Chapter 3: The ANRU Context and Methodology

3.1 Introduction

Chapter 1 provided an overview of the focus, problem, rationale, purpose, research questions and significance of this empirical study. Chapter 2 reviewed extant relevant research literature to highlight the significance of the research questions, summarise and evaluate previous research and provide a conceptual framework to guide the research.

This Chapter aims to shape and substantiate the methodological approach used in this study. The Chapter begins with the Another Research University's (ANRU) contexts, the researcher's scientific worldview, a brief philosophical and methodological overview, followed by the methodology, a research design, participants' description, the procedure for obtaining data, the data collection methods and analysis as well as the ethics protocol. This research process aims to illuminate the contextual factors that hinder or facilitate research performance at a young university such as ANRU.

3.2 ANRU Context

For an improved understanding of the context in which academics perform research at ANRU, it is necessary to be aware of its origins, the impact of different Vice-Chancellors (VCs) and the Institutional view at the time of the study.

ANRU was established through an amalgamation of colleges and thus become one of the new universities in 1991. ANRU is thus defined as a Young University under the age of 50. By the time of this research ANRU featured as a top University under 50 years old in The Times Higher Education 150 Under 50 Rankings. Various VCs, through their leadership, implemented strategies and initiatives with different foci to improve the performance and reputation of ANRU. As for several other young universities on this top-ranking list, ANRU is known for its teaching and learning in several disciplines, but rather unknown for its research outputs in publications for a more significant number of disciplines.

VC1 incorporated a new Academic Department in the same year as appointed. VC2 showed teaching intentions with a simulcast lecture to an international campus in 1993. In 1994 the first off-campus graduation was held offshore. An initial focus on broadening the academic profile of the university to include not only education, but also business studies, arts, and sciences was evident. The period of the beforementioned VCs in office emphasised a focus on teaching and learning. VC3 established an Office of Research, a Graduate Research Office and broadened the academic profile to include a wide range of higher degrees by research in the late 1990s and early 2000s. VC4 consolidated faculties and established an Associate Dean Research, and an Associate Dean Higher Degrees position in each faculty, the establishment of high-level research centres was also achieved together with policy and HR settings that placed greater emphasis on research and clarified research activity through frameworks in the first decade of the 2000s. VC3 and VC4 had a sharper focus on research than the previous mentioned VCs. In the second decade of the 2000s, the faculty model was dismantled into an academic department-based structure managed as to the new VC's expectations. This period intensified the focus on research with no lesser expectations towards teaching and learning.

Inferred from the above, one can detect that from the late 1990s a greater emphasis was placed on research, but it was more recently that the focus on research performance was highlighted. This emphasis on the research focus could be found in the heightened awareness of the competitive nature of the Higher Education (HE) environment, caused by amongst other factors, lesser funding support from Government. The emphasis was further institutionalised by a mantra from the research directorate, which predicated a whole of institution approach in research and keywords in research such as knowledge translation, capacity and culture, collaboration, and training.

With the backdrop of this Institution's context, it is also worthwhile to have insight into the researcher's scientific world view.

3.3 The Researcher's Scientific World view

Morgan (2007) strongly suggests that it is necessary to state what is contained in a worldview, which will focus on and shape one's thoughts about the research topic. Researchers plan and conduct their research within research paradigms that are embedded in the philosophy and constructed by ontology (study what is), epistemology (knowing what is) and the methodology (philosophical principles underlying data-gathering and analysis) through their specific paradigm lens.

This researcher's broad paradigm of multiple realities is being shaped by his social, psychological, and organisational exposures, as argued by Heidegger (1971). This paradigm holds that personal and organisational life theories and frameworks, which are work in progress, are renewed continuously through social learning and embedded in the organisation. This paradigm includes how we as unique individuals experience and make sense of being in our world, which fits well with phenomenological approaches (Nicholls, 2009a) followed in this study.

It is vital to mention that the researcher holds a world view that the constant renewal of multiple realities and social learning through staffs' experiences contribute to the continued regeneration of performance of the organisation as a holistic system. The researcher also has extensive knowledge and beliefs about the way ANRU operates as an organisation. These beliefs, together with the *a priori* research questions, drew the researcher's attention to specific clauses, phrases and words from respondents and the way they are coded. Recognition and transparency of these possible biases, through amongst others bracketing (Elliott et al., 1999), assisted in minimising the researcher's subjectivity and maintaining internal validity during data analysis (Lewis, 2009).

It makes sense, being an organisation psychologist, that the researcher holds a phenomenological view (the study of sense-making of experiences from the first person's view) which is mostly concerned with philosophy and secondly with approach and method (Dowling, 2004). From working towards the development of academics within his institution, the researcher became aware of perspectives such as multiple roles, competing demands, workload perceptions and performance approaches. It was imperative that the researcher found and

used a methodological approach that acknowledges his own experiences within all phases of this study.

Through an organisation development lens, the researcher believe that optimum performance can be achieved better in a context where efficient, holistic, integrated organisational systems exist, where the phenomena are studied, and improvement programs lodged.

Due to the complexity and contextual richness in workplaces, various realities are created and exist, by people through collaborative sense-making of their environment (Cooke, 2014). This collaborative sensemaking aligns well with the social constructivist belief system (Young & Collin, 2004) of the researcher. Inductive data analysis techniques, such as in a grounded theory analysis approach, are often applied in the interpretation and sense-making of the transcribed socially constructed realities without theoretical presuppositions (O'Reilly et al., 2012).

The researcher's philosophical paradigm, beliefs, and criteria for research aligns well with the purpose of this study and is consistent with the philosophy underlying the methodology followed.

3.4 From Philosophy to Methodology

The researcher asked, to ensure that the reasoning from philosophy to methodology is sound, what the nature of the phenomena is to be studied, and how will that be understood to arrive at the best possible methodology? Within the context setting of the contextual factors that influence research performance, it is worthwhile to refer to the underlying ontological, epistemological and paradigm views that led to the specific methodology to explore research performance.

Research performance, sometimes seemingly incorrectly used interchangeably with research output and research productivity, is extensively researched for decades through mostly quantitative studies. This approach would suggest that the researchers either knew what constructs impacting precisely on research performance in the specific context or that sufficient evidence existed to generalise and apply the constructs at and for all research entities. The researcher did not agree that this prior knowledge could be generalised yet to the ANRU

context or even other young universities as most of those studies were done within the context of research-intensive universities. A decision was made to systematically explore and illuminate the contextual factors that impacted on ANRU as a young university to free this study of such assumptions initiated by a paradigm.

The Oxford English Dictionary (Proffitt, 2016) defines a paradigm as “A world view underlying the theories and methodology of a particular scientific subject.” A paradigm is seen as a basic set of beliefs encompassing human constructions used to include a researcher’s ‘worldview’ of how meaning will be constructed from the data we shall gather, based on our individual experiences (Creswell & Creswell, 2017; Denzin & Lincoln, 2009; Guba & Lincoln, 1994; Kivunja & Kuyini, 2017).

From Creswell (2003), the understanding is that qualitative researchers should consider the research within a suitable paradigm or worldview which relates to the nature of the reality (ontology), the relationship of the researchers to that being researched (epistemology) and the role of values (axiological issue) which lead to a process (the methodological issue). Paradigms are thus essential because they provide beliefs, influence and imposes on scholars in a particular discipline, what and how what should be studied, and how the results of the study should be interpreted. A researcher’s philosophical orientation is thus defined by the paradigm and impacts the decisions made in the research process, such as the choice of methodology and methods. It is, therefore, necessary to investigate these philosophical assumptions to determine “fit for purpose” for a specific research project roadmap, starting with ontology.

The Oxford English Dictionary (OED) describes ontology (1989, Vol X, p. 824) as “The science or study of being that department of metaphysics which relates to the being or essence of things or being in the abstract”. In Version II ‘being’ is further emphasised as “life or physical existence,” for example it is also defined as to seek the possibility and actuality if anything existing at all (OED, 1989, Vol II, p. 80). In social research the construct is described as “A concept concerned with the existence of, and relationship between different aspects of

society, such as social actors, cultural norms and social structures". ("The SAGE Dictionary of Social Research Methods," 2006).

Various other authors described ontology as assumptions we make about reality, what exists and what we can know about the nature of the world. It is a philosophical consideration of whether objective entities exist, built from perceptions of experiences lived or observed from individuals in their environment that are shared (Bryman, 2016; Ormston et al., 2014; Richards, 2003; Snap & Spencer, 2003). Ontology is thus viewed as the philosophical theory of the nature of being and existence in societies. Thus, where a phenomenon like the context of research performance is envisaged, researchers or university communities are the ones to create knowledge on the subject. Ontological assumptions can be very broadly categorised in two ways: realism and constructivism (or relativism), for example, the researcher's belief about and the construction of knowledge. Constructivism in a research setting could thus be seen as the individual cognitive process of making sense of one's experiences, and also of the social processes through which knowledge is co-created through social interactions (Vygotsky, 1980; Young & Collin, 2004). Social constructivism is thus an epistemological view of 'how we know' and develop meaning.

The OED (1989, Vol V, p. 338) describes epistemology as the theory or science of the method or grounds for knowledge about reality. The SAGE Dictionary of Social Research Methods (2006) describes epistemology as "A field of philosophy concerned with the possibility, nature, sources and limits of human knowledge". Epistemology is then the philosophical nature, its requirements, and the limitations of knowledge. For this study, epistemology informed the reasoning about how data was to be gathered and assumptions about how meaning was to be made from the data in the particular context of researching factors that influenced research productivity at ANRU. That led the researcher to utilise a specific tradition (Creswell & Creswell, 2017), namely phenomenology, in a constructivist interpretive paradigm, which will be described in more detail later in the chapter.

As an epistemology, the interpretive hermeneutic would be where the researcher strives to grasp, interpret and represent the meanings of what

participants meant in their interview narratives as well as how they are displayed in the transcribed text of their reports about their experience of research. Within a constructivist paradigm, truth is not something out there but is instead the consensus construction which is the most updated and refined construct amongst individuals most competent, not necessarily most powerful (Denzin & Lincoln, 2011). The forming of such a sophisticated construct is possible through shared personal experience and facilitated conversations that involved participants exploring and explaining their reality and experience (Aiken-Wisniewski et al., 2010) through phenomenology.

A phenomenologist will seek to understand human behaviour and experiences through shared and non-observable meanings, intentions, values, beliefs, and reflection (Babbie, 2015). Understanding is based on the theory that people are continually rationalising and analysing their actions in order to make sense of their life and the world, for example, meaning-making.

The Oxford English Dictionary (1989, Vol IX, p. 522) describes a 'meaning' as something "that conveys or expresses meaning or thought; expressive, significant." In contrast, 'meaningful' is described as "amendable to interpretation; having a recognisable purpose of function; specifically in logic". Exploring experience and meaning in research is accepted and universally used in qualitative studies (Daher et al., 2017). An *a priori* decision has been made that the meaning of experiences (Creswell & Creswell, 2017) of active academic researchers will be explored; this decision thus suited a phenomenological approach.

If each discipline has its language, which the researcher believes to be true, it makes sense to utilise theoretical sources closest to that discipline. The challenge for the reader here might be the vast array of theoretical sources being used, but a gentle reminder would be that this study is approached, conducted, and completed through the lens of organisation development (OD), a meta-theory. The array of theoretical sources thus attempted to bring the views of several disciplines synergistically together.

Through the unpacking of ontology, epistemology, methodology and meaning of these constructs and subconstructs a theoretical logical and linear

pathway in the research of human experiences were illuminated. Blaikie (2007) and Grix (2002) suggests that understanding the directional and logical relation among the ontology, epistemology, methodology and methods is a prerequisite for planning and initiating engagement in constructive dialogue with ontology as the primary consideration for a sensible position towards the epistemological and methodological approaches; and should not be seen as linear and necessarily accurate. The uncertainty means that these perspectives need to be critically questioned from different angles and might require reiteration of the logical and linear path in an unpredictable or unplanned pattern of cross-examination. This questioning is necessary to ensure the best possible understanding of the phenomena in complex human behaviour, interacting with an even more complex work environment, as is the case in this study.

In the researcher's approach to this study, his understanding is that academics who are researching create new knowledge. Thus, the analysis of the meaning academics hold of the context of research would expand the knowledge of the contextual research phenomenon. This knowledge could equip other researchers and practitioners to navigate the challenges of researching to establish the best possible context for research performance to the benefit of society. The best context can plausibly be created and interventions for improvement implemented through a well-executed implementation of a meta-theory like OD, which stresses a scientific data-gathering and methodology and analysis.

3.5 Methodological Overview

This philosophical approach warranted a methodology and method from where the researcher could confidently respond to the overarching research question as well as all subsidiary questions. The methodology is viewed as a set of philosophical principles underlying specific research approaches and forms the foundations for the procedures of gathering and analysing data (Nicholls, 2009b). The methodology (as distinct from methods) was defined as a plan of how the research will be performed and included underlying philosophies of how one conceives that knowledge within a specific paradigm, the research methods and their relation to the research questions (Blaikie, 2007).

3.5.1 Methodological Research Approach

Qualitative research methods best answered this study's open-ended research questions, which aimed to understand the lived experiences of researchers in two academic departments, the Department of Humanities (DOH) and the Department of Sciences (DOS), and their Research Leadership Cohort (RLC) at the same young university namely Another New Research University (ANRU) presented as cases. Qualitative research aims to conceive and indicate the experiences and actions of people within their context (Savin-Baden & Major, 2010), whilst Morehouse and Maykut (2002) encourage researchers to be detailed in the what and why of their methodology to enhance the trustworthiness of their work. In this study experiences of active researchers were captured as a narrative, the transcripts analysed according to grounded theory analysis techniques, through an interpretative phenomenological analysis (IPA) lens, subsequently the results were presented as cases, and a cross-case analysis conducted. However, it also included descriptive statistics that were used to answer the research question about the relative impact of factors facilitation and inhibiting research performance. One of the Chapter's aims is to reveal the decision to construct the study's specific methodology of which the analysis steps echo the grounded theory analysis techniques to support the IPA transcription analysis without explicitly following a specific version of grounded theory methodology. Another aim was to document the approach and steps in detail.

The overarching methodological approach for this study was Interpretative Phenomenological Analysis (IPA), which studies individuals' sensemaking of their personal and social experiences (Smith et al., 2008). IPA has its philosophical underpinnings in phenomenology and symbolic interactionism as developed in the mid-1990s. Edmund Husserl's philosophical foundation underpins the phenomenological assumption of IPA. Phenomenology allows deeper issues to emerge from those areas underexplored. From a phenomenological viewpoint, the individual's subjectivity and knowledge can be uncovered, allowing their perspectives to be heard (Van Manen, 2016). The researcher found this approach appropriate for this study due to the interest in exploring the contextual factors,

including the behaviours that facilitate or hamper research performance from the perspective of research-active academics.

The nature of IPA is of such that researchers arrive at the lived experiences of research participants through the individual's personal and subjective account. The experience was theorised as consisting of individuals making meanings in their real lifeworld (Ashworth, 2004). IPA further, posits that the analysis should be able to provide an interpretation of the meaning-making and sense-making process of the individuals (Smith & Shinebourne, 2012).

IPA was chosen as it aligned with the researcher's interpretive research paradigm for this kind of study which aimed to include and explain the personal account of individual's perspective of their lived experience (Burrell & Morgan, 2017). This approach also suits the researcher's identification with the nominalist ontology that assumes multiple and equally valid social realities exist, and these realities are the individuals' subjective perspective (Burrell & Morgan, 2017; Ponterotto, 2005). The understanding of these realities (Burrell & Morgan, 2017), stems from interactions between researcher and participants in an interpretive epistemology. IPA is also a useful research instrument for under-explored differences within the same sample as it highlighted the different perspectives from participants from within their context (Reid et al., 2005; Smith, 2003; Smith, 2015).

The research questions were mainly aimed at how participants perceived their lived experience within their specific context, which was the different academic levels from two different academic departments, within a young university with a lesser reputation than research-intensive institutions for research. Therefore, IPA fitted this study because the research efficacy of higher education researchers in these specific contexts was under-researched. The research topic was further best explored as a process over three years because the nature of research is not a once-off incident or project that have formed researchers' perspectives of their lived experiences.

This interpretive phenomenological study followed the principles of grounded theory analysis techniques and as such, has been inductive by adapting the inductive techniques; although IPA is generally viewed as a bottom-up (Reid et al., 2005) rather than top-down approach; both these approaches were followed in

this study. Reason being that after the first four passes or iterations of immersing into the second and third case's data respectively the researcher came to the understanding that the experience narratives and themes were similar. A top-down approach (Saldaña, 2016) was warranted with various reiterative versions of top-down bottom-up and back would be advantageous and not handicapping the researcher in extracting the meaning of each participant's experience. However, the researcher wanted to ensure that the participants were accurately represented (Gehlbach & Vriesema, 2019). Confirmation bias (Podsakoff et al., 2016) as well as the researcher's potential bias awareness (Gehlbach & Vriesema, 2019) towards the already emerged factors from the previous cases was reduced through multiple top-down bottom-up and back reiterative versions. In this instance the number of passes reduced from 11 to eight passes and saved time.

Ridder (2017) asserts that case studies support theory development by building on concepts whilst comparing differences and similarities in multiple case studies. Case study research methodology, and therefor case study design, also fit the overall approach in that it investigates the "why" and "how" of a contextual phenomenon (Ridder, 2017) as is the aim of this study.

This methodology specifically provided the principles for systematically gathering qualitative data, analysing it in an IPA tradition with grounded methodology techniques and presented it as cases with a cross-case analysis. The methodology, with its phases, is displayed in Table 3.1.

Table 3.1: Research Phases and Subsequent Aims

#	Research Phase	Aim	Actions
1	Methodological decision	To carefully extract factors and their meaning of academics' lived experience of research from within an ontological and epistemological model that matches the researcher's scientific paradigm.	Harmonious with the researcher's scientific worldview, he decided upon a methodology that provides proven analytical steps that align well with an appropriate established initial inductive interpretative approach.
2	Research Approach	To extract the meaning of academics' lived experience of research, while exploring the factors that hamper and facilitate research and their impact on research performance in predetermined strata at ANRU.	The researcher decided on a Phenomenological approach with inductive and deductive data analysis techniques.
3	Sampling	To establish a theoretical sample that provided the research experience of researchers, research leaders and the Executive at ANRU.	The researcher drew a purposive stratified sample of research-active academics, research leaders and the executive at ANRU.
4	Data Collection	To obtain the shared meaning of academics' lived experience whilst the semi-structured interviews allowed for more in-depth exploration of aspects or possible gaps in the datasets. The latter also informed the researcher and subsequent participants about previously unknown and/or subconscious information. To identify those factors that had the greatest facilitating or hampering impacts on research performance.	The researcher obtained a narrative from the initial in-depth semi-structured interviews with the respondents. During the second round of interviews informed by knowledge obtained from initial interviews, further information from the sampled leadership participants was obtained as well as member checking with key informants. Following the interviews and identification of factors, the academics were asked to rank factors in terms of their relative impact on research performance.

5	Data Analysis	To identify and explore the impact of key contextual factors and relationships between them, on performance. An indication of differences in the hierarchy of factors amongst disciplines, appointment type and roles became clear. To identify what is common across cases and, what differs between cases. The commonalities and differences became clear and illustrates “how” the particular contexts affect the phenomenon.	An inductive and deductive approach was followed in a repetitive pattern of reading for understanding and sense/meaning-making, coding of concepts, synthesising codes into themes and eventually integrated and linked themes per case. Lastly, a cross-case analysis was conducted by examining and reporting the commonalities and differences as affected by most facilitating and hampering identified factors
6	Writing up	To provide the results of the study in a coherent format integrated into a theoretical research performance framework; and, develop possible strategies for improved research performance.	Findings were interpreted and integrated into a theoretical framework in results and discussion chapters.

The existing research literature regarding universities' research performance is limited in that many studies have weak theoretical and conceptual underpinnings or are short of exhaustive qualitative research (Bland et al., 2005; Brew et al., 2015; Teodorescu, 2000). A qualitative phenomenological approach with inductive data analysis techniques could fill the gap (O'Reilly et al., 2012).

The qualitative data gathered was in the form of a narrative about the respondents' perceived experiences of their research. Phenomenology frames the approach to gathering and making sense of the data to obtain the unfiltered, contextually rich research experience of academics. The data-gathering was spread over the following four phases, namely individual interviews with departmental academics, rank order survey, interviews with strategic research leaders, and interviews for member verification.

It was crucial to not only establish 'what and how' various factors impacted research performance, but also 'which' of these factors had the most influence on their research performance. Thus, it warranted an analysis and explanation using descriptive statistics to obtain additional, more representations of not only the importance of the data (Todd, 2004) but also a validation of the established factors. A survey instrument to rank order listed factors, that emerged from the qualitative analysis, was developed and deployed. The participants, small in sub samples of academic levels, of previously interviewed participants who completed the survey was requested to rank-order data. As such, the data analysis was non-parametric, by definition not normally distributed, and subsequently only used to provide descriptive statistics (Corder & Foreman, 2014).

To conclude an IPA approach with an interpretivist-constructivist stance was followed in gathering, analysing, and interpreting data within a case study design as an analysis and presentation frame.

3.5.2 Research Design

The purpose of this study was to explore how contextual factors impact research performance at Another New Research University. This study encompassed two academic departments cases and one leadership cohort case from ANRU. Due to its value to develop theory and suggested interventions a case

and cross-case design were implemented for further exploration and analysis of the ‘how’ and the ‘why’ (Ridder, 2017) of this expected complex research and university phenomena and contexts.

The bounded ANRU case study design system (Miles et al., 2014) was the active researchers from specific departments, and all the leaders of those academic departments and institutional research leaders involved with these departments in one cohort, namely the RLC, for this bounded case study design system see Figure 3.1.

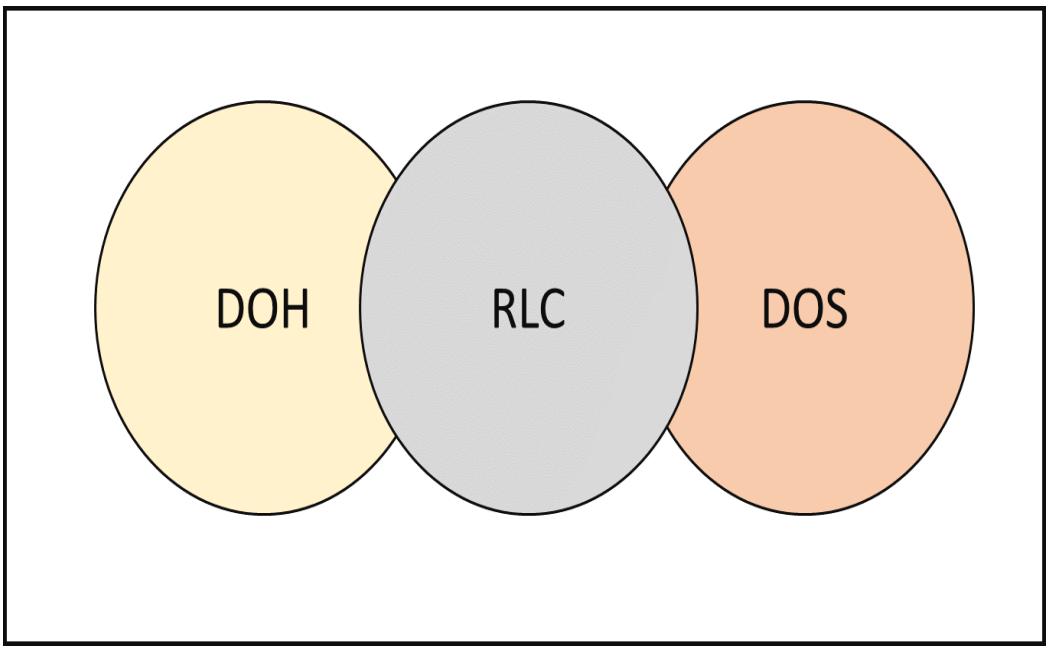

Figure 3.1: Bounded System: Two Academic Departments and a Leadership Cohort

Whilst meeting the exploratory objective of the study, the design facilitated the description of the socially constructed realities of the respondents’ sense of their world of research work. The in-depth interviews provided the potential to generate new theory, as it employed open coded inductive data analysis techniques, from academic participants’ datasets (Creswell & Poth, 2016; O’Reilly et al., 2012) of singular cases which were then analysed across cases to corroborate and provide differences and similarities of the cases. This design lends itself to rich, thick descriptions of the individual case and overall context allowing the research-active academics experiences to tell their story.

Individual analysis of the cases took place before a cross-case analysis was conducted. Cross-checking and triangulation of data within a case (Creswell & Creswell, 2017) provide experienced themes and ensure the integrity of data. Key findings from the DOH, DOS, and RLC formed the basis of the assertions from the cross-case analysis. The systematic comparison of the cases identifies the commonalities and differences of the research findings (Ridder, 2017). In the cross-case analysis, results were corroborated with each case which assisted confirmation of the themes emerging from the data applicable to ANRU. The assertions contributed to and supported the development of conclusions. This corroboration of evidence increased the credibility and confirmability of the findings and the study (Miles et al., 2014) as well as the foundation for the theoretical framework (Ridder, 2017) which assisted in illustrating the ideal utilisation of several theories for the potential improvement of research performance. In addition, it supports the applicability and potential success of the suggested interventions.

This design further contributes with respect to its interpretivist aspect seen by Ridder (2017) as neglect in case study research, as well as elaborating on the use of OD as a meta-theory. In his analysis of the contribution of case study designs Ridder (2017) omitted the location of ‘elaboration’ on the suggested theory continuum, which is important in conducting further knowledge creation or refinement. The basis for this study was laid by in-depth interview data from research-active academics and their departmental and institutional leaders.

3.5.3 Research Study Participants

The population from which the participant sample was recruited was necessary to obtain a holistic, system-wide view of the phenomenon for the two participating academic departments and ANRU’s leadership cadre. Academics that were research-active were identified as those that were awarded research performance points in the preceding three years. The identification data was obtained from ANRU’s research performance points system. The stratified theoretical (purposive) population was obtained from existing databases on active ANRU academic staff (Liamputtong, 2013).

The two academic departments that were involved in the study were one in the natural sciences and one in the social sciences and humanities henceforth referred to as the Department of Sciences (DOS) and the Department of Humanities (DOH). The academic departments' populations were divided into categories according to their specific organisational, appointment level and position strata obtained from an ANRU staff database. Staff in 'teaching only' positions and research students were not included in the population. This purposive stratified sampling method (Teddlie & Yu, 2007) included features like nesting in the context, being purposive and bounded (Miles et al., 2014).

Thirty academics were the randomly (Teddlie & Yu, 2007) selected from the purposive stratified pool of candidates. A purposive and random stratified participant sample of 30 academics and leaders was drawn from the identified academic population. This sample included 10 research-active academics, henceforth referred to as Academics, from two departments each, 10 research leaders (RLC) of whom three were in centralised positions (CSRL) and another seven provided leadership at an institutional level. The research leaders represented academic department perspectives and the broader institutional perspective. The sample was stratified on five different appointment levels from professorial rank to academic level Bs and post-doctoral fellows (Mohrman et al., 2003). This type of sample also included participants who are not expected to be actively conducting research, for example, managerial and strategic research leaders, thus seeking data beyond areas where researchers have emerged themselves in research and simultaneously including a broad spectrum of experiences (O'Reilly et al., 2012; Yin, 2013). The sample design is illustrated in Table 3.2.

Table 3.2: Interview Sampling: Numbers of Participants per Category

Academic Levels	Interview Sample: Research Leaders		
	University executive and leaders of centralised university research centres		
Lev E	3		
	A convenience sample from the academic departments and research institutions and research centres		
	Heads of a research institute		**Head of a research centre**
Lev E & D	2		1
	Heads of the Academic Departments		**Associate Heads of Research from the Academic Departments**
Lev E & D	2		2
	Interview Sample: Academics (A random stratified sample from the academic departments' population)		
	Title / Academic departments	**DOS**	**DOH**
	Discipline	**Natural Sciences**	**Social Sciences**
Lev E	**Professor**	2	2
Lev D	**A/Professor**	2	2
Lev C	**Senior Lecturer**	2	2
Lev B	**Lecturer**	2	2
Lev B	**Post Doc Fellow**	2	2

This purposive stratified random sample design adhered to the principle of a wide range of considerations in qualitative sampling. The range covered was: academics (a) in various roles, (b) different appointment levels, e.g. Level B, including Post-doctoral fellows, C, D, and E, (c) different stages of tenure and/or research career, (d) differences in gender and age, and (e) from different disciplines (Miles et al., 2014; Wilmot, 2005). The chosen sampling plan adhered to the following sampling criteria. It is relevant - the target population was Academics appointed to do research or involved in research; the phenomenon 'experience of

research performance' has been present in the sample, and real-life descriptions of the phenomenon arose from the interviews.

The research leaders of university service centres and leaders of the academic departments were pooled in one leadership sample. These leadership participants will be referred to as the Research Leadership Cohort (RLC). Likewise, the Post-Doctoral Fellows were pooled with academic level Bs. In both cases, pooling into one dataset was necessary to maintain individuals' anonymity.

An oversampling strategy of recruiting 30 people to collect a full interview dataset from approximately 26 people was implemented. Eventually, no respondents withdrew from the data-gathering phase of the study. Thirty-one participants took part in the data-gathering phase as one participant in the DOH was initially unavailable and accepted the invitation to participate after a replacement was found. Having a fall back academic categories and numbers per level options in place, provided a sustainable recruitment plan in case any recruit opted out of the study.

These strategies kept the purposive sampling principle intact. The sample size was determined by taking into consideration qualitative research principles, such as flexibility, depth to ensure saturation of data and stratification (Liamputtong, 2013; Onwuegbuzie & Leech, 2007). The sample sizes of the two academic departments fulfilled the expectation of approximately 10 from each (Smith et al., 1999) in that DOH comprised 12 participants, the DOS 9 participants, and 10 RLC participants as per Table 3.2.

All these considerations led to participants that contributed data, distributed in their strata levels and described as follows: 10 Level Es, six Level Ds, eight Level Cs, and seven Level Bs. To maintain anonymity, only the overall participant composition and demographic data are displayed in Table 3.3. They had an average of 15.6 years of post-PhD academic experience, 12 were females, and 19 were males, on average they had a self-reported average workload of 40% research, 32.1% teaching and 27.9% service.

Table 3.3: Overall Participant Composition and Description

Aspect	ANRU
No of Participants	31
Appointment Level: E	10
D	8
C	6
B	7
Female	12
Male	19
PhD Qualified	30
Masters Qualified	1
Ave. Experience post highest qualification conferral	15.58 yrs.
Ave. Workload distribution: Teaching	32.1%
Ave. Workload distribution: Research	40.0%
Ave. Workload distribution: Service	27.9%

The RLC, with an average of 19.3 years' experience, positively influences the average years of experience post qualifications. With an average of 10% teaching workload they had a considerable negative influence on the average teaching workload percentage. They had a slightly positive (average of 32% research workload) impact on the research average workload and a significant (58% service workload) contribution to the service workload percentage.

3.5.4 Research Procedure

The research procedure describes the detail data-gathering interview and survey methods followed as well as how the data analysis methods IPA and grounded theory techniques led to results for the cross-case analysis.

3.5.4.1 Data-gathering Methods

Data was gathered and analysed from two academic departments, one in humanities and one in natural science and the Research Leadership Cohort. Invitation to key research leaders' provided experiences and insights into issues, that affected the research performance of staff and further additional aspects impacting on research performance were obtained or further explained (O'Reilly et al., 2012).

A phone call was made to 31 potential participants to engender interest and commitment. Once the promise was given an electronic diary invitation, with an embedded information memorandum (see Appendix 3.1) and consent form (see Appendix 3.2), were sent to the participants.

A minimally, structured, open-ended in-depth interview was selected as the primary data collection method. Two pilot interviews were conducted with experienced independent academics before interviews commenced with participants, which enabled refinement of the interview structure and questions.

The sequence of interviews, at academic departments, was dependent on the availability of the participants in the sample. Analysis of data for the DOH was concurrent with interviews to support the researcher's sense-making of the phenomenon. Interview data of the DOS and RLC were respectively completed and analysed after the DOH analysis was done. The overall dataset was gathered in four distinct phases.

Phase one involved in-depth individual interviews with Academics from the two academic departments. Heads of institutes and centres, as well as departmental leaders, were interviewed last. The first phase of data-gathering took place employing an open-ended interview question, as well as open-ended follow up questions, where relevant, which ensured a mainly inductive approach. The interview's central focus was the perceptions and experiences that participants had

about research. Interviews commenced with a general “tour” or “spill” prompt “I am interested to hear your story of how you experience research at ANRU”, which allowed interviewees to share perspectives about experiences that were relevant to them. In addition to the lead prompt, participants were probed for more factors and attributes to solicit sufficient data to answer the research questions where needed. See Appendix 3.4 for the semi-structured interview guide.

During interviews, the expected process was confirmed, and people sensitised towards the fact that their experiences over the last three years are of importance. Sensitisation eliminated the fact that current changes in the institution took precedence in their research experience narratives. An initial intuitive analysis of the most salient points mentioned during the interview was made.

Phase two entailed the electronic Qualtrics questionnaire, which was administered in pass 14. Data-gathering was completed through this rank order Qualtrics questionnaire in which the factors, obtained from the interview data analysis, were presented to the departmental participants. This rank order determined the factors that facilitated or hampered research performance the most.

In phase three, interviews were conducted with a sample of strategic research leader participants. The interview data illuminated ANRU Academics’ research experience and the personal sense of their world of research. This data further revealed contextual factors that hampered or facilitated research performance. The Research Leadership Cohort (RLC) interviewed in phase three, for example after the participants in academic departments was exhausted and included follow-up questions to verify strategy, policy, process, systems, and procedures that might have affected researchers. The views from the Chief of Research, for further strategic alignment, was obtained lastly. Also during phase three, in the second round of interviews with research leaders, the identified contextual factors were explored in further depth in terms of “how” these factors impact on research performance, dependant on the data saturation level (Liamputtong, 2013). Data saturation (Patterson, 2017) was evident when the process of the open ended general "spill" question and the follow-up questions did not provide any new experiences or insights after the first five to seven interviews per academic department. Furthermore, when ‘how factors impacted’ question

checked with research leaders did not reveal new experiences or insights it confirmed data saturation.

During the fourth phase with sampled key informants for member verification, the alignment or misalignment of data have been verified. This phase further revealed and confirmed the contextual factors of the most and least facilitating and hampering factors. To circumvent repudiation (for example, by correcting provided information to be more politically correct, when challenged with individualised data) a strategy of checking aggregate interpreted data with the participants was followed (Yin, 2013). Factors that emerged from initial concepts, themes and possible interpretations arising from the first interviews, had been tested out in these interviews as well as through the rank order survey and manually completed by the CSSRL. This verification and alignment were confirmed again during the analysis of survey data and especially during the cross-case analysis as well as with enriched data from the RLC lived experience of research (Creswell & Poth, 2016).

IPA supported by grounded theory analysis techniques provide results that could be written up as case studies for further analysis through corroboration in the identification of commonalities and differences in a cross-case analysis of how contextual factors affect the research performance.

3.5.4.2 Data Analysis

The broadly inductive data analysis approach endorsed by data obtained from a factor rank order procedure followed systematic, iterative, mainly inductive data analysis methods. This methodological approach to the analysis is provided by a reiteration of the researcher’s world view, describing the type of data, the main phases of the analysis, a broad overview of the analysis followed by detail steps and procedures. Finally, the analysis provided answers to which specific research questions were addressed during which phase of analysis.

To show the limitations of the researcher's influence on the study, it is critical to reiterate the researcher’s world view, as stated earlier. The researcher’s influence was minimised by a conscious decision to note the intuitive understanding of the respondent’s experience immediately after each interview.

Further, without any deeper level interpretation, the researcher stayed close to the data in the analytical phase, which was reported in the results chapter, and added a meaning layer only as a consolidation of results at the end of each results chapter. Further interpretation where needed was presented in the argument phase in the corroboration and discussion chapter (Elliott, 2018). Following this process, in only adding a meaning layer after the complete analysis was done and in the argument phase, it did not mean negating the value of the lived experience of the participants but rather ensuring that the participants' experiences were captured as lived and uncontaminated by the researcher's views. The process also provided the researcher's responsibility to stay close and connected to the data (Rapley, 2011). Recognition and transparency of eliminating possible biases assisted in minimising the researcher's potential subjectivity and maintained internal validity during data analysis (Lewis, 2009).

The researcher recognised and ensured, through this analysis process, that prior knowledge together with the a priori interview question, and follow-up questions did not influence him to become involved in specific clauses, phrases and words from participants and the way they were eventually coded.

A dataset, provided by the participants during interviews was transcribed, captured, and managed within NVivo 10. The software provided a useful platform in storing the data and from where to listen to the recorded interview data. Playing the recordings at variable speeds, was conducive to note-taking during the first rounds and supported the quality of analysis and labelling by focussed listening. Making notes and or theoretical memoing already started during the interview, directly after the interview, recording listening stage and continued throughout the iterative process (Montgomery & Bailey, 2007).

This contextual interpretive phenomenological (Gill, 2020) analysis followed the primary principles of grounded theory analysis techniques augmented with an emphasis on interpretative meaning construction presented by rich thick descriptions as in case study design. For the Academic Department DOH, the researcher thus followed the principles and data analysis methods that guided the inductive data analysis. That is, all data was iteratively analysed, and constructs were labelled or open coded after the ongoing notes in the memoing journal were

reviewed and further open codes determined. Codes were discovered from the data and not taken from external sources. Codes were used to construct categories, and categories were then used to construct themes or meta constructs related to the overall research question. Reoccurring themes were identified in running analytical notes and memos (Corbin & Strauss, 2014) until the end of the study as detailed by Bradley et al. (2007). The technique provided a transparent trial of analysis from which the categories and 'experienced themes' were derived. In this way, the data contributed to a model or framework of research performance.

The reiterative systematic inductive approach designed for the recorded data analysis phase of the study and exercised for the Academic Department DOH consisted of at least eleven recognisable distinct passes. See Appendix 3.5 for all the detailed passes in the data analysis approach.

By following the methodology, the approach and research procedures a very rich and saturated dataset became evident after the first four passes on commencement of the analysis for both the academic department DOS and RLC. After a repeated reread of the participants' experiences within the DOS and RLC, it was evident that both these cohorts presented narratives with 'experienced themes' closely related to that of the DOH. A decision was made to follow a lumping technique in the further analysis of these two datasets. The lumping technique or systematic text condensation, inspired by phenomenology, can be applied in various theoretical frameworks through four steps. These steps are disorder to themes, sorting themes to codes, condensing codes to meaning, and synthesising condensation into descriptions and concepts with an answerable level of methodological robustness (Malterud, 2012). In this study, a mix of the four-step sequences was followed with a reiterative process. This was done by using the concept of the lumping analysis or holistic coding method, described by Saldaña (2015). Lumping versus breaking the data was seen as a beneficial labelling method to assign factors and 'experienced themes' to large portions of data with the option to tear those portions apart into smaller portions and label it with category/factor and code labels.

This analysis process resulted in an additional four passes (12 – 15) of the DOS and RLC transcripts, as described in Appendix 3.5. The analysis for the DOS

and RLC data commenced from top-down (themes to “words in context” alignment first) by sorting a variety of constructs into the themes that emerged from the very detailed bottom-up analysis in the DOH. Data was then analysed from bottom-up (open coding to categories second) and iteratively between levels in the detailed analysis phase. The procedure and methods described above were further validated and evidenced through new codes and eventually open codes that emerged additionally, from that in the DOH, from both the DOS and RLC.

The results of the specific case were recorded on an open code, code and category level, per ‘experienced theme’ (*personal*, *work* and *external contexts*), which led to a detailed understanding of the themes and categories (factors impacting research performance). Through this process meaning (open), then categorise (axial), and lastly integrate (selective coding) was identified as suggested by Corbin and Strauss (2014). These meaning contexts and category factors led to the foundations of a theoretical model or framework (Bradley et al., 2007; Leech & Onwuegbuzie, 2011) of research performance at ANRU. This allowed synthesis and construction of a model or framework of the factors that hamper and or facilitate research performance at this institution together with a sense of how Academics experienced these factors.

Research question one (RQ1) was answered directly from the participants’ interview data and research question three (RQ3) from the ranking questionnaires, based on the factors that emerged from the interview data. Research question two (RQ2) answered how researchers vary in their perceptions of contextual factors by comparing and contrasting information from the participants’ data, per the strata in which they operate. By following the described analysis methodology, the researcher was able to provide a clear link between the research questions and the data collections and analyses, as shown in Table 3.4.

Finally, the intensive reviewing of the content ensured; over and above the open codes, codes, categories which became the contextual factors within themes, and ‘experienced themes’, another layer of meaning from the data that was useful in the results consolidation, corroboration and discussion phases. This meaning led to enriched answers to research question one (RQ1) and two (RQ2). Simultaneously, the categories provided the factors for question three (RQ3),

utilised to rank and interpret the data obtained from a survey. The survey was administered in phase two; after all, the academic department and academic department leaders were interviewed.

The data from Qualtrics and hardcopy versions of the survey administered to those who had participated in the interviews were analysed using a rank order method. The participants were requested to rank order factors that impacted on research performance. An ordinal categorical variable of most to third highest with numerical labels of one to three was chosen by participants to determine the factors that had the most hampering and most facilitating influence on research performance. They use these numerical labels to rank the factors that either facilitated or hampered research performance the most (Stark, 2016).

The following sequential steps were followed in the rank order analysis method, namely:

- a table of factors with all participants' ID numbers and their respective ranks was populated for facilitating and then hampering research performance;
- the numerical ranking labels were transformed from 1 to 3, 2 to 2, and 3 to 1 so that factors with the largest impact had the highest-ranking score;
- the sum of ranking scores for each factor was calculated;
- the factors were then sorted by the total scores per factor from the highest to the lowest to provide the factors that had the highest to third-highest impact on facilitating or hampering research performance for the sample as a whole and per academic appointment level; and
- the same dataset was used to determine the factors that had the highest to third-highest impact on facilitating or hampering research performance per cohort and accompanying appointment levels.

Research question three (RQ3), was answered by comparing and contrasting information from participants' ranking data, for the overall sample, per academic department and the RLC as well as per academic level, concerning which of the contextual factors have the most influential impact. By following the described methodology, the researcher was able to provide a clear link between

the research questions and the data collections and analyses, as shown in Table 3.4.

Table 3.4: Aligned Research Questions, Data Collections and Data Analyses

Research questions	Data collection: Academics, Researchers and Research Leadership	Data analysis
How do research leaders and active researchers perceive the impact of external and internal contextual factors on research performance at Another New Research University?	The In-depth "life experience" question provided internal and external factors and how they were impacting on research performance.	Open codes, codes, categories and aggregated themes emerged from the data. Academics at ANRU shared three top facilitating and three top hampering factors. The top three facilitating factors emerged from the *personal* and *external context* themes. Personal attributes and interaction with other academics and the community supported their research performance and provided fulfilment of the sub-identities nested in the academic role. The hampering factors, however, were all from the work context theme and the lack of financial resources, competing demands and an inadequate internal environment solicited role and identity conflicts that led to job dissatisfaction as well as withdrawal from research endeavours and ill health in instances.
	The semi-structured interpretive enquiry explored detail and/or factors not being covered and verified data.	Initial interviews and subsequent member checking with key informants as well as the Qualtrics survey, from which the rank orders were obtained, confirmed the factors that emerged from the interviews

How do research leaders and active researchers, from different appointment levels and disciplines, vary in their perceptions of contextual factors impacting on research performance at Another New Research University?	In-depth interviews revealed factors and insight into the differences between roles and levels that impacting on research performance. The Qualtrics survey, based on the factors that emerged from the interview data, solicited rankings from Academics from different appointment levels, and departments to indicate which factors hampered or facilitated research performance the most.	The DOH, DOS and RLC datasets were analysed separately and cross-referenced with each other. Whilst the factors that impacted on their research performance were similar distinct contextual experienced differences amongst the cohorts and their respective academic levels were apparent. Aggregated and summed the factor rankings from Academics in their cohorts and academic appointment levels. Different cohorts and academic appointment levels had different experiences of the contextual factors that influence their research performance.
Which of these contextual factors do research leaders and researchers perceive to have the most influence on research performance at Another New Research University?	The Qualtrics survey solicited rankings from Academics from different appointment levels, and academic departments indicated which factors hampered or facilitated research performance the most	Aggregated and summed rankings from Academics in their cohorts and academic appointment levels. The rankings provided answers to the six cohort and academic level factors that have the most facilitating and hampering influence on research performance at Another New Research University?
The Overarching research question was: How do contextual factors impact research performance at Another New Research University?	The in-depth “life experience” prompt highlighted factors, strategy and policy effects that had a profound impact on research performance. The semi-structured interpretive enquiry explored highlighted factors, strategy and policy effects, found new aspects that had a profound impact on research performance and verified the information with key informants.	Identified contextual factors impact research performance at Another New Research University differently within the identified cohorts and academic appointment levels. The researcher constructed a framework of how contextual themes on a *personal, work, and external context* impacted research performance at Another New Research University.

The research questions led to the data collection methods of choice. They guided the data analysis, which provided a thorough understanding of what factors Academics perceived as the most and or least facilitating and hampering factors for research performance. They further highlighted how Academics perceived and experienced these factors impacting on their research performance. The factors provided the themes in which Academics perform their research. The themes, together with the factors, provided the basis for a theoretical model or framework for research performance at ANRU.

3.6 Rigour of the Study

Leading to the theoretical model the researcher reported in a transparent way the aligned consistency in research questions, conceptualisation, link from paradigm to methodology, reflections, research design, sampling, approaches, methods and theorising followed in reporting (Ashworth et al., 2019; Elsahn et al., 2020) without following a dogmatic linear approach in analysis. The categories or factors were tested against data gathered, and member checked with participants. Within a constructivist paradigm, the fact is reality, constructed from “consensus amongst individuals most competent; not necessarily most powerful” (Denzin & Lincoln, 2011). This approach has increased the dependability and credibility of the study.

Truth or trustworthiness (Huttunen & Kakkori, 2020) of the data which incorporates 1) credibility, 2) transferability, 3) dependability and 4) confirmability (Guba & Lincoln, 1994); were applied and ensured through the design of the study. This trustworthiness was ensured by stressing confidentiality in the invitations, supported by trustworthy and esteemed supervisors, and at the onset of interviews. Furthermore, the interviews were conducted in the privacy of participants’ offices and the researcher's obligation to the Psychologists’ Code of Conduct stressed. Four phases of data-gathering, multiple methods, techniques, multiple reiterations used during 15 passes of analysis added to the rigour of this research. Regular review of notes (Montgomery & Bailey, 2007) made and in-depth reflections on the ‘what and how’ of the researcher’s practice circumvented any potential biases to ensure ethical practices.

The researcher's lived experience, for the last 30 years as a registered psychologist and OD management specialist assisted him well in interpreting participants' experiences and their context in an interpretivist-constructivist style. This style fits the paradigm, ontological, epistemological and methodology of the study.

3.7 Ethics Protocols

As the research involved interviews and questionnaires with human participants, the study complied with the requirements of the Australian 2007 "National Statement on Ethical Conduct in Human Research" and the applicable Another New Research University Policy on the "Conduct of Ethical Human Research". Formal permission (Project: 13353 Groenewald), from the Another New Research University Ethics Committee, to access existing academic databases for research-active academics, appointment roles, levels and academic departments and to approach staff were acquired before the study commenced. The policies and guidelines of the above institutions and ethical principles were executed with integrity (Australian Psychological Society, 2013; NHMRC, 2007 (Updated 2018)). All data remained anonymous and academic departments, centres, disciplines, roles, and datasets have been allocated a pseudonym and a reference number, respectively. Further additional identity protection was designed through the aggregation of data and layout of chapters in the thesis.

The fact that the researcher is a registered Psychologist and lives by the ethical rules of the Australian Health Practitioner Regulation Agency (AHPRA) assisted in minimising risks to the participants to the absolute minimum and report this research with integrity.

3.8 Limitations

Because of the lag in reporting research-active researchers, the participants had to provide historical data and, in some instances, could potentially mix those experiences with their current situation. This time lag interference was circumvented by indicating the period of the last three years as a timeframe with

the “spill” question, repeating the timeframe where it becomes apparent that a current experience was provided and exploring the thick examples with Academics and the RLC. The time lag together with the pluralistic design might concern some scholars. Then, pluralistic designs are viewed as providing thick descriptions of data (Ashworth et al., 2019).

Reporting of the small sample of 31 participants reduced to 25 for the rank ordering survey together with small numbers for the RLC case, two different discipline cohorts, and rank order in different role categories at one university signals appropriate caution in the generalisation of the findings beyond this research. However, the research provides good records of rich experiences from the participants as expected from qualitative research (Liamputtong, 2013).

3.9 Chapter Summary

This Chapter has outlined the ANRU context, the researcher’s scientific worldview, and how that linked to a philosophy underlying this study. The Chapter further described the link between philosophy and qualitative research methodology. It also provided the reasoning for such a methodology.

The study used qualitative methods and techniques of the Grounded Theory and Phenomenological Interpretive Enquiry approach based on inductive and deductive data analysis techniques, to make sense of the collective meaning and reality of academic researchers.

From a sample of research-active academics from the Department of Humanities (DOH), the context of the DOH and results of the Academics’ lived experience are provided as a case in Chapter 4.

Chapter 4: Research Experience: ANRU Department of Humanities

4.1 Introduction

This Chapter presents the first of three cases and describes the context of the Department of Humanities (DOH) and reports the lived experience of Academics sampled from the DOH under the three broad Themes *Personal Context* (A), *Work Context* (B) and *External Context* (C). Care has been taken to ensure and maintain focus on the participants' lived experience by only paying attention to a description of these experiences in this Chapter. Themes and categories/factors in text passages are discernible as italic font. Meaning and significance of these lived experiences are explained in Chapter 8.

4.2 Overview of DOH Context and Themes

ANRU is a multi-campus university offering programs in the arts, education, humanities, engineering, social, medical, and natural sciences. The Department of Humanities (DOH) has its roots in the humanities. Its teaching programmes are complemented by research, which is facilitated by a research institute, two research centres and various research groups. The DOH offers an array of undergraduate, graduate certificate and diploma and post-graduate courses with fewer than 200 academic staff members. Approximately 100 DOH staff members were PhD graduates of which on average 50 were research-active. The DOH typically enrols on average 5000 students per year.

The DOH was influenced by several internal and external environmental aspects, for instance: a drive for improved research performance, the nature of the industry serviced, external policy settings, and constant internal and external changes. This dynamic environment consequently impacted on Academics lived experience of research.

A dataset was analysed from Level E, D, C, and B Academics participants, inclusive of two post-doctoral fellows. Three Level Es, three Level Ds, two Level Cs and five Level Bs participated in the study. Of these participants all

13 were PhD qualified, with an average of 13.9 years post PhD academic experience, five were female, and eight were male, on average they had a workload loading of 36.9% research, 52.3% teaching and 9.2% service.

Analysis of interview transcripts generated 82 open codes, which were aggregated into clusters that were used to determine and label 30 codes. The codes were narrowed to 10 categories and from these three themes emerged, namely: *Personal Context* (A), *Work Context* (B), and *External Context* (C). These themes strongly aligned with the conceptual framework, which illustrated various contexts. The themes provided insights into research questions one and two namely: 1) How do research leaders and active researchers perceive the impact of external and internal contextual factors on research performance at ANRU?; and, 2) How do research leaders and active researchers, from different appointment levels and disciplines, vary in their perceptions of contextual factors impacting on research performance at ANRU?

While a bottom-up, inductive approach was followed in analysis, the data is presented graphically from top-down, to provide the overall picture with its underlying detail. These themes, categories, codes, and open codes provide the complete taxonomy derived from the analysis of DOH data. Figure 4.1 represents the relationships between categories and themes arising from DOH.

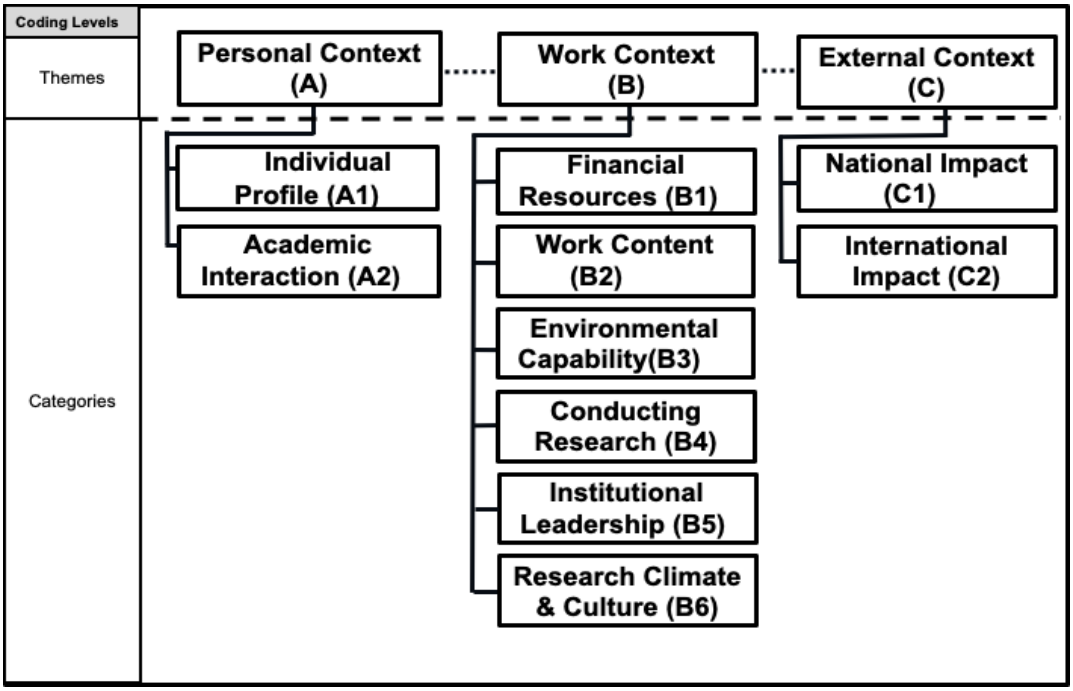

Figure 4.1: The Taxonomy of Themes and Categories for DOH

The themes *Personal Context* (A), *Work Context* (B), and *External Context* (C) represent a holistic picture of DOH Academics' experience of research.

The intrapersonal, personal demographics and interpersonal aspects that influenced Academics' experience of research led to the *Personal Context* (A) theme. Academics immediate work environment with its role demands, organisational direction, organisational support, and the processes of conducting research, which affected their research performance, formed the theme *Work Context* (B). External aspects to ANRU, such as national and state legislation as well as international research opportunities and thought leadership influenced the Academics' experience of research; and this led to the *External Context* (C) theme.

4.3 Personal Context (A) Theme

The *Personal Context* (A) theme emerged from the data in the form of two categories, namely: *Individual Profile* (A1) and *Academics' Interaction* (A2) as depicted in Figure 4.2.

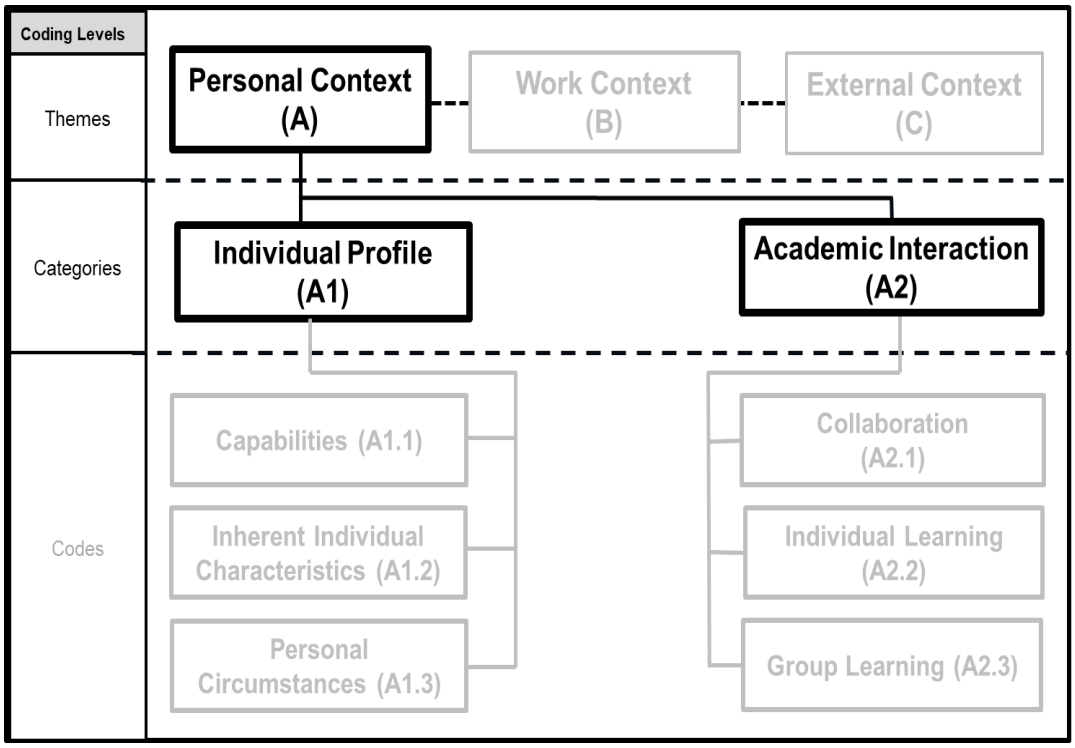

Figure 4.2: Taxonomy: DOH *Personal Context* (A) Theme

The *Personal Context* (A) theme comprised the demographic, intrapersonal, and interpersonal aspects influencing the Academics that could be

facilitators or barriers to research performance. The *Individual Profile* (A1) category described inherent individual capabilities, characteristics, and personal circumstances of Academics that influenced their experience of research or researching according to Academics. The *Academics' Interaction* (A2) category described those collaborations and interactions that Academics viewed as opportunities to find research opportunities, display their research, and learn from others.

4.3.1 Individual Profile (A1) Category

Aspects such as capability and inherent characteristics, including personality traits, as well as unique demographic aspects that contributed to research performance constituted the category *Individual Profile* (A1). The taxonomy for the category *Individual Profile* (A1) is depicted in Figure 4.3.

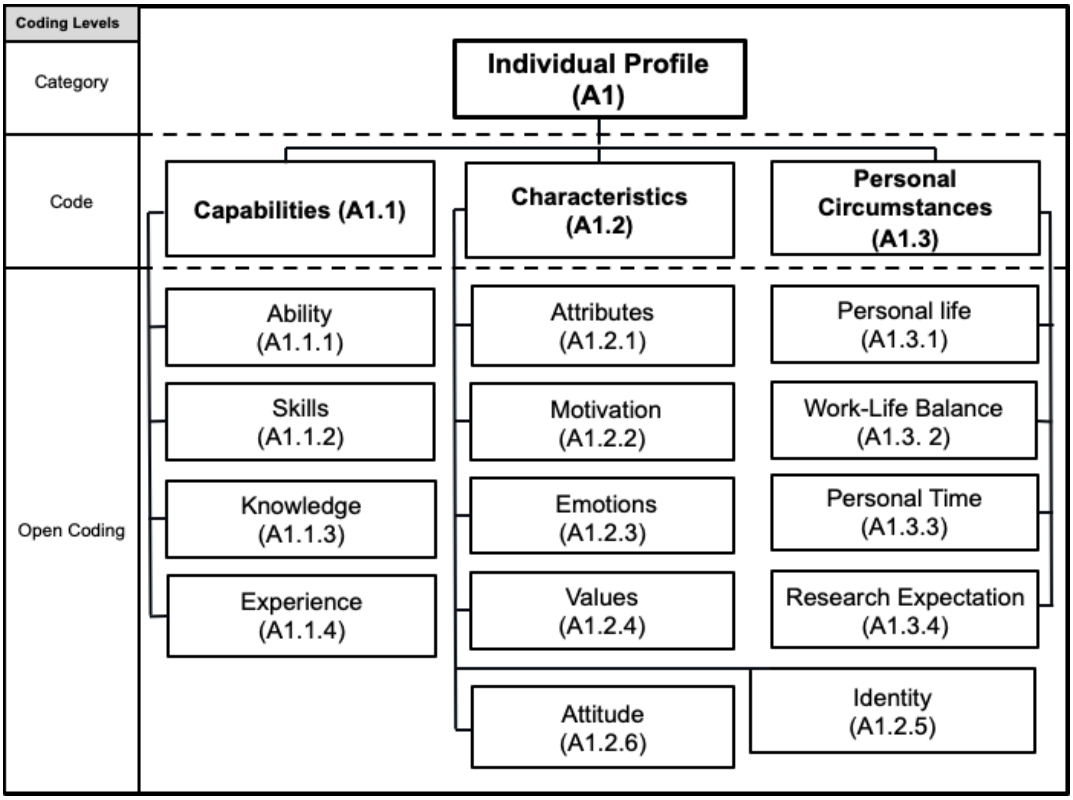

Figure 4.3: Taxonomy: DOH *Individual Profile* (A1) Category

Research capability and subject matter knowledge coupled with experience were considered by participants to be facilitators of increased research performance.

> “Knowledge, you really need to have a good background in the field you're investigating. …. One is research practice, and the content knowledge” (R2, 29/09/16)
> “So, I'm just so intensely involved in what I'm doing, so I can do a lot quickly and efficiently and accurately. And I've just got that ability to block things out” (R4, 8/09/16)
> “running projects if you've never actually had the training to do that?” (R10, 21/09/16)
> “building up relationships, [a capability] that takes time as well, really solves a lot of the problems” (R9, 16/09/16).

Academics’ lived experience showed that inherent individual characteristics such as motivation, curiosity, rigour, ability to cope with pressure, networking and relationship building and relationship maintenance were necessities for research performance. Personality traits, such as resilience, together with motivation, were seen as facilitators of research performance, especially when teaching and research passions were brought together. These facilitating characterising were reported by Academics as “in love” for research, however, at the same time, emotional tiredness (burn out) from the pressure of high expectations was experienced as a barrier to research performance.

> “It's a struggle. There's a duality there because on the one hand I love my work (teaching), I love the - the option to research” (R5, 16/09/16)
> “… physical illness, a lot of them are physically sick, but a lot of them are emotionally just tired and drained” (R6, 22/09/16)
> “Coming back from long service leave - I was buggered before I went, really mentally tired. Because burnout is a huge issue and I think I have hit that before, just by taking on too many projects” (R9, 16/09/16).

Values such as integrity were not consistently experienced in the workplace and could impact negatively on research performance.

> “But I'm telling you, integrity gets thrown out the window at this place because everyone does it (utilising their budget on items not budgeted for), in an attempt to overcome the loss of large amounts of money close to the end of the year” (R27, 27/10/16)
> “And, then when the report was being written, he was asked to include some additional information which would've made them look much better. But, once again they were told, ‘*Sorry, we can't do that’”* (R2, 29/09/16).

Participants commented on aspects relating to their work identity and in particular, ambiguity and uncertainty about their roles of teacher and researcher, which could have had an impact on research performance.

> “We're not quite sure sometimes whether we are researchers, administrators, teachers, and pastoral carers” (R5, 16/09/16)

> “So, I think we do have high standards for our teaching and we see ourselves as, you know, teachers. So maybe the perception of - of - you know, it's important to maintain that - that we are teachers and we are researchers” (R31, 15/09/16).

Some Academics experienced ageing as a hindrance in that they were unsure if they could continue to maintain the expected high level of output at a higher age. Others thought that their experience correlates with age and the older one gets, the more efficient they become, which supports a higher research output. Age is subjective as individuals will relate to age from their own personal context described by Academics as follows.

> “I feel like I'm working pretty much at my capacity at my age, that I just don’t know how much more I've got - I can physically and mentally give” (R5, 16/09/16) and
> “the older you get, the smarter you get at working, so you - you become more efficient” (R4, 8/09/16).

Where personal circumstances directly influenced research performance, the Academics reported that the work-family interface had a reciprocal influence and became either a facilitator or a barrier to research performance and the quality of family life. Academics without dependents experienced easier work-life integration and could be research productive at home. Those Academics who had dependents yearned for a work-life balance and suffered either an emotional toll from family expectations and delivering on research performance or were unable to deliver the research performance they would like to.

> “my (partner)… did say to me, ‘If you're going to spend one more working (weekend) at ANRU, … don’t come home’" (R6, 22/09/16)
> “I've learnt to deal with that (not to do research) on the weekend, but that was partly because I remarried about six years ago and I consciously didn't want to make that mistake again. … it's not easy. In terms of your own work ethic and in terms of … desire, and understanding the pressure that the [academic department] … and the university is under” (R5, 16/09/16)
> “And you know, home life impacts.” and “it also gives me the ability at the moment, while it is just my partner and myself, that if I need to fly away for work or I want to go .., it's very easy for me to do that without too much interruption to anyone else's lives” (R9, 16/09/16).

Those emotions, traits, behaviours, and demographics that Academics experienced about themselves and research or doing research and how it

impacted on research performance thus described the category *Individual Profile* (A1).

4.3.2 Academics' interaction (A2) Category

Interaction in groups or teams provided opportunities for learning and developing research capability; showcasing their research; and, building networks and collaborative opportunities that helped to achieve higher research outcomes. Those interactions and collaborations that impacted on research performance describe the category *Academics' Interaction* (A2) and is depicted in Figure 4.4.

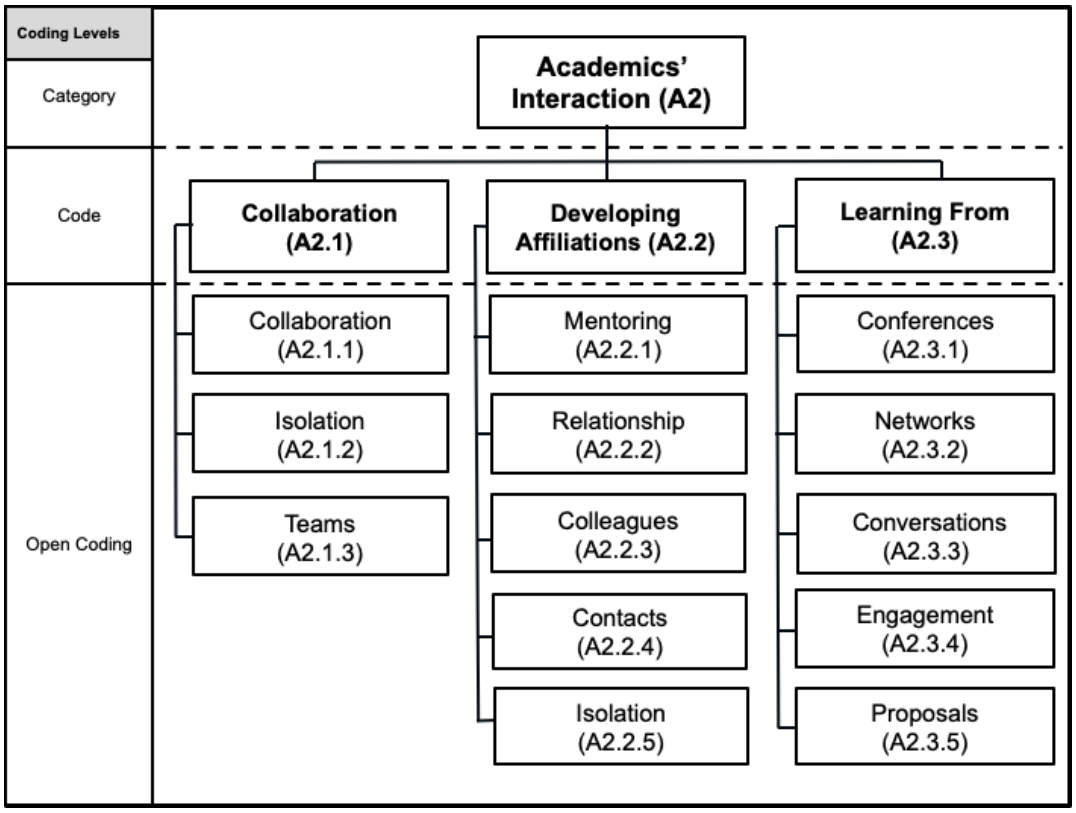

Figure 4.4: Taxonomy: DOH *Academics' Interaction* (A2) Category

National and international collaborations not only provided learning opportunities and improved research performance but also led to opportunities to apply for and win grants. One Academic believed that research is a solitary endeavour. Academics, in general, believed that working together in teams facilitated research output. However, they reported that working in isolation brought along by geographical location and in a few instances being the only researcher in

a specialist area did not contribute to individual development or research opportunities. Academics shared, for example:

> "[research] is, therefore, a solitary endeavour. I never collaborated in 20 years" (R3, 2/11/16)
>
> "I feel that the more you - people are sort of isolated into their areas, the less you're likely to get collaboration and working - working together" (R7, 16/09/16)
>
> "I've got some really good research teams that I work within - so meeting regularly is something that has really helped (research performance). And when that [meetings] doesn't happen, … it's quite easy to feel isolated" (R9, 16/09/16)
>
> "my research is centred around participatory input from my research partners, … we work as a team" (R1, 09/11/16)
>
> "working in a team helps. That - that's where you get the support. So, we actually provide that emotional support for each other" (R4, 8/09/16).

Academics acknowledged that developing affiliations with colleagues, whom they enjoyed working with, and industry partners were necessary for research performance. Academics reported that mentoring during the early stages of their research career was useful and international contacts were especially important. Corridor conversations were experienced as necessities for developing affiliations that could also lead to collaboration and consequently, research performance. They asserted:

> "[without] mentoring from an early stage, I wouldn't have been able to get the same level of output I'd still be learning the processes" (R9, 16/09/16)
>
> "I had opportunities. …, but I think I had this very quick awareness that there wasn't the mentoring in [DOH] available" (R3, 2/11/16)
>
> "I just feel not having that mentoring is making it difficult, because I can't - you know, when I go for a grant, you know, you just can't unless you've got a - a name on it" (R31, 15/09/16)
>
> "I don't go to a lot of conferences, …, it negatively impacts my research, because I don't make contacts with other people in my area" (R7, 16/09/16)
>
> "I put every spare second that I wasn't teaching into the PhD and I got it done fast. And I was well supported because I had two very, very good supervisors" (R5, 16/09/16)
>
> "I would say a lot of what has really helped my research has been my PhD supervisors. So I think having those people who are really happy to talk through problems, you know, to find your areas where you could be part of a bigger team and learn from other people, I think that was really, really useful for me" (R9, 16/09/16).

However, there was balkanisation and silos within the Department and ANRU that led to the isolation of individuals and hindered research performance.

> “what I've seen … is increased siloing and Balkanisation [isolation]” (R5, 16/09/16)
> “isolation largely from each other. So, it became the strategy to develop the collaborative network” (R27, 27/10/16).

According to Academics, teams or groups of people with the same focus shared work and dragged people along, and that provided opportunities for learning from others. The absence of such opportunities thus impact research opportunities negatively. Academics also asserted that whilst teamwork facilitated research; it also provided opportunities for engagement to promote research. Conferences, some funded from private sources, were important to make a connection and converse with people with the same research interests, which led to more connections and research opportunities. Networking and a network of Academics led to a culture of research and opportunities to co-publish. Some Academics responded that preparation for and attendance at proposal seminars were intensive and provided conceptual and theoretical frameworks, which contributed to learning. The aim of networking was learning, finding research partners and publishing research collaboratively, which was not always possible.

> “I don’t go to a lot of conferences, …, it negatively impacts my research, because I don’t make contacts with other people in my area” (R7, 16/09/16)
> “went to a conference and visited a bunch of institutions, … conferences and meeting people and collaborating is a key to research” (R10, 21/09/16)
> “my research is centred around participatory input from my research partners and creating a network of research” (R1, 09/11/16)
> “I mean, I’ve always, …, been networking. I’ve got a – quite a big network around Australia and the world that I co-publish with and do research with” (R10, 21/09/16)
> “had a meeting [engaged] with someone from another country … got about two or three meetings coming up with delegations [teams] coming from overseas” (R4, 8/09/16)
> “Proposal presentations, always interesting, …, giving you …, conceptual and theoretical frameworks” (R1, 09/11/16).

One researcher viewed research as a private venture without acknowledging the benefits of networking. However, the nature of the discipline and personality were provided as reasons for the seemingly unsocial behaviour.

Academics reported that collaborations, developing affiliations and learning from others, showcasing their research and finding research opportunities, described the *Academics' Interaction* (A2) category.

In summary, the theme *Personal Context* (A) is derived from the categories *Individual Profile* (A1) and *Researcher Interactions* (A2).

Those capabilities, inherent characteristics, and personal circumstances that Academics experienced about themselves and research or doing research and how it impacted on research performance thus described the *Individual Profile* (A1) category.

Those reported interactions and collaborations Academics experienced as learning from, showcase their research and find research opportunities described the *Academics' Interaction* (A2) category.

The categories *Individual Profile* (A1) and *Academics' Interactions* (A2) described those personal traits that influenced their research productivity and their capacity for and opportunities to work with others to enhance their research productivity and together formed the theme *Personal Context* (A).

4.4 Work Context (B) Theme

Work Context (B) described those factors, from the internal ANRU environment, which had a direct impact on the Academics' work and directly or indirectly affected their contribution to research performance.

The *Work Context* (B) theme emerged from the data in the form of six categories namely: *Financial Resources* (B1), *Work Content* (B2), *Internal Capability* (B3), *Conducting Research* (B4), *Institutional Leadership* (B5) and *Climate and Culture* (B6) as depicted in Figure 4.5.

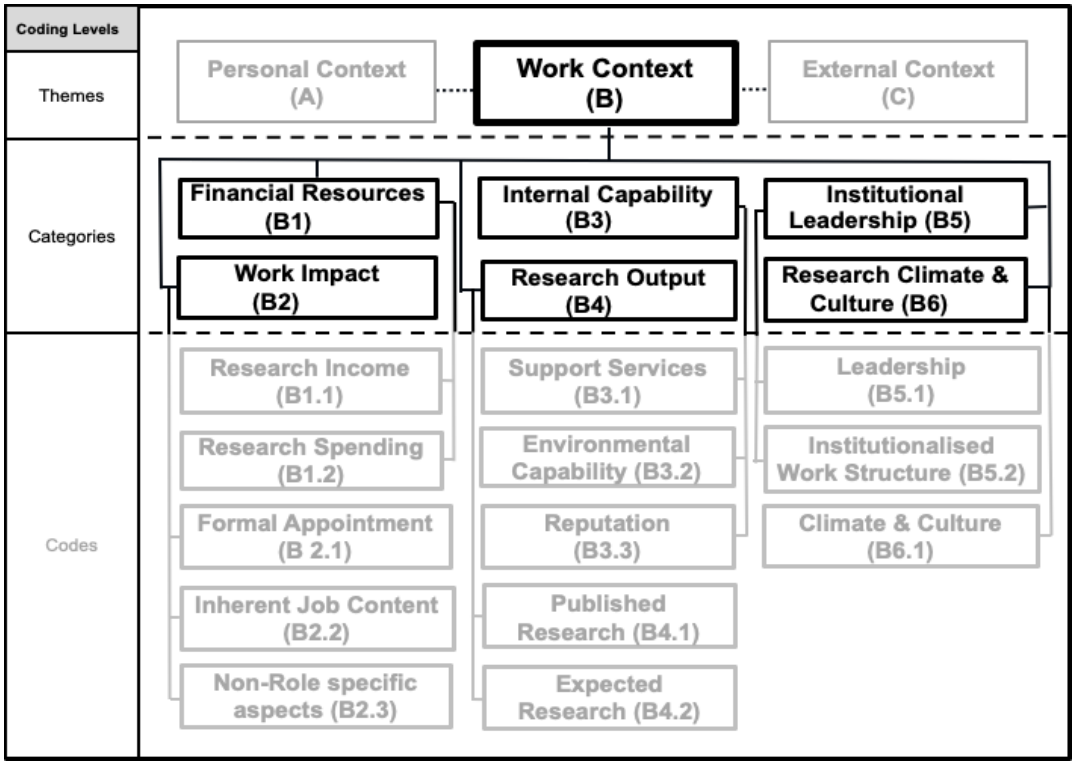

Figure 4.5: Taxonomy: DOH *Work Context* (B) Theme

An overview of the *Work Context* (B) theme showed Academics reported that the category *Climate and Culture* (B6) was strongly impacted by the category *Institutional Leadership* (B5) direction that focussed attention on the expected standard of research performance. According to Academics, this focus was intensified by the Institution's perceived lack of *Internal Capability* (B3) in some areas, such as *Financial Resources* (B1) to support Academics' research endeavours. These aspects, coupled with the natural way research was conducted at ANRU, emphasised the direct impact of their *Work Content* (B2) on research performance.

From Academic's reports, the most vital topic that emerged and led to the *Work Context* (B) theme was the mismatch between the higher demands for research outputs and the access to resources to do the research. Academics at DOH were markedly uneasy with the demands and expectations for improved research without appropriate support, and some high performing Academics considered cutting back on their research activities if additional support is not provided.

4.4.1 Financial Resources (B1) Category

The first category *Financial Resources* (B1) described how the availability and utilisation of various types of monetary resources affected the research performance of Academics.

Most Academics described their experience of a scarcity of finances withholding them from taking advantage of opportunities in the research domain, and how it hampered research performance. The taxonomy of the *Financial Resources* (B1) category is depicted in Figure 4.6.

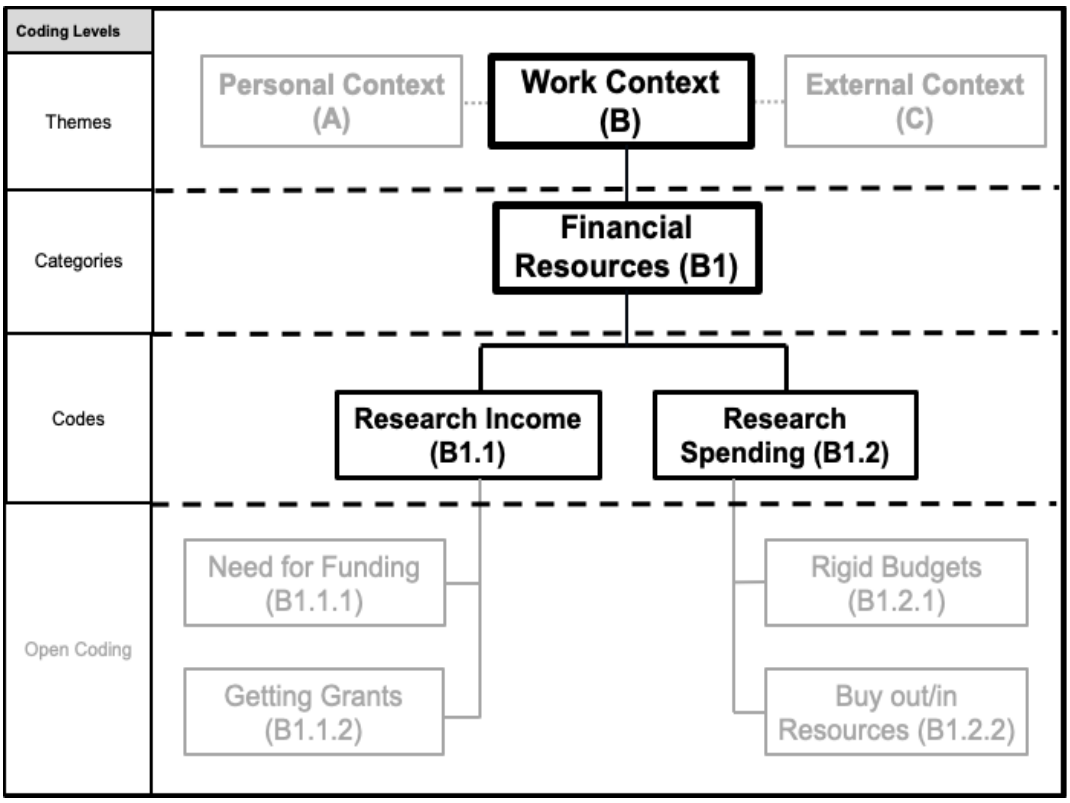

Figure 4.6: Taxonomy: DOH *Financial Resources* (B1) Category

Economic impact and funding policies foreshadow a more competitive environment. Within a marginalised Humanities domain, a lack of financial resources limited the DOH's ability to attract Academics with a strong track record to support grant applications in competition with reputable research institutions. Academics asserted:

> "You have to have the funding to do research. So, you can't get the funding, and so it's a vicious circle" (R3, 2/11/16)1, 15/09/16)
> "research funding is becoming less available, certainly from local authorities. I just don't think we're being funded enough" (R4, 8/09/16)

> “an Australian Research Council grant, I'm not going to do it by myself, I need someone with a track record in the field” (R2, 29/09/16)
> “national grants and international grants, it can be really difficult because certain institutions have got huge reputations, and you're competing against them” (R6, 22/09/16).

Money was not readily available, and budgets were strictly managed within itemised project plans, which did not always consider indirect costs like petrol according to Academics. Not all sub-disciplines within Humanities were “hot topics” in research and attracted less money, thus allowing even fewer research opportunities as asserted by Academics. There was little funding to buy-in resources to do time-consuming routine research tasks or to buy-out teaching-related tasks to give Academics more time for research, and which facilitate increased research performance. While stressed by the demand for teaching and research especially, Academics with higher teaching loads were frustrated with the scarcity of finances to buy out/in time/resources to facilitate research. According to Academics, research performance and Academics’ wellbeing suffered due to these practices, and some Academics even considered not taking on new requests from industry for research due to the additional workload or even the possibility of needing to use their personal funds to finance research-related activities. Academics claimed:

> “At the end of the day, we don’t actually get any of that money. Even though it's in the budget, it's itemised what the money is for. They take it, and they say, ‘*Well that goes towards your salary, to pay for your time*’.” So you're doing all of this, you're bringing in - my last project, I put in money, at least petrol money for me to drive to the [research participants], which is down past [direction] They said, ‘*Oh no, we don’t care about that. That just goes in and just pays towards your salary*’ “(R6, 22/09/16)
> “is a big research area, and that's where sort of money is available these days. I'm not interested. The sad reality is that [Discipline] are incredibly marginalised in DOH, across the board at the moment” (R5, 16/09/16)
> “But as an educator, I find it’s very difficult to run research, particularly when you can’t get buy-out for teaching or marking” (R8, 5/10/16).

The Academics’ experience of the availability and utilisation of financial resources in the research domain and how it impacted on research performance was thus described as the *Financial Resources* (B1) category.

4.4.2 Work Content (B2) Category

Work Content (B2) was the second category and described how internal contract-related aspects affected research activities, work and lifestyle.

Academics asserted that formal appointment contracts determined various aspects of their work content and workload. In addition, the psychological contracts, that is, perceived mutual understanding of informal obligations, are not aligned with what is expected from them in reality. With teaching seen as the highest priority, the teaching workload was demanding with large student numbers, complex assessments and the demands of emails and teaching technologies. The high workloads associated with teaching led to research being pushed back and or completed in private time, which impacted on a work-life balance. Figure 4.7 depicts the taxonomy of the *Work Content* (B2) category.

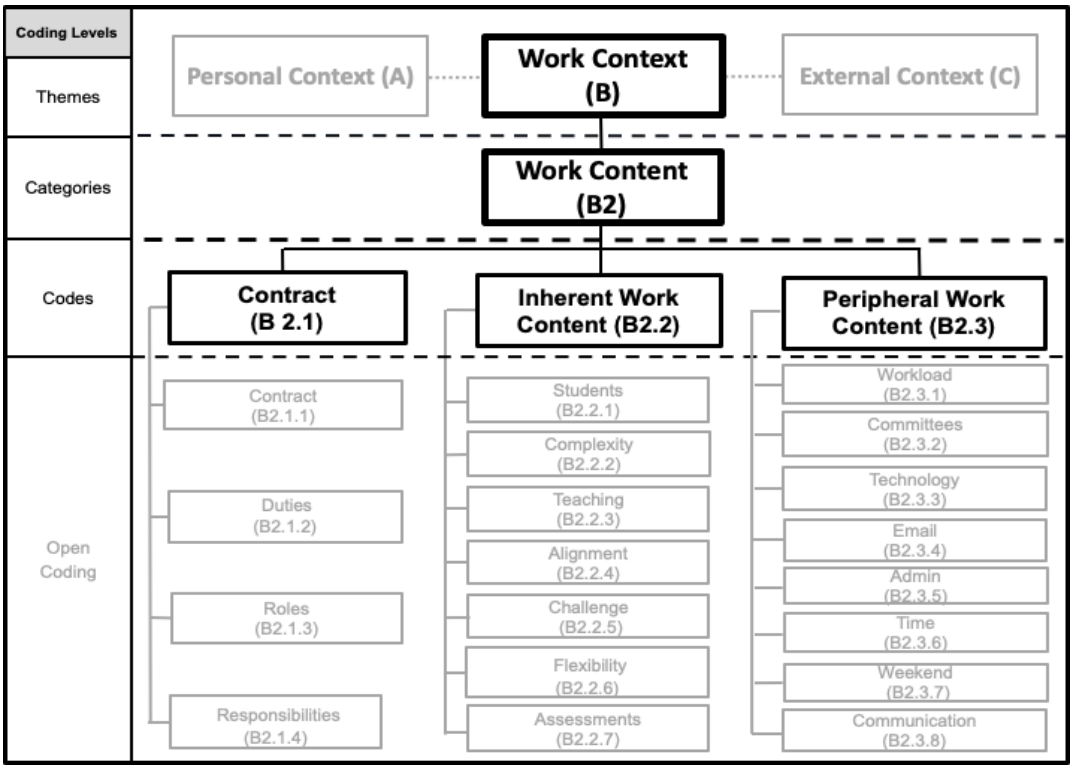

Figure 4.7: Taxonomy: DOH *Work Content* (B2) Category

The impact of the content of the Academics' role and work resulted in a large volume of responses about how they affected research performance.

DOH Academics, in ongoing and fixed-term positions, stated that their contract, representing their formal appointment, and the non-research roles, responsibilities and duties kept them from improving research performance. The

duration of contracts and the knowledge that it was not being renewed kept contract staff from being committed to and or considered for research work. Academics considered these aspects as a negative impact on research performance. Between teaching and research, Academics claimed they became ‘time poor’ because of the type of research, mostly qualitative, which was time-consuming and needed uninterrupted blocks of time. It created conflict between getting research done and the need to provide student support. A considerable proportion of the Academics claimed they did not have enough available time to do research.

Academics communicated the psychological impact of the contracts and related duties with comments such as:

> “I wasn't considered for PhD students, because I was on short-term contracts. It [short term contract] really impacts on your ability to participate in research and to be considered to be part of [research teams]” (R7, 16/09/16)
> “the contracts for two of the staff, … renewable in the near future, … were not going to be renewed. It [had] an effect on us all” (R2, 29/09/16)
> “so, the duties that we have that distract from the job are high” (R5, 16/09/16)
> “we're frantically writing reports [duties] all the time, and that probably inhibited the journal articles” (R1, 09/11/16)
> “we've got about four or five publications in a recently completed PhD, but that person is extremely busy doing other things at the moment” (R4, 8/09/16).

Academics claimed that the roles of the course coordinator, non-designated course coordinator, and dual teacher/researcher Responsibilities had been a research performance constraint for most of the Academics. While most Academics felt responsible for research; they also had a strong responsibility towards their teaching and academic role. The feeling of responsibility towards their roles made them take on additional responsibilities such as serving on committees and acting positions, over and above teaching, which most claimed impacted on research performance. Whilst the formal appointment contract governed the role, some Academics asserted that there were further inherent responsibilities such as multiple roles, “backfilling”, and expectations of the role that affected research performance.

> “I covered long service leave in this role, … naturally, the teaching skyrocketed for me. … because I was course coordinating … my research output naturally took a bit of a decline in that semester” (R9, 16/09/16)
> “I had some course coordination [responsibilities] at that time, but I don’t think it was an impediment to my research, … it's [course coordination in a sole teaching role] easy as an academic, but I think that was reasonable at that time” (R3, 2/11/16).

The inherent job content impact included satisfying the needs of customers (students, and industry partners), which involved complex interactions and consumed time. Academics acknowledged that teaching subjects or practising research-informed teaching and aligning their research endeavours would improve publication rates. High teaching loads translated to more Assessments that took up time in which data collection could have been done.

> “we're dealing with people [customers, students, and industry partners], even the basic steps become so much more complicated [complex] and time-consuming” (R5, 16/09/16)
> “more complex doing research in our [academic department] than a lot of the others” (R26, 2/11/16)
> “they'd [Industry partner] say, ‘*Oh, no. We're doing … [it this way*]’” (R1, 09/11/16)
> “[We are] encouraged to do research informed [research aligned] teaching” (R3, 2/11/16).

Academics viewed the work environment and the expectations of service with high teaching and assessment loads, and research and obtaining grants without a credible lead researcher as challenging. The nature of the focused teaching role often contradicted work or role flexibility and forced them to research outside normal working hours. They furthermore experienced that large classes, detailed assessments, and marking affected Academics’ research performance. Academics reported:

> “[DOH] want [expect us] to teach students to be [of] high calibre [which is challenging]” (R3, 2/11/16)
> “And retention. …, maintaining students at all cost [is challenging]” ((R5, 16/09/16), 16/09/16)
> “students … need a huge amount of support. … we have to work very hard with them to get them up to the right standard [at] teaching standards that you have to comply [with less flexibility]” (R6, 22/09/16)
> “having to teach larger classes. … [has] an impact on their marking [assessments] and everything else” (R4, 8/09/16).

Supporting these claims were the peripheral aspects that affected them. Regardless of the espoused workload model, Academics asserted that, with peripheral aspects included, work exceeded the allocated percentage. Committee work, a lack of and unreliable technological support, an overload of emails, in addition to administration, and ineffective support from people in administrative roles eroded research time. Academics stated that these peripheral aspects caused them to retreat from research to deal with the perceived high workload and simultaneous expectation of high research performance such as PhD completions. While some Academics believed the workload, model was not clear concerning what constituted the 30% research, it seemed to be accepted that it is only a theoretical indication. Academics asserted that:

> “workload … there's no relationship between that and the works that you actually do” (R26, 2/11/16)
> “the workloads are high and getting higher … more people retreating. I don’t know if … the research component has really been well articulated yet, … don’t think they've quite worked out what constitutes accountability” (R5, 16/09/16)
> “I'm not the only one. I know others who on their HDR supervision alone exceed the 30% allocation” (R4, 8/09/16)
> “the duties … that distract from the job are high [by] serving on committees” (R5, 16/09/16)
> “the technologies, … spend hours … learning … before I could actually even start the project. …struggling with the software, they don’t really know how to use it” (R6, 22/09/16)
> “reliability [of] technology [is a] barrier … the online library stuff is fantastic” (R4, 8/09/16)
> “you go on leave and you come back to, … up to four, 500 emails” (R4, 8/09/16)
> “[the] admin side … sluggish or a bit weird and cobbled together” (R10, 21/09/16)
> “there was a lot of administration … time … devote to the writing diminished” (R2, 29/09/16).

Thus, some Academics stated that research was therefore mainly done over weekends, which interfered with family time and resulted in a skewed work-life balance. Academics believed that sacrificing personal time over weekends for research impacted on the researcher as well as family members to the extent that marriages and relationships suffered. Academics asserted that they had difficulty

balancing or integrating teaching, research, and lifestyle to the extent that it facilitated a stress-free experience, which is exemplified by the following quotes:

> "don't want to go to more training sessions. … I'm time poor" (R5, 16/09/16)
> "come in on a weekend … only time … focus on your research …. … say to me, '*If you're going to* spend *one more working at, [ANRU] like don't come home'* " (R6, 22/09/16)
> *"*weekend [work]… stop and say, let go. … I remarried [I] didn't want to make that mistake again" (R5, 16/09/16).

These difficulties were exacerbated by insufficient communication of information about processes and who should be contacted for assistance. Academics indicated that some messages filter through all layers, others, especially functional strategies and plans were less available at the lower levels.

> "Like ASPIRE points [Research Activity Index (RAI) a measure of research performance] and stuff like that. No one has ever explained [communicated] that to me. I think you should be informed about those processes" (R8, 5/10/16)
> "difficult sometimes to identify who you're supposed to be communicating with" (R26, 2/11/16).

Academics reported that they were torn between the priorities and expectation of their formal contract. The formal contract embedded inherent and peripheral aspects that impacted on their experience of *Work Content* (B2).

How these internal employment-related aspects impacted on research activities and work/lifestyle thus described the *Work Content* (B2) category.

4.4.3 Environmental Capability (B3) Category

The third category underpinning the theme *Work Context* (B) was the *Environmental Capability* (B3) of ANRU which involved inherent aspects such as *support* and assistance to staff the *environmental capability* of the Department, and the *reputation* of ANRU and its staff members that provided assistance, resources and institutionalised research capability to Academics.

Most Academics reported that they perceived their leadership and colleagues as supportive and capable. However, some alleged the DOH and centralised service centres did not do much to support or assist them but acknowledged that research-only positions were supported. Research centres had been established to support research performance. Nonetheless, ANRU was

generally not viewed as a research-intensive university and subsequently did not acquire many ARC grants or recruit reputable researchers. Figure 4.8 depicts the taxonomy of the *Environmental Capability* (B3) category.

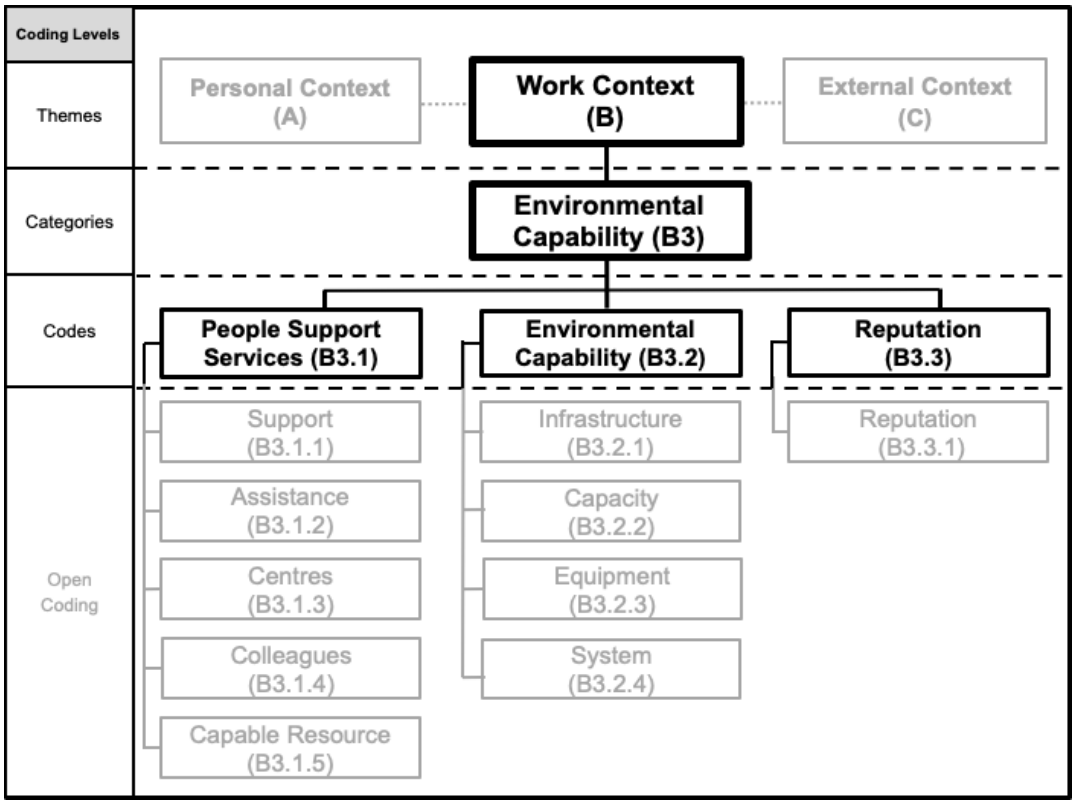

Figure 4.8: Taxonomy: DOH *Environmental Capability* (B3) Category

Academics perceived that whilst students received support, staff did not get the support they needed for ANRU to become a world-class university. Neither did they have time to attend scheduled learning and collaboration opportunities. While some assistance was provided in the DOH, staff expressed the need for increased assistance with the high demands of their administrative loads and commented that increased assistance would help to improve research performance. Academics indicated that a capable resource, such as research assistants were in need, particularly assistants who could do literature studies, complete the routine portions of grant writing, as well as administrative tasks. Such a capable resource would allow Academics with more time to do the much-needed research. According to them, without this support, ANRU could not create the necessary reputation to attract human and financial resources, provide close

support to PhD students and build research capability. Examples of claims made by Academics were:

> "support [that the academic department is offering] is not too bad.… it's our ability to take up some of the offers, …. possibly it's support for us during the process [of research] that is lacking" (R5, 16/09/16)
> "can't become a world class university, … be a Monash without all the things that Monash has got, … You need support with that" (R3, 2/11/16)
> "applying for the big grants, …, [we need] more assistance with the sheer amount of work that has to be done" (R4, 8/09/16).

Likewise, Academics experienced that, in most cases, centralised service centres could not provide additional capacity that supported reputation, funding applications and research performance. The service offered by centralised service centres were cumbersome to access, but colleagues within the Department who created an environment that supported relationship building and motivation were perceived to be fantastic. Unfortunately, the low number of academic staff members with a PhD qualification and research capability limited the support that could be provided within the Department. Academics stated that:

> "not that much support for staff.… universities overseas that I've worked at … got a lot more dedicated support to help researchers [such as centralised statistical centres]" (R6, 22/09/16)
> "I've got some fantastic colleagues. I enjoy the colleagues that I work with" (R5, 16/09/16)
> "had very high quality … people here, … it [the people] just disappeared" (R3, 2/11/16)
> "there's [not] enough good research skills in the university at the moment" (R8, 5/10/16)
> "it's interesting in that it [DOH] has such a high number of non-PhD qualified staff" (R10, 21/09/16).

The quality of a university's research environment was mentioned as a criterion in grant allocation, and this impacted on the environmental capability. Whilst the research capacity provided by ANRU was a concern for some Academics; others were given support to promote research and attract collaborators. Academics alluded to the fact that a conducive environment is a pre-requisite for maximum research performance. However, most of them did not believe that ANRU, had a sufficient number of Academics with adequate *capacity* for the expected research performance to be achieved.

> "because when you go for an ARC grant, you get judged … one of them is the environment [infrastructure] within which you're doing the research

> and the research support…. if you can't point to a [research department] that has a track record [capacity], … it makes it much more difficult" (R26, 2/11/16)
> "I mean going to conferences and meeting people and collaborating is a key to research, … then for them to come over and be interested. ANRU has … provided me, [with] great capacity to do that" (R10, 21/09/16)
> "equipment and things which is quite useful for us occasionally to be borrowing" (R7, 16/09/16)
> "the [research entity has a system and website], but there's stuff [research support material] all over the place. … it's like trying to put a jigsaw together" (R8, 5/10/16).

ANRU's capacity and capability, together with the capability of its researchers strongly influenced research reputation. Being part of a new university and not linked to a research entity with a track record was a barrier in terms of attracting ARC grants, which was tied to institutional reputation. Academics stated:

> "a newer, younger institution, that can be a barrier. The University's reputation …" (R6, 22/09/16)
> "can't point to a research [entity] that has a track record …. Whereas if you're [the] University of Melbourne, …. … in lots of areas they are very good. … reputation goes a long way" (R26, 2/11/16).

In summary, Academics experienced a disadvantage with the fact that ANRU did not have the capacity, record of accomplishment, and reputable academics to be mentors and neither was it able to attract substantial grants that are needed to resource cutting-edge research.

Those aspects that pointed to the capacity and capability of ANRU and its Academics, which contributed to the University's reputation described the *Environmental Capability* (B3) category.

4.4.4 Conducting Research (B4) Category

Conducting Research (B4) was the fourth category comprising the theme *Work Context* (B) and described aspects of expectations towards research and achieving published research.

As an overview of this category, some Academics reported that not all academic departments have the same research profile, thus using the same modelling and reports for comparisons of research performance was perceived as invalid. It was claimed that Academics did not produce research at the expected level allocated within the workload model. Others regarded PhD students as

potential generators for improved research production. Academics also reported that improved productivity was envisaged.

Academics described published research at DOH as how they experienced aspects such as the Environment within which research was conducted, the Publishing process, the choice of Journal Level, and what was regarded as Research counting towards research production. These aspects were influenced directly by expectations of Academics' research performance and affected the experience of conducting research. How individuals at DOH viewed the level of published research output and expectations towards meeting these levels for research performance described expected research. Figure 4.9 depicts the taxonomy of the *Conducting Research* (B4) category.

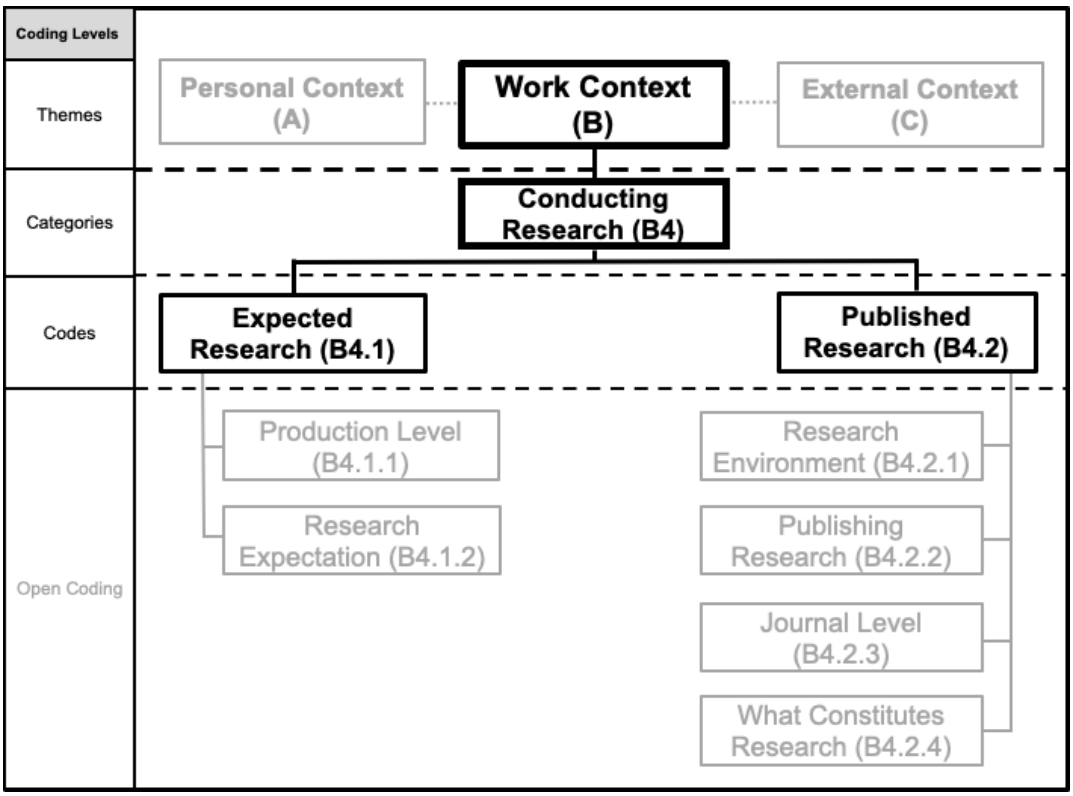

Figure 4.9: Taxonomy: DOH *Conducting Research* (B4) Category

Academics acknowledged that they do not meet the productivity expected of them (expected research). Academics further asserted that PhD students and early career researchers (ECRs) were a valuable source of research outputs but were perhaps underutilised and ECRs might experience a lack of support to

generate outputs. They furthermore suggested that ample uninterrupted time to write-up research was needed as illustrated by the following quotations:

> “I think next year, we’ll be productive again in a new way” (R8, 5/10/16)
> “you take on PhD students because they're the real research engines of any enterprise” (R27, 27/10/16)
> “need good, interrupted blocks of time, particularly when you're writing” (R9, 16/09/16)
> “In a way, I was very much encouraged to do research, so that was definitely perceived as part of my role, which obviously it was in my contract” (R3, 2/11/16).

Academics were aware that the intensity of research expectation varied from time to time and certainly changed with changes in leadership. There was, however, dissatisfaction and feelings of overload as the expectations were for both: high-quality research performance and to be top performers in all other aspects of their academic roles. These increased expectations were not backed by higher levels of support for improved research performances. An expectation of everyone being top performers in all aspects of the academic role was unrealistic, according to some Academics. The following quotations demonstrate these expectation assertions:

> “they're telling us now they want us to really publish in the top journals. There are huge expectations. … to be on top of your field, … fantastic service. … to be on top of all of that, plus then be on top of the research as well” (R6, 22/09/16)
> “I think what's changed is there is - there's a need, a much greater pressure to publish. It's being articulated very clearly, you must do more, ….” (R7, 16/09/16).

Academics claimed that leaders expected published research outputs to meet research activity index standards, in high impact journals, at a specified quality, and a specified quantity. However, they did not experience a sufficiently supportive research environment to enable expectations to be met.

The publishing research code comprised those aspects hindering, supporting and driving actual dissemination of research and its recognition within a specific environment. There was dissatisfaction with how the generation of research outputs was managed, which contributed to low volumes of publishing. Academics reported as follows:

> “I publish from my PhD as well, but again that's been difficult because again, not having professors or associate professors [supporting you]” (R3, 2/11/16)
> “And generally, the publications happen because there's a number of people that are - or bodies that are involved … that, … want to make sure they get something out of it” (R7, 16/09/16)
> “I think we were encouraged to do research-informed teaching, so I'd say that I felt [it] was a positive. … that was something that was good. …. I then implemented that into my teaching, and I felt there was some synergy there” (R3, 2/11/16)
> “Nobody’s responsible for anything. I could maybe publish one article every two years, which would be so easy to do, … nobody would follow me up” (R8, 5/10/16)
> “there are people in [DOH], and you know, …, they don’t do any research at all, …, and they're still getting paid the same amount of money” (R7, 16/09/16).

The leaders’ choice of journals, to publish in, showed the high journal level at which Academics were expected to publish. Some Academics did not necessarily agree with this as the only or best strategy. Academics observed that to publish only in high-level journals implied a specific quality expectation at expected delivery rates that negatively affected the number of outputs that could be published. Academics also indicated uncertainty about what constitutes research quality, Research Activity Index (RAI) points and what was acknowledged as research.

> “The people whose work is getting accepted for those [Top] journals are people where they have a whole dedicated department behind them. They have statisticians who are helping them” (R6, 22/09/16)
> “Journals, I suppose to some extent it's … out of our control, but sometimes the time a journal takes with their reviews is such a long time it makes you think about which journals you'll apply to. …, you have to be very mindful … what level of journals should we be heading for. I recognise quantity is important too” (R1, 09/11/16)
> “There's something else, that what constitutes research, RAI points and so on, is a little bit contentious” (R5, 16/09/16)
> “But exactly what does it mean … I often find a lot of things are vague, like how universities are assessed for their research output” (R7, 16/09/16)
> “You know, for you trying to do it at 2am in the morning, in between marking and sorting out everything else, it's - it's very hard to reach the same [expected quality] standard” (R6, 22/09/16)
> “[more] publications, but it’s not going to raise the quality of the publications. … quality isn't high enough, … - what does that actually mean?” (R7, 16/09/16)

> "Now they (textbook writing) take a lot of research … for some of my textbook publications in the past, but that's not recognised as research" (R5, 16/09/16).

Expected research and published research described the environment in which research was conducted and the expectation to disseminate the research in high impact journals at specified quality and quantity.

These aspects throughout the process, from the expectation to research through to the reception of the reward of publishing the research, comprised the *Conducting Research* (B4) category.

4.4.5 Institutional Leadership (B5) Category

Institutional Leadership (B5) was the fifth category in the theme *Work Context* (B) and consolidated the direction and institutionalising aspects introduced by leaders, which impacted on research activity. Figure 4.10 depicts the taxonomy of the *Institutional Leadership* (B5) category.

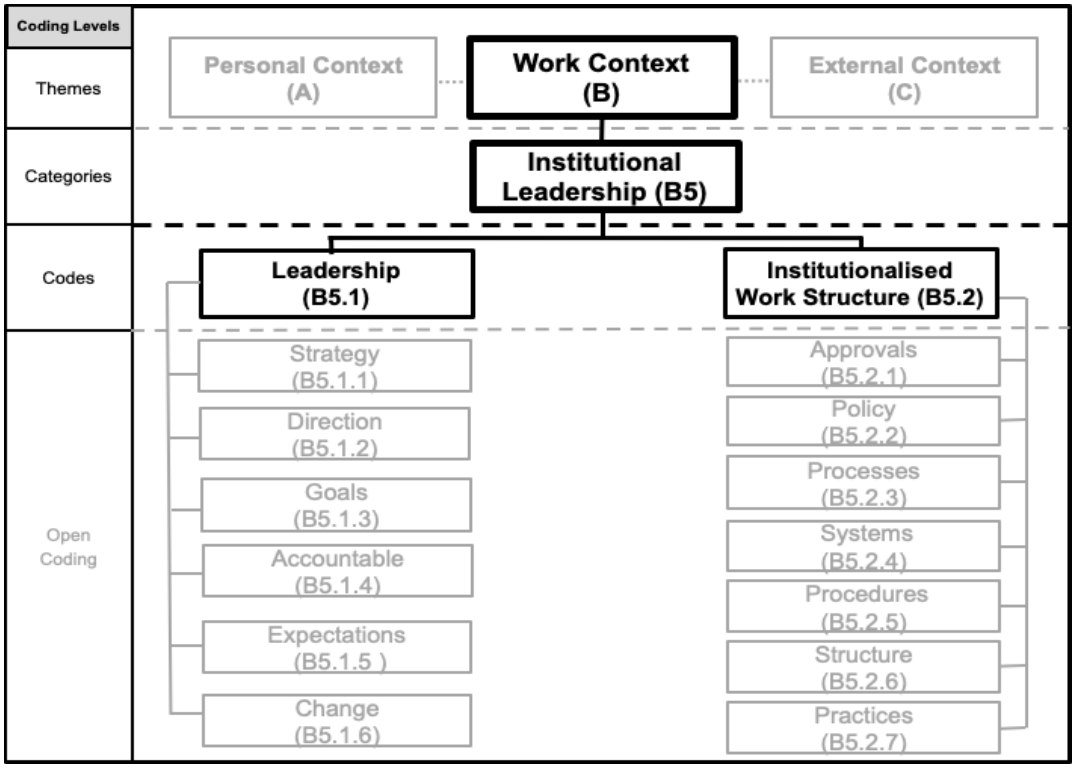

Figure 4.10: Taxonomy: DOH *Institutional Leadership* (B5) Category

For Academics, the importance of having a strategic mindset, the increased focus on research, and the role that the institution could play in scanning

the environment and influencing governmental decisions were considered crucial for research performance and comprised *Institutional Leadership* (B5).

Institutional Leadership (B5) was constructed from the leadership that Academics experienced, combined with how this leadership was institutionalised. Leadership was experienced as to how leaders set the DOH's Strategic direction, with specific Goals, Expectations, Accountability, and Change towards the Direction provided. Where the Strategic research focus and Direction was aligned with individual and team Goals, research performance was facilitated according to Academics. However, in cases where an individual's interest was different from the DOH's priorities or the Head DOH was not research focussed, Academics perceived the lack of support for individual interest and a lack of research focus as barriers to their research performance. The following quotations illustrate Academics' experiences:

> "[strategic decisions] illustrates a … particular mindset … that has consequences for research. … a period where it wasn't important to hire staff who had postgraduate degrees. … not important to have postgraduate students, …. [illustrates a] deliberate choice … research isn't important, so we get rid of Honours degrees. It does affect pathways into postgraduate studies" (R26, 2/11/16)
> "the priorities of the [academic department], … just don't align to my own personal areas of interest" (R5, 16/09/16)
> "I didn't give high enough priority to making sure we turned the reports into journal articles" (R2, 29/09/16)
> "relates to the university goals, which are participative and engagement" (R1, 09/11/16)
> "work together … towards a common [research output] goal" (R7, 16/09/16).

Academics acknowledged that there was a focus from ANRU's leaders on more whole of academic work Accountability. Still, some of them experienced that not all first-line supervisors kept staff accountable, which was also a barrier to research performance. They noticed that there was an equally high Expectation towards all departments and academics about teaching and research; however, the perceived high teaching workload for DOH was an impediment to research performance. Academics, furthermore, asserted that the assistance and support provided by leaders were directed towards the students and the research focus of the leaders. According to Academics, a lack of support from leaders at ANRU or

within the DOH, together with differentiated expectations towards accountability and non-aligned leaders' Changes was a definite barrier to research performance, even if they were productive. Academics reported the following:

> "increased rigorousness and increased accountability, … brings with it an inherent nervousness" (R3, 2/11/16)
> "Nobody's responsible for anything. … I could literally do nothing in this job in my 26 weeks that I'm not teaching, and nobody would care" (R8, 5/10/16)
> "there are huge expectations. … expected to be on top of … your curriculum field, … to give like fantastic service. … expected to be on top of the research as well" (R6, 22/09/16)
> "Teaching workloads increased [due to] structural changes in the formula [with higher] expectations of teaching over the years. There is no time anymore to reflect, read" (R3, 2/11/16)
> "what's changed is there is - …, a much greater pressure to publish" (R5, 16/09/16)
> "we had a lot of leadership changes within [the DOH]. … every time you get a new [DOH] leader who says, '*We're going to rewrite and we're going to scrap everything that you did before, it's all rubbish, and you've got to start again*', and it's very time consuming" (R6, 22/09/16)
> "The head of [the DOH] was a partner in most of the research, …. research went very well, but then the departmental head changed, …, it became much more difficult to do research" (R2, 29/09/16).

According to Academics, leaders institutionalised work structure through providing approvals, governed by policies, and implementing processes and systems, with procedures in a set structure; however, some practices were different from other departments in ANRU.

Academics claimed that some of these aspects supported research performance, whereas others negatively affected performance, as indicated by the following approval and policy related quotations:

> "went very well, but then the departmental head changed, the difficulties were getting approval to attend conferences, applying for leave to attend these things" (R2, 29/09/16)
> "required to submit very detailed reports on movements at interstate meetings or local meetings [and] approval was slow in coming" (R2, 29/09/16)
> "recently changed all of their forms as well for research approvals" (R9, 16/09/16)
> "Like the vast – variety of policies at [ANRU] and finding out about them after the fact because you couldn't find them in the first place, … uses

> time up and time is the most precious resource that an academic has" (R10, 21/09/16)
> "other changes of policy are important. And as I've outlined …, the changes of policy towards whether or not they'll allow you to do research …, that change has made it much more difficult" (R26, 2/11/16).

Whereas some of the grant processes were a plus, other systems and processes like performance management and finance were bureaucratic, and the interactions were not well understood according to Academics. For example, the importance of an ethics system was acknowledged for the Humanities. However, Academics thought that a process that manages all applications, in the same way, referring minor issues back to the Academic, instead of rectifying the mistakes and non-alignment with industry expectations delayed research projects and thus hampered research performance. Academics asserted that non-existing, not intuitive, time-consuming procedures such as ethics applications, and the low HEW levels [appointment levels of general staff] of people making the decisions or interpreting the procedures for systems hampered research performance.

> "I've taught myself everything here and I teach most people [that have already been here] the systems" (R8, 5/10/16)
> "I have [positions available] for research assistants. [If I do] have a system that can identify across the university, who can do what, availability, [that] would be really helpful to me" (R1, 09/11/16)
> "There is increased bureaucracy … rigorous [performance] processes due to search for efficiency you measure more KPIs an example … which impact on their time" (R3, 2/11/16)
> "because most of our processes are set up for our partners to contribute to us, rather than for us to send money out" (R9, 16/09/16)
> "See, it's different if you're in engineering. … you just do an ethics declaration saying there are no humans that are involved in this research, and …, you can go straight on" (R5, 16/09/16)
> "But ethics is always just a pain, …. So, I mean that's ethics, it's there to stop bad things happening to people, and that's the moral – but sometimes the whole entire process is not warranted, [for] a very low risk situation" (R10, 21/09/16)
> "So whatever you send [to the Industry partner], which complies, which has already received ethics approval from [ANRU], they will kick all of that out and you've got to redo all the letters, … from the beginning to meet their expectations" (R6, 22/09/16).

Some Academics felt the structures provided them with autonomy and involvement in decisions. Others, however, felt there should be more supportive

practices (e.g., recruitment) in place to facilitate increased research performance. they stated:

> "[Because of the structure] I'm more involved in decision making process with [my leader] … More autonomy because of that" (R1, 09/11/16)
> "So, I do think there could be structures in place that actually position someone better [for] research performance" (R8, 5/10/16)
> "My experience in recruiting for [the DOH] is we don't seem to attract many people with appropriate qualifications and experience. Depends where the positions are advertised" (R4, 8/09/16)
> "I think probably the way teaching is organised, particularly in [the DOH - structures and practices]" (R26, 2/11/16).

The direction and institutionalising aspects introduced by the leaders that impact on research activity described the *Institutional Leadership* (B5) category.

4.4.6 Research Climate and Culture (B6) Category

The last category in the *Work Context* (B) theme is *Research Culture and Climate* (B6), which explains conditions that constituted the atmosphere in which (climate), and way in which (culture) Academics operated.

It appears from the interviews that Academics did not distinguish climate from culture. For this reason, although the constructs were captured separately at the open coding level, they were lumped together at a coding level.

An overview of this category revealed that Academics reported the absence of a research culture. Their lived experience of a research culture was captured by what they reported as culture, access to data and bureaucracy. However, ANRU's general expectation for improved research outputs created a feeling towards a research climate, which some Academics reported as a low morale and an emphasis on confidentiality. The prevailing climate and culture were embedded in teaching where staff members were expected to have modelled the profession and enhanced student satisfaction, as well as accompanied improved research outputs. The conditions that constituted the way and atmosphere in which Academics operated set the lived experience of *culture and climate*. Figure 4.11 depicts the taxonomy of the *Climate and Culture* (B6) category.

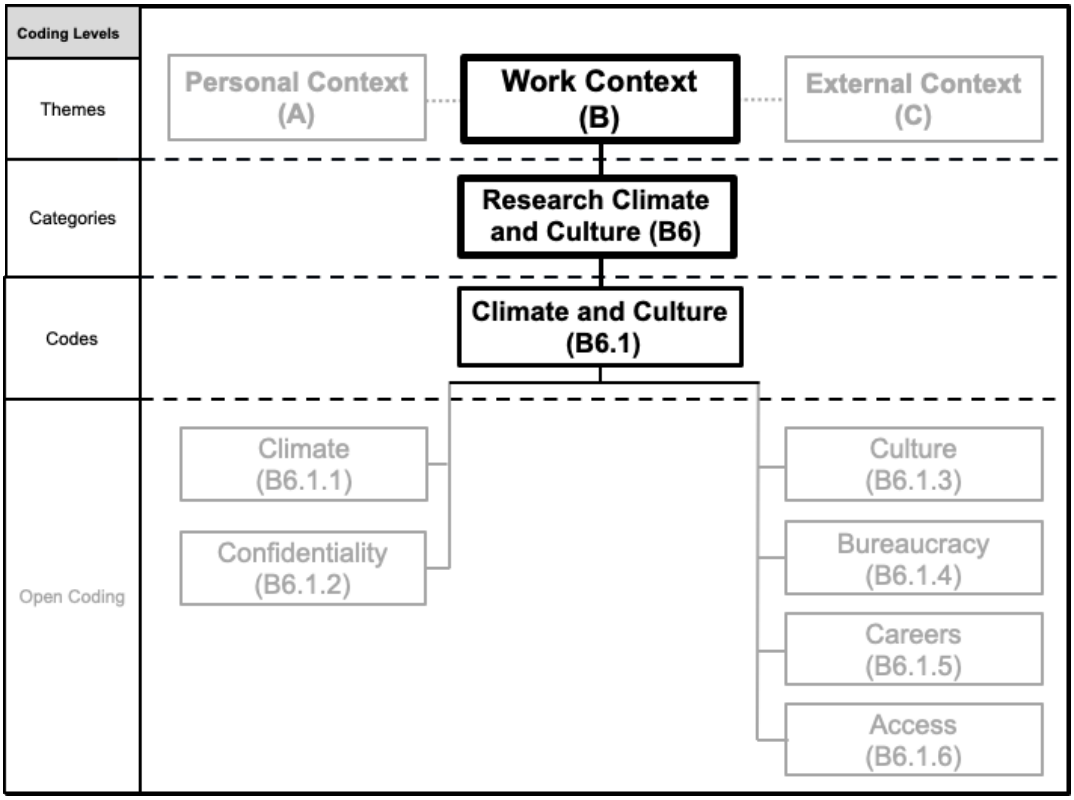

Figure 4.11: Taxonomy: DOH *Research Climate and Culture* (B6) Category

Some Academics believed that staff morale was low. Academics claimed that climate and confidentiality explained a prevailing condition where information was not freely shared, supported inactivity and thus hampered research performance. The following quotations illustrate Academics' experiences of a research climate:

> "I think the climate's a bit - you know, people's morale is not that high at the moment" (R7, 16/09/16)
> "that sort of information [impact of practice] … that's confidential" (R4, 8/09/16)
> "then [that non-sharing] affects the research climate and culture" (R26, 2/11/16).

Confidentiality of performance reviews and lack of awareness of reward and recognition assisted neither a climate nor culture conducive to research performance.

The culture was mainly experienced through a lack of experienced researchers that contributed to good culture and climate; autonomy (bureaucracy); career opportunities; access to money, library resources and research assistants. Academics suggested that eliminating unnecessary red tape and compliance aspects could facilitate improved research performance. According to them,

bureaucratic processes evidenced by monitoring, compliance and regulations, and mandatory attendance of courses together with unnecessary form-filling enforced red tape bureaucracy as per the following quotes:

> “a series of delays on the bureaucracy part meant it [research] wasn’t finally accepted until [nine months later]” (R10, 21/09/16)
> “I think this place is more bureaucratic than the public service… we're becoming more and more; I'm going to use the term regulated” (R4, 8/09/16).

Academics were also of the opinion that the opportunity for career progression was viewed as an external motivator and could, therefore, facilitate research performance at a personal level. In contrast with the career opportunities, a lack of succession planning was experienced. Academics concluded that the slow uptake of initiatives and other Access opportunities were inadequate and a reduction in shared spaces led to people withdrawing to their offices, which impacted negatively on collaboration and thus, research performance.

> “I think by and large, universities in general, …, provide an environment which gives you the opportunity to advance your career, purely on your own merits” (R4, 8/09/16)
> “succession planning …, in terms of research support, …, who are going to be the researchers of tomorrow” (R5, 16/09/16)
> “So [ease of] access to databases and finding [them]… databases are actually collecting the same information but in three different places” (R1, 09/11/16)
> “[lack of] access to research assistants and funding to pay them” (R1, 09/11/16)
> “it does have a negative impact when you reduce the collaborative spaces where people can go to” (R7, 16/09/16).

Academics thought that ANRU did not provide a culture that supported research performance, but that the appointment of experienced researchers could facilitate a research performance culture as evidenced by the quotations below:

> “And that's part of research culture [who or which central service centre to communicate with]. … so, it's not just the research culture or your [academic department] or your centre; it's the wider one” (R26, 2/11/16)
> “if you're getting staff in who are, you know, experienced researchers and good at working with other people, that certainly contributes to a good culture and climate” (R26, 2/11/16).

The conditions that constituted the atmosphere (*climate*) and the way (*culture*) in which Academics were expected to contribute to research performance

formed the last category *Research Culture and Climate* (B6) of the *Work Context* (B) theme.

In summary, the *Work Context* (B) theme comprised the categories *Financial Resources* (B1), *Work Content* (B2), *Environmental Capability* (B3), *Conducting Research* (B4), *Institutional Leadership* (B5) and *Research Climate and Culture* (B6). These categories explained: the crucial impact of financial resources, how the work and the various roles of an academic distract efforts away from research performance and the influence of the lack of supporting capability of internal resources on research performance. It further emphasised the duality within the process of conducting research, namely high expectations for quality and volume of publications in high-ranking journals vis à vis exemplary teaching. Neither did the perceived high turnover in leadership or long-term strategic decisions assist in a consistent research focus. These non-aligned categories to a joint research focus created conflict within Academics and contributed to a climate and culture, which were not conducive to research performance. The six categories individually and by augmenting each other created an internal environment that affected Academics research performance and formed the *Work Context* (B) theme.

4.5 External Context (C) Theme

The *External Context* (C) theme comprised the impact that the external environment, primarily the agendas within the international and national domains, had on the research performance of Academics. Figure 4.12 depicts the taxonomy of the *External Context* (C) theme.

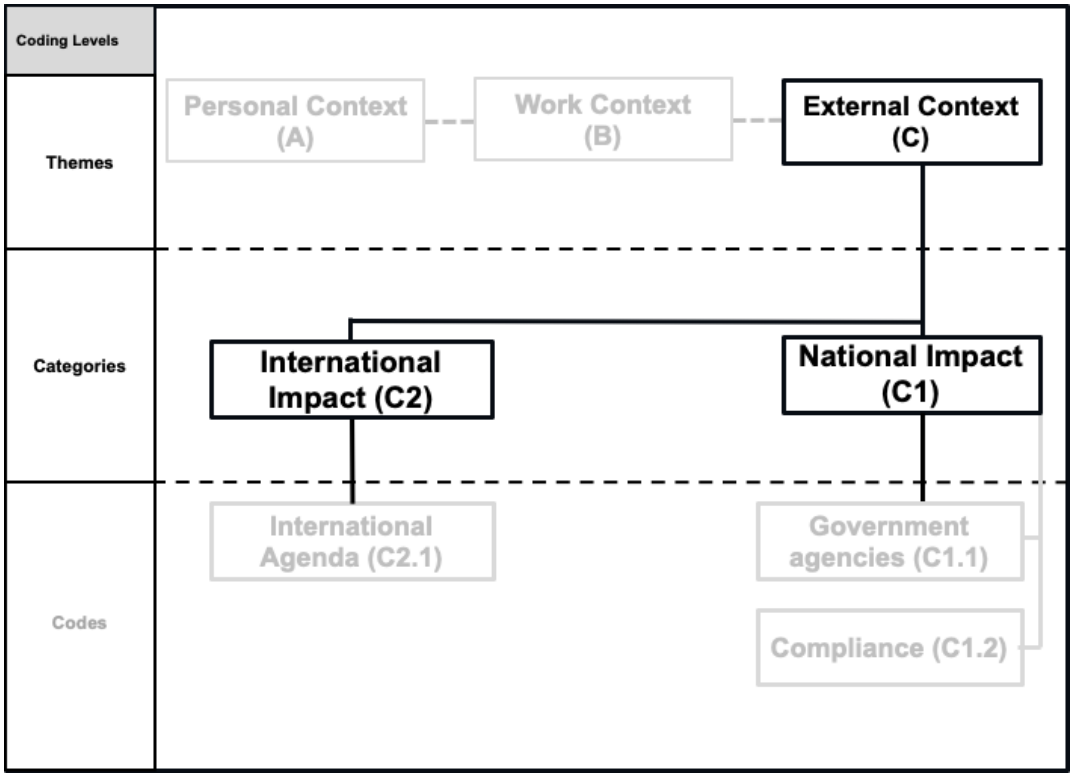

Figure 4.12: Taxonomy: DOH *External Context* (C) Theme

The *External Context* (C) theme emerged in the form of national agendas comprising the requirements of government agencies and compliance to aspects such as expected standards for accreditations and/or curricula requirements, as well as the international agenda.

In general, the experience of the Academics was that the national and international context affected research performance in that the international agendas also shaped the national research agenda and subsequent funding opportunities. Also, on a national level, influential governing bodies changed accreditations and/or curricula requirements which contributed to higher teaching-related workloads. In the few instances where increased research efforts were possible, it created the opportunity to be exposed to both international and national thinking and to collaborate with external individuals and bodies which impacted positively on research performance.

Without the opportunities to meet with academics on the cutting edge of their research domains and being exposed to external research thinking, DOH Academics felt they were not able to collaborate with those researchers and build their reputation.

4.5.1 National Impact (C1) Category

National Impact (C1) refers to that national and state government legislation, regulations and guidelines within which research is conducted. Figure 4.13 depicts the *National Impact* (C1) category taxonomy.

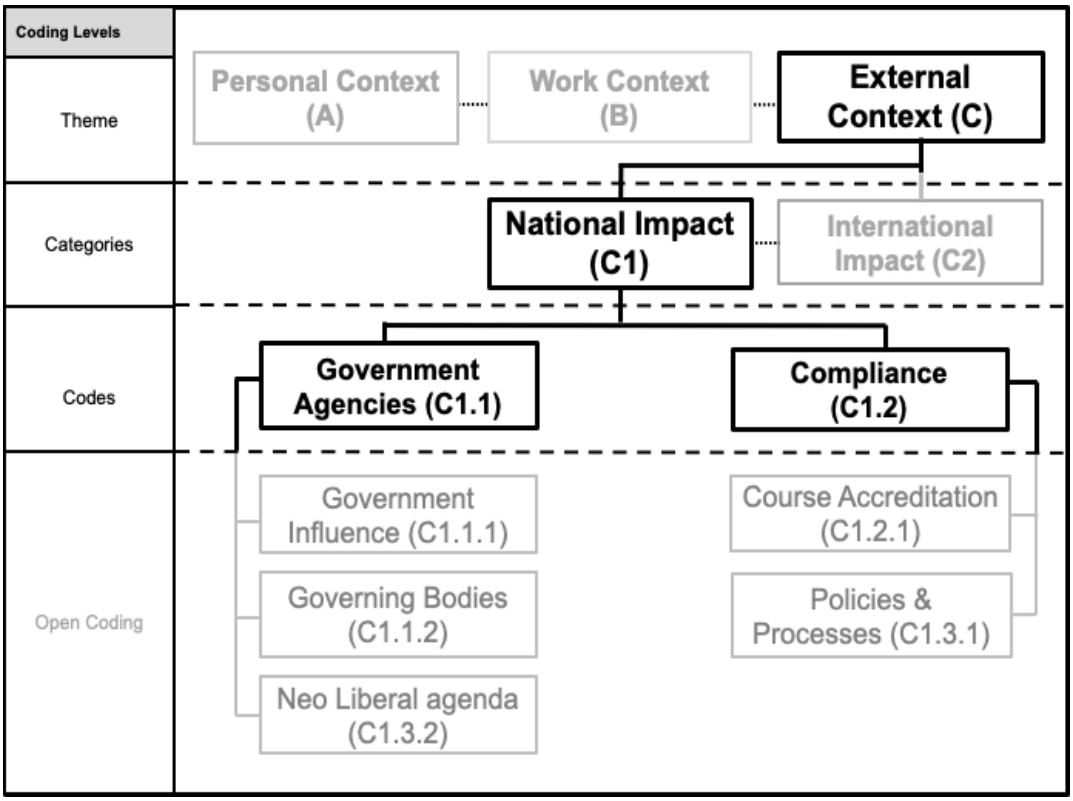

Figure 4.13: Taxonomy: DOH *National Impact* (C1) Category

Academics asserted that government influence shaped the research agenda through policy and funding. The Government expected compliance through national and state government legislation, regulations, and guidelines while economic views echoed the user pays principle, typical of a neo-liberal agenda. Influential governance bodies changed curricula, and more than one governing body sometimes held course accreditations. The political impact of government and government bodies implemented through programs influenced the research performance of Academics.

This influence was counterproductive to research performance in that the additional work created by changes to policies and programs took the focus away from research. They reported these claims as experiences of changes that influenced the research agenda through policies, which affected access to money,

how impact ratings were determined and what counted as research illustrated by the following quotations:

> “Government shape[s] the research agenda” (R3, 2/11/16)
> “Government policy on what counts in terms of research … on funding awards to universities, that clearly affects what we can do” (R1, 09/11/16)
> “Obviously in [the DOH], because our [of our] industry …, we're impacted by national and state changes in policy and budgeting and all that …because the state government hasn't got any money. … [they] cut the budgets of the organisations that we work with. The Commonwealth government are much the same … so [it] reduces the [research] opportunities” (R26, 2/11/16)
> “But there can be a lot of non-financial policy changes that - in the wider industry that can affect our [research] opportunities that we have to be involved [in] (R26, 2/11/16)
> “The pressure that's flowing down into - … from [ANRU] into DOH, from federal politics, down to [ANRU]. I understand the pressures” (R5, 16/09/16).

Besides, government and research agencies were not making money available for the creation of new knowledge in all domains in the Humanities. Some funding agencies only fund research aligned with their priorities. Academics perceived that governing bodies had an enormous impact on research in the way they prioritise research endeavours. This impact happened through apportion of money, time taken to process approvals for money and research opportunities, and demand process and document compliance. Academics commented as follows:

> “I work in …, … a big thing [of International interest] at the moment. So that actually benefits my particular field” (R10, 21/09/16)
> “no real genuine interest amongst research bodies for … [my specific discipline] research” (R5, 16/09/16)
> “They [industry partner] are notorious for taking a very, very long time to turn around applications” (R9, 16/09/16).

An academic asserted that the neo-liberal agenda did not provide enough money, but still expected high outputs that hampered research performance.

> “so, cutting everything right down to the bone and user pays …. Because the neo-liberal agenda is sort of what's driving a bit of this place. You know, the money is just not there, but the output [is still expected]” (R5, 16/09/16).

As indicated earlier, Academics understand that governments influence the research agenda through funding bodies. In addition to this, the impact of compliance exercised through course accreditation bodies and curriculum changes

created workloads that limited opportunity for research. In respect of compliance, Academics claimed that government bodies, in conjunction with course accreditation bodies required changes in curricula that affected workloads such as changes in lesson plans and relevant assessments. This compliance aspect was at times exacerbated by changes in the DOH leadership that also demanded changes in teaching programs or anticipated changes to come primarily from national, but even from the international agendas.

Legislative changes that resulted in course accreditation from more than one body were reported as particularly costly and time-consuming. The rewriting of teaching material and submission of evidence, because of these legislative changes, hampered research performance, according to them. A typical claim regarding course accreditation impacts was:

> "I've just taken over a course, at a period where we're doing a lot of changing accreditations and other things; it means I'm doing a lot of rewriting of materials" (R9, 16/09/16).

Compliance through policies and processes also impact on research performance. For example, when an industry partner requires different and additional human ethics submissions to those required by the University, the extra workload hampers research performance.

> "being cognisant of those policies that are external to [ANRU], because it can hamper your progress, particularly if you have something approved by [ANRU] but then doesn't get approved and needs changes by external body, you then still need to go back and submit your amendment to [ANRU] to say, '*We had to change things*'" (R9, 16/09/16)
> "the … standards that you have to comply [with]…. Then you've got to be in line with the [national guidelines] … every time you have a new government and they put a new [guideline] in place, you've got to update all of your … materials to link with that" (R6, 22/09/16)
> "[Industry partner A] is a little bit better. I mean they do have a (ethics) vetting system as well, but they're not as onerous. And [Industry partner B] is easy, because you just have to get the approval" (R26, 2/11/16).

In summary, the interest of many Academics was not aligned with governing and grant distribution priorities and as such, hampered their research performance. Government views caused changes to curriculums, which were detrimental to researchers' time for research. Governing and legislative bodies direction and expected execution of the course seemed not to be aligned to overall

long-term strategies. This governing approach contributed to unnecessary time consuming, costly administrative burdens in Academics' opinion.

The Government's research agenda for the higher education sector, delivered as directives through legislation and policies was in certain instances a significant contributor to lower research performance and as such described the *National Impact* (C1) category.

The second category that contributed to the *External Context* (C) theme was *International Impact* (C2).

4.5.2 International Impact (C2) Category

International Impact (C2) comprised those aspects that provided international opportunities and influenced local thoughts on research direction. Figure 4.14 depicts the *International Impact* (C2) category taxonomy.

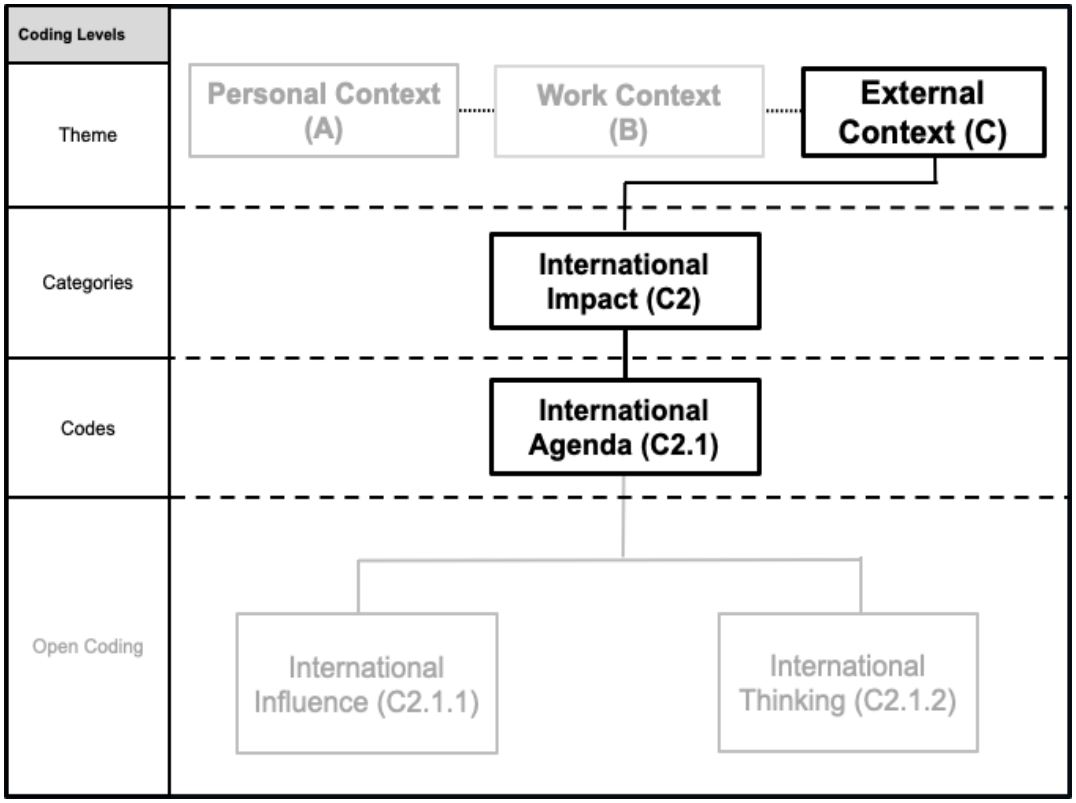

Figure 4.14: Taxonomy: DOH *International Impact* (C2) Category

As an overview of this category, Academics reported that international agendas shaped national research agendas. Research initiatives aligned with international research agendas allowed for access to research money direct from

international sources or through national sources. Some staff shared more experience of international influence and international thinking than others.

Academics reported that the impact from both national and International Influence was closely linked to the access and availability of reputable academics and their research endeavours. They, however, suggested that these opportunities were not fully exploited due to ANRU's low reputation and lack of opportunity, impaired by high costs, for academics to attend conferences. Typical claims were:

> "the continual drive from United Nations agencies for … outcomes probably impacted on the department" (R2, 29/09/16)
> "there's an international movement [thinking] around [that influence] our work" (R1, 09/11/16)
> "international conferences, we're not going [and] no funding to go to conferences internationally" (R31, 15/09/16)
> "to increase the number of international partnerships, arrangements that we have.…lead to research opportunities, … in terms of broadening experiences in international settings you would have to go to the European and American conferences" (R4, 8/09/16).

Some staff reported more awareness of opportunities created through technology and through partnerships to collaborate with international academics. Academics believed that technology improved contact and collaboration opportunities with international partners, exposure or promotion of opportunities that influenced their research and thus improved research performance and skills that may make ANRU more competitive. They claimed that:

> "Skype, business Skype, and it's brilliant. So, the world can be smaller" (R31, 15/09/16)
> "A global world, … means we have better means of communication. Especially in tertiary, we have the option, the opportunity now to be more connected [have partnerships] with colleagues" (R5, 16/09/16)
> "the continual drive from United Nations agencies for … outcomes probably impacted on the department" (R2, 29/09/16)
> "I think one of the things that we're doing at the moment is we're trying to, and I think probably succeeding, [is] to increase the number of international partnerships, arrangements that we have.… certainly, in terms of broadening experiences in international settings" (R4, 8/09/16)
> "I know that's what is going to make us competitive globally. We've got to be the higher order thinkers, … but we need some … [research] skills as well. And I don't think there's any priority on that at all within society" (R31, 15/09/16).

Academics viewed international thinking as contributing to their research practice and felt that technology provided greater accessibility to the international research resource, which allows better opportunities for collaboration. According to Academics, niche teaching and learning areas, aligned to international thinking and agendas, allowed promotion for and attraction of international students. Academics asserted:

> "meetings coming up with delegations coming from overseas. … if you get one of those, the research opportunities or teaching opportunities present itself. … that I think is a - is a market that we are targeting, I might be travelling into the Middle East this year to look at opportunities" (R4, 8/09/16).

The international aspects that provided international opportunities, thought leadership, direction, related funding, partnerships, as well as influenced political and leaders' thoughts on research direction formed the category *International Impact* (C2).

In summary, the *External Context* (C) theme comprised two main factors that affected research performance, namely: *national impact* and international impact. The national agenda, influenced by the international agenda, shaped policy and funding opportunities, which directly had a *national impact* on research performance at ANRU. This impact was mainly though a lack of adequate funding. National policies also impacted governing bodies and these policies then led to changes in curricula and accreditation requirements. These changes kept Academics busy with teaching and administrative functions, curbed research time, and thus research performance.

International research agendas influenced national research focus and technology made contact with external researchers possible, and therefore allowed increased opportunity for collaboration and partnerships. This impact on the national agenda and closer connection to international research agendas led to the category *International Impact* (C2). The international aspects that provided international opportunities and influenced political thoughts on research direction constituted the *International Impact* (C2) category.

The categories *National Impact* (C1) and *International Impact* (C2) together shaped the external environment that affected the environment in which

ANRU operated. In turn, this external environment influenced the work environment in which Academics was expected to contribute to research performance and thus described the *External Context* (C) theme.

4.6 -Experienced Emotions

Emotions derived from DOH transcribed texts contributed to 'Academic experience' themes as listed in Table 4.1.

Table 4.1: DOH Shared Emotions

Open Codes: Emotions		
Negative		**Positive**
agitated	feel isolated	calm
anger	grumpy	enjoy
annoys	mentally tired	enthusiastic/ passionate
anxious	negative	exciting
burnout	not interested	feel refreshed
desire (no)	paranoid	happy
discouraged	physically emotionally sick	honoured/privileged
does not excite	stuck	love
exhausted	told off	positive
frustrating	very tough	proud
frightening	worried	recognised

From Table 4.1, it is evident that Academics presented far more negative emotions than positive ones. The emotions were internalised and closely linked to their roles. The compound feelings from the negative emotions could be described as stress, burn out, frustrated, tired of being creative and or feeling compelled to "toe the line'. On the other hand, positive emotions signified well-motivated Academics. These emotions also led to specific actions, see the inserted figure under each theme 4.7.1 to 4.7.3 for the related experiences, where applicable.

4.7 Summary of Findings

This section provides a synthesis and summary of findings from the first cohort, that of the DOH. The Academics' experiences of research within the DOH

are summarised below in relation to the three themes of *personal*, *work* and *external contexts*.

4.7.1 Personal Context (A) Theme

A description of the *personal context* factors has been provided in subsection 4.4.2. Academics experienced this theme with some conflict towards their role identity because of the competing work-life interface and were frustrated or stressed. Furthermore, Academics were frustrated by the lack of understanding from ANRU decision-makers about the value they place and effort in teaching students and towards accreditation.

The profile of the individual is a crucial indicator of how the researcher might behave towards research performance demands. The lack of opportunity to interact through mentoring, socialising, and being in contact with internal and external colleagues, to the institution, which has been viewed as opportunities to learn and maximise research performance demoralised them.

4.7.1.1 Personal Profile *(A1)*

While various essential attributes were viewed as necessary for research performance commitment to *conduct research* with autonomous intrinsic regulated motivation, skill and a sound work-family interface (WFI) is needed.

The conflict with their role identification and negative impact of work on family life further impacted motivation negatively and was exacerbated by the lack of opportunity to build skills.

4.7.1.2 Academic Interaction *(A2)*

Academics saw collaboration and teamwork as a prerequisite for research performance. These involvements also led to opportunities to interact and learn from other academics.

Academics felt frustrated and isolated from further development that was stifled by a perceived lack of time due to workload as well as the inability to attend conferences. Conference attendance was worsened by a lack of funding, which in turn was partially due to the geographical isolation of ANRU.

4.7.2 Work Context (B) Theme

The *Work Context* (B) significantly impacted researcher performance in that financial resources were lacking, high expectations and subsequent high workload in student teaching for a profession exist. High workload could cause WFI, as well as an insufficient internal capacity due to a lack of enough staff. Furthermore, a lack of expertise that could impact ANRU's reputation, an increased expectation for research accountability, without the necessary support at the same standard as other academic departments, was perceived as unfair. Besides, leadership changes had an inconsistent focus on research and created more bureaucracy and impacted the climate (morale) negatively. The DOH work culture brought upon by changing leadership and practices also suffered from informal discussions which could have led to collaborative research opportunities.

4.7.2.1 Financial Resources (B1)

Financial support, mainly as relief from the demand caused by duality and high expectations of teaching and research, to facilitate research performance was experienced as insufficient and frustrating Academics.

4.7.2.2 Work Content (B2*)*

Dissatisfaction, frustration, WFI, and stress were a result of dual expectations as per the perceived psychological contract and subsequent workload in student teaching for a profession together with a high demand for a higher standard of research outputs.

4.7.2.3 Internal Capability (B3)

Academics were disillusioned and thought that without the improved support capacity of the Institution, and academic and support staff, as well as non-provisioning of support to improve staffs' capacity and their experience of support the expected research performance will probably not be achieved.

4.7.2.4 Conducting Research (B4)

Perceived inequity in demands and expected outcomes impacted negatively on research time. A lack of recognition and or reward had a further negative impact on some Academics' research performance motivation. When and if the research was conducted Academics in most cases enjoyed the research experience.

4.7.2.5 Institutional Leadership (B5)

Academics have also experienced frustration due to inconsistent leadership focus and management practices. Inconsistency in practices was mainly broad along by changes in the leadership of the DOH.

4.7.2.6 Research Climate and Culture (B6*)*

The DOH Climate was negative with high signs of stress and frustration due to their and the environmental lack of capacity to support them in research endeavours. In some cases, paranoia was evident in reactions during data-gathering. From the reported lived experience data the research culture, in general, did not show any signs of consistent practices leading to research.

4.7.3 External Context (C) Theme

Government and accreditation bodies were viewed as having a negative national influence on workload whilst the international agenda influenced the national agenda. On the other hand, the international agenda was viewed as positive in that it evoked political thought on research directions.

4.7.3.1 National Impact *(C1)*

Unnecessary rework of curriculums for accreditation in answer to Government and Accreditation bodies' expectations, interpreted by leadership, was experienced and contributed to a feeling of competing demands and overload that left Academics exhausted, mentally tired and physically and emotionally sick.

4.7.3.2 International Impact *(C2)*

Whilst not a significant influence on Academics in the DOH or their research, a positive inclination of thought-provoking agendas and potential new research directions opened to them from the international scene.

4.8 Chapter Summary

Three main themes emerged from the DOH Academics' experiences of the factors that impacted on research related to three domains, namely 1) *personal context*, 2) *work context* and 3) *external context*. The context of the DOH was very dynamic due to the impact of several internal and external environmental aspects. For instance: the internal and external drive for improved research performance within an extremely competitive environment for grant allocations, the nature of the industry serviced, external policy settings and constant numerous course accreditations were impacting directly on workloads. Reduced funding from governments to industry partners consequently affected the funding made available for DOH research, perhaps more than research in the DOS.

The findings of the DOH research were indicative that research performance hinged very strongly on the contextual aspects from within and surrounding the individual's capacity, capability, agency or motivation towards research and opportunities to interact which lead to learning and collaborative research. The contextual support was experienced differently by individuals, that is the different degrees to which the individuals experienced the internal institutional perspective that contributed to the relative ease or difficulty for them in focusing on research performance. External, to ANRU, aspects such a policy, process changes, and research agendas further contributed to hampering research performance.

While most Academics loved teaching and research and been motivated by the enjoyment they received from this work, the 'tough job' also stressed them. R8 explained this stress as "then I'll get told off for not publishing, but you literally – you can't do the things – there's only one of me". The constant changes with a lack of leadership focus and consistent practices contributed to overload. The stressors

of the role impacted severely on the wellbeing of a large cohort within the DOH.

The next Chapter 5 presents the results for ANRU DOS.

Chapter 5: Research Experience: ANRU Department of Sciences

5.1 Introduction

Of the three cases presented this second Chapter, of the three cases, describes the context of the Department of Sciences (DOS) and reports the lived experience of Academics sampled from the DOS under the three broad themes *Personal Context* (A), *Work Context* (B) and *External Context* (C). Care has been taken to ensure and maintain focus on the participants' first-person lived experience by only paying attention to a description of these experiences in this Chapter. Themes and categories/factors in text passages are discernible as italic font. Meaning and significance of these lived experiences are described in Chapter 8.

5.2 Overview of DOS

As described in Chapter 4, ANRU is a multi-campus university offering programs in and across many disciplines. The Department of Sciences (DOS) has its roots in the natural sciences. Its teaching programs are complemented by research, which is facilitated by research institutes, research centres, and various research groups. The DOS offers an array of undergraduate, graduate certificate and diploma and post-graduate courses with more than 250 academic staff members. Approximately 200 of staff in DOS were PhD graduates of which on average 60 were research-active. The DOS typically enrols on average 3000 students per year.

Several internal and external environmental factors influenced research in the DOS, for instance: a drive for improved research performance; increased competition for internal and external funding; several departments from different disciplines and research background amalgamated into one department; and, some sections of DOS already having an embedded and respected research culture and performance. These factors created a dynamic within the DOS that consequently influenced the context of Academics' lived experience of research.

A dataset was analysed from Level E, D, C, and B Academics participants, inclusive of two post-doctoral fellows. Two Level Es, two Level Ds, three Level Cs, and four Level Bs participated in the study. Of these participants, 11 were PhD qualified, and one had a Master degree, with an average of 14.91 year's post PhD/M academic experience, four were females, and seven were males, on average they had a workload loading of 35.4% research, 47.7% teaching, and 16.8% service.

The analysis of the interview transcripts aligned with; and confirmed the three themes that emerged from the DOH analysis namely, the *Personal Context* (A), *Work Context* (B), and *External Context* (C) themes. The analysis commenced from top-down (themes to "words in context") and then to bottom-up (open coding to categories) and iteratively between levels in the detailed analysis phase. Academics' experiences were coded and categorised under the three context theme labels, and subsequent category and code labels that emerged from the analysis of the first case as well as new labels. The analysis generated 87 open codes that during an iterative process, led to 11 categories and 30 codes. The themes, categories and codes represent a holistic picture of DOS Academics' experience of research and provided insights into research questions one and two.

The data is first presented graphically, to provide the overall picture, and are then reported from a theme to code level with underlying detail. These themes, categories, codes, and open codes provide the complete taxonomy derived from the analysis of DOS data (See Figure 5.1).

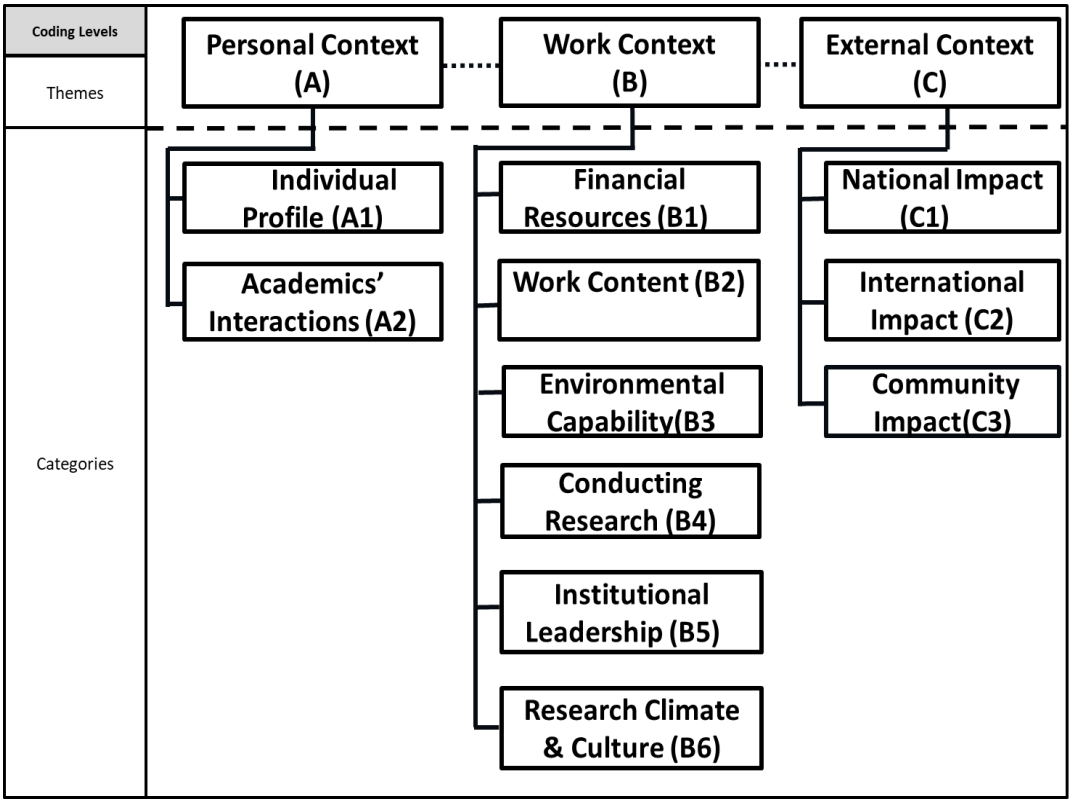

Figure 5.1: Taxonomy: DOS Themes and Categories

Academics' experiences of factors external to ANRU, such as *National impact* (C1), *International impact (*C2), geographical isolation, and societal impact or *Community Impact* (C3) led to the theme *External Context* (C). The *Funding* (B1), *Work Content* (B2), immediate work *Environment* (B3), their *Research Conduct* (B4), the *Institutional Leadership* (B5) or the way work is structured. The Department's *Research Climate and Culture* (B6) also influenced Academics' experiences of research and formed the theme *Work Context* (B). The *Individual Profile* (A1) of Academics, the way their way they *Interacted* (A2) with each other, and personal circumstances were foundational factors that influenced Academics' experiences of research. These categories comprised the *Personal Context* (A) theme.

5.3 Personal Context (A) Theme

The *Personal Context* (A) theme was confirmed from the Academic's DOS data. This theme comprised aspects of Academics' research experiences related to the *individual's profile* and how Academics *interacted* with each other.

This theme was defined by two categories, namely *Individual Profile* (A1) and *Academics' Interactions* (A2) as depicted in Figure 5.2.

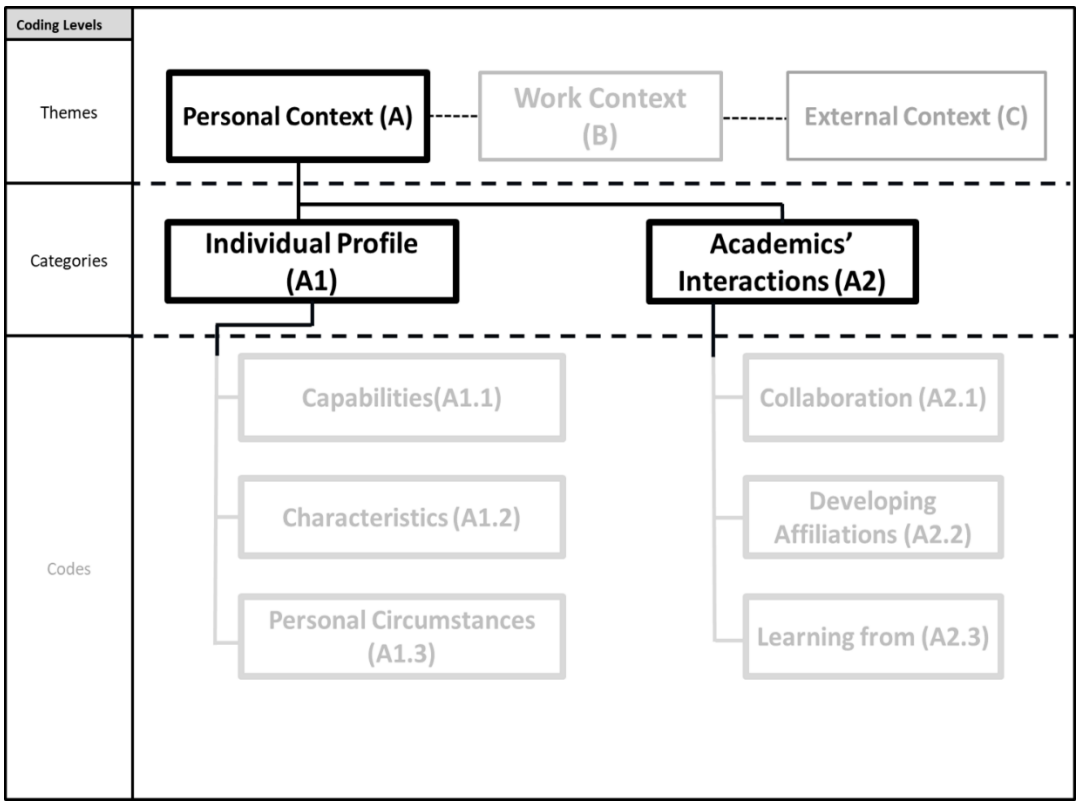

Figure 5.2: Taxonomy: DOS *Personal Context* (A) Theme

Whilst, the intrapersonal and individual circumstance aspects shaped the *Individual Profile* (A1) category, the *Academics' Interactions* (A2) category described interpersonal aspects between or amongst individual academics and or groups interacting with each other. The *Individual Profile* (A1) and *Academics' Interactions* (A2) categories are described below in detail.

5.3.1 Individual Profile (A1) Category

Aspects such as Academics' capabilities, unique intrapersonal characteristics and personality traits, and personal circumstances contributed to research performance and constituted the category *Individual Profile* (A1). Figure 5.3 depicts the taxonomy of the *Individual Profile* (A1) category.

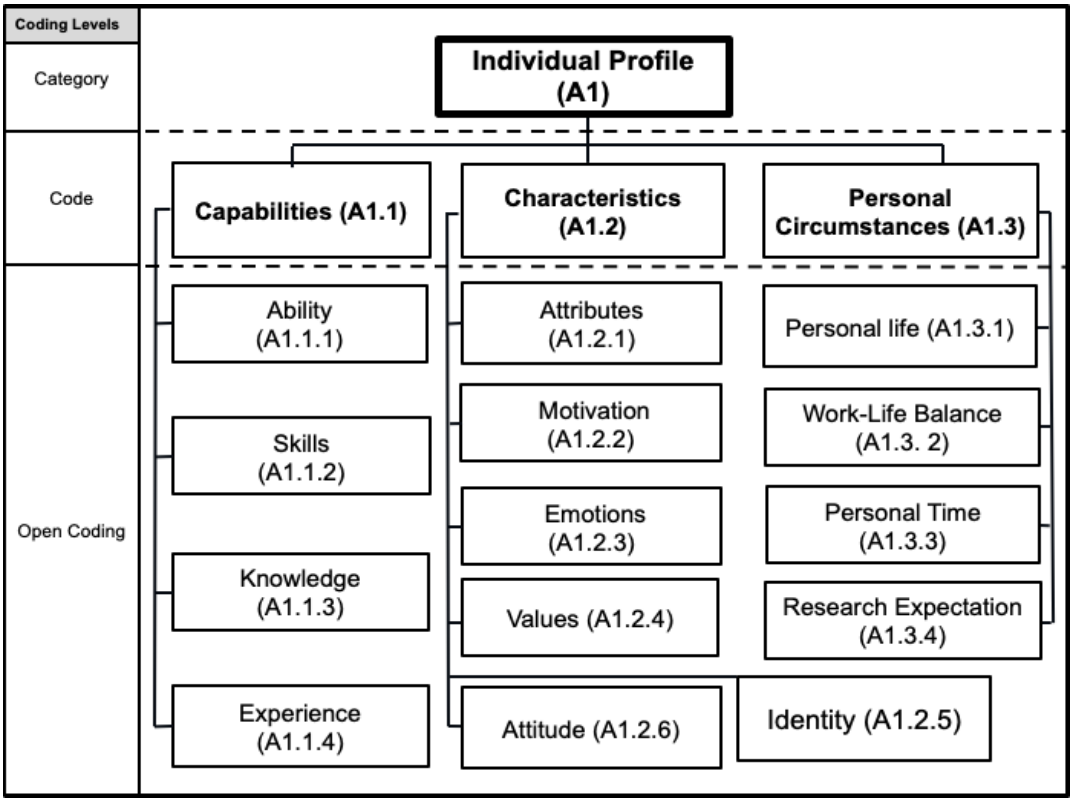

Figure 5.3: Taxonomy: DOS *Individual Profile* (A1) Category

Contributing to the *Individual Profile* (A1) category is the capability aspect containing the intrapersonal aspects ability, skills, knowledge, and experience that participants considered facilitators or the lack of these to be inhibitors of research performance. Academics viewed the availability of, or accessibility to well-equipped experienced colleagues, such as the professorial appointments, to potentially compensate for inexperienced individuals' capability deficits. The lack of capabilities such as; a lack of domain knowledge and experience, the lack of a record of accomplishment, or the unavailability or inaccessibility to well-equipped, experienced colleagues, and resources were seen as barriers to research performance. Academics made assertions regarding support for their capability and skills such as:

> "in DOS we …working on lots of multiple problems [skill to solve complexity]" (R19, 25/10/16)
> "how to write grant applications… how to identify those that are applicable for a project and the different sources" (R25, 11/11/16)
> "If you're going to be higher in research and have great research outputs, that's where your skills lie, then here are the resources to go and really improve your capabilities as a researcher" (R25, 11/11/16).

Claims in respect of knowledge and experience were:

> “domain knowledge which I lacked was a disadvantage” (R19, 25/10/16)
> “Appointing people … with really good education, really good track records … a research track record” (R11, 09/12/16)
> “professorial appointments … they've got great expertise” (R11, 09/12/16).

The characteristics aspect was constructed from the five intrapersonal aspects: attributes, emotions, motivation, values, and identity, which contributed to the *Individual Profile* (A1) category. These intrapersonal characteristics of individuals, were mostly, seen as containing specific qualities, for example, the interest to relate to colleagues, essential for research performance. See the descriptions and quotes below for examples of intrapersonal characteristics that hamper or facilitate research performance at ANRU.

Attributes comprised aspects such as commitment, organisation, creativity, curiosity, determination, and inquisitiveness. Amongst others, enjoyment, fun, passion, and love relating to motivational aspects were mentioned. Other emotions, on the contrary, were mainly experienced as negatively influencing their research performance. For example, worrying, fear, feeling of inadequacy (stress), or a black hole (depression). Statements from Academics were:

> “commitment to seeking the knowledge and being able to do the research” (R11, 09/12/16)
> “attributes that I think are important … to ensure that I can, commit to doing fieldwork, doing laboratory work, writing papers, writing reports to funding agencies, writing proposal applications, that sort of thing” (R11, 09/12/16)
> “research is fun, and it's nice … it's fairly indulgent” (R15, 17/10/16)
> “fell into a black hole … because I just felt [depression] – no inclination to do anything” (R13, 10/1016).

Value aspects expressed were care, trust, and training. Identity aspects further showed Academics’ affiliation with specific research and their work in general through the fit with their individuality or academic role, be it a teacher or teaching research scholar. Their scholarly identity was experienced as ways they could utilise their discipline research experience and expertise to create innovations in their teaching, which could be published and improve the student learning experience. The following quotes are examples of Academics’ experience of aspects they valued, which contributed to their academic identity:

> “if you want collaboration, … develop relationships first, a degree of trust” (R17, 24/10/16)

> “I'm surrounded by real academics, people who understand research” (R15, 17/10/16)
> “if you're a teacher, research scholar, … where you do have a high teaching load and a high expectation of teaching quality, it is difficult to find that time (for research)” (R15, 17/10/16)
> “you're taking [results] in research and applying it to teaching” (R14, 14/10/16).

Participants reported that if they lacked the right level and or type of these five intrapersonal aspects or characteristics, namely attributes, emotions, motivation, values, and identity, it hampered their research performance. Conversely, having these characteristics, facilitated their research performance.

In addition, aspects relating to personal circumstances such as the academic’s personal life, research expectations from the DOS and ANRU and, work-life balance contributed to the *Individual Profile* (A1) category. These factors were mostly viewed as harming research performance according to participants. Most Academics: however, accepted that research performance was not possible when working a regular five-day workweek. Despite the demand experienced for longer work hours, some Academics managed to maintain a healthy work-life balance. Academics thought that:

> “I [would] have not achieved as much as I could have if I was the sort of personality …, that essentially don’t have personal lives” (R11, 09/12/16)
> “because of someone's personal predilections, not because it [expectation of work-life integration] necessarily makes sense” (R15, 17/10/16)
> “there's a different expectation at different levels in the Uni, depending on what role [you’re appointed in]” (R16, 18/10/16)
> “working overtime is the norm, and I like certainly not doing … 38 hours a week … an unsaid expectation that we do work overtime” (R20, 16/11/16)
> “either have a good life - you either have some kind of work-life balance, in which case you suffer for it in your work [not having it], or you work suffer” (R15, 17/10/16).

The capabilities, characteristics, and personal circumstance that Academics experienced about themselves and research or doing research as well as how it influenced their research performance described the *Individual Profile* (A1) category.

5.3.2 Academics' Interactions (A2) Category

Contributing to this theme's *Academics' Interactions* (A2) category are interpersonal relationships that impacted on Academics' research performance. Collaboration opportunities with colleagues within their Department, across disciplines, and with researchers external to ANRU, were viewed as essential for research performance. On the contrary, aspects such as discipline isolation and small numbers of Academics were experienced as issues that hampered research performance.

Aspects such as collaboration, developing affiliations, and learning from others, that contributed to research performance, constituted the category *Academics' Interactions* (A2) depicted in Figure 5.4.

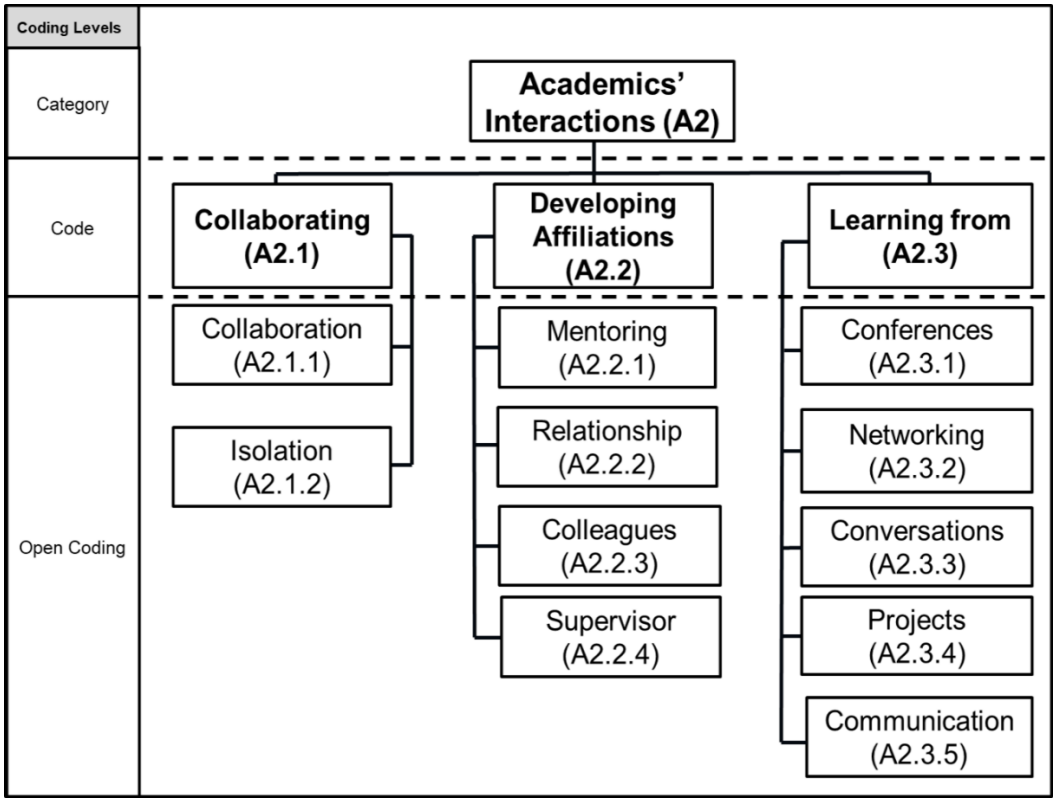

Figure 5.4: Taxonomy: DOS *Academics' Interactions* (A2) Category

The following quotations from Academics illustrate how important they view collaboration and isolation in research performance.

> "collaboration has actually led to a lot more interaction for me …in order to get any research done; you had to collaborate" (R13, 10/10/16)
> "There is another [researcher in another state] … more in [international]… and less in [State]" (R14, 14/10/16)
> "there aren't that many people in my field here" (R20, 16/11/16)

> “I am the only one in the field I ultimately settled in, doesn’t have a lot of academics in Australia certainly not in [State]” (R13, 10/10/16)
> “makes us as a [discipline] group isolated” (R16, 18/10/16).

Developing affiliations with other academics through interaction was another aspect that facilitated and/or hampered research performance, according to Academics. They experienced developing affiliations with others as working with supervisors, mentoring, opportunities to develop research relationships through making connections, and interacting with colleagues. For example:

> “the PhD supervisor relationship, … you’re working together” (R16, 18/10/16)
> “they can spin-off … younger researchers that have aligned themselves with, a mentor” (R11, 09/12/16)
> “a mentor that is less available means … where ideas are generated [means] the fizz is lost” (R20, 16/11/16)
> “ties back into research. So, if I don’t maintain relationships and connections with all the various people” (R17, 24/10/16)
> “actually, getting research grants and making connections and working with industry” (R11, 09/12/16)
> “colleagues can help you… the supervisor will tell you and give you the guidance” (R32, 27/10/16).

Academics reported learning from and through interaction with others when they attended conferences and seminars, networked, communicated, or had conversations, and worked in projects or teams. They viewed these aspects as either facilitating or hampering research performance as evidenced by assertions such as:

> “conferences … whereas academics, you should be going listen, ask questions and meet people. primarily an academic conference, but again it's what got me the connections with [Industry]” (R17, 24/10/16)
> “people … I knew from conferences, helps you build an international network” (R13, 10/10/16)
> “if there were more internal forums or internal seminars that have more cross-discipline things … there might be some networking opportunities” (R19, 25/10/16)
> “broader benefit about networking, about building those partnerships that wouldn’t pay off five years’ time” (R16, 18/10/16)
> “During dinner … we got talking; we started networking” (R19, 25/10/16)
> “You've got to form a team … whether I'm working on a paper, teamwork is vital” (R16, 18/10/16)
> “in academia, there is a lack of recognition of the benefit of coffee and conversation” (R17, 24/10/16).

Academics' experiences of collaborations, developing affiliations with, and learning from others doing research, and how it impacted research performance formed the *Interaction* (A2) category.

In summary, the theme *Personal Context* (A) was formed through the categories *Individual Profile* (A1) and *Interactions* (A2).

Those inherent capabilities, characteristics, and personal circumstances Academics and research or doing research they experienced and how it influenced research performance described the category *Individual Profile* (A1).

Academics' experience of collaborations, developing affiliations with, and learning from others in doing research, and how it affected research performance described the category *Academics' Interaction* (A2).

The categories *Individual Profile* (A1) and *Academics' Interactions* (A2) together described those personal traits that influenced their research performance and their capacity for and opportunities to work with others to enhance their research performance and formed the *Personal Context* (A) theme.

5.4 Work Context (B) Theme

Work Context (B) described those factors that had a direct impact on Academics' work and that either directly or indirectly affected their capacity to contribute to research performance.

The *Work Context* (B) theme emerged from the data in the form of six categories namely: *Financial Resources* (B1), *Work Content* (B2), *Environmental Capability* (B3), *Conducting Research* (B4), *Institutional Leadership* (B5), and

Research Climate and Culture (B6) as depicted in Figure 5.5.

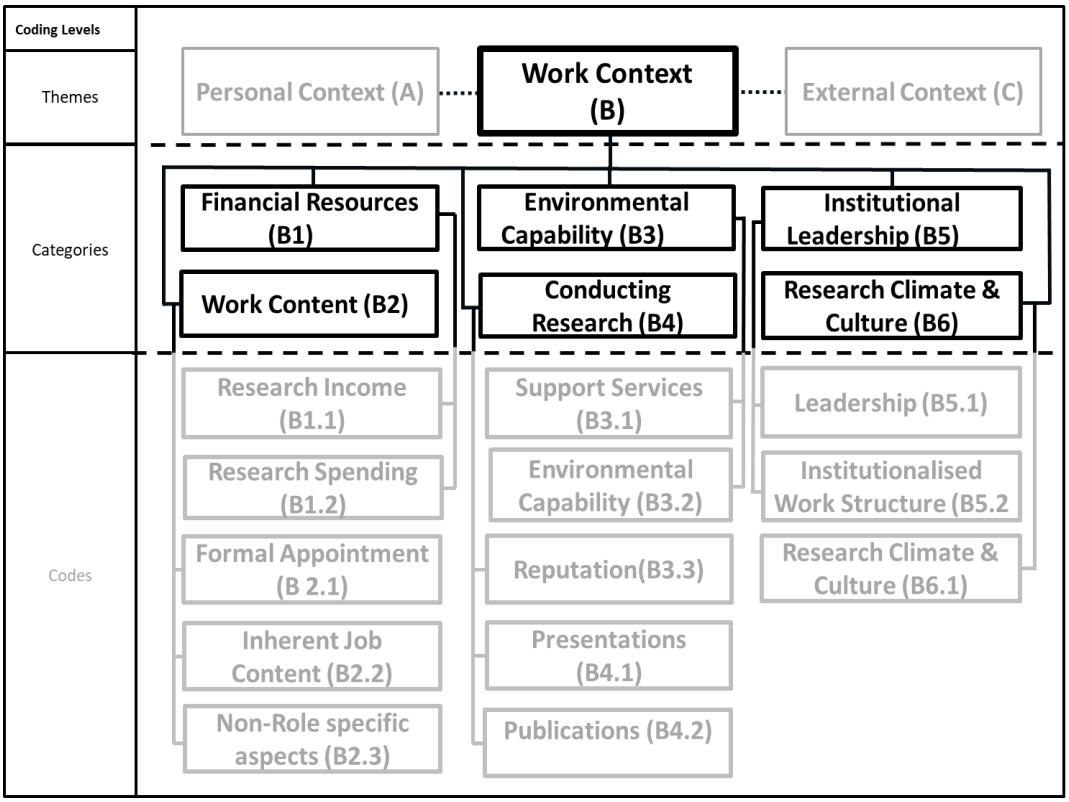

Figure 5.5: Taxonomy: DOS *Work Context* (B) Theme

An overview of the *Work Context* (B) theme showed that the category *Work Content* (B2) was primarily influenced by the category *Research Climate and Culture* (B6) supported by *Institutional Leadership* (B5) and *Environmental Capability* (B3). The main topic that emerged from the data was the experience of high demand for research performance without the necessary workload and financial support. Whilst their *Conducting Research* (B4) ensured funds that supported their further research endeavours, *Financial Resources* (B1) had a significant impact on their perception of their ability to perform at the level required. These categories are described below in detail.

5.4.1 Financial Resources (B1) Category

The first category *Financial Resources* (B1) was described by how the income and spending of money, within a context of intense internal and external competition for funding and a high discipline related cost of research affected the research performance of DOS Academics.

Most Academics described their experience of *Financial Resources* (B1) as insufficient or incorrectly allocated to support their research endeavours. In their experience, this coupled with high operational costs were hampering research performance in the DOS. Figure 5.6 depicts the taxonomy for the *Financial Resources* (B1) category.

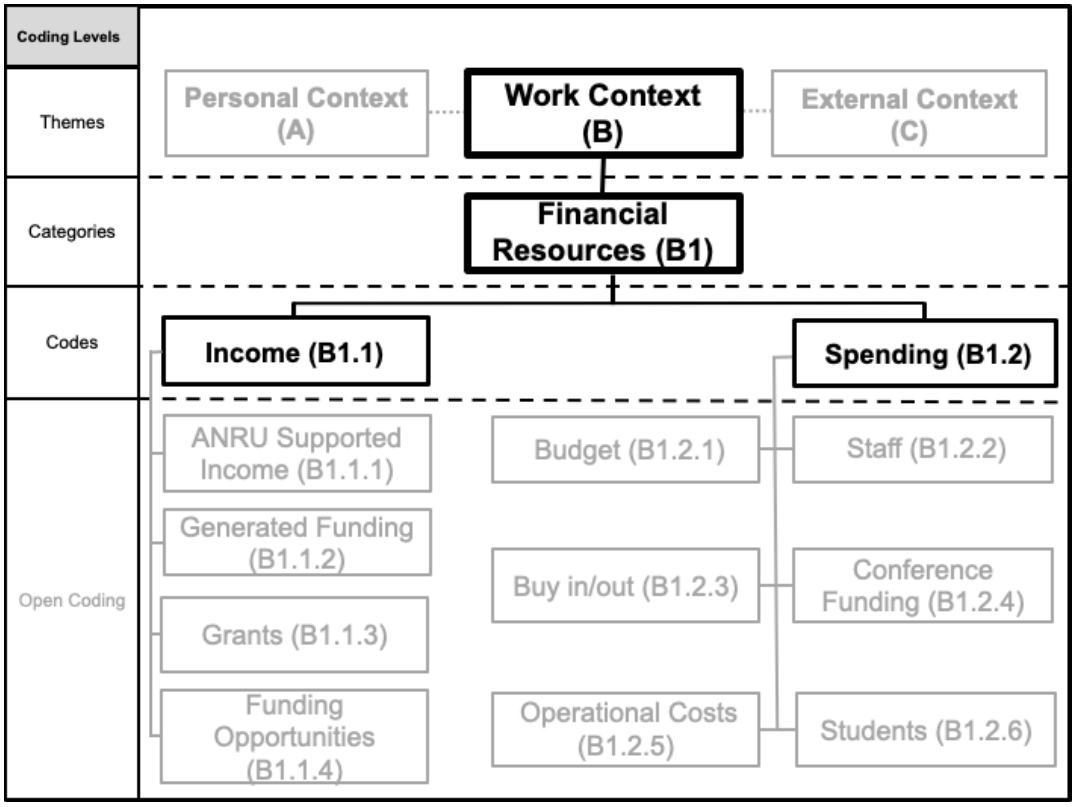

Figure 5.6: Taxonomy: DOS *Financial Resources* (B1) Category

Contributing to the *Financial Resources* (B1) category was research income in the form of funding through ANRU support, generated funding, grants, and other funding opportunities that supported research endeavours. Academics, however, experienced funding allocated as research income from ANRU as inadequate to ensure the level of expected research performance.

Whereas they were content with ANRU's support of researchers, Academics were disappointed by the change in a strategic fund initiative. The latter was an ANRU funded initiative to provide departments with researchers, who have a record of accomplishment, which would support grant applications. From being a research incentive for high research performance, it changed to operational support for departments with high costs. Academics also doubt if the strategic

funds would be long-lasting and if there would be sufficient funds left to support the professorial fellows recently appointed. The DOS acclaimed research income was not equitably distributed, according to some Academics, as the ANRU funding model affecting them negatively as it allowed this income to be allocated for teaching rather than research. Positive and negative assertions made by Academics were:

> "The University is very supportive [with funding] of researchers" (R18, 21/10/16)
> "the strategic funding that we had now has been changed because certain [academic departments] need it for operational rather than strategic (purposes)" (R25, 11/11/16)
> "an additional allocation of a budget that's recognising research performance. And if we're a [academic department] that's doing a lot of research; then we should get more" (R11, 09/12/16).

According to Academics, self-generated funding also supported their research. This funding came from innovations for industry partners, consultancy and research performance. Academics claimed:

> "you need funding … generate your own … from those industry partners actually branch those projects out to others, [if not] I cannot expand" (R32, 27/10/16)
> "can use consultancy or something to generate funding that can then go into an account to do that (research)" (R17, 24/10/16)
> "that consistent stream of funding coming … over and above what we generate in terms of teaching, that is allocated on the basis of research performance" (R11, 09/12/16).

The competitive external environment, with less money available from government, and the perception that ANRU has very few people who have been successful to date of obtaining national competitive grants, also increased the internal competition for grants. These aspects had a significant influence on their own research capability and reported by Academics as:

> "it's [acquiring funding] hard, and if you're competing …, the more competitive research funding gets, the harder it is … all aspiring to category one grants, but in reality, they are incredibly difficult to get" (R15, 17/10/16)
> "we're not one of the sandstone universities … less and less funds available for research … makes grants more competitive and everything's a lot more, … we're up against a lot more competition as well" (R20, 16/11/16)

> “if our professors … can't get the bigger dollars in, … they're chasing [internal] dollars that some of us … might normally be after” (R25, 11/11/16).

Academics reported that internal and external opportunities for funding have declined, being less frequent and lower amounts. The limited availability of funds impacted on their work, in particular, their ability to perform at the expected research level. A general lack of funding for research necessitated searching for other opportunities. Academics claims that:

> “it [research] is a difficult thing to fit in …, because we don’t get enough money to do our jobs … getting funding for research is the hardest bit, really … it can be difficult and you've got to find other ways …” (R15, 17/10/16)
> “So, the opportunities for funding have declined. It's widely spread. … less frequent and for lower amounts of money” (R11, 09/12/16)
> “there are different aspects of the research, but funding is one of them” (R25, 11/11/16)
> “it has been difficult, but I've been - I haven't really noticed that in terms of not being able to get grants” (R11, 09/12/16)
> “The Government says, ‘*Okay, I invest in the project, top-quality projects*’, and then limited funding to each one” (R32, 27/10/16).

The Academics’ experience of ANRU’s support, generated funds, grants and other funding opportunities in the research domain and how it impacted on research performance created Income in the category *Financial Resources* (B1).

A second contributing aspect to the *Financial Resources* (B1) category was spending that was experienced as budgets, expenses towards staff, buy-in and/or buy-out of human resources, conferences, consumables, equipment, and students.

Academics acknowledged that ANRU is a new university with limited research funding, but it is prepared to invest in research capital projects more than in people. In the case of people, it was perceived that less upfront investment for research was available than at other universities and Academics felt they were required to perform on a low budget. The research funding in departments was expected to be mainly from generated funds. Academics, however, were of the opinion that an additional allocation for research performance recognition should be available in their budget. Despite the experience of heavy teaching loads impacting on research and the need for more staff, they also acknowledged that

money spent on staff was costly and not all resources were utilised optimally. The following assertions were made by Academics:

> "…. a young university with a minimum budget for research" (R32, 27/10/16)
> "the University is really - has been, over that period of time, very willing to invest in capital intensive projects, less willing to invest - invest in the people side of it" (R17, 24/10/16)
> "And certainly, when I've spoken to people in other universities where there is much more of an invest upfront approach" (R17, 24/10/16)
> "[if] you've just got to go in by the by [low budget], ... that's a waste of potential as well. ... sometimes you can sustain things on a very low budget" (R15, 17/10/16)
> "Give me money to pay someone. [service centre] staff are not allowed to do research and I think that's the biggest waste of a resource" (R15, 17/10/16)
> "we haven't been heavily staffed in relation to what we do, and our teaching load has increased dramatically over the years" (R17, 24/10/16).

Academics claimed high teaching loads impacted on their research performance. They argued that relief, for example, through relief marking, was not provided. Even if the workload model accounted for the marking relief, it was not honoured. If they then bought-out time or bought-in assistance, the cost of the action eroded their research budget. They further asserted that conference funding was not seen as an investment and research money could not be used for conferences. Furthermore, conference-related costs were not supported sufficiently by the money they received as recognition for research performance.

> "we have this complex workload modelling system that allows us … 50 hours [marking] per semester, and that's built into the workload, and then … when it comes to getting marking relief, '*oh we can't afford to pay for the marking relief*'" (R17, 24/10/16)
> "need to get somebody else in to pay for your teaching … that means you have to spend money on that … that money erodes whatever small amounts of money you do have" (R13, 10/10/16)
> "…funds are available for research - you can't actually use that for conferences" (R20, 16/11/16)
> "that's [conference attendance] a simple investment, easy investment, but we - we don't do it, …" (R17, 24/10/16)
> "… being able to talk to people at things like conferences and all that is ideal, but it's really hard to get money for - funds for conferences" (R20, 16/11/16)
> "… funding to go to conferences diminished, which meant that unless you had sufficient … [research credit] points …" (R13, 10/10/16).

Operational costs like consumables and equipment were expensive in the DOS according to Academics. However, money to acquire equipment was made available liberally, which was available as it should be to facilitate research performance, but not that willingly to appoint sufficient numbers of staff.

> "… a bit more for me in science, because you need consumables and equipment, and you know, there are - there are things that cost" (R15, 17/10/16)
> "… this $500,000 piece of equipment …. We have the equipment, …" (R14, 14/10/16)
> "It's not actually a small [amount] … you can pay like $10,000 for [maintenance]" (R32, 27/10/16)
> "Very often, you get money for equipment, but you don't get money for people" (R15, 17/10/16).

Students' impact on spending were experienced as unfavourable when they consumed valuable time and positive where they generated or provided support to research outputs. Units delivered by the DOS to undergraduate students in humanities were more time consuming than for those students in sciences, whilst research students who struggled required a considerable investment in time. Research students aided with data collection and co-publishing opportunities. However, grants they received from ANRU were minimised by time wasted through a lack of service centre support, e.g. the Finance Department. Academics claims were:

> "... the students are quite different [from one academic department to another]. Much more demanding, much more needy, ... the science students ... a bit too laid back. ... we have research students as well and they can take up a lot of your time also. ... sometimes ..., when a student starts to struggle emotionally or with the work, that requires an enormous investment of time …" (R15, 17/10/16)
> "… students who are assisting with collecting the data - that's already generated a conference paper and that'll generate at least one if not more journal articles - while produce outputs" (R17, 24/10/16)
> "they spent ages trying to deal with [the] Finance [department]… research students who get grants or who get money from the University ... ought to be off and doing their work, spending the money on their research" (R15, 17/10/16)
> "… a scholarship, we give you access to lab. Spent hundreds of thousands of dollars" (R32, 27/10/16).

How ANRU spent money from low budgets on expensive consumables, equipment, staff, and students, described spending in the category *Financial Resources* (B1)

Together income and spending of money, within a context of stiff internal and external competition for funding and higher discipline related cost for research, affected research performance for ANRU Academics in DOS and comprised the *Financial Resources* (B1) category.

5.4.2 Work Content (B2) Category

Work Content (B2) was the second category in the theme *Work Context* (B) that emerged from the data. *Work Content* (B2) described how aspects such as perceived psychological employment contracts, role-specific aspects and non-role specific aspects influenced Academics' experience about research at ANRU.

A strong theme within this category was that most Academics asserted that the psychological contract an academic entered included a research responsibility. There were, however, reliable indicators that workload and the workload allocation expectations did not meet the effort that the role-specific aspects, such as teaching, took. Besides, non-role specific tasks and a lack of time resulted in demands being viewed in competition with each other. Figure 5.7 depicts the taxonomy for the *Work Content* (B2) category.

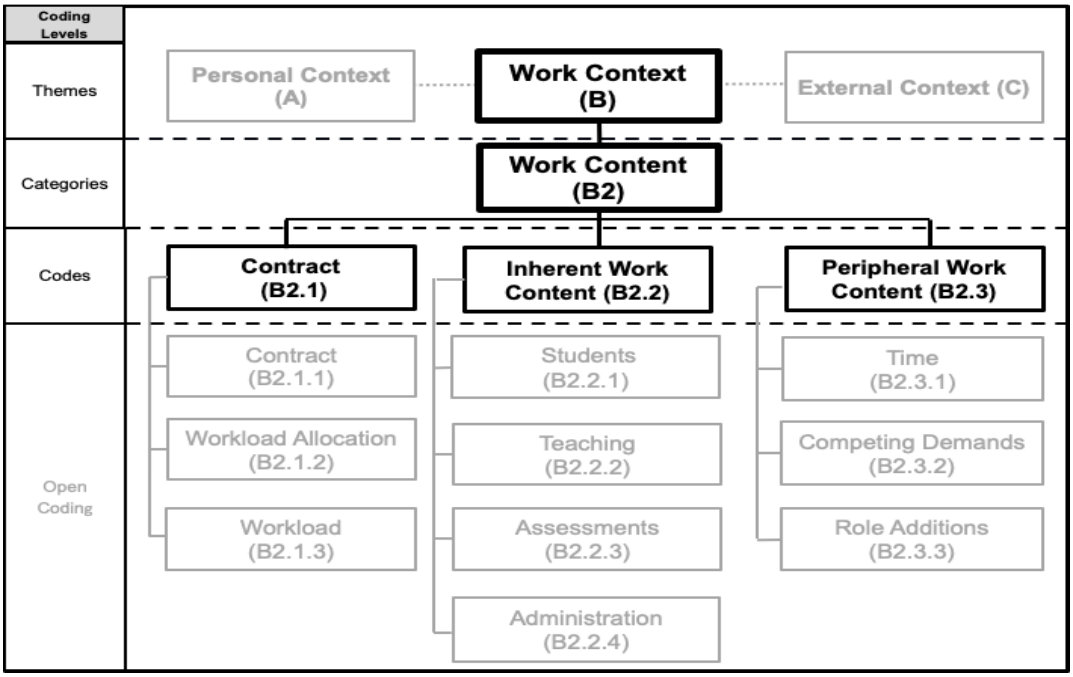

Figure 5.7: Taxonomy: DOS *Work Content* (B2) Category

Most Academics in the DOS stated that their contract was to do teaching, research and render a service. An early career researcher, however, was concerned about employment security and contracts not being ongoing. The difficulty of securing an ongoing position was seen as not getting their manager or supervisor's support to obtain research projects. Academics provided the following examples of how they experienced being employed:

> "Every academic is employed by the [academic department] to do research" (R18, 21/10/16)
> "Being an academic is a full-time job if you're lucky enough to have an ongoing position. … I've never considered not doing teaching to allow me to do more research. … it would be like something's missing in an academic career. … and that's [duality in the role] impacted my research performance" (R11, 09/12/16)
> "job security, you sort of need to have projects to remain employed. … it's hard to see a long-term future in research for myself, because of that" (R20, 16/11/16).

Academics claimed that the work they were allotted did not correspond with the workload model or the corresponding percentages. According to them, the workload did not take into consideration the effort taken to fulfil the required expectations. Those in leadership positions; however, believed the workload percentages and how they were allocated should only be seen as a metric to show what the expectations were. The DOS expected improved research performance from research-active Academics through a workload model of 40% teaching, 40% research, and 20% service. Workload allocation examples such as the following were provided.

> "the workload is there as a metric and a management tool to try - to give employees an understanding of … what the university's expectation is. But our workload models really don't integrate that well and come up with a realistic representation of the time that [the work takes] takes" (R11, 09/12/16)
> "We're student-focused, we need to devote a lot of energy to teaching, and then when you have your service … the things that are sort of left is your research" (R15, 17/10/16)
> "Research is everything else. … any other time that you have, and you're prepared to commit" (R11, 09/12/16)
> "as an academic, you will never do your job in 40 hours" (R14, 14/10/16)
> "I always felt that when we talked about workloads … the research was the elephant in the room because you know, 50% of teaching is not 50%

teaching, not in a 38 hrs workweek. So, if you want to do research, you have to do it on top [of that teaching workload allocation]" (R15, 17/10/16)
"Our [academic department], however, … allows a minimum of 40% [research] allocation to anyone that has shown that they are research-active and … not just say they are" (R11, 09/12/16)
"from the point of view of getting research done, the main obstacles are really working and administrative load" (R13, 10/10/16).

Aspects of their role, other than research, were generating a high demand on their time. These were aspects such as teaching, staff and student service, assessments, and administration. Some Academics indicated that, given a fair teaching allocation, the demand experienced from teaching was their own choice. Academics assertions about their inherent job content impact included:

"by the time you've done your teaching and your service, if you want to do it properly, you have a full-time load. I think the demands of teaching are too high on us" (R15, 17/10/16)
"I'm involved in teaching, developing classes, the lessons, the tutorials, delivering, marking, working with students" (R25, 11/11/16)
"we make our own choices in that to a degree, … if you're teaching two units, teaching shouldn't be too much of an issue" (R17, 24/10/16)
"You're dealing with managing your staff that are teaching with you; you've got to moderate your assessments, you've got to make sure everything is up to date, you're dealing with student issues, you try to make sure everything is running. …, we need to devote a lot of energy to teaching" (R15, 17/10/16)
"[The subject] it's really, really abstract, which means every piece of assessment you do is unique in its own right, and every student's response to that assessment is unique in its own right" (R17, 24/10/16)
"from the point of view of getting research done, the main obstacles are really working and administrative load" (R13, 10/10/16)
"So predominantly, I've been teaching, and service and my research have taken a backseat to those" (R25, 11/11/16).

Non-role specific aspects such as additional roles, time invested in those non-role specific aspects, and competing demands created more pressure. Academics provided the following examples of peripheral job content impacts on their research performance:

"asked to become an undergraduate coordinator, so you've got all of those kinds of deadlines…" (R15, 17/10/16)
"So, between that sort of leadership roles and the teaching was research. So, in some periods of time, I [did] not do any research for weeks at a time" (R11, 09/12/16)

> “when we've got so many competing demands, … my role in developing … programs and partnerships … have taken a huge amount of my time and prevented me from developing my research profile” (R25, 11/11/16)
> “I’m also on [a decision-making body] I, and I’m also on [another decision-making body], and I do things like [and another decision-making body]” (R13, 10/10/16)
> “you've got to put time and effort in [non-specific role aspects] because you're informing [state legislature]” (R16, 18/10/16).

In summary, Academics experienced the psychological contract as a combination of research, teaching, and other service roles. However, the teaching and service roles making it a full-time occupation, which means research usually gets pushed back to be the third priority and done on top of those expectations.

The full content of the experienced psychological contract, which included role specific as well as the non-role specific aspects which impact on research performance, described the *Work Content* (B2) category.

5.4.3 Environmental Capability (B3) Category

The third category underpinning the theme *Work Context* (B) is *the Environmental Capability* (B3) category.

As an overview for this category, some Academics reported that support from within the DOS varied based on support staff allocation from centralised service centres. Whilst physical support such as infrastructure and equipment are supporting research performance; Academics claimed that not all systems supported their research. As a result, they did not always experience the research performance capacity they needed. The vast majority identified that ANRU did not have the critical mass to be competitive in their research performance. Also, did the University not promoted itself and or built a reputation that attracted students and or collaborators. Figure 5.8 depicts the taxonomy of the *Environmental Capability* (B3) category.

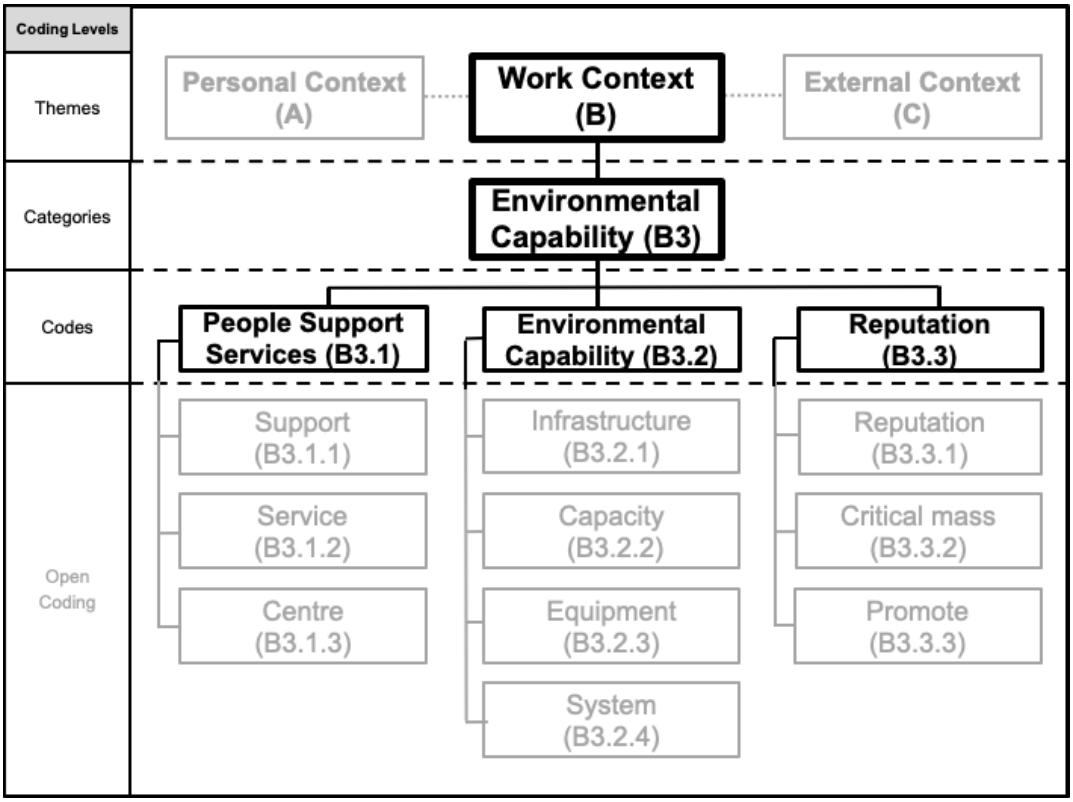

Figure 5.8: Taxonomy: DOS *Environmental Capability* (B3) Category

Academics reported varied experiences in respect of support services from within the DOS or from ANRU. These people support services were provided from centralised service centres or as decentralised services. Academics who proved they used the opportunities for increased research performance were provided with more opportunities. They reported on the following experiences of service:

> "I've always had a number of research assistants and post-doctoral fellows that have worked with me on my research" (R11, 09/12/16)
> "the individual requires the commitment to prove that they can make the most of the opportunity. If they don't, then we may not provide that opportunity again" (R11, 09/12/16)
> "I have a lot of support for teaching that unit, and things are starting to look up with regards to research" (R15, 17/10/16)
> "I find that they are very well served by the way in which we have set ourselves up here in the [DOS]" (R11, 09/12/16)
> "extra bureaucracy and administration that surrounds that [Centres]- and at the moment, I think we have less administrative support than what we had previously" (R25, 11/11/16).

The environmental capability was described by Academics in the form of the available infrastructure, the capacity it provided, available equipment, and systems that supported their work. Whereas some departments within DOS had

ample space, others did not. These aspects were viewed as physical support, as evidenced by the following:

> "I would say that their facilities in the University are very, very good. … they're great. IT infrastructure has been improved. It still needs a lot of improvement" (R11, 09/12/16)
> "So, we've got the facilities - this is a research lab, and it's empty" (R18, 21/10/16)
> "Didn't have space [capacity] in the lab" (R15, 17/10/16)
> "An area [is required] where you can throw around the speculative ideas and accidentally discover" (R17, 24/10/16)
> "And then once we moved here, he [the VC] said, '*Ask … [what] he [the Department Head] needs for the building*'" (R32, 27/10/16)
> "So, it got to a stage … our resources were all quite old. [Now] we have the equipment" (R14, 14/10/16)
> "We need a system that [is] all electronic and not paper-based. … it needs to be integrated with not only staff travel, but also postgraduate student travel" (R11, 09/12/16).

Academics at ANRU thought the reputation that staff had as well as the views students and partners hold of ANRU hampered their research performance. Conversely, some staff members hold the research and environment they worked in, in high regard. They supported these claims with statements about the quality of research and how the non-critical mass, exacerbated by the insufficient promotion of ANRU, affected its reputation. They asserted:

> "[ANRU'] is a young institution; it doesn't have a very significant research track record [reputation] as an institution. It has a long [evidence] trail of staff which could be considered [at a level of] not research-active" (R11, 09/12/16)
> "You need the facility to be able to do cutting edge [research], and also to attract [reputation] industry partners" (R32, 27/10/16)
> "there is no question that we have quality research. … a number of my colleagues would think the same, they haven't moved on either, and I think there's very good reasons for that, …it's very clear that we know that good quality research is conducted here" (R11, 09/12/16)
> "it's a critical mass, to me, it's having a large group of people to work with" (R14, 14/10/16)
> "there aren't many [critical mass of researchers in my discipline] around" (R13, 10/10/16)
> "[ANRU] is going to promote itself through us, so we need to actually do this for [ANRU] because this is part of the performance of [ANRU]" (R32, 27/10/16)
> "We're not tied into a couple of big projects that would lend themselves to advertising [promoting] Australia wide for students" (R17, 24/10/16).

In summary, the environmental capability for increased research performance was described by Academics in the form of the available infrastructure, the capacity it provided, available equipment, and systems that supported their work. Academics' experience of support service from service centres varied. The DOS; however, provided them with more opportunities for improved research performance. The availability of space to support their research outputs varied from discipline to discipline within DOS. Although incentives for research performance were provided more financial support, in the form of "front-loading" research was needed. Academics perceived the research reputation hold by ANRU hampered their research performance and consequently, the views of students and partners. These views of research reputation were held notwithstanding the fact that some Academics claimed DOS research was of good quality and held the research and work environment in high regard.

Those aspects that pointed to service centres, physical support and an experienced internal reputation that supported or hampered research performance described the *Environmental Capability* (B3) category.

5.4.4 Conducting Research (B4) Category

Conducting Research (B4) category was the fourth category in the theme *Work Context* (B) and described experiences of research and how Academics conducted, presented and published their research.

As an overview of this category, Academics asserted that research output was measured as conference papers, journal articles and chapters in books. They stressed the fact that time was needed for quality publications with a high impact. Academics also highlighted the importance of, and contribution of PhD students to a university's research performance, whilst they justified lower levels of output based on the lack of attraction and/or acceptance of lower-level quality PhD students. Academics' experiences highlighted the facts that ANRU and the leaders at DOS were supportive of research, but that being a true scholar required a delicate balancing act in achieving expectations. Impact of research was viewed as the impacts exerted and realised through achieving improved rankings and providing immediate benefit to the industry. PhD completions generated research

but acquiring publications from students were a challenge. Opportunities to *conduct research* during regular hours were minimised by teaching demands and a lack of collaboration, expertise, and funds. Figure 5.9 depicts the taxonomy of the *Conducting Research* (B4) category.

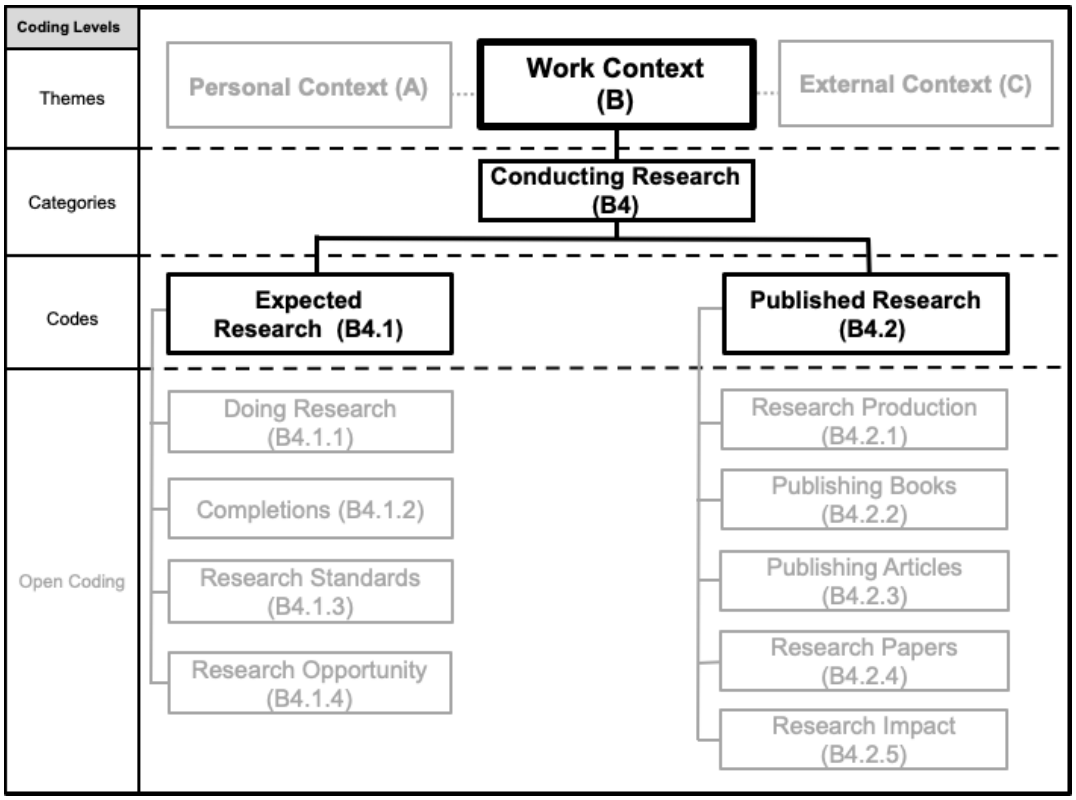

Figure 5.9: Taxonomy: DOS *Conducting Research* (B4) Category

A contributing aspect to *Conducting Research* (B4) was the expectation towards (expected research) doing research in the DOS at ANRU. The following quotations illustrate Academics' experiences of the aspects of the expected research, doing research and completing research at ANRU:

> "[ANRU] shown itself as - as a pretty good place to do research" (R18, 21/10/16)
> "because you are doing good research, you can … engage … make friendships; you can become happy so you can innovate better" (R32, 27/10/16)
> "Research, like anything else, demands regular attention and time and energy. And if you're a teacher, research scholar, … where you do have a high teaching load and a high expectation of teaching quality, it is difficult to find that time" (R15, 17/10/16)
> "that [accountability control] can sometimes impact on your ability to actually perform" (R15, 17/10/16)

> “the focus was pretty much on getting, you know, papers done” (R13, 10/10/16)
> “Like it's hard to pinpoint one particular reason or another … it's a lot of tasks building up and everything [research related] sort of gets put on the backburner” (R20, 16/11/16).

Academics further asserted that research performance standards and opportunities seemingly support research endeavours. On the other hand, they claimed that the allocated teaching load expectation outweighs the available time, which impacted on their capacity to generate research outputs for performance. The following quotations outline their experience:

> “Admittedly at [ANRU], they’re [research performance standards] relatively low” (R13, 10/10/16)
> “It [workload formula] is not a very good tool when it comes to identifying the amount of research people do” (R11, 09/12/16)
> “we've got huge expansions, huge opportunities, but also huge opportunities to work way more than I want to work” (R14, 14/10/16)
> “the opportunity … it probably was an opportunity, because I'm [the only one]” (R14, 14/10/16).

A second contributing aspect to *Conducting Research* (B4) was published research such as books, articles, and papers they produced, regarded as publications, and how these related aspects impacted on research.

Some Academics stated that in their opinion, they were research productive in that their research publications were produced in the form of published books, book chapters, and articles. Academics reported their research experience about published research as follows:

> “[as] long as they are productive” (R11, 09/12/16)
> “measurable outputs like products, like chapters or I mean journal articles or conference papers” (R17, 24/10/16)
> “the focus really has been in journals and books and book chapters” (R16, 18/10/16)
> “most universities get the bulk of their research done is by getting students, so getting Master by Research and - and PhD students in, … you can get a lot more outputs, a lot more publications, a lot more track record” (R18, 21/10/16)
> “research students also, I get them to do three high impact journal articles for their PhD degree” (R32, 27/10/16)
> “at least with the research students in science, you get something back; you publish together” (R15, 17/10/16).

Research presentations at conferences were revealed as an aspect that hindered some Academics’ measurable output as it was not a valued contribution

according to ANRU's and national definitions of research performance. Other Academics: however, viewed conference papers as predecessors of journal articles that would meet impact criteria. The DOS varied disciplines do research of quantitative and qualitative nature. Academics from some disciplines reported dissatisfaction with the fact that community impact was not accommodated in internal and external definitions and metrics for research performance. Hence, according to them, they did not obtain research performance recognition whilst they made an impact on the community. They stressed that quality research output needed sufficient and long enough periods to be immersed in the topic. These Academics asserted:

> "the focus … wasn't necessarily papers in journals, it was often papers in conferences" (R13, 10/10/16)
> "That's their impact area, conferences" (R16, 18/10/16)
> "I got grants, to get people to come and visit, and these collaborations [fostered at conferences] have proved to be quite fruitful and have actually also helped boost my output" (R13, 10/10/16)
> "I've re-focused obviously, apart from the conferences you have to be in, to getting the stuff out and – in journals" (R13, 10/10/16)
> "That's their impact area, conferences" (R16, 18/10/16)
> "So we're - we're getting some real impact, but it's not necessarily that visible, because it [conference papers] doesn't fit the RAI type - you know, so it's not a dollar coming in from the federal government, it's not a peer-reviewed article" (R16, 18/10/16)
> "they've [international professional body] taken our research … and embedded it into their skills and knowledge map. So, we're - we're getting some real [community] impact, but it's not necessarily that visible, because it doesn't fit the RAI type" (R16, 18/10/16)
> "It [qualitative research] requires very deep, intense thinking that takes time and it has to be done in big blocks" (R15, 17/10/16)

Academics had different experiences with the balancing act of service, teaching, and research. Some Academics viewed the balancing act as challenging in reaching their output at the required quantity and others were frustrated by the fact that their contribution to the community was not regarded as contributing to the standard measure of impact.

Conducting Research (B4) was described in relation to expected research and published research rewards for publications and the circumstances under which those publications were produced comprised the *Conducting Research* (B4) category.

5.4.5 Institutional Leadership (B5) Category

Institutional Leadership (B5) was the fifth category in the theme *Work Context* (B). *Institutional Leadership* (B5) described how Academics experienced leadership that shaped research and provided the institutional work structure to facilitate research performance. Figure 5.10 depicts the taxonomy of the *Institutional Leadership* (B5) category.

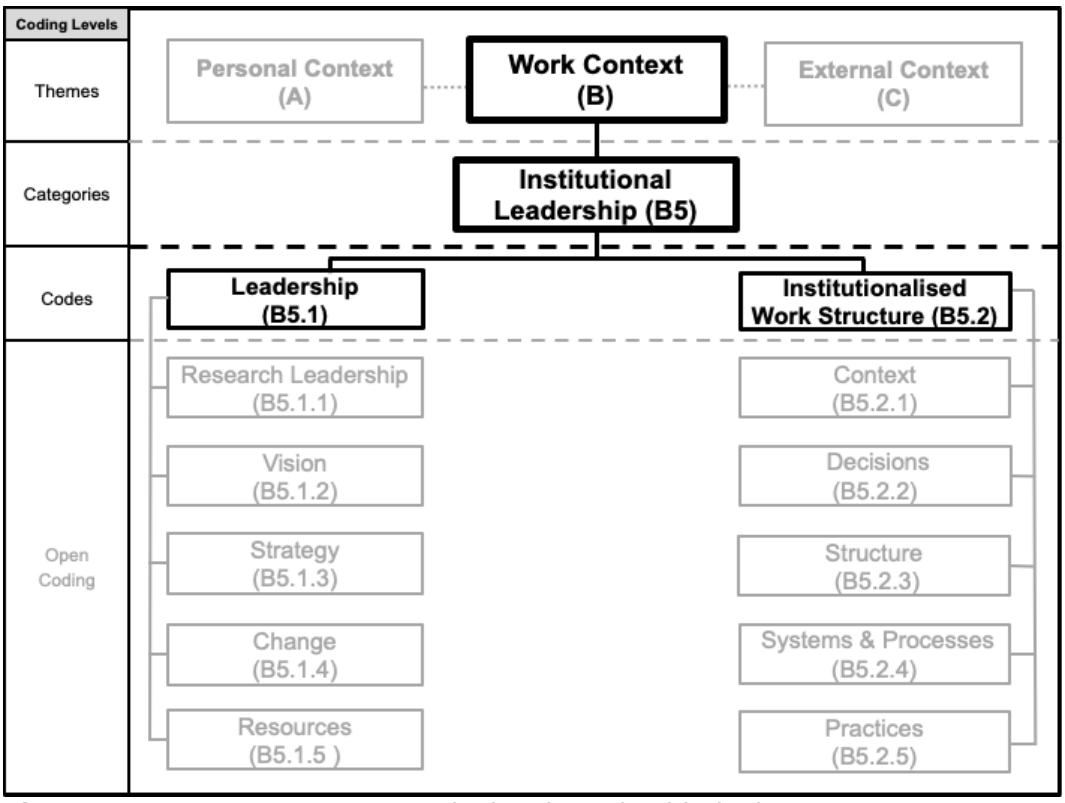

Figure 5.10: Taxonomy: DOS *Institutional Leadership* (B5) Category

For Academics, research leadership might have been provided in policies but was less evident in practice.

The vision was not always clear, and accompanying strategies were not developed in consultation or left to individuals to formulate. Furthermore, constant change, including leadership appointments, exacerbates the lack of a research focus and resources. Duplication made work structures more complicated. Leadership in the research domain was explained through aspects such as vision, strategy, change, and resources.

Academics reported their experiences of the research leadership aspect augmented with aspects such as vision and strategy, as follows:

> “[ANRU] at the executive level needs to push [to] get that leadership going. … there's certainly no leadership, and there hasn't been in the [academic department] It's not even management” (R16, 18/10/16)
> “this [research] is a policy, but it's still through leadership [you are] getting the people to do it [research]” (R32, 27/10/16)
> “researchers, they have to have the vision, they have to believe in the vision, and I have to make them believe in that one, and then convince them that what they are doing is important” (R32, 27/10/16)
> “We're not been involved in strategic planning, for example, because this University doesn't consider that we need to be involved in it” (R15, 17/10/16)
> “we’re not going to support that domain of interest. So, you’ve got to find yourself a strategy to work around that, that is a strategy very much at the discipline level” (R13, 10/10/16).

Changes in leadership, management, and goalposts that shifted or not been supported by the necessary resources hindered research performance. Academics claimed that:

> “The Institution ought to be set up in such a way that it makes sense in its context, and that when you get a new vice-chancellor, … who's going to maybe change a few things, as required, but not change the whole thing upside down…. So, when a vice-chancellor changes, the whole University changes because that vice-chancellor is a different person” (R15, 17/10/16)
> “with the old VC, we had a change in [the old dispensation DOS]” (R25, 11/11/16)
> “a real problem for us when we had a change in management, that whole time period wasn't particularly nice, because there was no money for anything” (R14, 14/10/16)
> “we're very fragmented, and we duplicate, and I would think spend an enormous amount of resources on duplication” (R25, 11/11/16)
> “victims in the sense that it sorts of happens that they say, no that’s not a priority at all, we’re not going to put any money there, we’re not going to support [resource] that domain of interest” (R13, 10/10/16)
> “strategic initiative funds based on research performance, which we were very encouraged to hear at the beginning of this year that there was such a fund [resource]” (R11, 09/12/16).

Academics claimed that several aspects convoluted the institutionalised work structure aspect that institutionalised their work. Aspects such as decisions about structures were taken without due consideration for the context. Academics provided comments such as:

> “The Institution ought to be set up in such a way that it makes sense in its context” (R15, 17/10/16)

> “the diversity of these separate disciplines within the [academic department], it makes it difficult. So, we're quite disjointed” (R16, 18/10/16)
> “Things [decisions] come down all the time …, they really ought to be asking people, ‘*What is it that you think you need?*’” (R15, 17/10/16)
> “there's a real mismatch between what the VC's saying and what is actually done at the [academic department] level, at the sort of coalface here” (R16, 18/10/16)
> “They're still really medieval in their structure, but they're completely almost top-down” (R15, 17/10/16).

In addition, aspects such as processes, systems, and practices further contributed to creating the institutional work structures within which research performance was expected to be done. Academics claimed that the structure created and contributed to an experience of bureaucratic systems, processes, and practices. According to them, the designed work structure consumed resources that could be utilised for research rather than hampering their performance. They commented as follows:

> “each different department will have its processes, and I have got to meet all those, rather than have a centralised system” (R25, 11/11/16)
> “right now, there is this ridiculous, completely bureaucratic process” (R18, 21/10/16)
> “Also, with the whole process of applying for grants…, like the ethics approval, that takes time” (R20, 16/11/16)
> “spend an enormous amount of resources on duplication in here, rather than having - being able to share our information and streamlining processes” (R25, 11/11/16)
> “Piggybacked [practice and personal research leadership] onto both people internally or externally that are going in particular [research] directions…we've been very strict in terms of the allocation [practice] of resources to areas” (R11, 09/12/16).

Two distinct aspects emerged from the analysis, namely, leadership and institutionalised work practices. Academics reported that there is espoused research support, but a lack of strategic direction and active support.

The vision, strategy, and decisions appointed leaders made within a specific context that institutionalised structures, systems, and practices affected Academics’ research leadership as well as their research activity and comprised the *Institutional Leadership* (B5) category.

5.4.6 Research Climate and Culture (B6) Category

The last category in the *Work Context* (B) theme was *Research Climate and Culture* (B6), which describes the way research was conducted, supported, and experienced by Academics as the research climate and culture of DOS and ANRU.

An overview of this category revealed what Academics reported as an overall conducive culture and to a lesser extent, climate for research. The researcher doubts if all participants made an informed theoretical distinction between culture and climate, hence these two constructs were combined. Most Academics viewed research climate as a visible research activity, collegial communication in ordinary places and public recognition of research effort. While bureaucratic processes, diverse perspectives from different backgrounds, and the demands of teaching and service stifled a research culture; flexibility in the way Academics use their time supported a culture conducive to research performance. These aspects set the experience of a *research climate and culture* at ANRU. Figure 5.11 depicts the taxonomy of the *Research Climate and Culture* (B6) category.

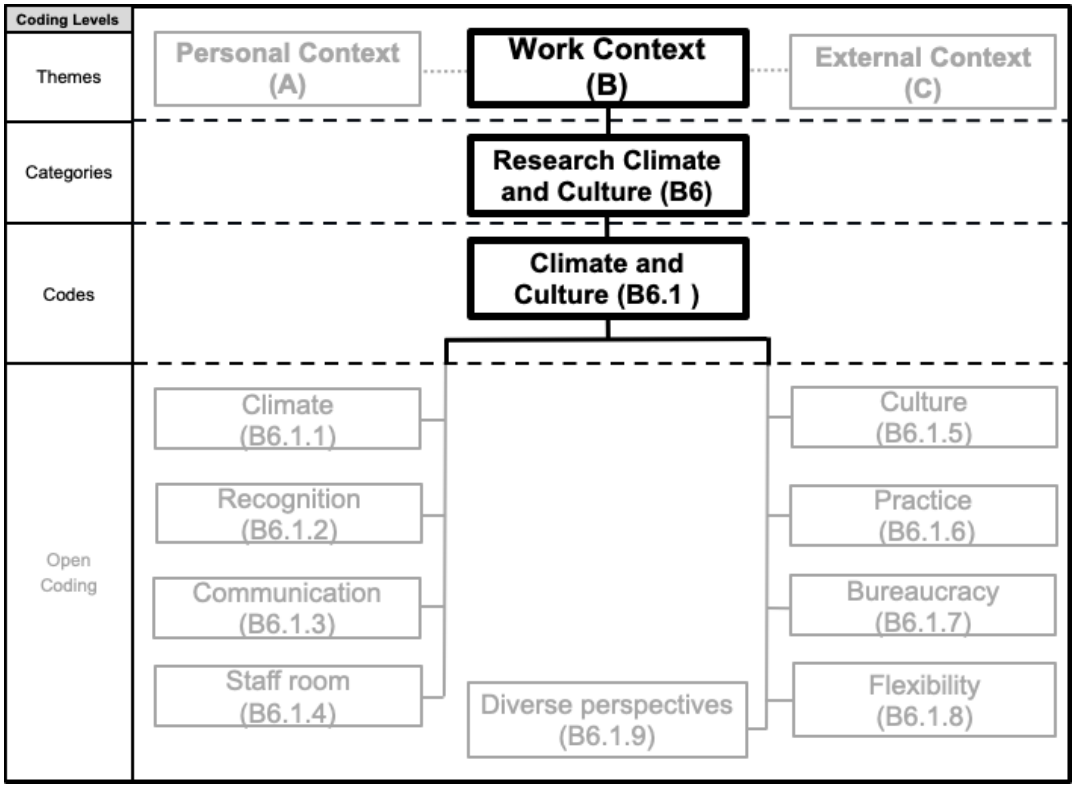

Figure 5.11: Taxonomy: DOS *Research Climate and Culture* (B6) Category

Some Academics believed that the research climate had improved and was supportive but was still not right. Communication was one-directional, and the lack of a joint staff room did not support an enhanced collaborative climate. Recognition of the effort into research was not enough to create a research climate, whilst there was doubt in respect of the set standard for research activity points. Apart from reporting a friendly collegial environment and a DOS supportive research climate, Academics claimed the ANRU research climate to be mostly hampering research performance as illustrated by the following quotes:

> "[student] increase of about 12.5%. ... don't necessarily get – get a lower teaching load as a consequence, when the staff numbers are not necessarily going up. But that – climate and culture [does not change]" (R13, 10/10/16)
>
> "there has been a shift at [ANRU], but it still hasn't got that much of a good research climate … DOS, it's a different climate, it's a much more supportive climate from the point of view of research" (R13, 10/10/16)
>
> "the colleagues that I work with are quite friendly, and I really enjoy the environment" (R19, 25/10/16)
>
> "having worked in other places … recently done collaborations with other universities, a lot of them have more … places - a shared lunch place where everyone goes for lunch, and you have this opportunity to meet people and discuss your projects, discuss their project and you know, identify possible collaborations" (R20, 16/11/16)
>
> "that collaboration and that talking. I saw it a bit when we used to have a staff room … because people used to come … into that building, and we'd always go over there" (R17, 24/10/16).

Researchers suggested that support for research, respected research culture in the DOS and flexibility in how they spent their time as aspects that impacted positively on the research culture and thus research performance.

In contrast, aspects that hampered their research were: the bureaucratic processes and practice of putting teaching and service responsibilities first, insufficient joint places to collaborate like a communal staff room, and the diverse disciplinary background of researchers in the DOS. The following quotations provide further illustrations of Academics' experience of a research culture:

> "in general, the [academic department] has a really good culture of research" (R14, 14/10/16)
>
> "I've seen how the work culture within …, you are given the independence [flexibility] to do as an academic, as a researcher, to explore things you want and also to create the outcome" (R19, 25/10/16)

> “You know, right - right now there's this ridiculous, completely bureaucratic process that can kind of blow out the time between when they [HDRs] actually apply to when they get accepted” (R18, 21/10/16)
> “I mean it's - you know, this - this is a flexible environment, so therefore if I decide, I work from home one day” (R17, 24/10/16)
> “it's actually quite different when you look into it, and their research is quite different” (R16, 18/10/16).

The above quotations demonstrated the effect of institutionalised research on a positive *climate and culture*.

How Academics experienced their colleagues and the espoused research support, which created an atmosphere, in conjunction with the way that research activity was expected to be conducted comprised the DOS and ANRU *Research Climate and Culture* (B6) category.

In summary, the *Work Context* (B) theme consisted of the categories *Financial Resources* (B1), *Work Content* (B2), *Environmental Capability* (B3), *Conducting Research* (B4), *Institutional Leadership* (B5) and *Research Climate and Culture* (B6). The categories provided firm indications of the impact of this theme on research performance. They further illuminated how: insufficient financial resources exacerbated by high operating costs; the lack of understanding of competing demands, with high expectations and a culture of students first, hampered research performance. The environmental capability with good infrastructure, but inefficient processes coupled with the inability to build a reputation to attract students and collaborators; the lack of time to conduct research of high-quality publications in high impact outlets also influenced research performance. The lack of quality PhD students; the absence of research leadership in practice and constant changes from institutionalised leadership, which complicated work structures, and the less than optimum research culture and climate further, hampered research performance.

The six categories individually and by augmenting each other created an internal work context that affected Academics’ research performance mainly by high operating costs is certain areas and the competing demands, inefficient process, the lack of reputation, and institutional leadership formed the *Work Context* (B) theme.

5.5 External Context (C) Theme

The *External Context* (C) theme comprised the *community*, *national*, and the *international* factors that impacted Academics' research performance. Figure 5.12 depicts the taxonomy of the *External Context* (C) theme.

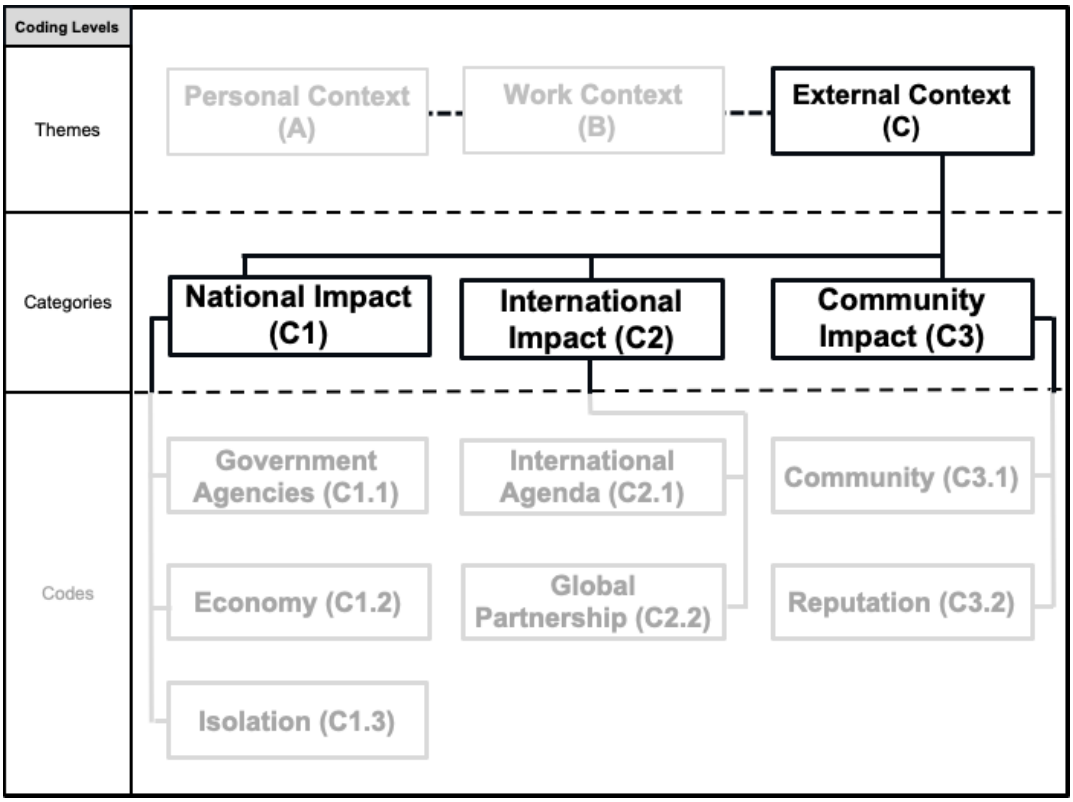

Figure 5.12: Taxonomy: DOS *External Context* (C) Theme

The *External Context* (C) theme emerged in the form of how the local *community, national* and *international* views and agendas impacted on Academics' research performance at ANRU.

An overview of this theme describes the extent to which industries and students have confidence in the value of collaboration and partnerships with ANRU Academics and how this impacted research performance. Academics were of the view that students, and most importantly, HDR students, viewed universities with higher rankings than ANRU's as more reputable to attend. They further claimed that the National impact on their research performance was in the form of government agency agendas and decisions, political impact, a non-vibrant economy, and geographical isolation. Academics were also of the opinion that international agendas and global partnerships, and collaborations impacted on

their research performance. The first category that contributed to the *External Context* (C) theme was *National Impact* (C1).

5.5.1 National Impact (C1) Category

Aspects that described *National Impact* (C1) and affected research performance were based on government and government agencies' focus and decisions that influenced the research direction. Besides, the economic climate and geographical isolation influenced the research performance of Academics negatively. Figure 5.13 depicts the taxonomy of the *National Impact* (C1) category.

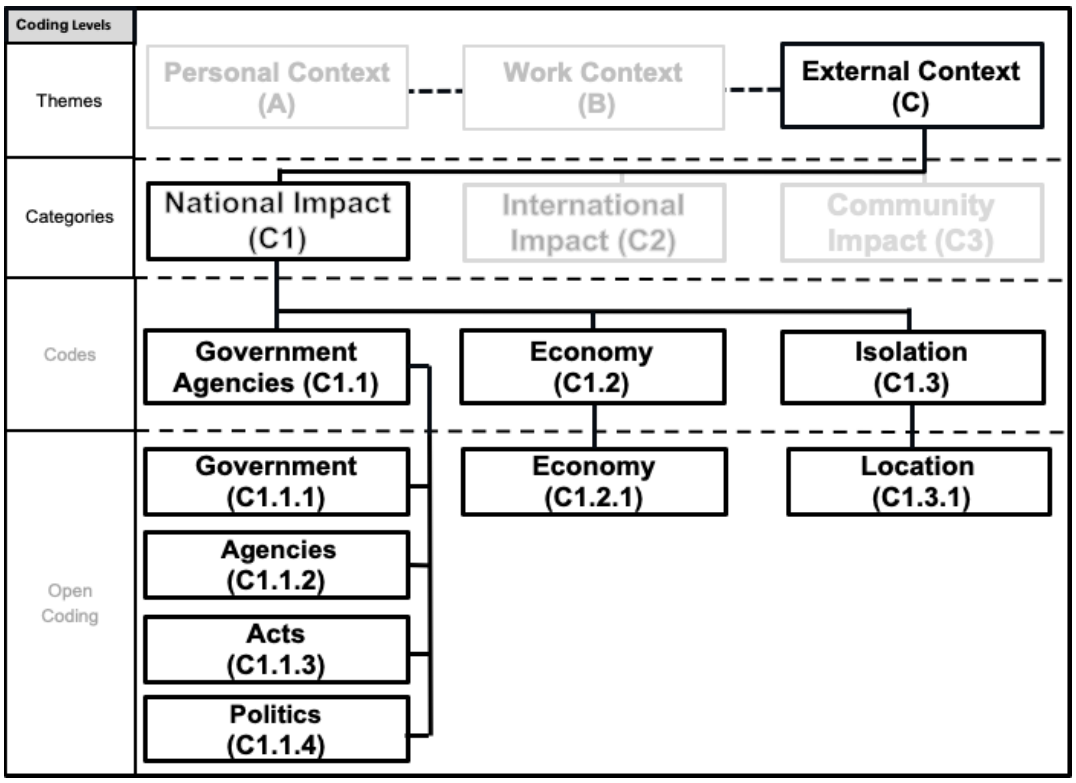

Figure 5.13: Taxonomy: DOS *National Impact* (C1) Category

Academics described the role of *National Impact* (C1) through the following statements:

> "the more the government sort of pushes that … [threat] approach, the better it is for us" (R16, 18/10/16)
> "if the present government doesn't value research or doesn't think in the long-term, it's very hard for them to see the value in investing in research" (R20, 16/11/16)
> "government policy certainly plays a big part … it certainly does because it filters down" (R25, 11/11/16)

> “that's part of the broken ARC model in this country. Not just ARC for that matter. So that does hamper us” (R11, 09/12/16)
> “Issue there was the priorities are sent by the state … councils” (R13, 10/10/16)
> “That's more national guidelines around ethics” (R15, 17/10/16)
> “the centre of gravity is Canberra” (R17, 24/10/16)
> “so, the political environment, … is actually supporting us” (R16, 18/10/16).

Academics asserted the economic climate had a further effect on their research performance in that the downturn in the economy swayed funding negatively for research. They claimed:

> “our governments have dropped the ball … in terms of focusing so heavily on [one industry] to fund our economy” (R25, 11/11/16)
> “[Government] should've put some importance on science and on knowledge retention, on keeping good scientists here in Australia and developing technology and other industries, that when the [economy] died off a bit, that we have those mechanisms in place” (R25, 11/11/16)
> “So, funding opportunities are becoming less frequent and for lower amounts of money” (R11, 09/12/16).

Academics further reported that ANRU’s geographical location resulted in isolation that hindered them in their research performance. It made it difficult to attend and collaborate with fellow Australian researchers due to distance and related costs. At the same time, the geographical location made the hosting of conferences in their State and collaboration less viable for the same distance and cost reasons. Claims were as follows:

> “we're so far away. We're - we miss the opportunity. We don't have the proximity to … [as] … University has, … because they're in each other's backdoor” (R17, 24/10/16)
> “And we have to travel outside of the state to go to a suitable conference for us. …, it got to the stage where it wouldn't even pay the conference fees, let alone any travel” (R16, 18/10/16).

In summary, Academics believed that government influence, a less than favourable economic climate and the geographical location that resulted in isolation were impacting their research performance, mostly, negatively.

The influence of the Australian Government, together with the economic climate that prevailed, and the isolation from other researchers, formed the *National Impact* (C1) category.

The second category that contributed to the *External Context* (C) theme was *International Impact* (C2).

5.5.2 International Impact (C2) Category

The *International Impact* (C2) category comprised those international aspects that shaped international agendas and global partnership aspects, which provided research opportunities and research direction. Figure 5.14 depicts the taxonomy of the *International Impact* (C2) category.

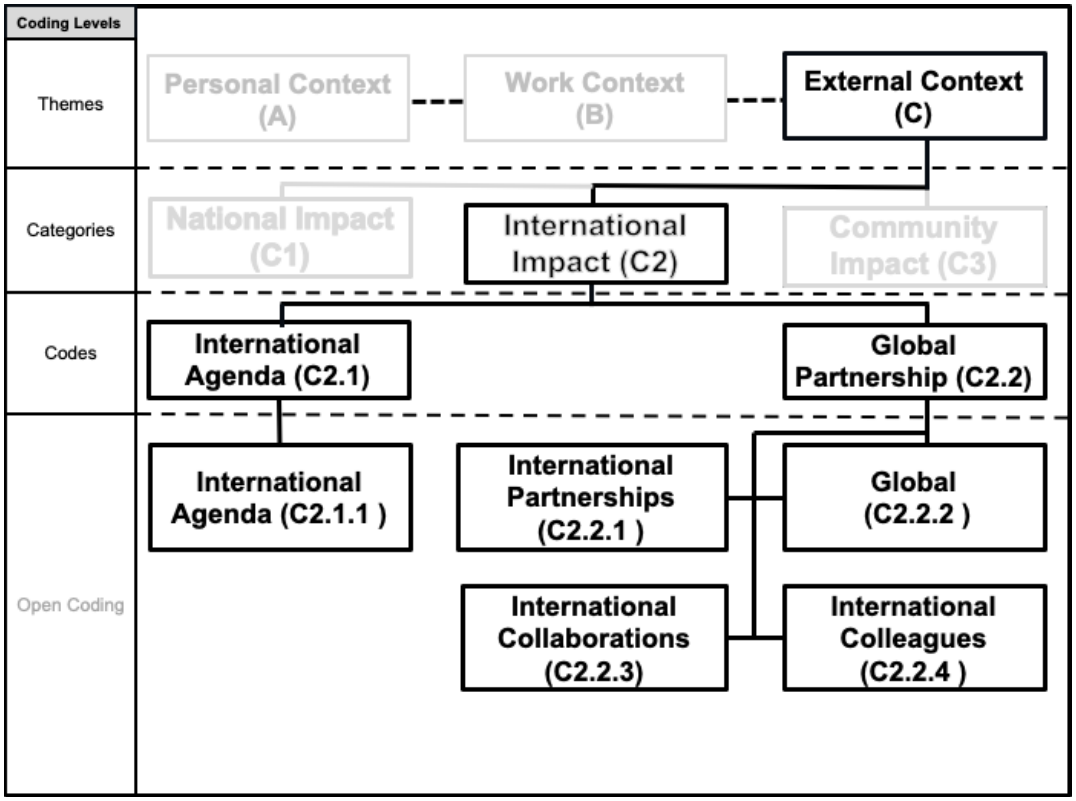

Figure 5.14: Taxonomy: DOS *International Impact* (C2) Category

Academics reported that international events and topics that became topical and the international agenda impacted on their research performance. They asserted that:

> "the international environment hasn't necessarily changed that much; there was always, … the … and what was happening around the world was there" (R16, 18/10/16)
> "it's [topic] a big issue, and right now, it's the hottest topic [in the world] you hear about" (R19, 25/10/16)
> "that's [national and international events] certainly impacted us, … local radicalisation, all that has a big impact on us" (R16, 18/10/16).

In addition, not only international events but also the insight to improve their own research quality through global partnerships and international collaboration opened and made more opportunities possible. Technology supported these opportunities with international colleagues. Academics provided the following examples:

> "that's [isolation] what makes the international collaborations at times harder, but of course I mean with the technology we have now, it's gotten a lot better" (R13, 10/10/16)
> "However, there's probably more scope now to look for international partnerships or collaborations, with people in countries where there is funding available" (R25, 11/11/16)
> "the world environment should be offering an enormous amount of opportunity to us [as international direction providers]" (R17, 24/10/16)
> "collaborating with more international colleagues to essentially write review papers" (R11, 09/12/16).

In summary, international contact and its influence on research performance was made more accessible by technology and viewed positively by Academics. This view referred primarily to those areas where ANRU could be world leaders. Opportunities to have collaborated with international researchers and the scope for access to funding, through international partnerships, had materialised. International agendas that opened up global partnership opportunities comprised the *International Impact* (C2) category.

The *External Context* (C) theme is summarised as Academics who indicated that external communities they served, contributed to their research performance together with the i*nternational impact* such as events and agendas indicating that it provided research opportunities, collaboration, and partnerships with international researchers. On the contrary, Academics' experience of the State and *national impact*, especially the broader economic climate was that it stifled opportunities that could result in generating funds for research. Academics believed that a lack of research reputation also exacerbated the *National Impact* (C1), especially concerning funding, as well as attracting PhD students to ANRU. The *External Context* (C) theme thus comprised three main factors that affected their research performance namely: *Communities* (C3) that contributed to research performance, *National Impact*s (C1) that stifled opportunities for generating funds

for research, mainly due to a lack of reputation, and *International Impact* (C2) that provided increased research opportunities.

The categories *Communities* (C3)*, National Impact* (C1), and *International Impact* (C2) together formed the external environment influenced the environment in which ANRU operated. The external environment, which influenced the internal environment in which Academics were expected to contribute to research performance described the *External Context* (C) theme.

The third category that contributed to the *External Context* (C) theme was *Community Impact* (C3).

5.5.3 Community Impact (C3) Category

Community Impact (C3) consisted of those communal and reputational context aspects under which Academics conducted research at ANRU. Figure 5.15 depicts the *Community Impact* (C3) category taxonomy.

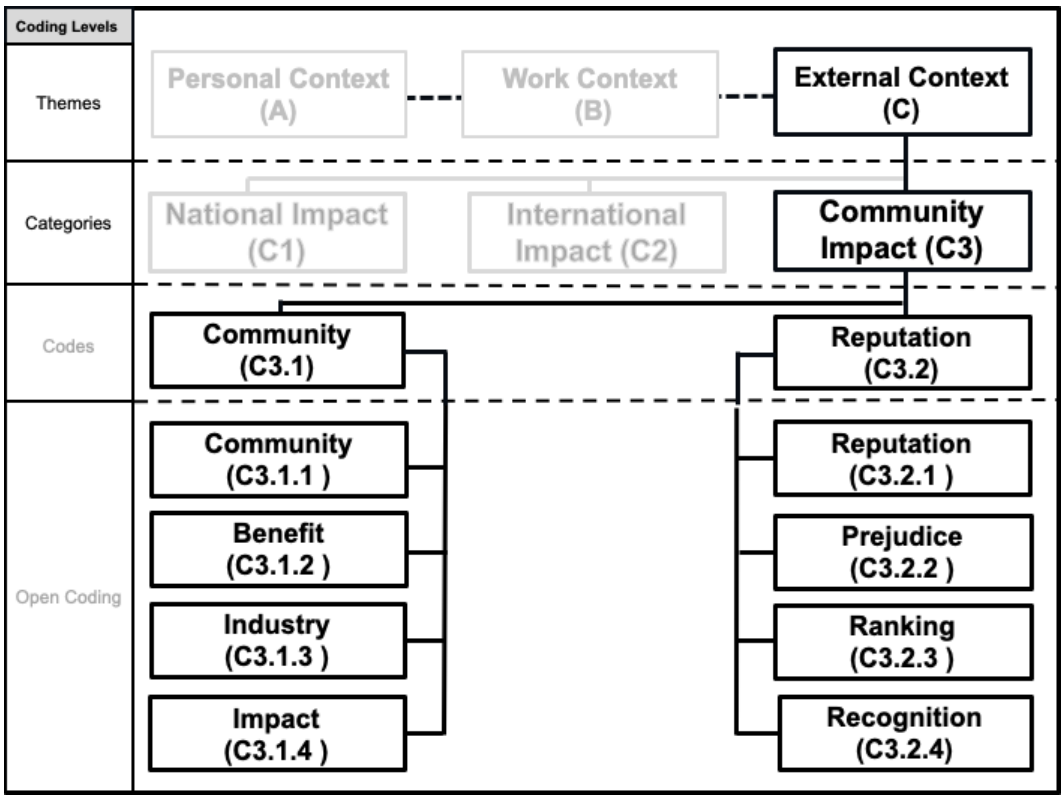

Figure 5.15: Taxonomy: DOS *Community Impact* (C3) Category

Most Academics asserted that their research benefitted the community and society, mainly through their partnership and collaboration with industry. They

reported that the DOS has a strong reputation for its positive inputs to the community through its industry partnerships. However, Academics claimed that the impact that the DOS has on the community was not recognised as counting towards RAI points. The latter was because *community impact* was not yet allocated any distinct metrics at the national level. The following claims illustrated the effect of these aspects on Academics' research performance:

> "we make an effort to engage with the industry, with communities … That's what we're here for, the community" (R16, 18/10/16)
> "you work with the industry for the immediate benefit of industry… and … transfer this … into commercial efficiently" (R32, 27/10/16)
> "So, we're - we're getting some real [community] impact, but it's not necessarily that visible, because it doesn't fit the RAI type" (R16, 18/10/16).

Academics further asserted that ANRU did not have a strong reputation within the research community. This reputational aspect impacted rankings, grants and subsequently HDR student interest in ANRU in their opinion:

> "the - the prejudice that I see against [ANRU], which is largely unfounded. And it's very discipline-specific" (R11, 09/12/16)
> "You have to have an enormous track record, which is almost impossible in a place like this" (R15, 17/10/16)
> "my experience within this university, … is that … it's been difficult to win competitive grants, particularly if those grants take into consideration the research environment. I have lost grants … mostly due to the fact that [ANRU] got somewhat of a stigma with regards to quality research" (R11, 09/12/16)
> "[ANRU] doesn't have a substantial footprint in …, so getting an ARC grant, you just might as well forget" (R13, 10/10/16)
> "So, the NHMRC proposal, we actually did have someone who was very strong, from the University of …, but the problem was that [ANRU] was the lead institute rather than" (R18, 21/10/16)
> "we haven't got the profile to be able to attract students to come here to do a PhD" (R17, 24/10/16)
> "I went to …, trying to get students in, and their preference is, first preference UK, second preference US, and - and then all the other countries" (R18, 21/10/16).

In summary, Academics' experience of research at ANRU was that it benefited the industry and communities, but that, that impact is not recognised on a national level. On the contrary, it was claimed that the [State] research community had a bias against ANRU and did not recognise the quality of research, which influenced their and ANRU's reputation. The reputation, according to Academics,

consequently affected the ability to acquire grants and influenced rankings, which in turn swayed the attraction for PhD students.

The views of the communities, external to ANRU, and the impact of that on Academics' and ANRU's reputation influenced assessors rating of grant applications and as such impacted research performance and comprised the *Community Impact* (C3) category.

5.6 Experienced Emotions

Emotions derived from DOS transcribed texts contributed to 'Academic experience' themes and are listed below in Table 5.1.

Table 5.1: DOS Shared Emotions

Open Codes: Emotions		
Negative		**Positive**
annoyed	guilt	appealing
burn me out	hard/difficult	appreciate
compelled	hate	autonomous
concerned	mistrust	comfortable
demotivated	not enjoying	desire
difficulty	stressed	enjoy
dissatisfaction	uncertainty	fun
discouraged	unfair	happy
disgusted	upset	love
doubtful	worry	motivated
fear		passion
frustration		positive
		proud
		satisfaction
		self-worth

From Table 5.1, it is evident that Academics expressed emotions had more externalisation towards the culture and less towards their roles. The negative emotions vis à vis the positive ones were reasonably balanced. The compound feelings from negative emotions could be well described as stress. However, burn out was mentioned too, frustration, and being compelled to act in ways within specific systems, created more inner conflict and mistrust. On the other hand, the

positive emotions signified well-motivated Academics who felt satisfied and recognised for their work. These emotions also led to specific actions from the participants. See the inserted figure under each theme for the related experiences.

5.7 Summary of Findings

This section provides a synthesis and summary of findings from the second cohort, that of the DOS. The Academics' experiences of research within the DOS are summarised below with the three themes of *personal*, *work* and *external* contexts.

5.7.1 Personal Context (A) Theme

A descriptor of the *Personal Context* (A) theme has been provided in subsection 5.4.2. Academics experienced this theme with a robust identification towards their roles as Academics, and while well-motivated, it was acknowledged that the role impacted on their work-life balance (WLB). Furthermore, Academics were frustrated by the lack of understanding from ANRU decision-makers about the value of networking and learning opportunities stemming from informal discussions.

The *profile of the individual*, especially accepting the research expectation in the role of a balanced academic was a key indicator of how the researcher might behave towards research performance demands. The lack of opportunities to learn and maximise research performance to interact through mentoring, socialising, being in contact with internal, and external colleagues to the institution was frustrating.

5.7.1.1 Personal Profile *(A1)*

There was a reliable identification with the role of an academic: being both a teacher and researcher. Most Academics understood that being an academic impacted on their WLB and some single parents and or women experienced conflict and frustrations with their WLB, which caused an approach-approach conflict. Furthermore, Academics were frustrated with the lack of resources to augment skills acquisition.

5.7.1.2 Academics' Interactions *(A2)*

Isolation in discipline areas, due to low staff numbers, hampered collaboration which could improve research output if the discipline was better staffed. Another frustration was a lack of networking opportunities and discontinued mutual staffrooms that further impacted on opportunities for learning from and with others.

5.7.2 Work Context (B) Theme

Overall, Academics did not feel supported to conduct their research which was evident from their experience of the lack of financial resources and internal capability for the practical realities of work content which outweigh research expectations. *Conducting research* was further curbed by the lack of a focussed research vision from *institutional leadership* that maintained bureaucratic processes, systems and not creating more optimal opportunities to collaborate. These impediments stifled a *research culture* supporting a DOS supportive research *climate*.

5.7.2.1 Financial Resources (B1)

Financial resources were limited due to the high operational cost in the DOS and government's research agenda. The limited funds caused higher internal and external competition impacting specifically on Early Career Researchers (ECRs). Furthermore, Academics felt frustrated with the required attention to students that minimise their time to be competitive in research and applying for research funding. The frustration is exacerbated by a perceived inadequate allocation of self-generated research money dispersed to teaching vs research, which further curbed financial resources for research.

5.7.2.2 Work Content (B2*)*

Academic job insecurity was caused by physical and psychological contracts that expected research outputs to secure an ongoing contract. However, teaching and services workloads outweigh the realities of research performance which were further suppressed by the expectation of high accessibility to students.

5.7.2.3 Internal Capability (B3)

The espoused research support did not match the research expectations. Typically, like other young universities, ANRU lacked a research reputation which inhibited the attraction of reputable researchers in an environment already suffering from critical mass, especially in some disciplines.

5.7.2.4 Conducting Research (B4)

Bureaucratic processes, systems, added administration and the lack of network spaces and integrated electronic systems hampered output in the DOS. There was less concern with finding time for research than with whom to collaborate with and where to publish.

5.7.2.5 Institutional Leadership (B5)

Leadership lacked a consulted strategic research vision, and the renewed research focus led to duplication in structures and a lack of resources; the management of systems and processes impacted on research time and funding and thus research. An inequitable funding model exacerbated management impact.

5.7.2.6 Research Climate and Culture (B6)

DOS had a supportive climate hampered by the perceived decision of ANRU to discontinue communal staff rooms. The culture in the DOS was stifled by inefficient business processes and practice supporting research and a lack of recognition for input and achievements.

5.7.3 External Context (C) Theme

External communities displayed a predisposition towards ANRU, which negatively impacted on the individual and the institutional reputation while the research focus from national and international governments impacted on available funding. Furthermore, the geographical isolation of the university hampered research outputs. However, the international arena exposed more opportunities for collaborative research which could lead to improved research outputs.

5.7.3.1 National Impact (C1*)*

The National Government not only contributed to the poor economic state of the country impacting funding from industry in the State, but their approach also drove research focus, guidelines, and priorities which affect grant funding. In addition, the geographic location of ANRU inhibited networking due to the high costs of attending conferences and meetings.

5.7.3.2 International Impact (C2)

International dilemmas led to the heightened focus on some of these critical topics in the DOS and together with technological collaboration advances promised more research opportunities.

5.7.3.3 Community Impact (C3)

Due to the RAI model that did not recognise *community impact*, the DOS was not incentivised for research of this nature. Other institutions further displayed a prejudice which impacted on the ANRU reputation resulting in lack of grants and HDR attraction. The lack of networking aggravated discipline and expertise, isolation and loneliness.

5.8 Chapter Summary

The context of DOS was dynamic due to the diverse internal context; with the amalgamation of different disciplines in the DOS and different viewpoints on research foci, increased research and grant allocation competition, internal context expectations, and the impact of the increased competitive *external context*.

The findings of DOS indicate that research performance effectiveness hinged very strongly on the contextual factors from within and surrounding the *individual profile*, comprising capacity, capability, and willingness towards research performance. Other aspects present were the competing demands in respect of teaching and service versus research, with organisational changes influencing culture and climate and research direction from leadership aspects from the *work context* complemented or mismatched the individual in the *personal context*. The

support experienced differently by individuals from ANRU contributed to the relative ease or difficulty the individual experienced in focusing on research performance. External, to the Institution, factors such as research agendas and access to international collaboration and partnerships contributed to research performance. The central *external context* aspect hampering research performance was the lack of acknowledgment of the impact of research on communities and consequently, recognition through RAI points and reputation. The next and final case, Chapter 6, provides the results for ANRU's leadership cadre.

Chapter 6: Research Experience and Strategies: ANRU Leaders

6.1 Introduction

This Chapter reports the last of three cases, namely, the lived experience of the Research Leaders Cohort (RLC) from ANRU, the DOH and DOS. The Chapter includes strategies they might have applied to support research performance, and their contribution to ANRU research in three broad themes *Personal Context* (A), *Work Context* (B), and *External Context* (C). The RLC's experiences were coded and categorised under these three context theme labels that emerged from the analysis of the DOH data. New emerging labels were also allocated. Care has been taken to ensure and maintain focus on the participants' first-person lived experience by, firstly, only paying attention to a description of these experiences. Themes and categories/factors in text passages are discernible as italic font. Comparing the three cases' meaning and significance of their lived experience are further elaborated on in Chapter 8.

6.2 Overview of the Sample of Leaders

ANRU is a multi-campus university offering programs in and across many disciplines. ANRU comprises many academic departments and centralised support services departments. A sample of 10, out of a possible 12, research leaders (RLC) of which three were from the Centralised Support and Research Leadership (CSRL) and the Academic Departments DOH and DOS were drawn. Leaders: for this study comprised those from research specific Centralised Support and Research Leadership Services (CSRL) as well as the Academic Departments (represented by DOH and DOS) that directly influenced research performance at ANRU. This all-inclusive, leader cohort will henceforth be referred to as the Research Leadership Cohort (RLC) unless otherwise specified. This cohort might have a broader view of academics in general at ANRU and not only to the participants of Academics from the DOH and DOS. Thus, a reference from them to academics, in general, will be referred to as academics in this Chapter. To protect

the identity of the RLC participants, their aggregated datasets are reported together.

The themes and categories will be reported with the support of relevant code labels in this section. Qualitative data was analysed from the RLC at academic Levels E and D. Analysis of the interview transcripts supported the three themes with 11 categories, constituted by 30 codes and 90 open codes, which emerged from the data analysis. The themes represent a holistic picture of the RLC's experience of research at ANRU, strategies they applied in facilitating research performance, and their contribution to research performance at ANRU. Obtained from the inductive analysis for the DOH; the themes were *Personal Context* (A), *Work Context* (B), and *External Context* (C). The RLC further provided additional insights into research questions one and two.

The analysis of the interview transcripts aligned with; and confirmed the three themes that emerged from the DOH analysis namely, the *Personal Context* (A), *Work Context* (B), and *External Context* (C) themes. The lumping analysis method was thus applied again from themes that emerged from the inductive analysis of the DOH. The analysis commenced with a top-down (themes to "words in context") alignment first. The analysis then continued from a bottom-up (open coding to categories second) and iteratively between levels in the detailed phase. The data is first presented top-down graphically, to provide the overall picture, and are then reported from a theme to code level with underlying detail. These themes, categories, codes, and open codes provide the complete taxonomy derived from

the analysis of the RLC's data, see Figure 6.1.

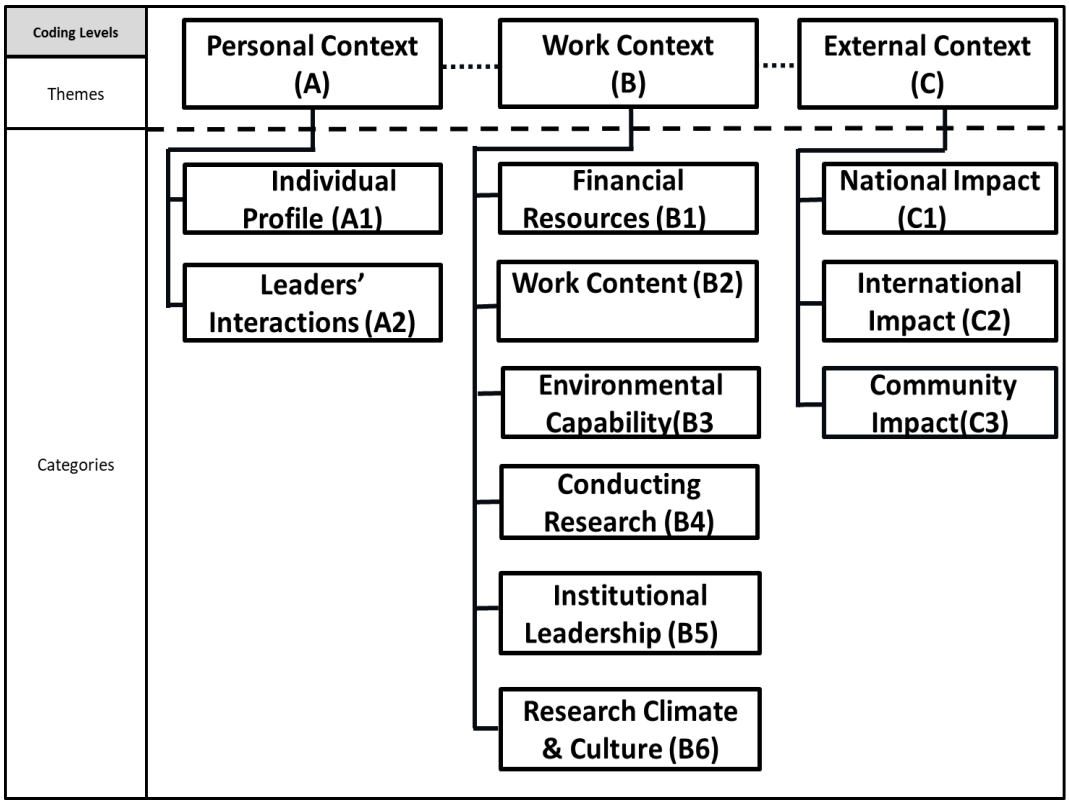

Figure 6.1: Taxonomy: Leaders Themes and Categories

Several internal and external environmental factors influenced the leading and facilitation of research at ANRU. The RLC's experiences of factors external to ANRU, such as *National Impact* (C1), *International Impact* (C2) and *Community Impact* (C3) fitted well to the theme *External Context* (C) theme. The funding, work content, immediate work environment, their research endeavours, institutionalisation or the way work is structured, and the University and Academic Departments' *Research Climate and Culture* also influenced the RLC's experiences of leading and facilitating research. These aspects emerged when the theme *Work Context* (B) was deconstructed. The individual profile of academics, the way they interacted with others, and personal circumstances were prominent factors that influenced the RLC's experiences of leading and facilitating research. They comprised the *Personal Context* (A) theme.

6.3 Personal Context (A) Theme

This theme comprised aspects of the RLC's experiences of research, related to academic's profiles, and how the RLC interacted with others.

The data fitted within two categories, namely *Individual Profile* (A1) and *Leaders' Interactions* (A2) as depicted in Figure 6.2.

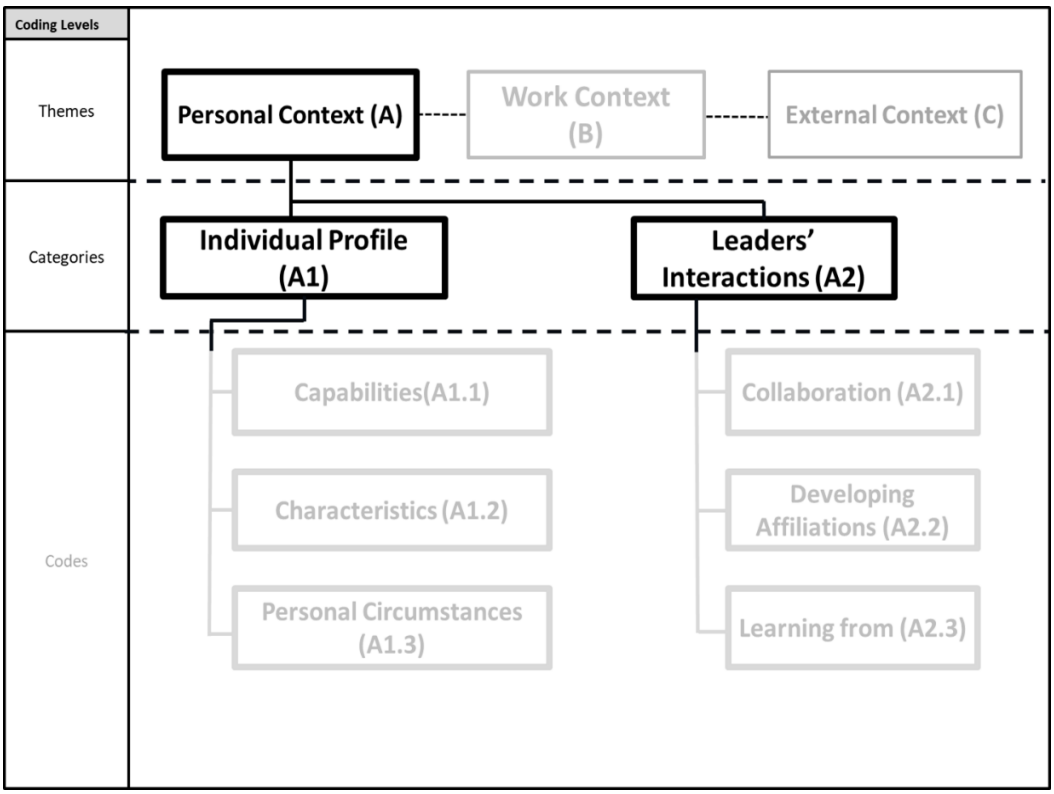

Figure 6.2: Taxonomy: Leaders *Personal Context* (A) Theme

The intrapersonal and individual circumstance aspects shaped the *Individual Profile* (A1) category. The *Leaders' Interactions* (A2) category described interpersonal aspects between or amongst individual RLC, academics and or groups interacting with each other. Academics need the capabilities, supported by career planning, to deliver on research performance expectations. These capabilities are augmented with characteristics that provided and focussed the drive for research performance. They assisted performing Academics to fit research into their personal life successfully. By using personal time for research endeavours, they succeeded in meeting the research expectations. The intrapersonal and individual circumstances, however, also included and applied those capabilities to collaborate, developing affiliations and learning from others

during *Leaders' Interactions* (A2) to perform in research. While collaboration was essential on discipline, cross-discipline, national and international levels to build a reputation and acquire funding, the geographical location of ANRU hampered the collaboration. The benefits of collaboration were augmented by Developing Affiliations in that it provided opportunities with aspects such as to be mentored and building relationships. According to the RLC, these relationships provided opportunities through which learning from others could take place.

RLC reported specific strategies to support the personal context, of researchers, so that research performance could be enhanced and benefit ANRU. Their strategies were synthesised into three main streams, namely to:

- develop the self-belief, skills, and careers of researchers, HDR students, and HDR supervisors;
- explore, identify and facilitate interaction opportunities; and
- provide a research environment with strong values.

Evidence of these strategic streams is presented below within, the *Individual Profile* (A1) and `*Interactions* (A2) categories, which comprise *the Personal Context* (A) theme.

6.3.1 Individual Profile (A1) Category

Aspects such as Academics' and RLC's capabilities, unique intrapersonal characteristics and personal circumstances contributed to research performance and constituted the category *Individual Profile* (A1). Figure 6.3 depicts the taxonomy of the category *Individual Profile* (A1).

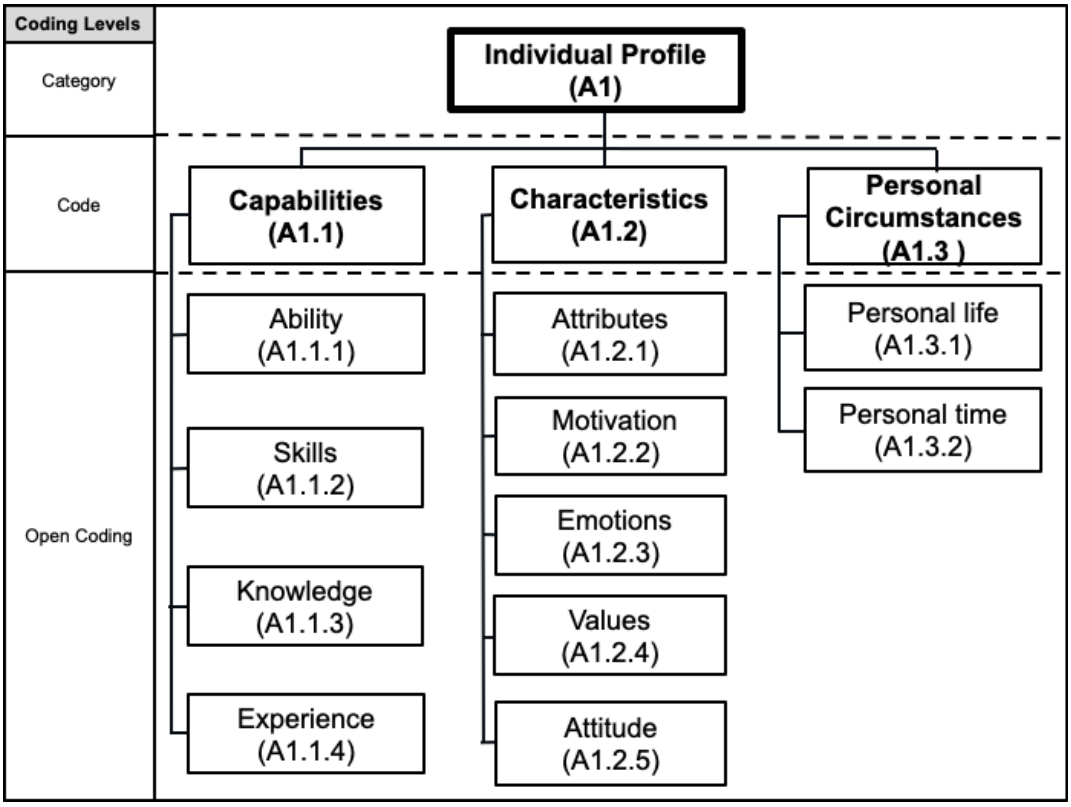

Figure 6.3: Taxonomy: Leaders *Individual Profile* (A1) Category

Contributing to the *Individual Profile* (A1) category is the capability aspect containing the intrapersonal aspects ability, skills, knowledge, and experience that participants considered facilitators or the lack of these to be inhibitors of research performance. Compliance training such as research supervisor skills was initially not welcomed, but lately, RLC observed improved participation and good satisfaction ratings that indicated that the skills strategy was accepted. Aspects such as the lack of knowledge and academic experience hampered research performance. There is a need for improved ability, skills development through career planning, according to the RLC as illustrated by the following:

> "let us look at the next two to three to five years. Where are you planning on being? What is your career trajectory? I think researchers do not take the time to do that [career planning]. They do not recognise how important that is because that then gives them that framework for that roadmap [skills]" (R29, 25/10/18).

Another Leader linked career-planning to acquire research funding. The Leader asserted:

> "to enhance our ability to be able to bring category one funding in" (R24, 09/11/16).

Some Leaders valued the ability to do benchmarking and built networks to provide perspective on what is required to succeed in research. Those RLC members asserted:

> "But for me, what was really instructive that helped me make the change and see what was required. Use this word benchmarking. But really the first and the most important I think the most important education I got actually to enact change was really joining a group they meet twice a year in Australia" (R28, 30/10/18)
>
> "leading … it is a bit like hosting a cocktail party you're just going to make sure that all right people are talking to each other" (R30, 26/01/2019).

It is evident from the above that the RLC perceptions are that research leaders and researchers need specific abilities and skills to improve research performance. They linked these abilities and skills to intrapersonal as well as interpersonal skills and abilities.

Many academics did not know what it means to be a researcher, according to the RLC. This lack of knowledge was evident in their knowledge and experience about executing research and as shown in their CVs, which made them non-competitive for collaboration and research grants. Supporting statements concerning the lack of knowledge and experience or gaining it were:

> "But when I actually saw their CV … their research performance. I had to say this is why you're not getting grants because you are not competitive" (R29, 25/10/18)
>
> "Because if our supervisors do not know policies, rule, guidelines, support structures, and their responsibilities; legally we could be compromised" (R28, 30/10/18)
>
> "many of our researchers, I found, did not know really what it meant to be an academic" (R29, 25/10/18)
>
> "But I do think that getting those external experiences really does make them a more dynamic, flexible, comprehensive excited researcher" (R29, 25/10/18).

The RLC was worried about the availability of infrastructure such as software programs without building capability in utilising the software, for which they then need to implement training. Training included assisting researchers to become more competitive. Illustrations of these comments are:

> "the thing I do worry about [is] the widespread provision of things like SPSS without adequate training" (R30, 26/01/2019)
>
> "so, therefore … we did a massive suite of professional development in cooperation and in partnership with [Central Service Centres (CSC)] and the [academic departments]" (R29, 25/10/18).

The RLC's comments about capabilities showed that in their experience, ANRUs' researchers need development and exposure to ensure their abilities, skills, knowledge and experience are enhanced to improve their research performance and competitiveness.

The characteristics aspect was constructed from the five intrapersonal aspects: attributes, motivation, emotions, values, and attitudes that contributed to the *Individual Profile* (A1) category. These intrapersonal characteristics of individuals, were mostly, seen as containing specific qualities essential for research performance or hampering research performance. For example, academics who perceived their quality of research as being of a high standard still did not meet the expected external environment standards. These academics were more reliant on internal funding and less competitive for funding externally. Other attributes comprised aspects such as confidence, risk-taking, and a lack of proper self-evaluation. Motivational aspects that emerged from the interviews were happiness, autonomy, excitement, and desire. Other emotions were mainly experienced as negatively influenced their research performance. For example, the RLC's frustration at resistance experienced from academics towards change that could facilitate research performance or the lack of academics to take on opportunities that will support their research performance. See the descriptions and quotes below for examples of intrapersonal characteristics in the form of attributes that hampered or facilitated research performance at ANRU. RLC members offered the following perceptions about Attributes:

> "All my staff [are] happy and I think that is a leadership quality" (R28, 30/10/18)
> "They need to have confidence in themselves and apply some of these things … people being more successful in competitive grants they have taken risks, and they really had not gone out that way" (R29, 25/10/18)
> "[inclination to] 'focus on things that allow me to do that [obtaining the teaching results]', and then put aside [money for], what they would see as not essential, in like a vigorous research program" (R30, 26/01/2019).

In respect of Motivation to be involved in improved research performance, RLC members stated:

> "I was actually more teaching-learning … looking for a leading [role in a service centre] to be perfectly honest. …, [but] I was happy with that [appointment]" (R28, 30/10/18)

> "we are also giving them a little bit of a rope to be self-taught, autonomous" (R28, 30/10/18)
> "we have that desire to write to people that get a grant just to say well done; this is terrific" (R30, 26/01/2019).

Other Emotions were mainly hampering research performance; for example, one Leader said:

> "And I have a feeling … on the expectation that it is going to be difficult. … they can have a self-fulfilling prophecy" (R29, 25/10/18).

Value and attitude aspects expressed included organisational values, quality training, compliance, and obligations. Attitudinal aspects indicated resistance and a lack of proper self-evaluation. The following quotes are a testimony of the RLC's experience of aspects they valued and the influence of attitudes:

> "the current Vice-Chancellor, like the previous one, was adamant that we have those four words [value labels] to capture what we are all about" (R30, 26/01/2019)
> "[We] implemented mandatory supervisor training because you know legally, we have an obligation to have supervised our students. … we have ticked all the boxes as far as responsible conduct" (R28, 30/10/18)
> "he got the University to believe in itself … the University was starting to believe in itself then the position of the outside world changed" (R30, 26/01/2019)
> "Other instances … they will push against that just to puff up their chest and make a noise in a meeting, and that is the truth" (R28, 30/10/18)
> "Another important aspect found was that …. Some researchers thought they were better than they actually were people thought they were pretty good" (R29, 25/10/18).

On the one hand, ANRU's values that indicate what the University stands for together with a belief in itself facilitated research performance. On the other hand, attitudes like a personal resistance to change and an over-inflated self-image as researchers hampered research performance.

In respect of characteristics, RLC members reported that the absence of these five intrapersonal aspects hampered ANRU's research performance. Conversely, having these characteristics and or focussed them correctly facilitated their research performance.

Personal Circumstances such as the academic's personal life, research expectations from ANRU, the DOS and DOH, and work-life balance contributed to the *Individual Profile* (A1) category. Personal Circumstances such as parenthood

stifled interest and or the ability to participate in long out of state visits and or relocation for growth opportunities, which affects collaboration and skills-building strategies by the leaders. These aspects were mostly viewed as harming research performance according to the RLC. Most Leaders, however, accepted that research performance in the ANRU context was not possible when working a regular five-day workweek and thus impacted on personal life and time. Others expressed the opinion that the expectations are realistic and that academics should be able to deliver on that. The RLC's opinions were:

> "I've probably, over the course of my academic life, have kind of allowed it [research] to go perhaps outside of the boundaries …, because of my personal circumstances" (R22, 21/09/16)
> "I genuinely keep hearing … some of them want to do it [improve their research capability and experience]. I do find that they just cannot for family reasons" (R29, 25/10/18)
> "the actual workload models should [not] be assuming that people are eating into their family life to be able to maintain their productivity. So, as a consequence, then I put a lot of effort pretty much out of hours to try and maintain my research productivity" (R24, 09/11/16)
> "if you are given a 30% of a workload for research, I expect you to deliver 30% of a workload" (R21, 28/11/16).

The capabilities, characteristics, and personal circumstances the RLC experienced as affected either positively or negatively on their and academics' research performance thus comprised the category *Individual Profile* (A1).

6.3.2 The Research Leaders Cohort's Interaction (A2) Category

Aspects such as collaboration, developing affiliations, and learning from others, that contributed to research performance, constituted the category *Interaction* (A2). See Figure 6.4.

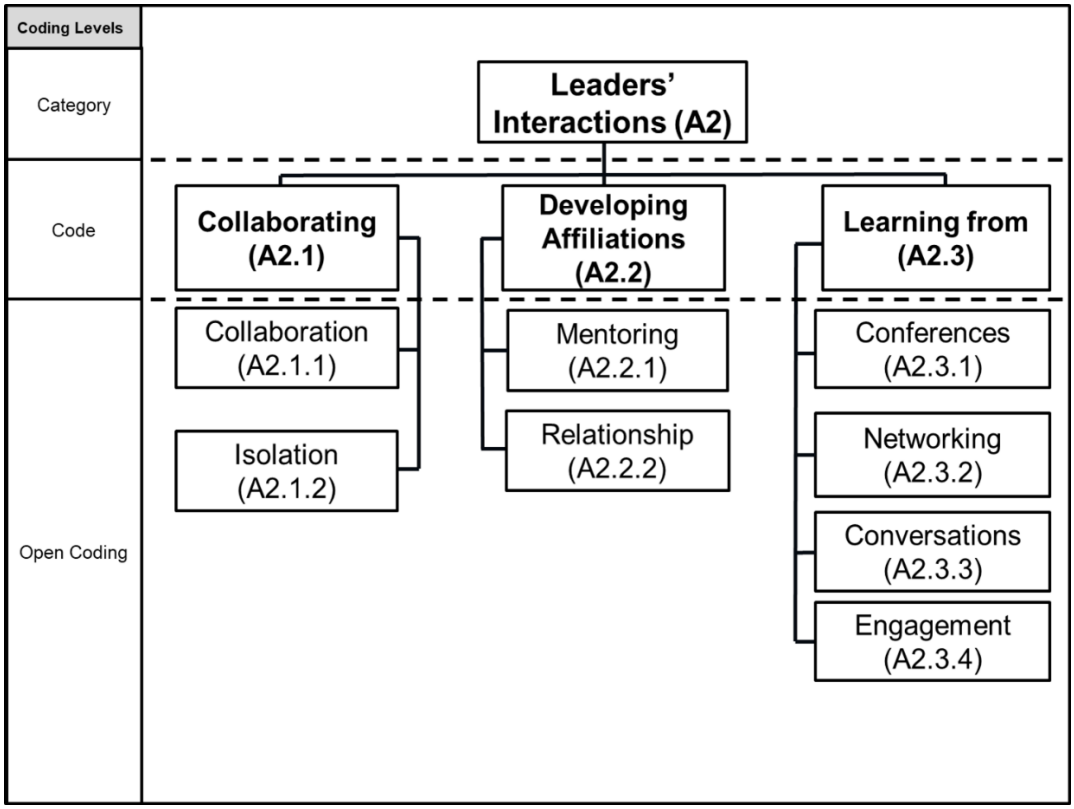

Figure 6.4: Taxonomy: Leaders' *Interactions* (A2) Category

Contributing to this theme's Leaders' *Interactions* (A2) category are interpersonal relationships that influenced on the RLC's strategies for enhancing research performance. Collaboration opportunities with colleagues within ANRU, across disciplines, and with researchers external to ANRU, were viewed as essential for research performance. Only a few cross-departmental collaborations existed within ANRU and hampered the outcome of research strategies. Good collaboration amongst other universities by Leaders, and service departments, were experienced and supported research strategies. The following quotations from the RLC illustrate how important they view collaboration for research performance:

> "I have been asked to do a review of what [another University] do, let us call it lots of collaboration. And by doing that you see what they are doing and that helps [to] inform them" (R28, 30/10/18)
> "Those strategies [research performance improvement] … would be things like supporting those collaborations" (R29, 25/10/18)
> "collaborative - an approach that is embracing and enhancing opportunities to work together, cross [academic department] collaboration" (R22, 21/09/16)

> “successful research is finding ways of increasing collaboration, and you see the manifestations … from the productivity of collaborative groups” (R30, 26/01/2019).

On the contrary, aspects such as a lack of collaboration within academic departments and across disciplines, as well as geographical isolation were experienced as aspects that hampered research output and hence performance. Examples include:

> “I will be honest with you [collaboration is] really quite rare and much as we might try to encourage cross-collaboration it does not really happen” (R29, 25/10/18)
> “it is such an isolated location and such a long way from everything” (R23, 08/12/16)
> “What I have found is that because of that [location] … researchers do not get up and get over to the [other] states” (R29, 25/10/18).

Developing affiliations was an aspect that facilitated research performance, according to the RLC. They experienced developing affiliations through mentoring, interacting with colleagues, working with other universities, and opportunities to develop research relationships through making connections. The RLC stated, for example:

> “I have - I have always had fantastic mentors, going right back to before I - while I was doing the PhD” (R21, 28/11/16)
> “I got a lot of these ideas … from [an Australian University which is] more centralised” (R28, 30/10/18)
> “let us do a little bit of cross-pollination here cross thinking. Similarly, internationally than …” (R29, 25/10/18)
> “the role of a [leader] is really to use the available access they have to the outside world to try and help build relationships” (R30 26/01/2019).

Academics who do not use opportunities such as visiting lecturers, looking for joint PhDs and or communities with large databanks limited their opportunities to enhance their research performance and hampered research strategies. The RLC claimed the following:

> “it is actually hard to get people to come along to those lectures at 4 o'clock on a Friday afternoon” (R29, 25/10/18)
> “do it [research] on your own without access to big bio databanks, and stuff makes less sense” (R28, 30/10/18).

The RLC expected to learn from others and through interaction with others to have taken place when academics attended workshops or conferences, networked, communicated with thought leaders, and worked on excursions in

projects or teams. The RLC viewed these aspects as either facilitating or hampering research performance as evidenced by assertions such as:

> "The value you get out of putting the right sort of infrastructure in place and the examples that were cited included funding to be able to … support a workshop or conference" (R30, 26/01/2019)
> "Let us also bring people to [ANRU for our researchers] to get to know all of the people who serve on the grants review panels" (R29, 25/10/18)
> "Let us bring some of the influential thought leaders to [ANRU] showcase what we can do" (R29, 25/10/18)
> "teams becoming known across … Australia" (R21, 28/11/16)
> "we can send our undergrads you know overseas let us also send our postgrads over let us send out early career researchers may be an immersion of a month to month three months [on projects]… they will come back changed people, excited with new opportunities under their belt and potentially being written into grants and publications" (R29, 25/10/18)
> "just last month we had the Ops Manager from [another university to talk to students] … we have had [other universities] many times" (R28, 30/10/18).

The RLC's experiences of ANRU's academics in collaborations, developing affiliations with, and learning from others doing research, and how it affected research performance, thus supported the category *Interaction* (A2).

The theme *Personal Context* (A) was confirmed through the categories *Individual Profile* (A1) and *Leaders' Interactions* (A2). Those capabilities, characteristics, and personal circumstances the RLC experienced about themselves, colleagues and research or doing research, and how it influenced research performance defined the category *Individual Profile* (A1). The RLC's experience of their own and or colleague collaborations, developing affiliations with and learning from others in doing research, and how it affected research performance termed the category Leaders' *Interactions* (A2). Together the categories *Individual Profile* (A1) and *Academics' Interactions* (A2) described those personal traits that influenced ANRU's research performance and academics' capacity for and opportunities to work with others to enhance their research performance and constituted the theme *Personal Context* (A).

As evidenced, within the results of each category, the RLC employed strategies such as career development, interaction opportunities, and values that

were aimed at supporting ANRU's researchers' personal context and facilitated research performance.

The research performance of Academics and Leaders was also impacted by the work context.

6.4 Work Context (B) Theme

Work Context (B) described those factors identified by the RLC that either directly or indirectly affected their and the academic's capacity to contribute to research performance.

The *Work Context* (B) theme comprised six categories namely: *Financial Resources* (B1), *Work Content* (B2), *Environmental Capability* (B3), *Conducting Research* (B4), *Institutional Leadership* (B5), and *Research Climate and Culture* (B6) as depicted in Figure 6.5.

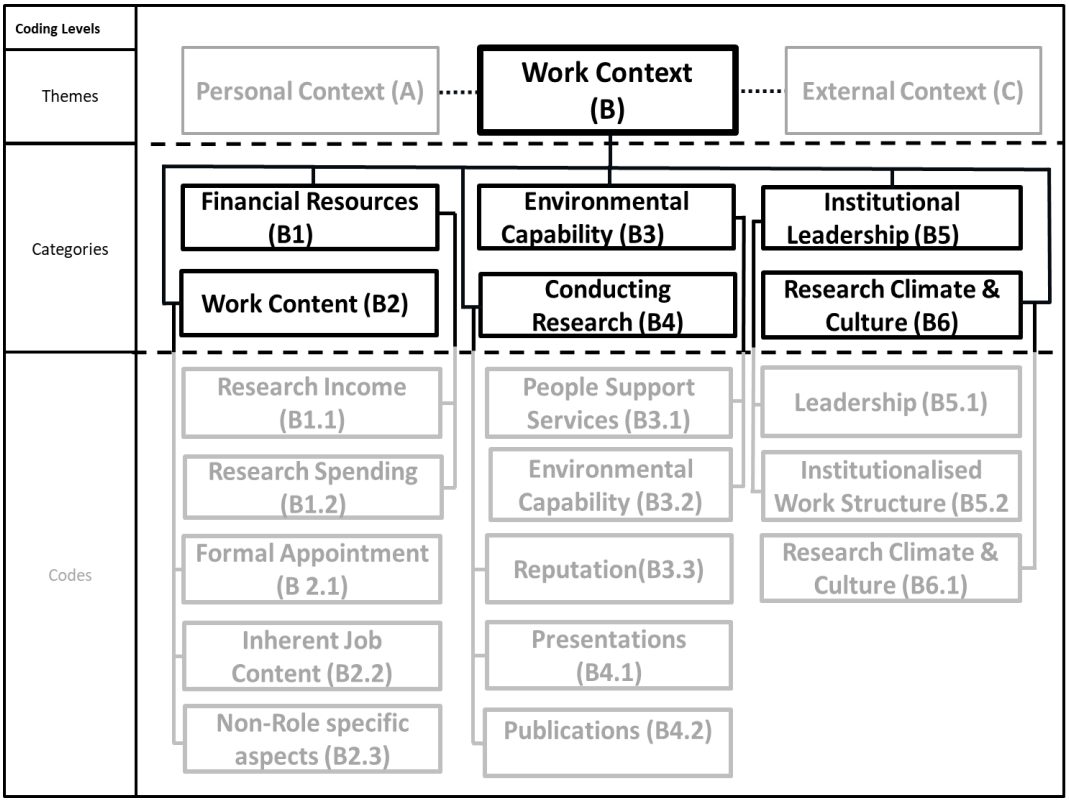

Figure 6.5: Taxonomy: Leaders *Work Context* (B) Theme

An overview of the *Work Context* (B) theme indicated that the experiences of peripheral roles and the lack of research and administration assistance that led to a lack of time captured in the category *Work Content* (B2) was a primary

influence in this context theme. The RLC observed these as reasons that affected the planned research strategies and subsequently, less than optimal research performance. Furthermore, the categories *Financial Resources* (B1), *Environmental Capability* (B3) supported by *Institutional Leadership* (B5) and *Research Climate and Culture* (B6) had a significant influence on the category *Conducting Research* (B4).

Conducting Research contributed to ANRU's research rankings by systems such as Times Higher Education (THE) and World University Rankings which influenced ANRU's reputation. The RLC indicated the benefits from these rankings as the associated personal reputation as a researcher and even a discipline thought leader. Also, academics received funding linked to systems such as the Research Activity Index (RAI) and reward scheme.

To improve research performance at ANRU, the RLC applied and or suggested the following six strategies, related to the work context:

- seek and provide research funding;
- identify and explore opportunities for collaboration;
- adjust the working environment;
- support academic departments to reduce HDR attrition, improve completions and grow student numbers;
- advocate proactivity; and
- improve research profiles.

Evidence of these strategies is presented below within the descriptions of the following categories that comprised the *Work Context* (B) theme.

6.4.1 Financial Resources (B1) Category

Lumping data within the work context to the first category *Financial Resources* (B1) showed that academics at ANRU did not become self-reliant in finding funding (due to lack of competitive skills, lack of collaborators) and internal funds being perceived as "easy money". Several internal strategies were put in place to support academics to build their profiles and become competitive towards external funding opportunities. However, insufficient and ineffective communication did not support these strategies. The lack of effective communication affected the research performance of ANRU academics, for example, quotations from R16 and

R18 indicated that not all academics were aware of seed funding for upfront support.

Most RLC members viewed the availability and the extent to which *Financial Resources* (B1) were allocated to academic departments on different criteria as fair in support of ANRU's research endeavours. Figure 6.6 depicts the taxonomy of the *Financial Resources* (B1) category.

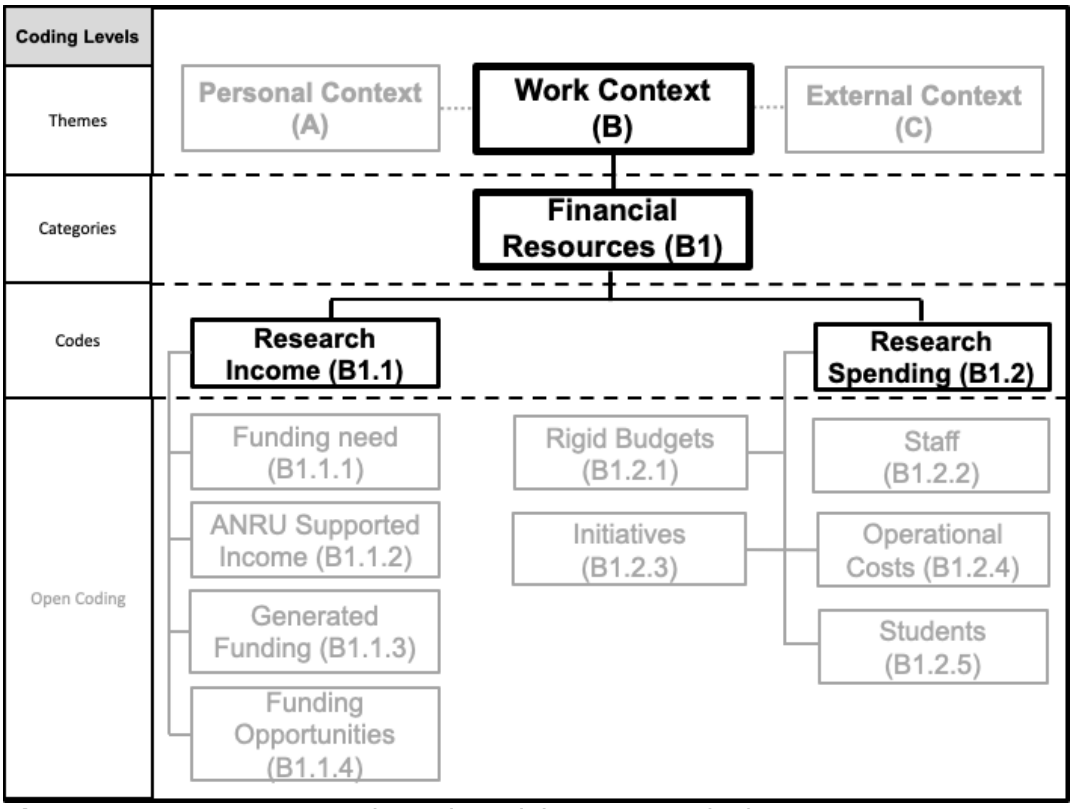

Figure 6.6: Taxonomy: Leaders *Financial Resources* (B1) Category

Contributing to the *Financial Resources* (B1) category was research income in the form of funding through ANRU support, generated funding, grants, and other funding opportunities that strategically supported research endeavours. Leaders of the central support service centres acknowledged that funding is necessary to implement research strategies and indicated that there was support in funding for academic departments. However, Leaders from within academic departments considered the funding allocated as research income from ANRU to be inadequate to ensure the level of expected research performance and create a research culture.

Some of the RLC members were disappointed by the change in a strategic fund initiative from being a research incentive for high research performance to operational support for departments with high costs. The RLC doubted if the strategic funds would be long-lasting and if there would be sufficient funds left to support the professorial fellows recently appointed by the University. The latter was an ANRU funded strategy to provide academic departments with researchers who have a record of accomplishment and could support national competitive grant applications. Some of the RLC members further claimed that the ANRU funding model that allocated funding as income according to student load affected the academic departments' research negatively. Assertions made by the RLC members were:

> "a funding model that trickles down to the [academic department], but it is essentially based on undergraduate student load particularly, then there is less focus on research…if you then have a funding model that does not actually facilitate a reasonable proportion of research activity, … that can be a hindrance" (R24, 09/11/16)
> "the experience is that there has been a lot of … financial support" (R24, 09/11/16)
> "I think the things that help that are the internal funding schemes" (R29, 25/10/18).

The competitive external environment, with less money available from Government, and the perception that ANRU has very few people who have been successful to date of obtaining national competitive grants, also increased the competition for internal grants. The lack of knowledge about available external money also affected acquiring funds. Strategies to enhance academics' knowledge of funding opportunities increased their opportunities to secure funds. Other strategies, like additional scholarships, were contemplated to support researchers who had a career break. A general lack of funding for research necessitated searching for other funding opportunities. These aspects had a significant influence on research capability, as illustrated by:

> "front funded so that our researchers can develop those collaborative partnerships … that feeds into grants" (R29, 25/10/18)
> "[The leader of an academic department] never put any importance on research it was not part of the workload performance … was not part of the funding that hampers research the most" (R30, 26/01/2019)

> “[additional scholarships] for those people who have had a career break due to maternity or paternity leave or parental care of your elders” (R29, 25/10/18)
> “issues that [an academic department had] is that we do not have… people who are really competitive, for category one, particularly ARC and NHMRC grants” (R24, 09/11/16)
> “It is a challenge wanting to chase down competitive grants, being [ANRU] because we are [ANRU], and from a reputational perspective that's a challenge for everybody undertaking research in the University” (R23, 08/12/16).

Research income was thus described by the RLC as the generated funds, grants and other funding opportunities in the research domain, and how it affected research performance, in the category *Financial Resources* (B1).

A second contributing aspect to the *Financial Resources* (B1) category was research spending experienced by them as budgets, expenses towards staff, research initiatives, operational costs such as equipment and students. The RLC acknowledged that ANRU is a young university with limited research funding and some of the RLC leaders felt they were required to perform on a low budget without investment to improve research support. Conversely, strategic spending on students could facilitate future funding opportunities. Strategies for educating teaching/research staff about the changing research environment and enhanced support for research-focused staff could likely improve research performance.

Some of the RLC leaders claimed that teaching is a priority, especially in DOH and the consequent lack of spending to acquire more staff affected their research performance. The difference in research support from one academic department to another highlighted the fact that those with more research support allegedly achieved better research performance. The RLC made the following assertions in respect of rigid budgets, and staff:

> “disposable funds are [always] going to be limiting[ed] … to build research capacity and performance” (R30, 26/01/2019)
> “teaching is the priority [and budgeted for] in terms of practicalities” (R22, 21/09/16)
> “some [academic departments] will provide internal funding schemes [some] will provide resources …. Other have no money, and they provide nothing” (R29, 25/10/18)
> “giving people who are research-focused and are doing well … the opportunity to really forge ahead that will make the difference” (R21, 28/11/16)

> “being able to both recognise and encourage the high performers who at the same time trying to get them the balance of support right for those that are less…. fortunate” (R30, 26/01/2019).

Spending on operational costs like consumables and equipment were expensive in some academic departments according to the RLC and increased the cost of research. The RLC saw their role to determine the best way to spend money for increased research capacity and performance, but the availability of money to maintain employment levels varied. Meetings at other locations were also viewed as a costly expense. The RLC offered the following views:

> “in this particular discipline, it [operational costs] can be quite expensive” (R24, 09/11/16)
> “university executives … simply said they do not want to invest in anything new” (R29, 25/10/18)
> “the role of the [research leader] is… working out the best ways of spending money to build research capacity and performance” (R30, 26/01/2019)
> “at the end of each year you go I am sorry I have got no money for you [your continued employment]” (R29, 25/10/18)
> “It [research meetings] costs money and a lot of time … I do not go to some [interstate] meetings” (R29, 25/10/18).

HDR students were seen as vital to research growth and would-be future decision-makers in respect of funding and grants according to RLC, who mentioned:

> “student scholarships … [are a] vital part of growth for research” (R30, 26/01/2019)
> “students go back; they are in high positions … [they are] the ones that are making decisions about funding and grant money” (R22, 21/09/16).

How ANRU spent money from rigid budgets on expensive consumables, equipment, staff, and students, described research spending in the category *Financial Resources* (B1).

Together, research income and research spending, within a context of intense internal and external competition for funding and higher discipline related cost for research, affected research performance and formed the category *Financial Resources* (B1).

Financial resources, especially from a workload, administration and competing demands perspective influenced the next category *Work Content* (B2).

6.4.2 Work Content (B2) Category

Work Content (B2) was the second category in the theme *Work Context* (B) and described how aspects such as perceived psychological employment *contracts*, *inherent job impact*, and *peripheral job impact* aspects influenced the RLC's experience of research at ANRU.

Research strategies were hampered by less than favourable eSystems to support the needs of academics, their perception of workload, structures that impeded natural workflow, and internal power politics. A strong theme within this category was that most of the RLC leaders asserted that the psychological contract, that is, perceived mutual understanding of formal and informal obligations, an academic entered included a research responsibility. There were, however, reliable indicators that all did not acknowledge workload and the workload allocation perceptions of academics. Also, administrative tasks, non-role specific tasks, misaligned structures, and a lack of time resulted in demands being viewed in competition with each other. Figure 6.7 depicts the taxonomy of the *Work Content* (B2) category.

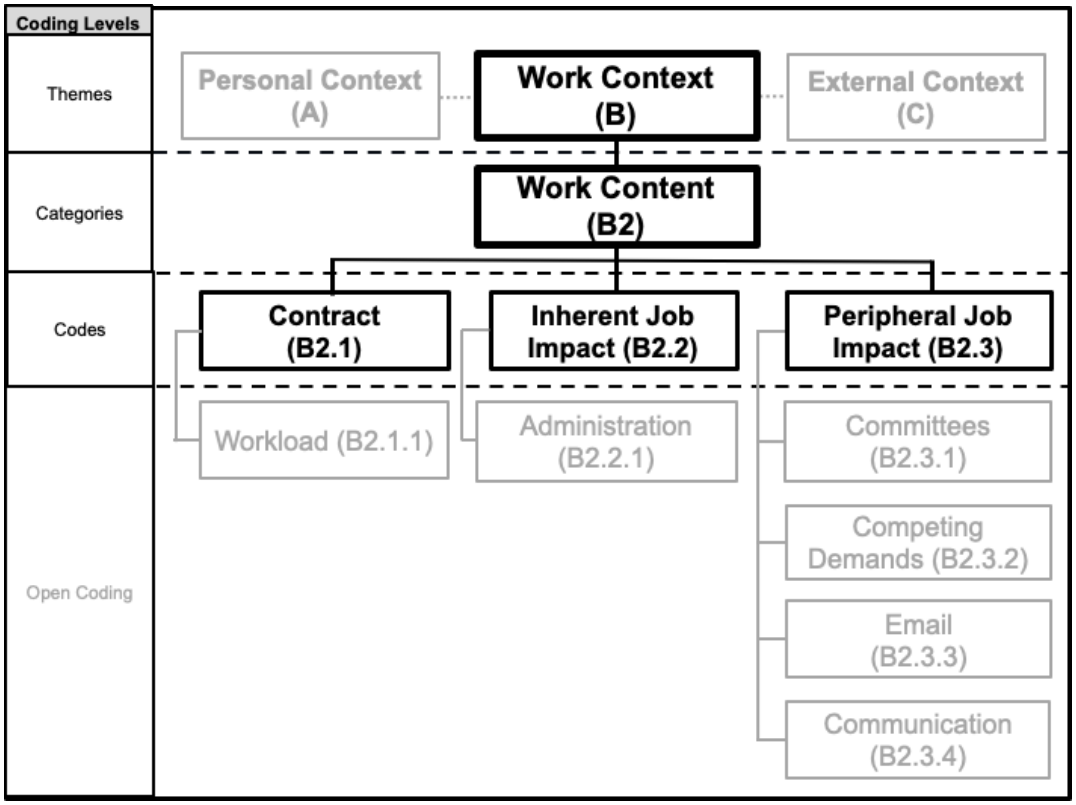

Figure 6.7: Taxonomy: Leaders *Work Content* (B2) Category

In the opinion of the RLC, the workload percentages and how they were allocated should only be seen as a metric to show what the expectations were, nonetheless the workload perceptions of researchers affected their research performance. Most Leaders stated that academics were employed to support research, to do teaching, research and render service. Likewise, academics were employed in roles that demanded teaching, research and services. However, academics appointed in teaching-research positions, reportedly, felt disadvantaged in comparison with those appointed in research-only positions.

The RLC provided the following examples of how role specific aspects such as workload allocations and administration affected research performance:

> "The main thing that will hinder it [research] is … workload allocations in the [academic department] have facilitated… research there is a 40/40/20 [workload allocation for teaching/research/services] … [However], it could affect people's capacity, … if we continue [with a] 50/30/20 allocation" (R24, 09/11/16)
>
> "So, every researcher out there who is teaching and research, they will feel … disadvantaged compared to those who are research only" (R29, 25/10/18)
>
> "a range of procedures … administrative sort of load, the processes associated with the various tasks, the duplications and the inefficiencies in some of those areas" (R24, 09/11/16)
>
> "the type of work that she does [research] she always, always, always is seeking admin assistance" (R29, 25/10/18)
>
> "They [researchers] will always say '*you have got time*' if they can have either an admin or a research assistant" (R29, 25/10/18).

Aspects, other than the appointed role such as peripheral work tasks, affected the RLC's role and were generating a high demand for their and academics' time. Aspects such as committee work, competing demands, emails and communication to encourage staff to align themselves and focus on a specific role were recounted:

> "I am on the steering committee for a couple of different ones [projects]" (R23, 08/12/16)
>
> "teaching is the priority … teach and research interests one task can have positive benefits for the other task" (R22, 21/09/16)
>
> "we are actually enrolling students [and I] so often sit back and think, should we be doing that" (R28, 30/10/18)
>
> "researchers might say it is their commitment to other activities like teaching in administration … [and if they] are given unfettered access to research time they would be so much better" (R30, 26/01/2019)

> "Encourage him to change the nature of their employment. … the general theme there has been that one of communication" (R30, 26/01/2019).

The full content of the experienced psychological contract, that is, role-specific as well as the non-role specific aspects that impacted on research performance, described the category *Work Content* (B2).

Work Content was cast in and supported to a greater or lesser extent within the environment the RLC members and academics operated. The *Environmental Capability* (B3) category results are presented next.

6.4.3 Environmental Capability (B3) Category

The third category underpinning the theme *Work Context* (B) is the *Environmental Capability* (B3) category, which involved integral aspects such as people support services, environmental capability, and reputation.

The RLC reported that support from centralised service centres varied given the perception of demands placed on academic departments. Conversely, Leaders from the central research support services centres were adamant that academic departments made research decisions. These central service centre Leaders were also of the opinion that other professional service departments did not always support them as well as they should. While the physical support such as infrastructure and equipment has been reported as supporting research performance, the RLC claimed that not all systems supported their research and internal political power play affected resource allocations. As a result, they did not always experience the research performance capacity they needed.

Neither did ANRU in all areas extensively promote their researchers and their research to be well known externally. However, in certain areas the University promoted itself externally and or built a reputation that seems to attract students and or collaborators. The taxonomy of the *Environmental Capability* (B3) category is depicted in Figure 6.8.

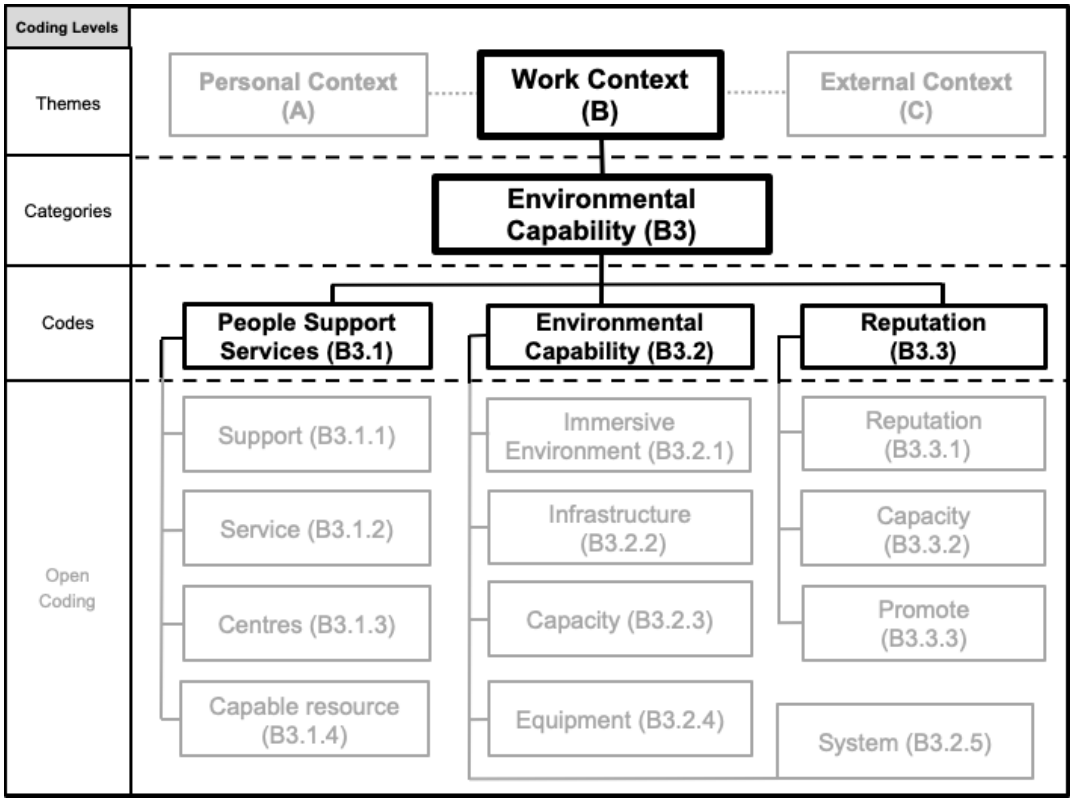

Figure 6.8: Taxonomy: Leaders *Environmental Capability* (B3) Category

The RLC reported varied experiences in respect of support services from within ANRU. Support services either supported their experience of doing research or hampered their endeavours. They reported the following experiences of support services:

> "our job is supporting the [academic department]. … we were very clear that you know the drivers [the academic department] make the decisions" (R28, 30/10/18)
> "whatever research you do you have to justify, and you have to argue [with a CSRL]" (R21, 28/11/16)
> "I saw a significant disconnect between professional services [support]… and the research environment. I needed to be able to break down those barriers. So, we did it, which really was around further communication" (R29, 25/10/18)
> "I was always struck by the readiness with which a range of people [from service centres] tackled that [providing support]" (R30, 26/01/2019)
> "research assistance [capable resource], that should help …to get an output" (R22, 21/09/16).

The RLC described the environmental capability as an immersive environment, with available infrastructure, the capacity it provided, available equipment, and systems that supported their work for increased research

performance. These aspects were viewed as physical support, evidenced by the following:

> "it is about providing them with that absolutely immersive environment where they can just grow and excel in their research" (R29, 25/10/18)
> "What infrastructure we have, the quality of our research how our researchers are [promoted], our publications. We do that [promotion] through a visiting professorship scheme … that is building capacity within the university" (R29, 25/10/18)
> "I think it [availability of equipment] does provide staff in our [academic department] a bit more capacity to be able to do research" (R24, 09/11/16)
> "the right I.T. infrastructure is pretty important" (R30, 26/01/2019)
> "often … researchers forget that we might not like a [specific] system, but it is all we have got" (R29, 25/10/18).

There were disparate views about the capacity of researchers with some RLC leaders saying ANRU lacked top professors while others reported that ANRU had reputable professors in areas of excellence with comments such as:

> "Our staff [in general and research entities] research capacity is … a worry" (R22, 21/09/16)
> "they seem to want to collaborate because we have got a really top professor here" (R28, 30/10/18)
> "the success of research in the organisation could come down to a few groups. … the backbone of the University's research environment and activity [that] comes from the HDR students" (R30, 26/01/2019).

The RLC at ANRU believed that the reputation that staff had, and the views students and partners hold of ANRU, as well as their resistance to accepting improvement strategies hampered their and ANRU's research performance. The level of promotion of ANRU's high-level research and those researchers that conducting the research, together with the capacity of some researchers, affected the impact criteria for ranking purposes in systems like Times Higher Education (THE) and thus reputation. Likewise, initiatives to promote ANRU within the community assisted in reputation building. The RLC asserted:

> "the researchers …, blamed for not getting them [ARC grants], but we know … [the] process is tied around institutional reputation" (R22, 21/09/16)
> "it is always been pushing against academics who do not want change, and that [lack of progress] affects us publicly" (R28, 30/10/18)
> "… they will not know anything about us so that when they get the [ranking] survey which says you know who in the world is doing the best research they might say somebody else" (R29, 25/10/18)

> “So, it [community talks or initiatives] brings people here too” (R29, 25/10/18).

In summary, the Central Support Research Leadership Services (CSRL) and the Academic Department Research Leadership (ADRL) held different views about the level of support academic departments received from Centralised Support, and how it impacted on the environmental capability. The RLC’s experience of support from all service centres was that it was not adequate to support research performance; and, that information systems and technology domains, referred to as IT infrastructure, were of particular concern. The RLC perceived the research reputation of ANRU hampered research performance and consequently, the views of students and partners in some cases.

Those aspects that pointed to support services, environmental capability and an experienced internal reputation that supported or hampered research performance described the category *Environmental Capability* (B3).

Academics would fulfil their roles and then with the assistance of the environmental capability conducted their research, which leads us to the Conducting Research category.

6.4.4 Conducting Research (B4) Category

Conducting Research (B4) was the fourth category in the theme *Work Context* (B) and described aspects that contributed to how the RLC supported and experienced aspects of conducting and publishing research.

The RLC asserted that conducting research was a highly demanding activity in a very competitive domain. They also highlighted the importance of and contribution of PhD students to a university’s research performance. The RLC reported that ANRU and the leaders at DOH and DOS were supportive of research, but that the competitive domain created unrealistic expectations from individual academic departments. PhD completions generated research, but to generate guaranteed publications from students were a challenge. Opportunities for research during regular working hours were minimised by teaching demands and a lack of collaboration, expertise and funds. Figure 6.9 depicts the taxonomy of the *Conducting Research* (B4) category.

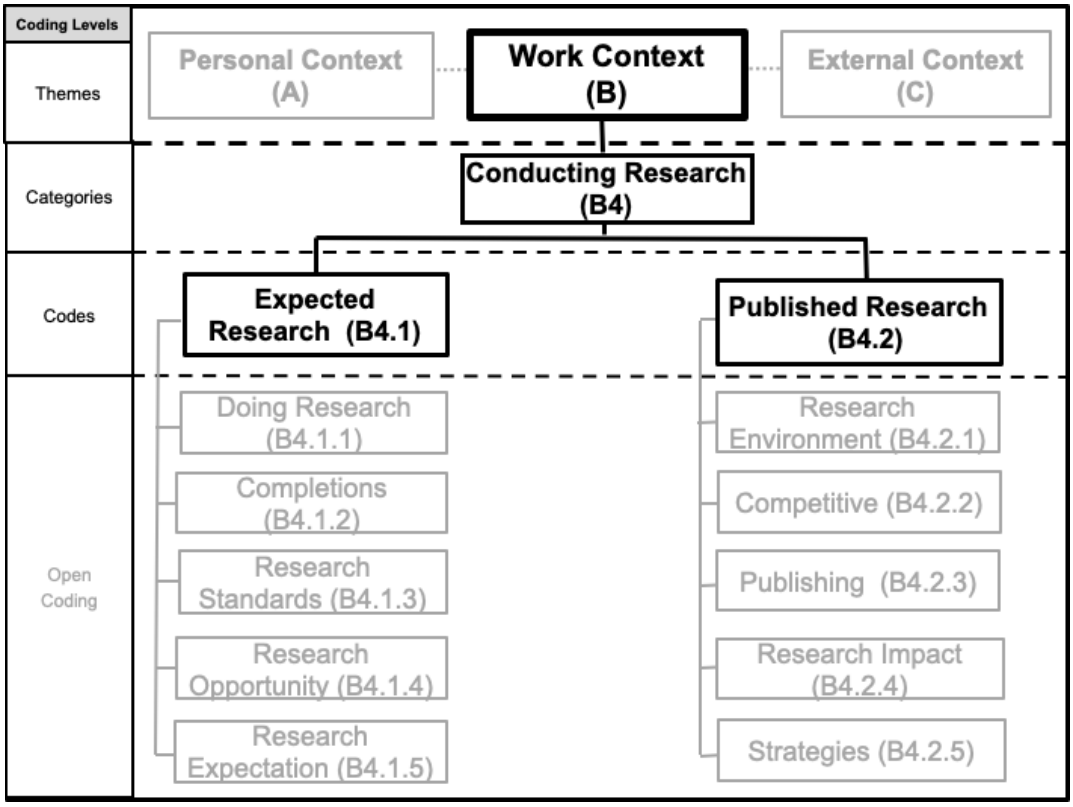

Figure 6.9: Taxonomy: Leaders *Conducting Research* (B4) Category

Research output expectations set against stiff competition was a significant contributing aspect to *Conducting Research* (B4). The expectations were intensified by aspects such as the difficulty and time involved in researching, the commitment towards outputs and importance of outputs such as completions. The RLC further asserted that benchmarking provided standards and affected the expectations for research performance.

They stressed the importance of commitment to doing research, which was demanding and went with personal sacrifice. The RLC also highlighted the importance of PhD completions in research performance and their role in that. The following quotations illustrate the RLC's experiences of these aspects at ANRU:

> "You cannot spend your whole work week doing research, …. I actually think [it] … happens with some personal sacrifice" (R22, 21/09/16)
> "[doing] research is really a hard drive If you want to compete internationally … you really do need to be committed to this [Conducting Research]" (R28, 30/10/18)
> "for research performance to improve, so increasing … the time to completions" (R24, 09/11/16)
> "try to reduce attrition showing good completions and grow numbers. And we support the [academic department] in doing that" (R28, 30/10/18).

The RLC reported that research performance standards might be set low. They commented on the importance of standards, how achieving these standards were supported, how it influenced student choices and the opportunities that doing research create for researchers. RLC asserted that:

> “our goal is to - for research performance to improve, increasing … the average number of publications produced … the amount of income, the time to completion. Which I think, are actually set at a fairly low level, and it - from my [academic department]'s perspective, I think it is actually a low target” (R24, 09/11/16)
> “they [students] care [in choosing ANRU] about overall research rankings and benchmark kind of things” (R23, 08/12/16)
> “It [research opportunities] is just such an exciting way to see the world through academic careers” (R29, 25/10/18)
> “we look for publication opportunities grant writing and that kind of thing” (R29, 25/10/18).

Some of the RLC thought that the difference in the academic departments research profiles and contexts was not acknowledged in the expectations for research performance. RLC members also mentioned that it could not be expected from all researchers to deliver on the same standard given the differences in their environment; furthermore, it is the role of leaders to encourage these researchers. They indicated:

> “the difference needs to be kept into the understanding and the modelling and the reports that are run, … it is not sensible to expect a [specific academic department] with this profile to perform as well as a [another academic department] with quite a different … a higher profile” (R22, 21/09/16)
> “here are not research-active people and probably not going to be research-active given the workloads or the environment or something like that. I think it is then the [leader] have a role in encouraging those staff” (R30, 26/01/2019).

A second contributing aspect to *Conducting Research* (B4) was published research with aspects such as the research environment, competitiveness, impact of publications and how these related aspects affected research strategies to improve research production. The strategies that supported publications within high impact journals were seen as powerful strategies in supporting the ANRU goals. Not all members of the RLC were satisfied with how research output comparisons between academic departments were made.

Experiences shared by the RLC were as follows:

> "I am not picking on humanities or performing arts … go for [providing support to] some areas that are really interested in doing the research" (R28, 30/10/18)
>
> "we have had the carrot for too long, and there has not been a stick. So, you know, when …, you have got X number of people who have not published anything for six years, well somebody should have been appalled about [that] four years ago" (R22, 21/09/16)
>
> "how are you going to be competitive when you are competing with people who do work seven days a week …, different approaches and getting different mentoring. … [if they] have a 50 per cent or more chance of getting the internal funding. … [they] go for that rather than have to compete externally … because that is that much tougher" (R29, 25/10/18).

The RLC experience was that some areas did better in publications than others with specific reference to PhD outputs and the difficulty that senior leaders might have had in conducting research. Other areas did not produce the expected publications from a 30% workload allocation. RLC members asserted that:

> "Those [natural sciences] publish like crazy. So, this year we will pull out 4, 5, 6 publications in their PhDs and all of their thesis are by publication" (R28, 30/10/18)
>
> "Most [researchers] are not doing 30% [workload allocated] research, and they are certainly not producing publications" (R21, 28/11/16)
>
> "maintained their own research programs and then have an additional line of credibility to be successful in their own research sphere" (R30, 26/01/2019).

The RLC thought that more mentoring that drives high impact engagement, achieved publication in high impact journals and applied publication strategies and knowledge was necessary to ensure large numbers of high-quality publications. They stated:

> "there is a need for more mentoring more push towards impact engagement and high impact journals" (R28, 30/10/18)
>
> "[those that] had good HDR productivity [publications] whilst they were students … were more likely to be successful in another five years' time" (R30, 26/01/2019)
>
> "bring someone back on a postdoc … two years you do not have to teach. Do your research write your papers write and apply for grants and start to train up students that kind of thing" (R29, 25/10/18).

The RLC descriptions of what was expected in publishing research, the circumstances under which those publications were produced, and strategies for

increasing high impact publications comprised the category *Conducting Research* (B4).

The RLC also shared their experience of leadership and work structures. They explained how that drove the institutionalised work structures through institutional leadership.

6.4.5 Institutional Leadership (B5) Category

Institutional Leadership (B5) was the fifth category in the theme *Work Context* (B). *Institutional Leadership* (B5) described how the RLC experienced leadership, which shaped research and provided the appropriate work structure to facilitate research performance. Figure 6.10 depicts the taxonomy of the *Institutional Leadership* (B5) category.

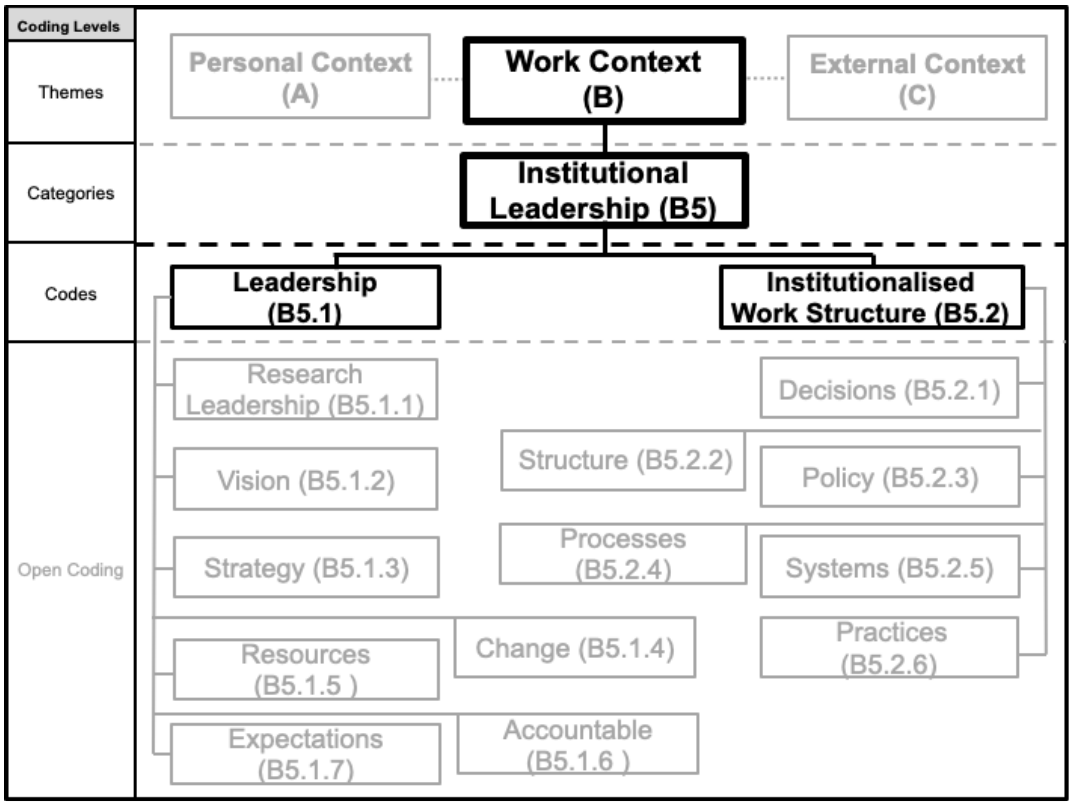

Figure 6.10: Taxonomy: Leaders *Institutional Leadership* (B5) Category

According to the RLC, research leadership might have been provided in policies but was less evident in practice, such as appointments. The vision was clear; however, more needed to be done to enact the vision. The importance of strategic decisions and allocations of research funding were stressed.

Furthermore, decisions such as the drive to appoint more professors, constant change, including leadership appointments and exacerbated expectations, vis-à-vis the lack of resources that made work structures more complicated, were questioned. These issues were viewed as validated in the case of duplication of process, systems and practices

In respect of research leadership, vision and strategy, the RLC reported the following:

> "The success of our University leaders in those national discussions and national forums and having influence as an institution" (R22, 21/09/16)
> "the written vision from the Vice Chancellor's lips is straight out '*growth and quality*' … to increase research quality and numbers of PhDs" (R28, 30/10/18)
> "for us, it was actually putting a vision in place and a vision about … supporting informing, inspiring researchers" (R29, 25/10/16)
> "to work out whether in all of our strategic allocations for our research funding we might get an early warning sign that the money we are putting into X or Y was it, was not generating the dividends, and so it could be put into other research-related purposes" (R30, 26/01/2019).

The RLC mentioned aspects such as the lack of leadership in process changes and not mandating strategies that should have supported research performance as hindrances to improvement. Some RLC members believed that not all academics were aware of and understand what support and resources were available; those who were aware, made good use of it. The RLC provided reflections about leadership, support for change, expectations towards resources, and accountability decisions on aspects such as finance procedures. These included:

> "mandate the publication [of an article] for every PhD … if I push that change, I think it would increase the research performance because most supervisors would jointly publish in this" (R28, 30/10/18)
> "finding out what [resources] they need to be able to manage the research resource into their [academic department] and trying to make sure [a decision] that that is made available" (R30, 26/01/2019)
> "… we do still have that responsibility for compliance" (R29, 25/10/18)
> "There is certainly duplication in - and also, a range of different parts of a process that need to be dealt with by different service centres. … I think [the impact] can be quite detrimental [in aspects such as role confusion and role clarity]" (R24, 09/11/16).

A second aspect that contributed to *Institutional Leadership* (B5) was institutionalised work structures. Some RLC members claimed that several aspects convoluted the work structure that institutionalised research at ANRU. The misalignment in central decisions and those of academic departments were reported. Aspects such as decisions about; structures, policies, systems, and practices such as appointments were taken without due consideration for the context. Leaders noted that appointing people with a research profile could make a difference in ANRU's research performance.

The RLC experienced decisions about structures as detrimental to their roles and the student experience; however, some changes were viewed as helpful. They provided comments such as:

> "it [changing staff reporting lines] was a huge mistake. You know it is very inefficient. So, I had some of that look, but everyone keeps coming to us for questions. Student services grabbed three of my staff it has been very, very difficult getting them back. It is confusing very confusing for the staff, the students, for everyone students always come to us" (R28, 30/10/18)
> "having a range of centres involved in what is a core activity [PhD research] of the university, I think it - can be quite detrimental [in that role confusion and role clarity impact on a seamless student experience]" (R24, 09/11/16)
> "make the [academic departments] answerable to [an academic research service] is a decision, which I also have a problem with" (R23, 08/12/16)
> "we pushed … a lot of change but that way we have been implementing a lot of structure and support for PhD students" (R28, 30/10/18).

The RLC explained that policy is a necessary component of governance and necessary to meet obligations, but they are not always known, appreciated, clear and readily available. They provided the following examples:

> "everything in my world and everything I know is a rule of policy on everything" (R28, 30/10/18)
> "I would like to think our policies support the entire framework within the University" (R29, 25/10/18)
> "The thing is they do not know about them [policies and guidelines] until they need them - until something goes wrong. So, it is our job to educate them there are policies, and I can find them if I need them" (R29, 25/10/18)
> "it is just like the letter of the law. … we have just been compliant with the federal agency requirements analytics is state-based" (R29, 25/10/18)
> "implemented mandatory supervisor training because you know legally, we have an obligation to have supervised our students. … compulsory every two years, which made things even worse" (R28, 30/10/18)

> "What should be in policy what should be guidelines and what should be a procedure. We need a consistent way of actually writing rules and policy about anything you do" (R28, 30/10/18).

While some RLC members defended some of the processes, systems and practices at ANRU, notably those that safeguard ANRU against malpractices, others believed that some of these processes, systems and practices contributed to research inefficiencies. The RLC claimed that:

> "I think that there has been a range of procedures that have affected research, … the processes associated with the various tasks, and the duplications and the inefficiencies in some of those areas" (R24, 09/11/16)
> "we need to have more clear processes around what to do if you have got a whinge or a concern or you know a legitimate complaint to do anything. How to make that a more transparent process" (R29, 25/10/18)
> "it was the only piece of software at that point that actually displayed stuff that came from [three different internal systems]. … register for compliance which supplied [reporting information]. Yeah, that was really good" (R28, 30/10/18)
> "We are stuck with these systems … university executives do not want to invest in anything new" (R29, 25/10/18)
> "We have imported recruited some people at the E level. This is the professorial recruitment drive. I think that is [practice] been a little bit too shotgunned, scattergun" (R29, 25/10/18).

Institutional leadership was crucial in leading towards the vision with sound strategies and decisions accompanied by the necessary resources. The vision, strategy and decisions were also seen as instrumental for creating and stabilising a transparent, institutionalised environment that supports research performance.

The vision, strategy and decisions leadership made within a specific context that institutionalised structures, systems, and practices which affected the RLC's research leadership, and their research activity described the category *Institutional Leadership* (B5).

Institutional leadership, together with the other categories described in the work context, could also influence the research climate and culture described next.

6.4.6 Research Climate and Culture (B6) Category

The last category in the *Work Context* (B) theme was *Research Climate and Culture* (B6), which describes the atmosphere within which research activity

was conducted, supported, and experienced by the RLC as the climate and culture of DOH, DOS, and ANRU.

The RLC reported an overall conducive culture and to a lesser extent, a conducive climate for research. While bureaucratic processes, diverse perspectives from different backgrounds, and the demands of teaching and service stifled a research culture, research was supported, and a visible change towards a research performance culture was experienced. The RLC viewed a research climate as public recognition of research effort, visible research activity, and communication that encourages research performance. These aspects set the experience of a research culture and climate at ANRU. Figure 6.11 depicts the taxonomy of the *Research Climate and Culture* (B6) category.

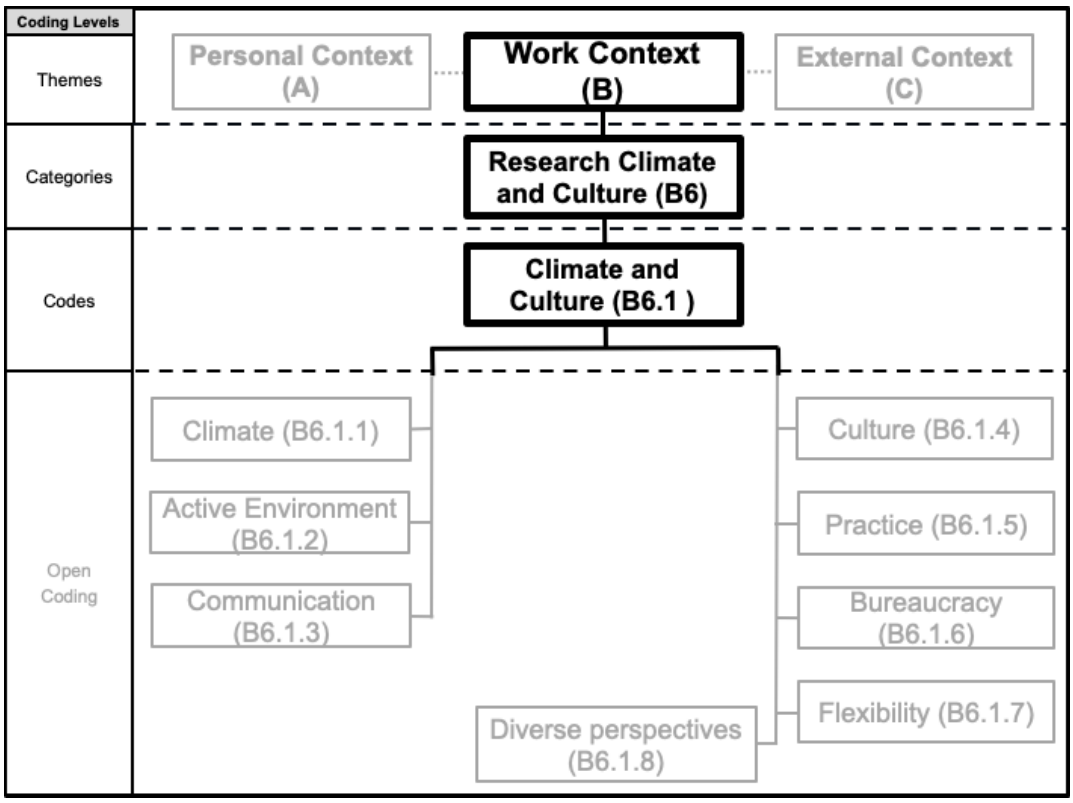

Figure 6.11: Taxonomy: Leaders *Research Climate and Culture* (B6) Category

The RLC believed the research climate had improved and was supportive but was still not right. The research climate was stifled by a lack of recognition for the effort to generate research outputs. This effort was not matched by reward structures such as the RAI with research activity points. While the research was

not substantial, it was encouraged, and an active research environment could likely support research performance. The RLC commented:

> "[I] came into a climate where the research was not strong at all - it was certainly encouraged, so I think that there's the recognition within that [research activity] scheme that quality is important … but I think the low target sort of minimising; it reduces that [expected climate] facilitation process" (R24, 09/11/16)
> "find a decent space … as a … research room where your brain flips to research, it's about mindset and culture" (R22, 21/09/16)
> "having a research-active environment facilitates that [research performance], because you have colleagues that are at a similar sort of level, and a similar sort of passion again" (R24, 09/11/16).

Some RLC members were further of the opinion that ANRU did not provide a climate with the necessary research leadership towards publications and or leadership communication that supported research performance as evidenced by the following quotations:

> "[managers/leaders] were wanting people to do research, but there was no real research leadership guidance, in terms of publications vessels" (R23, 08/12/16)
> "it [climate] comes down to communication from the [Academic Department Heads] because … they're ones that ultimately have responsibility for the largest single amount of money spent on research. And that's staff salaries" (R30, 26/01/2019)
> "head of [a particular academic department] that had never done … any other research, it was a very different climate" (R21, 28/11/16).

The RLC experienced, that while an optimum research culture did not exist, a visible change towards a research culture was taking place. Research culture was mentioned as the differentiator between academic departments' research performance. Aspects that hampered research performance were given as the practice, amongst others: to publish in low impact forums, inflexible time schedules, bureaucratic processes, level of support, magnified research image, risk aversion and a lack of trust, research space, lack of career planning from researchers, and diverse research backgrounds.

The RLC's experience of the research culture was mainly positive with a real appreciation of the impact of good research culture. The following quotations illustrate how aspects such as culture and practice were experienced:

> "It's a cultural thing. I said that the four [academic departments] are publishing like crazy, look humanities are not so strong" (R28, 30/10/18)

> “It has to be about culture … people think they're better than what they really are” (R29, 25/10/18)
> “because they're in one [academic department] with no funding and yet they see others in other [academic department] being well supported. And that then starts to generate I think a cultural division” (R29, 25/10/16)
> “the thing that they [HDR students] find least appealing … is the lack of research culture the expectation … to be in a more in a more active enriching self-enriching research environment” (R30, 26/01/2019)
> “staff want to keep publishing [practice] in rubbish conferences. I may not have done it initially, but I'm certainly going to make sure that no one else makes the same mistake. It's just too hard to undo” (R23, 08/12/16)
> “I think people go *‘I've been here long enough I think it's time I got a promotion’* [practice] and put their application in without really planning for it [a career]” (R29, 25/10/18).

The RLC also reported that some processes were rather bureaucratic. There was also a lack of standardised practices and issues associated with recruiting researchers from different backgrounds resulting in differences in expectations. Their experiences were described as follows:

> “there was a lot of unnecessary red tape created from a lack of trust of academic staff and risk aversion” (R23, 08/12/16)
> “Listening to researchers, we needed to streamline paperwork and bureaucracy. … it is that balance between our responsibilities [for] compliance work particularly legislative matters versus trying to make life as easy as possible for the researchers” (R29, 25/10/18)
> “But that's tough because the [academic departments] have autonomy there is nothing centralised, [academic departments] make the decision on that” (R28, 30/10/18)
> “the only challenge in [this academic department is that] you've got a lot of people who come from - largely from other institutions” (R23, 08/12/16).

According to the RLC, the main inhibitors of a conducive research performance culture and climate were insufficient communication, bureaucratic processes, poor collaboration between researchers from diverse backgrounds, a lack of recognition of research efforts and low standards for research outputs. Espoused support for research was viewed as a significant visible contributor to research culture. The RLC thus experienced practices of insufficient communication, bureaucratic processes, poor collaboration, a lack of recognition and low standards with the contrasting espoused support for research as comprising the ANRU *Climate and Culture* (B6) category.

In summary, the *Work Context* (B) theme was constituted from six categories namely: *Financial Resources* (B1), *Work Content* (B2), *Internal Capability* (B3), *Conducting Research* (B4), *Institutional Leadership* (B5), and *Research Climate and Culture* (B6). The theme described those aspects, from the internal ANRU environment, which had a direct impact on the RLC and academics' work and directly or indirectly affected their contribution to research performance.

As could be expected, the aggregated data from three different pools namely: Leaders from research specific Centralised Support and Leadership Services, as well as the Leaders from academic departments (represented by DOH and DOS) provided different perspectives of the *Work Context* (B) theme. The *Financial Resources* (B1) aspect, in respect of the availability of funds, posed some of the starker contradictions. The CSRL provided insights into how they attempted to invest funding fairly in initiatives that would make researchers more competitive to acquire external funding. However, from an academic department perspective, funding was a scarce commodity, although some RLC members indicated there was sufficient funding. Comments supporting the contradictory information and the possible explanation were:

> "The experience is that the - there's been a lot of support in terms of financial support" (R24, 09/11/16)
> "simply said they [ANRU Executive] don't want to invest in anything new" (R29, 25/10/18)
> "[your] research performance…. is why you're not getting grants … you are not competitive" (R29, 25/10/18)
> "There are researchers [that] also feel that they are treated differently between [academic departments] some … will provide internal funding schemes [some] will provide resources …. Other have no money, and they provide nothing" (R29, 25/10/18)
> "So, it [research output] always comes back to that money issue …. it has to be more than just about money. It has to be about culture" (R29, 25/10/18).

As evidenced, within the results of each category, the RLC employed strategies such as acquiring and providing funding, providing collaboration opportunities, develop researcher capability, improving HDR completions, growing HDR student numbers and adjusting the workplace that was aimed at supporting researchers' work context and facilitated research performance.

The individual academic's *work context* affected the academic's *personal context* and vice versa, and both these contexts were influenced by and, to a lesser extent, had an influence on the *external context*.

6.5 External Context (C) Theme

The *External Context* (C) theme described how the RLC experienced the impact of the *community*, *national*, and the *international* context on research performance at ANRU and what strategies they used within the *external context* to improve ANRU's research performance. Figure 6.12 depicts the taxonomy of the *External Context* (C) theme.

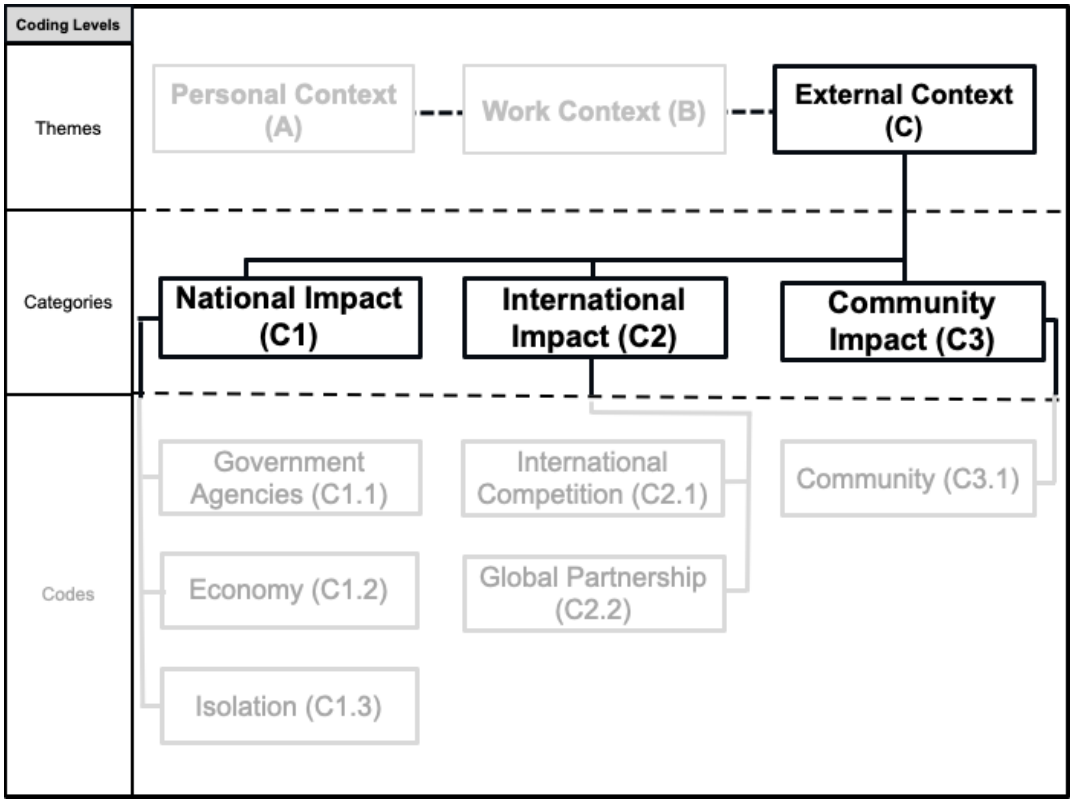

Figure 6.12: Taxonomy: Leaders *External Context* (C) Theme

The *External Context* (C) theme emerged from the data in the form of how the *community*, the *national* and the *international* views and agendas affected the RLC's contribution to research performance at ANRU.

An overview of this theme indicated the extent to which the RLC believed in the value of collaboration and partnerships with industries and students. They were of the view that students, and most importantly, HDR students, viewed

universities with higher rankings than ANRU's as more reputable to attend. The RLC further claimed that the National impact on ANRU's research performance was through government agencies' agendas and decisions, a non-vibrant economy and geographical isolation. They were also of the opinion that international agendas, global partnerships and communities affected ANRU's research performance.

The RLC reported specific strategies to minimise the impact of the *external context* and thus benefit ANRU. Their strategies were synthesised into four main streams, namely to:

- build researchers' research and collaboration skills;
- explore, identify and target opportunities for partnerships and relationships to increase research opportunities and ANRU's reputation;
- seek and provide research funding; and,
- attract and enrolled international students, who could be future international collaborators.

Evidence of these strategies is presented below within the descriptions of the following categories that comprised the *External Context* (C) theme.

6.5.1 National Impact (C1) Category

National Impact (C1) described those aspects that affected research performance based on government agencies' direction and decisions, which influenced research direction. Also, whether the collaboration had a positive influence on ANRU's research performance. However, geographical isolation had a negative influence on ANRU's research performance, according to the RLC. Figure 6.13 depicts the taxonomy of the *National Impact* (C1) category.

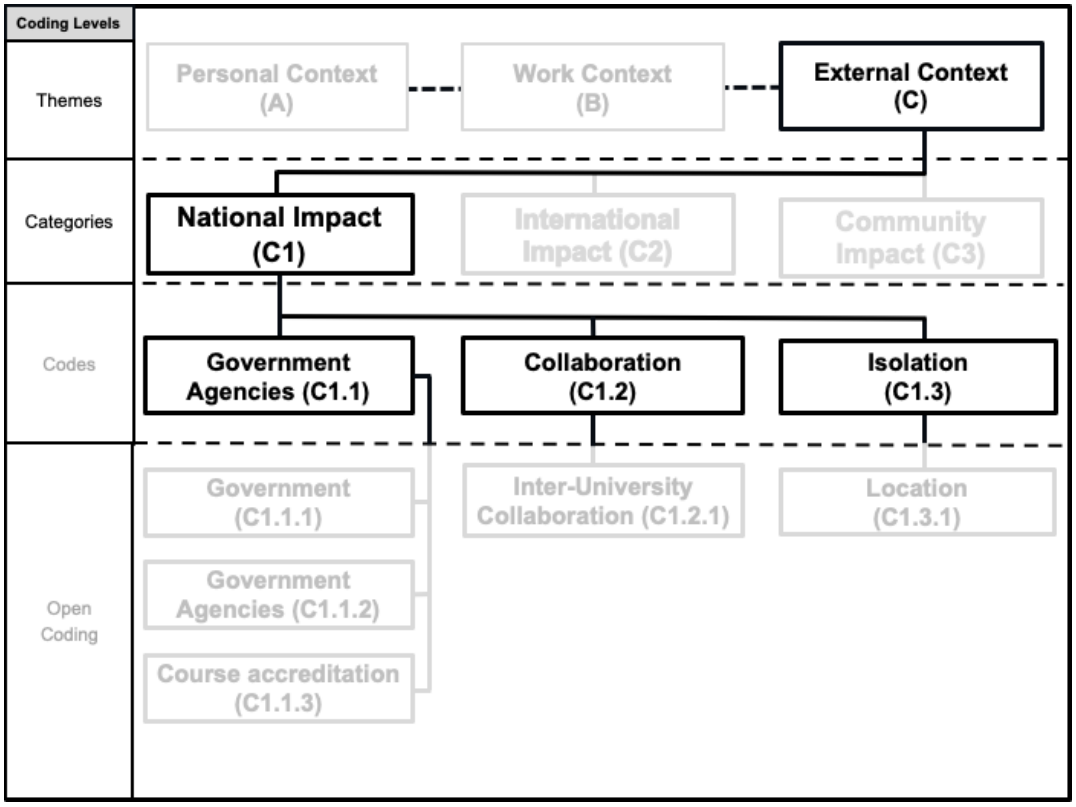

Figure 6.13: Taxonomy: Leaders *National Impact* (C1) Category

The RLC reported that the national impact had been felt through government and government agencies, implemented through government programs and funding, which influenced research behaviour and performance. They also claimed that collaboration with other universities supports research endeavours, but the geographical location of ANRU fostered isolation and inhibited prospects.

The RLC described national impact in respect of government, government agencies and course standards for accreditation through the following statements:

> "We are often at the whim of the national government - the federal government, without a doubt they decide where their funds are going and decide how much money is going into the NHMRC" (R29, 25/10/18)
> "the federal government is cutting back on - on the various schemes that it's had in terms of funding" (R24, 09/11/16)
> "TEQSA, through the standards statements. … it really set that area back when it came to be developing a research culture" (R30, 26/01/2019).

The RLC further reported that ANRU's collaboration, such as assisted reviews facilitated research performance. Collaborations not only build relationships and opportunities, but it also raised ANRU's profile, as shown by the following references:

> “collaborate with, … the Ops manager for [another university] came to stay we've had [other universities many times. I've been asked to do a review of what [another university] do … you see what they're doing, and that helps inform them” (R28, 30/10/18)
> “Other departments … we try to have really good relationships with philanthropic organisations try to develop relationships with them and raise our profile about what we can do to work with them” (R29, 25/10/18).

The RLC also claimed ANRU’s geographical location resulted in isolation that hindered our research performance. This claim was based on the argument that isolation made it difficult to attend and collaborate with fellow Australian researchers due to distance and related costs. Claims were as follows:

> “it's such an isolated location and such a long way from everything. Being on the wrong side of the country doesn't help” (R23, 08/12/16)
> What I have found is that because of that [location] … researchers don't get up and get over to [other] states” (R29, 25/10/18).

In summary, RLC believed that Government influence and the geographical location that resulted in isolation affected their research performance, mostly, negatively. Collaboration, conversely, provided insights and partnerships and could result in costs savings through cost-sharing.

The impact that the Australian Government had, together with those of national collaboration opportunities and geographical isolation, formed the *National Impact* (C1) category.

The second category that contributed to the *External Context* (C) theme is described next as *International Impact* (C2).

6.5.2 International Impact (C2) Category

The *International Impact* (C2) category described those international aspects that shaped international agendas, global partnership, and economic influence that provided research opportunities and research direction. Figure 6.14 depicts the taxonomy of the *International Impact* (C2) category.

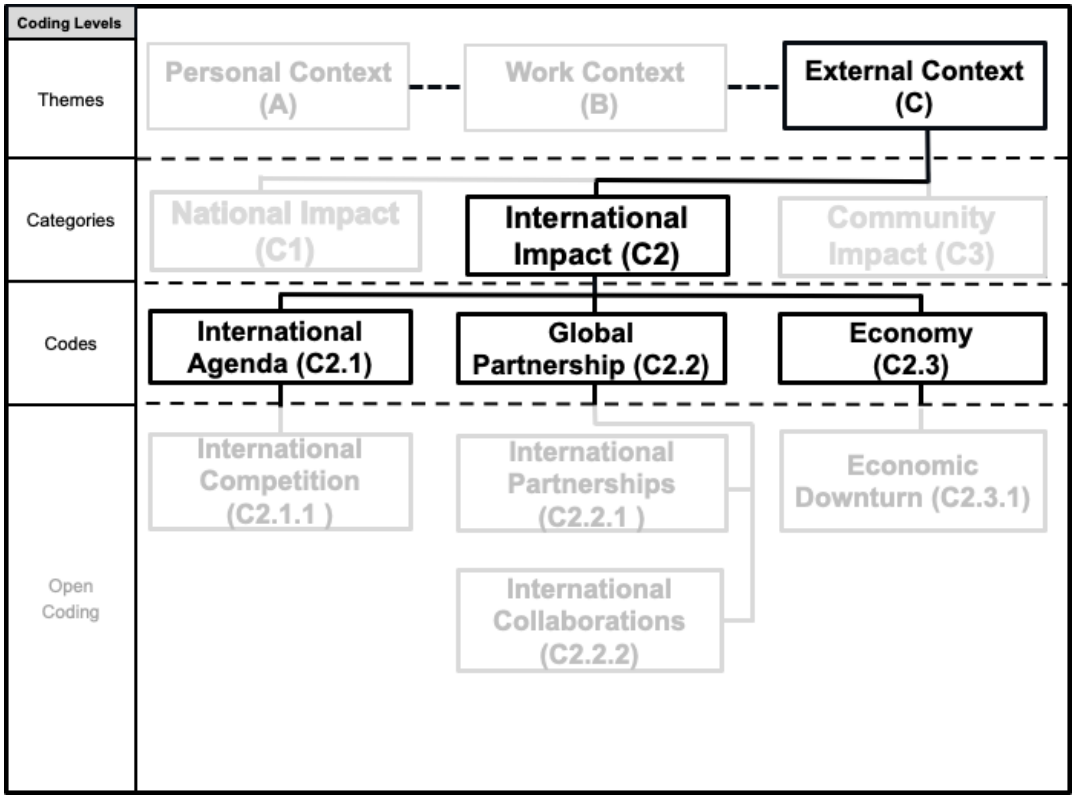

Figure 6.14: Taxonomy: Leaders *International Impact* (C2) Category

The RLC reported that *International Impact* (C2) was evident in the impacts of international competition, global partnerships, and economic circumstances on ANRU's research performance. They noted that international events, and the insights gained from global partnerships and international collaboration provided increased opportunities for improved research quality and impact.

International competition was mainly seen from the perspective of the quality research, publications, and skills with which ANRU could not compete. RLC members stated:

> "You know there's so much good research that comes out of China that we can't compete with" (R28, 30/10/18)
> "how are you going to be competitive when you're competing with people [with] different [work] approaches and getting different mentoring" (R29, 25/10/18).

International partnerships and collaborations were seen as essential to improve the quality of research and research outputs and the impact of research; and, it also helped to improve the University reputation in the community. In this regard, the RLC stated:

> "[partnership] happening with our reasonable significant … postgraduate student population, as a government initiative, that's paying for them to get a higher degree go back and improve their own system" (R22, 21/09/16)
> "the collaboration, particularly at the international level, will benefit our research quality, and - and research outputs as well" (R24, 09/11/16)
> "data that show the publications that have international collaboration in the authorship list … illustrate the reason [improved publication opportunity and impact] why … collaboration and international collaboration in particular" (R30, 26/01/2019).

While the global economic downturn impacted funding opportunities, international collaboration in research initiatives saved costs. The RLC quoted:

> "… the economic downturn globally has had an effect [on funding]" (R24, 09/11/16)
> "you increase the international collaboration, and you cut the potential cost in half if you have leverage funding from other institutions" (R30, 26/01/2019).

The category, *International Impact* (C2), was viewed as the opportunities to have collaborated with international researchers, which, apart from playing a significant role in funding opportunities, could improve impact and build a reputation through these international partnerships.

In summary of the *external context*, RLC explained that the communities external to ANRU served together with international events and agendas to contribute to their research performance, and these influences comprised the theme *External Context* (C). These aspects provided research opportunities, collaboration, and partnerships with international researchers. On the contrary, the RLC's experience of the State and the broader economic climate was that they stifled opportunities that could have resulted in generating funds for research. The RLC illustrated the exacerbated impact of the national context with the thinking that a lack of research reputation affected funding through grants, as well as income from international HDR students. On the other hand, the RLC viewed HDR students' publications as an opportunity that could impact research performance directly; and indirectly through the marketing of ANRU in their home countries.
As demonstrated, within the results of each category, for the *external context* the RLC employed strategies that aimed at supporting researchers with research and collaboration skills, improving ANRU's reputation through research partnerships,

funding strategies and increase international student enrolments who could then become future partners.

6.5.3 Community Impact (C3) Category

The third category that contributed to the *External Context* (C) theme was *Community Impact* (C3).

Community Impact (C3) described those communal and reputational aspects that influenced research at ANRU. Figure 6.15 depicts the *Community Impact* (C3) category taxonomy.

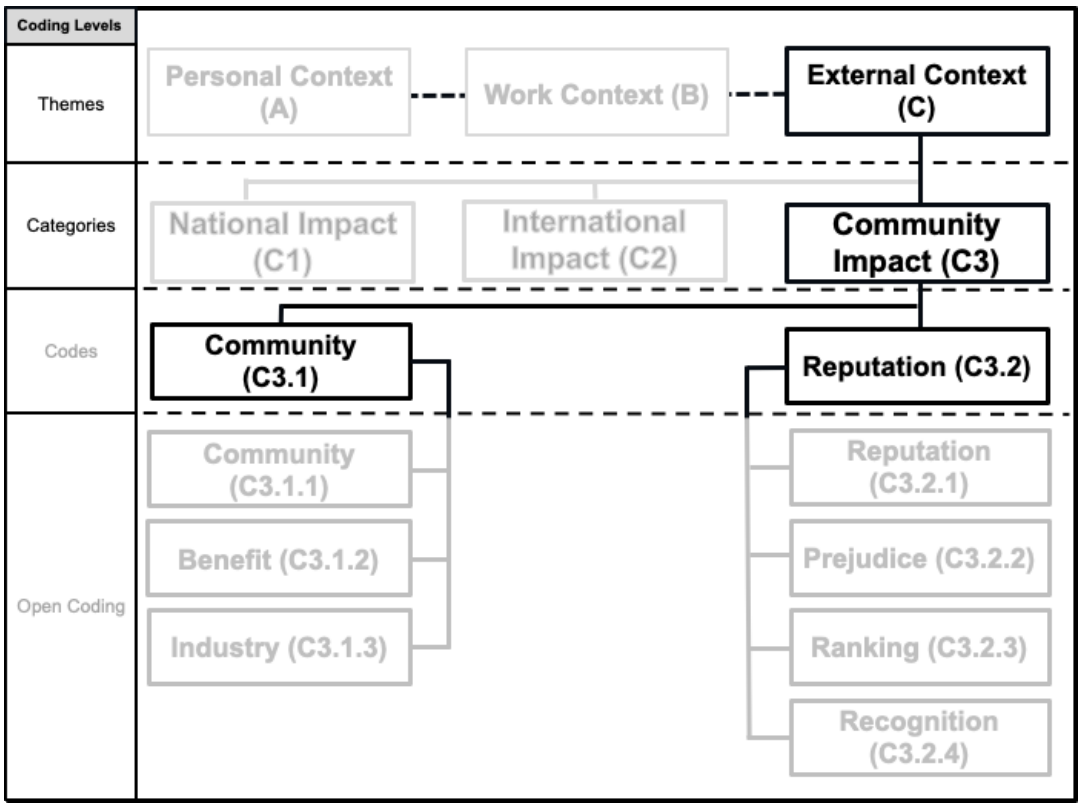

Figure 6.15: Taxonomy: Leaders *Community Impact* (C3) Category

The RLC asserted that their research benefitted the community and society, mainly through their partnership and collaboration with universities and industry. They reported that ANRU has a strong reputation for its positive inputs to the community, which benefitted its industry partners. However, they also claimed that the impact that ANRU has on the community was not recognised in reward systems such as the RAI and ANRU award system, which awards points towards

research funding. The reason for not awarding RAI points, which impacted their funding and eventually reputation as a researcher, was because community impact is not allocated any distinct metric at the national level.

The following claims illustrated the impact of these community aspects on ANRU's research performance:

> “targeting high impact journals, really thinking about impact in society, what's the benefit to the greater good” (R28, 30/10/18)
> “with my seed funding, outcomes [improved, as external partners] and [we] then apply for external funding [so] I'm more competitive” (R29, 25/10/18)
> “go there, look for like-mindedness, what their [industry’s] problems are, what's keeping them awake at night so that you can then start to offer them some options around potential solutions” (R29, 25/10/18).

RLC further asserted that ANRU did not have a strong reputation within the research community or amongst prospective HDR students. This reputation aspect was impacted by rankings because of prejudices and the recognition of ANRU’s research outputs and researchers in ranking surveys. Prospective HDR students used ranking systems to determine universities of choice and institutions with lower rankings such ANRU could miss the investment opportunity from these students. RLC members believed reputation, and subsequently, income was impacted by aspects such as reputation and prejudice. They expressed this as follows:

> “we're [ANRU], and from a reputational perspective that's a challenge for everybody undertaking research in the University” (R23, 08/12/16)
> “evidence of where the development of research [ANRU] was hampered by an external prejudice. … in the form of an ARC assessor's report: ‘*The investigator is very promising, and the only thing is that this person belongs at the University of [X] not at [ANRU]*’. … the project was not supported” (R30, 26/01/19)
> “a negative view about [ANRU]. … even [if] it was relatively uncommon that could influence the success the University was going to have on recruiting people that were going to help to build its research culture” (R30, 26/01/19)
> "Well, we can't [compete for HDR students] because of the Indonesians [that go] for GO8 universities, so it has an impact on me. So, the Chinese they're very status-conscious though generally target the more prestigious universities” (R28, 30/10/18).

Also, aspects such as ranking and recognition further affected the reputation and subsequently funding through grants, aspect. The RLC asserted that:

> "Something like 30% of that grade that we're given, and which then leads into what ranking we are, is around reputation. That then drives your field. Citation impact drives your h index, which lifts them all and the higher [they are], the better" (R29, 25/10/18)
> "it is a competitive world out there. And so long as we don't have a voice on the eastern seaboard when our grants are reviewed by grant review panels if they don't know you, they've got no reason to champion you" (R29, 25/10/18)
> "I certainly saw elements of it both inside and outside the university where people didn't see it [ANRU] as the great institution that it is" (R30, 26/01/2019).

The RLC's experience of research at ANRU from a community perspective was that the research benefited the industry and communities, but that its impact is not recognised on a national level. On the contrary, it was claimed that by other RLC members that the research community had a bias against ANRU and did not recognise the quality of research, which affected their own and ANRU's reputation. The reputation, according to RLC members, consequently affected the ability to acquire grants and influenced rankings, which in turn affected the ability to attract potential PhD students. In particular, the views of assessors' rating of grant applications impacted negatively on research performed at the University and thus research reputation.

Thus, the communities that are external to ANRU and the impact of those views on ANRU's, and the RLC's, reputation influenced research performance at the University comprised the category *Community Impact* (C3).

6.6 Experienced Emotions

Emotions derived from the RLC transcribed texts contributed to 'Leader experience' themes as listed in Table 6.1.

Table 6.1: Leaders Shared Emotions

Open Codes: Emotions		
Negative	**Positive**	
Adamant	Acceptance	Encouraging
Concern	Achieve	Engaged
Frustration	Agency	Exciting
Obligation	Belief	Happy
Pain	Care	Hope
Prejudice	Comfort	Inspiring
Rubbish	Committed	Passion
Worry	Desire	Positive
		Want

From Table 6.1, it is evident that the RLC presented 100% more positive emotions than negative ones. These emotions were mostly shared with a calm demeanour and were linked to their own and academics' roles. Negative emotions were mostly from the Associate Dean Leaders who stressed how they perceived the reasons for underperformance, described as excuses, in research outputs from academics. The composite feelings from the negative emotions could be described as frustrated, genuinely concerned and or feeling forced to comply. However, positive emotions signified highly engaged, well-motivated, and envisioning RLC. These emotions also led to specific actions, see the inserted figure under each theme 6.7.1 to 6.7.3.3 for the related experiences, where applicable.

6.7 Summary of Findings

The structure for this section is as follows: a summary of the three Themes *Personal Context* (A), *Work Context* (B), and *External Context* (C).

6.7.1 Personal Context (A) Theme

A descriptor of the *Personal Context* (A) theme has been provided in subsection 6.3. Underdeveloped knowledge of what a competitive researcher profile looks like created false self-knowledge for some academics. This lack of

insight led to them resisting opportunities to improve the necessary interpersonal and intrapersonal skills needed for competitive research performance.

6.7.1.1 Personal Profile (A1)

All academics were not well informed about what is expected from the role of a career academic. Neither were they all aware of the capabilities and characteristics needed to fulfil the research aspect of the role. Hence, they misjudged their competency levels, the career planning needed, resisted change strategies that will make them competitive researchers.

6.7.1.2 Leaders' Interactions (A2*)*

A general lack of interaction with other internal and external academics hampered the research opportunity potential of academics. Stifled Interaction was not only due to a lack of interpersonal skills, geographical isolation and work content but also contributed to the lack of collaboration.

6.7.2 Work Context (B) Theme

The descriptor for the *Work Context* (B) theme has been provided in subsection 6.4. There were differences amongst the RLC of the impact of the *Work Content* (B2) category, and mainly so around funding and support rendered and received, in respect of research performance. It was clear that the ANRU work context in general, notwithstanding a supportive espoused research climate, did not support a research culture that could magnify rapid research performance.

6.7.2.1 Financial Resources (B1)

While Government funding declined, the RLC acknowledged that the equitable allocation of limited disposable income for research purposes was challenging. With teaching as a main priority, it attracted the most budget allocations and disciplines operating costs differed. Academics at ANRU were not all aware of the availability of upfront funding, and others were not competitive enough to acquire for example category one grants. ANRU's funding operating model concerned members of the RLC and requires improved promotion and

equitable allocations of funding for research in order for the University to be competitive.

6.7.2.2 Work Content (B2)

The psychological contract of academics required teaching, research, and service responsibilities. However, formal contract and specifically the workload allocations did not mirror the psychological contract and more specifically, the workload model and resulted in less available research time. The RLC thought that appointment contracts, workload models and workload allocations should realistically mirror the constraints in the workplace.

6.7.2.3 Environmental Capability (B3)

The internal perceived lack of reputation of researchers together with a lack of integrated eSystems, notably in the research performance domain, hampered research outputs and performance. Academics were unaware of the reputation of colleagues and eSystems and support to academics should be optimised to ensure academics' growth opportunities, knowledge about ANRU researchers' research profiles that will lead to competitive research performance.

6.7.2.4 Conducting Research (B4)

Albeit that the research expectation standard was viewed as relatively low, it was still not perceived as equitable across schools. Given the personal context of some Academics, the total context in which they fulfil their roles, and the very competitive external environment, the high level of research expectations from academics at ANRU might be too early across the board for a Young University.

6.7.2.5 Institutional Leadership (B5)

It is expected from ANRU's leaders to make a more visible significant impact on the National Level and ensure that internal strategies and decisions drive an institutionalised environment that enhances research efficiencies.

6.7.2.6 Research Climate and Culture (B6)

While the espoused support for research supported a research climate, sufficient institutionalised practices were not implemented and or maintained to create a sound research performance culture.

6.7.3 External Context (C) Theme

A descriptor of the *External Context* (C) theme has been provided in subsection 6.5. The *external context* inhibited ANRU's research performance in that *community impact* was not acknowledged. This lack of acknowledgement contributed to a lack of reputation and together with isolation inhibited broader collaboration on national and international levels which in turn impacted on funding opportunities. On the other hand, Global perspectives guided thought leadership and opportunities for international collaboration.

6.7.3.1 Community Impact (C3)

The lack of a robust research reputation impacted on acquiring prospective HDR students and grants, while the considerable impact on communities was not recognised for rewards as it was not a distinct metric at the National level. The *community impact* context, in respect of the lack of reputation and acknowledgement of the positive impact on the community, inhibited researchers' funding opportunities which could facilitate improved research performance.

6.7.3.2 National Impact (C1)

From a national context, Government decisions on funding and standards as well as remote geographical location stifled collaboration and impacted negatively on academics' research performance.

6.7.3.3 International Impact (C2*)*

While the International context dominated the national impact, especially in funding allocations, it also posed a stricter competitive environment for ANRU academics, which together with an economic downturn hampered research

performance. On the other hand, the International context allowed for research opportunities and cost-cutting collaboration initiatives which facilitated research performance.

6.8 Chapter Summary

The central Leader's sample: that is CSRL, the DOH and the DOS, was heterogeneous because of the same internal, but vastly diverse contexts in which they worked. These three contexts encompass different strategic and operational objectives, academic disciplines, and thus viewpoints on research foci, as well as roles to play in research performance at ANRU. However, despite the disparity in some instances in the various contexts, a clear synergy in the themes and categories surfaced.

The main experiences of research from the RLC at ANRU were centred around the difficulty of introducing strategies to improve research performance and hinged very strongly on the contextual factors. Within the *Personal Context* (A) theme, aspects such as resistance to change, the researchers' research identity, a seeming lack of skills and characteristics such as the understanding or willingness to collaborate and obtain broader external experiences emerged. Factors from the personal context such as *Academic Interaction* affected the *Work Context* (B) theme with aspects such as a lack of internal collaboration.

Within the *Work Context* (B) theme, the disparate functional groupings, power play, funding, processes, and the lack of or insufficient infrastructure such as E-Systems did not assist Leader's endeavours. Also, these hampering factors from the *Work Context* (B) theme were experienced, seemingly, as contributors to the lack of a vigorous research culture.

The *External Context* (C) theme contributed to research performance in the form of research outputs that were not achieved if communities did not seek and form research partnerships, which in turn affected ANRUs' research performance. The geographical location of ANRU affected reputation in that academics and their work are not that well known in the other states of Australia, which impacted the allocation of grants by Australian Government bodies. The

effect of isolation was exacerbated by the cost to visit other institutions, conferences, and meetings that affected external collaboration. A lower than desired Academic's reputation and that of ANRU diminished opportunities for obtaining grants and external collaboration.

Strategies employed by RLC at ANRU are summarised as communicating a strong vision with specific goals such as reducing attrition of students, increased completions of HDR degrees, growth of student numbers and targets for publications. Mandatory supervisory training and skills building in career planning, interaction opportunities for collaboration as well as to understand their competitiveness was introduced. Strategic research funding was used to enhance collaboration and provide scholarships. The RLC attempted to create an infrastructure that supported an immersive environment for research performance and access to building research relationships. Influential thought leaders and review panellists were invited to provide lectures, and ANRU achievements were showcased. In individual Academic departments, the workload allocations of those researchers who performed per, and more than, the expected research output standards were adjusted to carry more research and less teaching. Supporting the strategy staff members who were better suited to teaching were encouraged to take on larger teaching loads. There was also an increased sense of appointing academics, with a correctly matched profile to the suitable position, and a specific drive on professors with a good research record. Cross academic department, national and international collaboration were supported to acquire funding for research with high impact that builds an external reputation. The RLC, however, indicated that the building of research culture is more important than money, but that all strategies needed funding, with the idea of tracking the return on investment. Omnipresent strategy themes could be summarised as developing research and collaboration skills, opportunities for interaction and collaboration, and acquiring and distribution of research funds.

The findings of ANRU's RLC contribution supported the notion, which emerged from the departmental analysis. That notion postulates that research performance effectiveness depends on the context from within and surrounding the

individual's context. This particular context is their capacity, capability, and willingness towards research performance.

The next chapter covers the third quantifiable research question for all three of the participant subgroups, namely: DOH, DOS and RLC. Chapter 7 provides the quantitative results explicitly from a survey conducted through Qualtrics and in hardcopy. An expansion on the methodology for the survey, available in Chapter 3, and results of the survey data, namely the three factors that facilitated and the three factors that hampered research performance the most at ANRU, are provided next in Chapter 7.

Chapter 7: Ranking the Importance of Contextual Factors

7.1 Introduction

Chapter 6 reported the leaders' lived experience of factors that affected research performance at ANRU. This Chapter addresses the third research question namely: which of these contextual factors do research leaders and researchers perceive to have the most facilitating or hampering influence on research performance at Another New Research University (ANRU)? This Chapter also reports the ranking of factors by Academic Departments, RLC and different appointment levels. As such, these data help to answer the second research question by providing further insights into how different appointment levels and disciplines vary in their perceived experiences of contextual factors' effect on research performance.

To determine the relative importance of the contextual factors, participants were requested to rank order the factors on a Qualtrics questionnaire. This dataset was analysed from this questionnaire (see Appendix 7.1) to identify the three most facilitating and the three most hampering factors of research performance at ANRU. Themes and categories/factors in text passages are discernible as italic font.

This Chapter is organised into six sections: an overview of the quantitative data phase, participants, method, analysis, results, and a summary.

7.2 Overview of the Quantitative Data Phase

The purpose of the survey was to determine which factors identified from the interviews enabled or constrained research performance the most. Eleven categories, which represent the 11 factors that affected research performance at ANRU, emerged from the analysis. These 11 factors were used to construct the survey instrument. The factor labels and definitions obtained from interview data and used in the survey are represented in Table 7.1. The alphanumerical codes in

the table denoted the themes (alphabetical code), and the factors (numerical code) that comprised the theme.

Table 7.1: Survey Factor Labels and Definitions

A1	**Researcher's Individual Profile** comprises those attributes, emotions, traits, behaviours, and the individual's personal circumstances that impact on the Academic's research performance.
A2	**Academics' Interaction** is those collaborations researchers view as opportunities to learn, showcase their research and finding research opportunities which impact on the Academic's research performance.
B1	**Financial Resources** describe what affect the availability and utilisation of various types of monetary aspects have in the research domain.
B2	**Work Content** describes what internal job-related factors impact on work/lifestyle activities and the Academic's research performance.
B3	**Environmental Capability** constitutes those aspects inherent to the environment that impact on the Academic's research performance.
B4	**Conducting Research** constitutes those factors throughout the research process from the expectation to do research through to the reception of the reward for publishing that impact the outcome of the Academic's research performance.
B5	**Institutional Leadership** constitutes those directional and governance aspects introduced by the Institution and researcher leadership that impact on the Academic's research performance.
B6	**Research Climate and Culture** are those conditions that constitute the way and atmosphere in which the Academic operate.
C1	**The National Agenda** describes National and State Government legislation, regulations and guidelines within which research is conducted, and the impact thereof on the Academic's research performance.
C2	**The International Agenda** categorised those International agendas that provide global opportunities and influence local thoughts on research direction and ultimately the Academic's research performance.
C3	**Communities** (including your industry partners) constitute the impact and influence these cohorts have on the Academic's research performance.

7.3 Participants

The small sample participants drawn from those previously interviewed included Academics from two Academic Departments, namely the DOH (n = 7) and DOS (n = 9), as well as the RLC (n= 9) from four academic levels (E, D, C and B). Level E Academics from Academic Departments and Central Services were aggregated into one group in order to safeguard their identities, and as a group were approximate of a similar number to the invited numbers of levels D, C and B.

However, whilst the invited numbers of levels D and C were on par with the accumulated level E and level Bs, only ten Academics from both levels D and C responded, and hence they were grouped together. The numbers of participants from within Academic Departments, the DOH and DOS, as well as the combined RLC, did not vary significantly.

The participants were requested to rank order factors that impacted on research performance, and as such, the data was ordinal and used to provide descriptive statistics. To determine the factors that had the most hampering and/or facilitating influence on research performance an ordinal categorical variable, with numerical labels of one to three, from the most (1) to third (3) highest, were chosen to identify the six factors that had the greatest facilitating or hampering effect on research performance.

The survey with 11-factor labels and descriptors was administered to the available participants of 30 out of 31 participants who participated in the interviews. Twenty-five (83.3%) participants from the 30 available participated in the survey. Three of the participants completed a hard copy survey, while the rest completed the online Qualtrics survey. The distribution of participants per academic level is displayed below in Table 7.2.

Table 7.2: Academic Levels: Survey Participants' Numbers

Academic Levels	Invited (n)	Responded (n)
Level E	10	8
Levels D and C	13	10
Level B	7	7
Total	30	25

7.4 Method

The draft survey was designed on hard copy and reviewed by two researchers. The feedback was used to revise the survey. Once imported to Qualtrics, a research consultant reviewed and provided feedback that led to further revisions and improvements of the survey display.

Participants were provided with the survey and instructions of what was expected for completing the survey. In addition to the set of factors to be ranked, participants were asked to provide essential demographic data such as their academic department and academic level. They could also provide additional comments in an open text box area.

To ensure that both the facilitating and hampering questions were clearly observed as two questions, the first question was inserted above the table with factors and their descriptors and the second question below the table with factors and their descriptors. In addition, the rank ordering answering column for facilitating factors was on the left and the hampering factors rank-ordering column on the right and clearly labelled as 'Facilitating' and 'Hampering'. See Appendix 7.1 for the Qualtrics Rank order questionnaire survey instrument.

This rank order was thus achieved by requesting participants to identify and rank order the three factors that facilitated research performance the most, from one to three, where one (1) represented the most facilitating factor and three (3) represented the third-highest facilitating factor. Subsequently, participants were also requested to rank order the three factors that hampered research performance the most, again from one to three, where one (1) represented the factor that hampered research performance the most and three (3) represented the third most hampering factor. The same set of factors was used to obtain both facilitating and hampering factor ratings from participants.

7.5 Analysis

The following sequential steps were followed in analysing the ranking for facilitating and hampering factors, respectively:

1. The respondent's numerical choice labels of 1 (highest) to 3 (3rd highest) facilitating factors were transferred into a 25 Participants by 11 Factors matrix.

2. The numerical ranking labels were transformed from 1 to 3, 2 to 2, and 3 to 1 as a first step to emphasise perceived value or weighting given to the factors.

3. For each factor the sum of all the one, all the two, and all the three weightings were computed.

4. The sum of the weightings for all factors was rank-ordered in descending order.

5. The exact steps, (1 – 4) above, were repeated to determine the rank order for the hampering factors.

In reporting the data, the numerical labels one (1) highest rank-ordered factor to three (3) the third highest rank-ordered factor were used. Only the three factors with the highest summed weightings are reported, where two factors obtained equal scores within the first three rankings of, for example, 1, both have been reported as 1, hence the absence of a 2.

7.6 Results

Analysis of the survey data confirmed the factors that emerged from the interviews as those that hampered and or facilitated research performance in that no new factors were offered as additional text on the survey. To support this notion, neither of the three central services leaders commented or queried the 11 factors when they completed the hardcopy survey instrument during their interview slot. In addition, none of the other participants completing the survey made comments questioning the 11 factors. The analysis also indicated a strong alignment across the three academic levels to the factors that most hampered and or facilitated research performance in the sample population. However, greater variances were reported, especially in respect of the most influencing facilitating factors, amongst the Academic Departments and the RLC.

7.6.1 Overall participant results

In the overall participant results 100% of the *Personal Context* (A) theme factors together with the 30% of the *External Context* (C) theme factors and 17% of the *Work Context* (B) theme factors contributed to the three most facilitating factors of research performance. The *Work Context* (B) theme factors provided 100% of the three highest-ranking hampering factors.

The factors that facilitated research performance the most (1) to the least (3) were:

- *Community Impact (C3)* (including industry partners) constituted the impact and influence these cohorts had on the Academic's research performance.
- *Academics'* (Researcher) *Interactions* (A2) are those collaborations viewed as opportunities to learn, display their research and finding research opportunities, which impacted on the Academic's research performance.
- *Individual Profile* (A1) comprised those attributes, emotions, traits, behaviours and the individual's circumstances that impacted on the Academic's research performance.
- *Financial Resources* (B1) describe what affect the availability and utilisation of various types of monetary aspects have in the research domain.

Table 7.3 shows the sequence of factors that had the highest facilitating impact on research performance for the complete participant group in descending order.

Table 7.3: Most Influential Facilitating Factors

Factors	Facilitating (n = 25)
Community Impact (C3)	1
Academics' interactions (A2)	2
Individual Profile (A1)	3
Financial Resources (B1)	3

The facilitating rankings indicate that *Community Impact* (C3) was viewed as the most influential factor, *Academics' Interactions* (A2) the second-highest and *Individual Profile* (A1) and *Financial Resources* (B1) tied for the third-highest influencing factor. Also, the factors *Environmental Capability* (B3) *Institutional*

Leadership (B5) and *National Impact* (C1) received markedly less attention as influential, facilitating factors.

The three factors that inhibited research performance the most to the least were:

- *Work Content* (B2) described what internal job-related factors impacted on work/lifestyle activities and the Academic's research performance;
- *Financial Resources* (B1) described what affected the availability and utilisation of various types of monetary aspects in the research domain; and
- *Environmental Capability* (B3) constituted those aspects inherent to the environment that impacted on the Academic's research performance.

The factors that received top rank scores were all ranked by 12 out of the 25 participants, except for the *Individual Profile* (A1), which was scored by only eight participants. Still, six out of the eight participants viewed it as the most influential facilitating factor.

Table 7.4 shows the factors that had the highest hampering impact on research performance for the overall participant group in descending order.

Table 7.4: Most Influential Hampering Factors

Factors	Hampering (n = 25)
Work Content (B2)	1
Financial Resources (B1)	2
Environmental Capability (B3)	3

These hampering factor rankings indicate that *Work Content* (B2) was viewed as the most hampering influential factor, *Financial Resources* (B1) the second-highest and *Environmental Capability* (B3) the third-highest hampering factor.

Table 7.5 provides a comparative view of the most influential facilitating and hampering factors and an overarching view of how facilitating and hampering

factors overall are mostly on opposite sides of a facilitating and hampering continuum.

From this table, one can deduce that there is a clear distinction between the most facilitating factors and the most hampering factors which are the majority. For instance, *Community Impact (C3)* is ranked as the number one most facilitating factor and the third lowest (number nine) most hampering factor. However, *Financial Resources* (B1) was ranked number three as a most facilitating factor and number two as a most hampering factor. *Financial Resources* (B1) was more of a hampering factor and prominent in the perceptions of the participants and viewed as an influential facilitating and hampering factor. This perception was probably due to a perception of the availability of this resource.

Table 7.5: Comparative View: Most Influential Facilitating and Hampering Factors

Facilitating Factors	Rank (n = 25)	Hampering Factors	Rank (n = 25)
Community Impact (C3)	1	Work Content (B2)	1
Academics' interactions (A2)	2	Financial Resources (B1)	2
Individual Profile (A1)	3	Environmental Capability (B3)	3
Financial Resources (B1)	3		

7.6.2 Variation amongst academic levels

The review of the most facilitating and most hampering factors within the different academic levels is presented in this section.

None of the academic levels indicated that either the *National Impact* (C1) or the *International Impact* (C2) factors influenced their research performance more significantly than the factors within the *Personal Context* (A) and the *Work Context* (B) themes.

Tables 7.6 to 7.8 show the sequence of factors that had the highest facilitating and inhibiting impacts on research performance. Academic levels E and B have been reported separately due to the potential influence of their distinct positional levels. That is, level E included people who contributed to research significantly based on either leadership positions and/or research output. On the

other hand, most level Bs were post-doctoral fellows and could fit into the early career researcher category with distinctively different aspects impacting on their experience of research. Furthermore, academic levels D and C were grouped together mainly due to the smaller numbers of participants at these levels.

Academic level E ranked both *Personal Context* (A) factors together with one of the *Work Context* (B) factors as the three most facilitating factors. All the hampering factors were drawn from the *Work Context* (B). From the *Work Context* (B), only *Financial Resources* (B1 - which also received a 3rd highest hampering ranking) was ranked as one of their three most facilitating factors. Table 7.6 presents the most facilitating and most hampering factors for Level E.

Table 7.6: Academic Level E: Facilitating and Inhibiting Factors

Facilitating	Rank (n = 8)	Hampering	Rank (n = 8)
Individual Profile (A1)	1	Work Content (B2)	1
Academics' Interactions (A2)	2	Financial Resources (B1)	2
Financial Resources (B1)	3	Environmental Capability (B3)	3

It seems if the Level Es had clarity and coherence in distinguishing amongst the facilitating and hampering factors. Those factors that appeared low on the facilitating factors list surfaced high on the hampering factor list, except for the *Financial Resources* (B1) factor. The two highest facilitating factors both stemmed from the *Personal Context* (A) theme and emphasised aspects such as skill, personality, opportunities, and collaboration needed for research performance. *Financial Resources* (B1), on the other hand, originates from the *Work Context* (B) theme and seen as a necessity to support those that have the capabilities and opportunities.

Academic level D&C ranked both the *Personal Context* (A) theme factors, together with one of the *External Context* (C) theme factors as the three most facilitating factors of research performance. The D and Cs hampering factors were all drawn from the *Work Context* (B) theme. These factors are depicted in Table 7.7.

Table 7.7: Levels D and C: Facilitating and Inhibiting Factors

Facilitating	Rank (n = 8)	Hampering	Rank (n = 8)
Community Impact (C3)	1	Work Content (B2)	1
Individual Profile (A1)	1	Environmental Capability (B3)	2
Academics' Interactions (A2)	3	Financial Resources (B1)	3

Again, the *Personal Context* (A) factors *Individual Profile* (A1) and *Academics' Interactions* (A2) with *Community Impact (C3)* were highly ranked as facilitating research performance. The three highest hampering factors are once again from the *Work Context* (B) theme and except for sequence, are the same than those for Level E namely: *Work Content* (B2)*, Environmental Capability* (B3) *and Financial Resources* (B1).

Unlike other academic levels level B Academics included two *Work Context* (B) theme factors in their list of most facilitating factors. Table 7.8 provides the facilitating and inhibiting factors of research performance for Academic Level B.

Table 7.8: Academic Level B: Facilitating and Inhibiting Factors

Facilitating	Rank (n = 8)	Hampering	Rank (n = 8)
Community Impact (C3)	1	Work Content (B2)	1
Financial Resources (B1)	2	Financial Resources (B1)	2
Conducting Research (B4)	3	Research Climate and Culture (B6)	3

Level Bs perceive the role of *Community Impact (C3)* as the highest facilitating factor in their research performance. This factor, coupled with an *Academics' Interactions* (A2) factor that featured quite high, might indicate that this cohort perceived the need for collaboration as crucial for their research performance. In addition, they ranked *Financial Resources* (B1) and *Conducting Research* (B4) as highly facilitating factors. On the hampering side, they ranked three *Work Context* (B) theme factors namely: *Work Content* (B2), *Financial Resources* (B1) and *Research Climate and Culture* (B6) as high contributors to hampering research performance. Compared to all other levels they nominated

Research Climate and Culture (B6) instead of *Environmental Capability* (B3). These early career researchers are likely to experience more difficulty in navigating through the internal research culture of the Institution than more experienced researchers.

7.6.3 Variation between Cohorts

The impact of factors on the research performance of the DOH, DOS, and RLC cohorts is reported next in Tables 7.9 to 7.11.

The DOH participants ranked *Work Content* (B2) and *Financial Resources* (B1) from the *Work Context* (B) theme and *Community Impact (C3)* from the *External Context* (C) theme as facilitating factors. All three hampering factors, namely: *Work Content* (B2), *Institutional Leadership* (B5) and *Environmental Capability* (B3) were chosen from the *Work Context* (B) theme as illustrated in Table 7.9.

Table 7.9: DOH Research Performance: Facilitating and Inhibiting Factors

Facilitating	Rank (n = 8)	Hampering	Rank (n = 8)
Work Content (B2)	1	Work Content (B2)	1
Financial resources (B1)	2	Institutional Leadership (B5)	2
Community Impact (C3)	3	Environmental Capability (B3)	3
Individual Profile (A1)	3		

With two facilitating factors from the *Work Context* (B) theme it seems that the DOH participants thought that if the *Work Content* (B2) and especially availability to *Financial Resources* (B1) were conducive, they would perform well in their research. Further performance improvements might be even possible if the *Individual Profile* (A1) is aligned to the requirements of their role, and supportive *Community Impact (C3)* were present. All the hampering factors stemmed from the *Work Context* (B) theme.

The DOS Academics reported one factor from each of the contexts namely *Community Impact (C3)* in the *External Context* (C) theme, *Conducting*

Research (B4) in the *Work Context* (B) theme and *Research Interactions* (A2) in *Personal Context* (A) theme as facilitators of research performance. *Work Content* (B2), *Financial Resources* (B1) and *Environmental Capability* (B3) were perceived as the most hampering factors as illustrated in Table 7.10.

Table 7.10: DOS Research Performance: Facilitating and Inhibiting Factors

Facilitating	Rank (n = 11)	Hampering	Rank (n = 11)
Community Impact (C3)	1	Work Content (B2)	1
Conducting Research (B4)	2	Financial Resources (B1)	2
Academics' Interactions (A2)	3	Environmental Capability (B3)	3

As with the DOH, the DOS perceived their *Work Context* (B) theme as the one with the most hampering factors. However, instead of *Institutional Leadership* (B5) nominated by the DOH, the DOS included *Financial Resources* (B1) together with *Work Content* (B2) and *Environmental Capability* (B3) as their most hampering factors. Both Es, Ds and Cs in the DOS may have viewed themselves as leaders or received more research autonomy and hence did not include *Institutional Leadership* (B5) as a hampering factor.

The RLC's ranked factors differed somewhat from the other cohorts in that they added *Research Climate and Culture* (B6) to the list of facilitating factors and ranked *Individual Profile* (A1) as the most important facilitating factor. There was a high agreement with the academic departments in respect of the hampering factors. The RLC's facilitating and hampering factors are displayed in Table 7.11.

Table 7.11: RLC Research Performance: Facilitating and Inhibiting Factors

Facilitating	Rank (n = 6)	Hampering	Rank (n = 6)
Individual Profile (A1)	1	Financial Resources (B1)	1
Community Impact (C3)	2	Work Content (B2)	1
Research Climate and Culture (B6)	3	Environmental Capability (B3)	3

The RLC viewed *Individual Profile* (A1) and *Community Impact (C3)* together with the *Research Climate and Culture* (B6) as perceived vital factors for

research performance. Once again, factors in the *Work Context* (B) theme explicitly the *Work Content* (B2) and *Environmental Capability* (B3) was viewed similarly as the two academic departments as the most hampering factors together with *Financial Resources* (B1) in the case of the DOS. Neither the RLC nor the DOS reported *Institutional Leadership* (B5) as a top hampering factor.

The RLC agreed with the DOH on *Individual Profile* (A1) as a high facilitating factor and included *Research Climate and Culture* (ranked 7th by the DOH and DOS) and *Institutional Leadership* (ranked 10th by both the DOH and DOS) in their top three facilitating factors.

In respect of hampering factors, the RLC agreed with both the DOH and DOS with *Work Content* (B2) and *Environmental Capability* (B3) as two of the top hampering factors.

Tables 7.12 and 7.13 provide an overall comparative view of all the facilitating and hampering factors ranked by all cohorts.

Table 7.12: Comparative View: All Cohorts' Facilitating Factors Ranked

Facilitating DOH	Rank (n = 8)	Facilitating DOS	Rank (n = 11)	Facilitating RLC	Rank (n = 6)
Work Content (B2)	1	Community Impact (C3)	1	Individual Profile (A1)	1
Financial resources (B1)	2	Conducting Research (B4)	2	Community Impact (C3)	2
Community Impact (C3)	3	Academics' Interactions (A2)	3	Research Climate & Culture (B3)	3
Individual Profile (A1)	3				

Table 7.13: Comparative View: All Cohorts' Hampering Factors Ranked

Hampering DOH	Rank (n = 8)	Hampering DOS	Rank (n = 11)	Hampering RLC	Rank (n = 6)
Work Content (B2)	1	Work Content (B2)	1	Work Content (B2)	1
Institutional Leadership (B5)	2	Financial resources (B1)	2	Financial resources (B1)	1
Environmental Capability (B3)	3	Environmental Capability (B3)	3	Environmental Capability (B3)	3

There is a high incidence and close alignment of several facilitating and hampering factor rankings within academic levels and disciplines such as *Individual Profile* (A1), *Community Impact (C3)*, *Financial Resources* (B1), *Work Content* (B2), *Environmental Capability* (B3), and *Financial Resources* (B1). This is not only indicative that members within this participant group show a similar understanding of the factors that hamper and or facilitate research performance at ANRU but also confirms the validity of factors that emerged from the interview data.

From the open text portion of the survey results, a synthesis of the most prominent comments revealed an emphasis on hampering factors. Illustrated with quotes, the synthesis of the detailed comments is provided per Academic Department and Leadership in Table 7.14.

Table 7.14: Synthesis: Leaders' Survey Comments

Department of Humanities (DOH)	Department of Sciences (DOS)	Leaders
Within the personal context, the individual's profile with the characteristic motivation was mentioned as a primary driver for research as illustrated by the quote "My personal motivations and commitment [is] the primary driver of my research". Within the work content the workload element, with specific reference to increasing time scarcity,	DOS placed more emphasis on the work context with aspects such as funding, institutional leadership and workload. The impact of funding and leadership aspects was reflected by the quote "While the lack of financial support is an essential hampering factor, the lack of leadership could sometimes be the major hampering factor".	Leaders also commented on the individual's profile characteristics of motivation with comments such as "Contributing to successful research is the motivation of the individual researcher to do the research". This cohort also acknowledged the impact of aspects that hampered research illustrated by "Workloads in terms of teaching and

Department of Humanities (DOH)	Department of Sciences (DOS)	Leaders
was a concern as exemplified by the quote "Too many other things competing for my time [such as] administrative load". Another aspect that hampered research was institutional leadership seen as aspects of a lack of communication and workload allocations demonstrated with quotes such as "[There is a] lack of communication on workloads".	The workload element was seen as a hampering factor given quotes such as "The multi-tasking nature of a typical academic role can make research difficult to sustain even when the environment is supportive".	administration impact research performance". A leader also commented on the causal effect of institutional leadership on the climate and culture of the Institution when mentioned: "Leaders create the climate & culture".

From Table 7.14 comments, it is once again confirmed that the *Work Content* (B2) and more specifically, workload is a concern for all the three cohorts. It is emphasised that *Institutional Leadership* (B5) plays a distinct role in communication, workload allocations, support and creation of the *research climate and culture*.

7.7 Summary

Academics from the two departments and the research leaders responded to a survey and ranked the factors that had the most facilitating and hampering impacts on research performance.

Close alignment of the factor rankings amongst all academic levels was observed. All the academic levels agreed that *Work Content* (B2) is the most hampering factor for their research performance.

The *Personal Context* (A) theme, with factors *Individual Profile* (A1) and *Researcher's Interactions* (A2), was perceived as the theme contributing the most to research performance. On the other hand, the *Work Context* (B) theme comprised all the hampering factors, with *Work Content* (B2) and the *Environmental Capability* (B3) having the greatest impact on research performance. From the *External Context* (C) theme *Community Impact (C3)* was the only facilitating factor ranked by all the cohorts.

The face validity of the factors that emerged from the qualitative data analysis, and supplied for rank ordering in the survey, are supported by the fact that no additional factors were offered during the survey by participating members.

The findings from the Department of Humanities, the Department of Sciences and the Research Leader Cohort are cross-analysed and discussed next in Chapter 8.

Chapter 8: Cross-Case Analysis and Discussion

8.1 Introduction

The findings from the three cases' results are synthesised and interpreted in this cross-case analysis and discussion chapter. This Chapter commences with an overview of the study's origin and conceptual framework, a summary of the research design and methods, and a review of the research questions. The overview is followed by a discussion of commonalities and differences within and across the three cases. This discussion elucidates the Academics' experiences of research and research performance at ANRU. Themes, categories/factors and codes in text passages are discernible as italic font. This discussion is structured according to the *Personal Context* (A), *Work Context* (B), and *External Context* (C) themes.

8.1.1 Overview of the Study's Origin and the Three Cohorts

There is limited evidence about the contextual factors that enable and/or constrain research performance, especially outside of research-intensive universities (Hardré & Cox, 2009; Janger et al., 2019; Johns, 2006). This lack of evidence limits the ability of non-research-intensive universities to improve research performance for increased *reputation* and sustainability. The factors that enable and/or constrain research performance within young universities such as ANRU are not fully understood nor integrated into a framework which could be used as a basis for improving research performance.

A sample of research-active academics (referred to as Academics) was chosen from a Department from the Humanities (DOH), the Natural Sciences (DOS), and a Research Leadership Cohort (RLC) to explore these factors. The participants were inclusive of Academic Levels E – B, providing a spectrum of research experience.

8.1.2 Conceptual Framing of the Study

The researcher created a conceptual framework from his knowledge and experience together with the synthesis of research literature in the domains of

organisation development, organisation sciences and research performance. The framework is exhibited in chapter two Figure 2.2., represented in this Chapter as Figure 8.1.

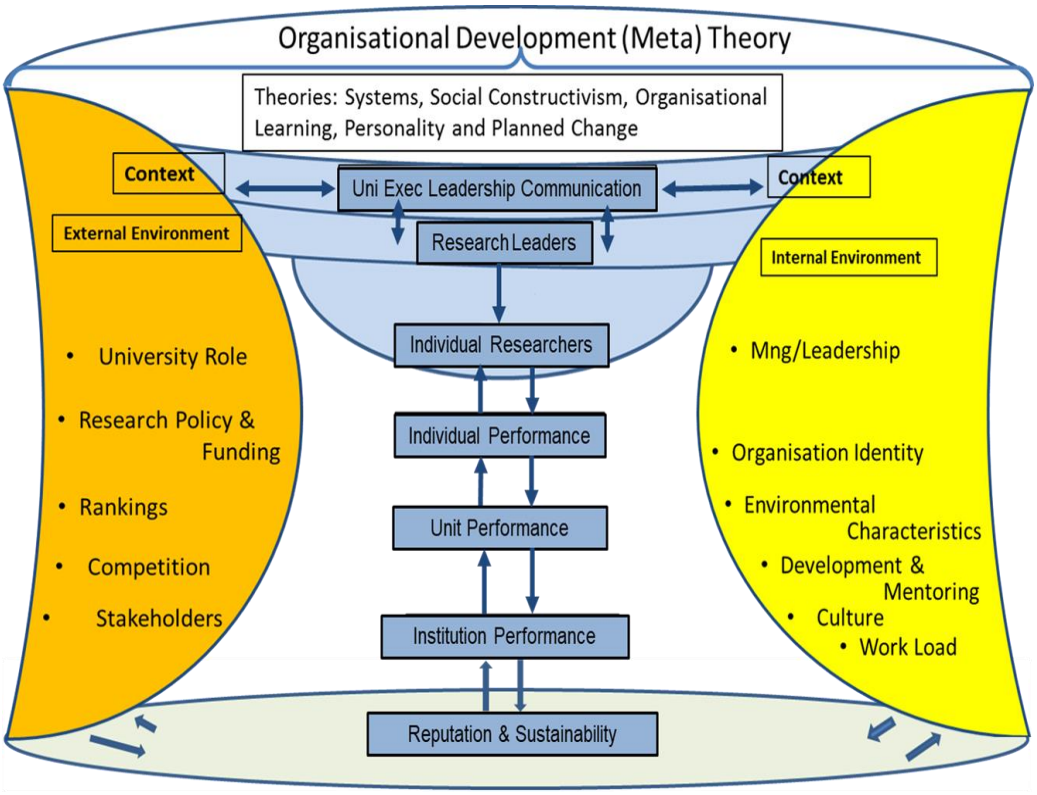

Figure 8.1: Conceptual Framing of Research Performance Factors

The conceptual framework shows the variables, not an extensive list, within the external (amber), internal (yellow), and personal (blue) contexts that are expected to influence individual and institutional research performance. The arrows (blue) also show the multidirectional influence and potential impact the variables might have on each other without excluding any direct influence of variables on one another.

8.1.3 Theoretical Perspectives

Organisation Development (OD), as a meta-theory, provides a wide array of theories in a toolkit to frame interventions that could be applied with a thoughtfully planned change to improve performance in areas such as research. Figure 8.2 shows an illustration of how a theoretical model populated with relevant theories can inform organisational development initiatives.

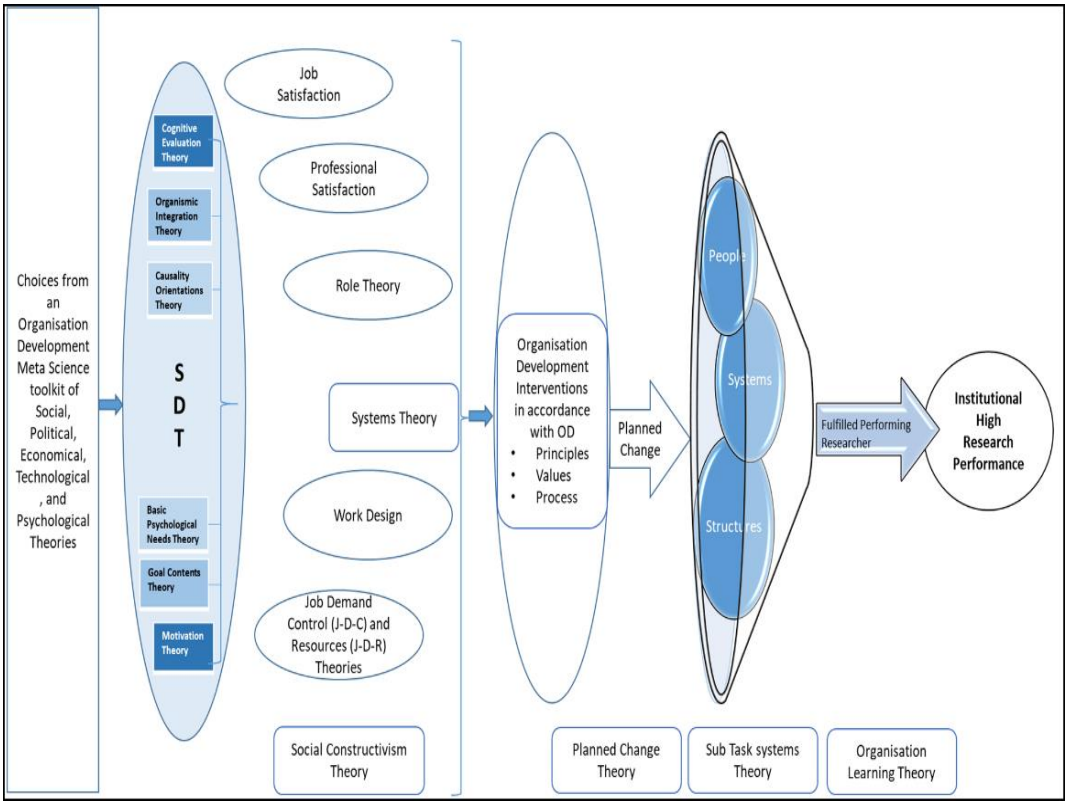

Figure 8.2: Theoretical Lens Overview

OD meta-theory, amongst others, utilises theories like Self Determination Theory (SDT) as a theoretical lens such as in the above illustration. In this case, SDT draws on evidence from theories such as job satisfaction, people's professional satisfaction with their designed roles and the competing demands in those roles given the available resources which permit people to make sense of the change and the implementation of planned change. If the change is following OD principles and values; and pursues a process of collaborative, holistic integration of sub-task systems to internalise and institutionalise organisational learning, it should deliver a fulfilled, performing researcher contributing to high institutional research performance.

8.1.4 Research Questions and Methods

The overarching research question is: How do contextual factors impact research performance at Another New Research University (ANRU)? Subsidiary research questions, flowing from the overarching question, were explored using interview and survey methods as depicted in Table 8.1.

Table 8.1: Research Questions and Methods

Subsidiary Research Questions	Methods
RQ 1: How do research leaders and active researchers perceive the impact of external and internal contextual factors on research performance at Another New Research University?	The dataset gathered by interviews was analysed and reported in Chapters 4 - 6.
RQ 2: How do research leaders and active researchers, from different appointment levels and disciplines, vary in their perceptions of contextual factors impacting on research performance at Another New Research University?	Datasets gathered by interviews and survey were analysed and reported in Chapters 4-7.
RQ 3: Which of these contextual factors do research leaders and researchers perceive to have the most positive and negative influence on research performance at Another New Research University?	The dataset gathered by the survey was analysed and reported in Chapter 7.

A wide array of evidence was used to answer the subsidiary research questions and ultimately the overarching research question. The complex nature of context and factors influencing research performance is further evidenced by the overlapping of findings across the different participant groups and contexts.

8.1.5 Contexts

Three themes relating to research performance contexts emerged from the data analysis: *personal context*, *work context* and *external context*.

The relationships between these contexts are illustrated in Figure 8.3, which has been informed by Von Bertalanffy's (1972) systems and Bronfenbrenner's (1972; 2005) human development systems theories.

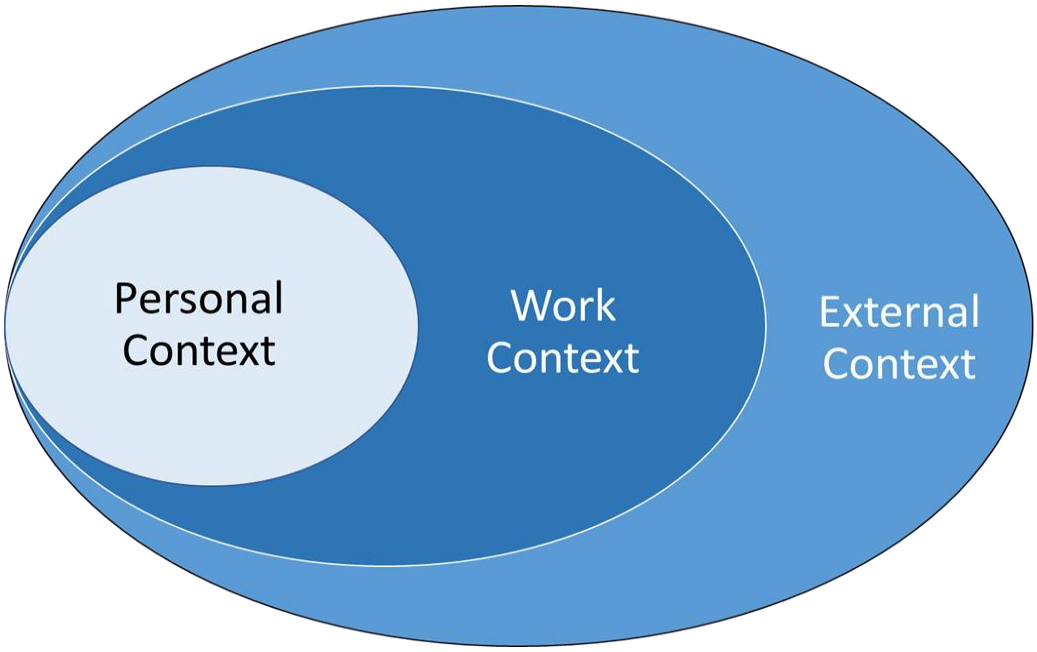

Figure 8.3: Base Theoretical Model: Inter-Related Contexts and Systems. Based on Bronfenbrenner (2005) and Von Bertalanffy (1972)

This model holds that the individual will act from within and because of their *personal context*, which is impacted more by proximal contexts such as the *work context* and less by the *external context*. It also suggests that the influences of these contexts are two-directional. Thus, more equipped researchers such as leaders in a field and or institutional leaders may even influence the distal *external context*. Some of the factors influencing research performance are consistent with factors identified by Seipel and Larson (2018) and refined by Crick et al. (2019) and further supports the mediation model of Crick et al. (2019).

8.2 Cross-case Analysis and Discussion

Each of the themes is discussed in turn with an introduction to the theme, the theoretical lens(s) through which the findings are viewed, and a short review of the data. The discussion is followed by a comparison of the cohorts and interpretation of data incorporating assertions arising from the data interpretations.

The academic department contexts differed in that the DOH had a higher student to staff ratio than the DOS. The DOH Academics were responsible for

preparing students for accreditation with a professional accreditation body which took more time in modelling the correct behaviours and identity of the profession. The DOH Academics had less PhD qualified staff and started with research training at a later stage in their careers than the DOS. These contextual factors could be aggravating the frustration and stress experienced by DOH Academics discussed in the following sections.

8.2.1 Personal Context (A) Theme

The *Personal Context* (A) theme played a vital role in Academics' research performance. As reported in Chapter sections 4.3, 5.3 and 6.3, the intrapersonal *characteristics* of Academics comprised their *Individual Profile* (A1) which provided them with *capability*, *inherent characteristics*, *personal circumstances* contributing to their agency for research. Their interpersonal skills (*interactions* and *collaboration*) assisted them in applying those intrapersonal skills in *Academics' Interactions* (A2) with fellow researchers and communities that facilitated research performance.

The two factors *Individual Profile* (A1) and *Academics' Interactions* (A2) were both ranked in the top three factors that impacted research performance the most. The *Personal Context* (A) theme becomes the first domain of a potential theoretical framework of 'research performance in context' (Figure 8.3). As seen through a general systems theory (Von Bertalanffy, 1972), experiences are always gained under the influence of contexts (Bronfenbrenner, 1977, 1979). The Process-Person-Context-Time (or PPCT) model of ecological systems (Bronfenbrenner, 2005) and various other theoretical lenses of satisfaction, professional identity and motivation help frame those experiences.

Founded by Deci and Ryan (1985b), Self Determination Theory (SDT), a meta-motivational theory, draws attention to the influence of the social environment on the motivation, affect, wellbeing, job characteristics and job resource demands in a variety of contexts in the workplace (Deci & Ryan, 2008; Gagné & Deci, 2005; Ryan & Deci, 2017) that could affect identity.

The seminal works on in or outgroups and social identity from Tajfel (1970) and Tajfel and Turner (1979) explore and explain an individual's identification. More recent work reveals the self-identification of individuals with

their work, satisfaction, and professional identity (Willetts & Clarke, 2014). However, less is known about nested professional sub-identities with specific reference to research and its role in personal satisfaction and subsequent performance.

8.2.1.1 Review of the Personal Context (A)

The open codes, codes and categories/factors that contributed to the *Personal Context* (A) theme were provided in Figures 4.3, 4.4, 5.3, 5.4, 6.3 and 6.4. Figure 8.4 provides a consolidated picture of the three cohorts' inputs to the factors.

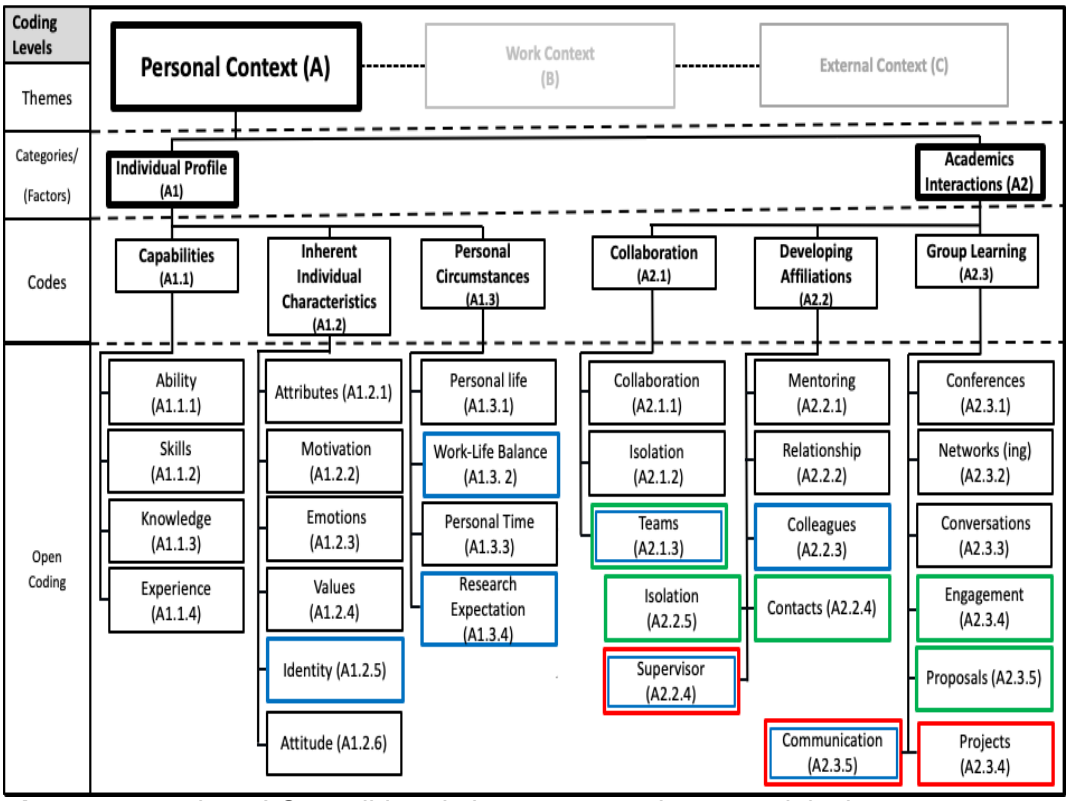

Figure 8.4: Cohorts' Consolidated views: *Personal Context* (A) Theme
Note: Black = Agreement, Blue = RLC, Green = DOS and Red = DOH

In Figure 8.4 the black boxes signify agreement amongst cohorts. Where a cohort did not offer an open code, this is signified by a colour box (blue = RLC, green = DOS and red = DOH). This colour representation shows that cohorts are in agreement with the majority of the open codes offered and signifies similar experiences.

8.2.1.1.1Ranking of the Most Facilitating and Hampering Personal Context (A) *Factors.*

The *Personal Context* (A) factors, *Individual Profile* (A1) third and *Academics' Interactions* (A2) second place, were perceived as two of the most facilitating factors, by the 25 Academics and leader participants. However, as depicted in Table 8.2, there were differences in ranking amongst the three cohorts. The numbers in the cells of the ranking tables refer to the weighted rank order for that cohort of Academics.

Table 8.2: Ranking by Cohort: *Personal Context* (A) Factors

Factors	Facilitating			Hampering		
	DOH	DOS	RLC	DOH	DOS	RLC
Individual Profile (A1)	**3**	**-**	**1**	**-**	**-**	**-**
Academics' interactions (A2)	**-**	**3**	**-**	**-**	**-**	**-**

The RLC and DOH Academics ranked *Individual Profile* (A1) as the first and third most facilitating factor, respectively. The DOS Academics ranked *Academics' Interactions* (A2) as their third-highest facilitating factor. None of the Cohorts ranked any *Personal Context* (A) factors as hampering. The ranking of the DOH Academics and RLC should be viewed in conjunction with their responses, specifically concerning *personal circumstances* and the RLC's comments about researcher *capability* such as R29 "[collaboration is] quite rare and much as we might try to encourage cross-collaboration it does not happen".

Consistent with previous research Pratt et al. (2006) and Skinner et al. (2018), the DOH Academics, due to their strong professional identity induced through their education and subsequent concerns for the importance of their teaching responsibility, had less opportunity for and the *Academics' Interactions* (A2) factor was considered less of a facilitator than the *Individual Profile* (A1) and *Work Context* (B) factors. As such, they experienced an approach-approach conflict, as labelled by Lewin et al. (2011). The role conflict, in this case, was in

terms of ingrained teaching responsibility and wanting to do research which also created a professional identity conflict with teaching versus research responsibility.

Overall, there were also differences amongst the different academic levels in the perceived impact of the *Personal Context* (A) factors as presented in Table 8.3.

Table 8.3: Ranking by Academic Level: *Personal Context* (A) Factors

Factors	Facilitating			Hampering		
	Level E (n = 8)	Level D & C (n = 8)	Level B (n = 8)	Level E (n = 8)	Level D & C (n = 8)	Level B (n = 8)
Individual Profile (A1)	**1**	**1**	**-**	**-**	**-**	**-**
Academics' interactions (A2)	**2**	**2**	**-**	**-**	**-**	**-**

Academic Levels E, D, and C ranked *Individual Profile (A1)* as the factor with the highest impact on research performance. Academic Level E, D, and C ranked the *Academics' Interactions* (A2) factor as the second highest. This ranking result may reflect the more senior levels' knowledge of the research profile, interactions and *collaboration* required to win national competitive research grants. Academic Level B did not perceive *Personal Context* (A) factors to have a high impact on their research performance. None of the academic levels reported any of the *Personal Context* (A) factors as important in hampering research performance.

Assertion 8.1

Overall, the two factors *individual profile* and *academics' interactions* from *the personal context* were ranked within the top three factors for facilitation research; however, neither was highly ranked by level B Academics as they perceived *work context* factors to be more important.

8.2.1.1.2 Comparison of DOH, DOS, and RLC Academics' Experiences of the Personal Context (A)

Chapters 4-6 provided descriptions of the factors and how they impacted the DOH, DOS and RLC cohorts' research performance. The three cohorts described the ranking of factors in Chapter 7.

Both the DOH and DOS Academics experienced competing demands between their academic roles, family, and personal lives. These demands led to a desire to find a work-life balance (WLB), for example, to experience work that does not dominate their personal lives. They expect that WLB should eliminate work-family interference (WFI), for example, where family life suffers from the intrusion of work with subsequent feelings of frustration and stress for the researcher. The DOH Academics presented a professional identity versus role identity conflict between teaching, research and multiple roles as a teacher resulting in negative WFI; while the DOS Academics presented an identification with the balanced academic role of teaching and research. Consistent with the findings of van Lankveld et al. (2017) and Kumar (2020) the teacher-researcher identity conflict experienced from the DOH Academics is due to the value placed on teaching and further strengthened by the foundation of intense cultivation of professional identity and teaching towards professional accreditation. On the other hand, the DOS Academics were exposed much earlier in their education to research and probably not exposed to similar professional identity cultivation related to accreditation with a professional body. Improvement initiatives for research performance were not always received positively by researchers and experienced as resistance to change from researchers by the RLC. This perceived resistance could have been due to the competing demands experienced by the DOH and DOS Academics, and possibly a lack of knowledge about skills needed by researchers.

The data reveal an overall view of the *Individual Profile* (A1) of Academics who were lacking competitive research skills, overwhelmed by competing demands, stressed from approach-approach identity and work-life conflicts which impacted their wellbeing. As such, they resisted changes that were perceived as an additional burden.

The DOH, DOS and RLC cohorts acknowledged frustration and feelings of isolation due to the lack of interaction which impacted on further personal development. Chapter subparagraphs 4.6.1.2, 5.6.1.2, and 6.6.1.2. provided this shared lived experienced for factor *Academics' Interactions* (A2).

The DOH Academics also indicated a lack of time [discussed in more detail in the *Work Content* (B2) section] for the opportunity to interact. In contrast, the RLC was concerned about the expected level of skills. These experiences led to an *Academics' Interactions* (A2) theme of Academics who were frustrated with discipline area isolation which impacted negatively on interaction which could lead to skills-building.

The lived experiences contained first respondent feelings, an essential aspect of phenomenology. Therefore, it is worthwhile to compare the most positive and negative shared emotions, derived from the cohorts' transcribed texts depicted in Table 8.4. A full list of captured emotions per cohort is available in Appendix 8.1. A tick (√) indicates a shared emotion.

Table 8.4: Comparison: Academics' Experienced Emotions

Emotions	Negative			Emotions	Positive		
	DOH	DOS	RLC		DOH	DOS	RLC
Annoyed	√	√	√	Comfort	-	√	√
Burnout	√	√	-	Desire	-	√	√
Discouraged	√	√	-	Enjoy	√	√	-
Fear	√	√	-	Exciting	√	-	√
Frustration	√	√	√	Happy	√	√	√
Worry	√	√	√	Love	√	√	-
				Passion	√	√	√
				Positive	√	√	√

The DOH expressed more negative emotions than DOS Academics and/or RLC. The DOS expressed more positive emotions than the DOH and/or the RLC cohorts overall. However, in sharing the same expressions, there are small differences amongst the cohorts and overall, more positive expressions shared than negative ones. The negative expressions show strong indications of stress and burnout with words like 'frustration' and 'worry', whilst burnout was directly quoted. Stress and burnout can impede Academics' wellbeing, which is consistent with findings by Deci et al. (2001) and the decline in job performance finding by Bianchi and Brisson (2019). On the positive side, expressions like 'enjoy' and 'love' support findings of motivation as found by Deci and Ryan (2000) that is a positive affect that indicates meaning in life findings as per Martela et al. (2018) and links to the experienced work identities by Academics in this study. These expressed emotions are essential to explain the discrepancy in negative and positive emotions from the same person, and its relatedness to professional sub-identities and job dissatisfaction.

Assertion 8.2

The DOH Academics experienced an approach-approach conflict between their commitment to teaching and research, resulting in a work role identity conflict. There was also a conflict between their work, and their family lives with an added impact on their wellbeing and potentially,

research performance. On the other hand, the DOS Academics experienced a robust role identity as balanced teaching and research academic; however, especially women and single mothers also experienced an approach-approach conflict between work and personal lives.

To protect the identity of women and single mothers', quotations to evidence the conflicts they shared are omitted. However, the conflicts between work and family were evident in both the Academic Departments and support findings by (Wilton & Ross, 2017). In contrast, Dever and Morrison (2009) find that passionate female researchers at a leading research intensive university reported less conflict.

The RLC differed to some extent in their perceptions from those of the DOH and DOS Academics in aspects such as competency levels and competing work demands. On the other hand, typical from a personal or proximal context perspective, the RLC members concentrated on their personal experiences and as such, shared the difficulties they experienced in facilitating ANRU's research performance targets.

The DOS Academics, while sharing all the same experiences did not see the *Individual Profile* (A1) as one of their most facilitating factors most probably due to their education as scientists and being accustomed to conducting research which then became second nature. These differences emphasise that the personal context of individuals is innate from person to person, differ from career to career, and can be influenced by their immediate circumstances.

Assertion 8.3

Within a similar overall context, different disciplines and to a large extent different academic levels, broadly perceive the same contextual factors impacting on their research performance but differ on the level of impact the factors have on their research performance.

Researchers, according to this study, needed an array of intrapersonal and intrapersonal *characteristics* to perform in an academic work environment. This finding supports early research reported by Friedlander (1977), Hackman and

Oldham (1976), and more recently by Parker et al. (2019) and Parkitny and McAuley (2010), as well as Roodt (2008).

The *Individual Profile* (A1) and *Academics' Interactions* (A2) factors were ranked highly as factors that facilitated research performance the most. These rankings indicate that Academics require an *individual profile* for optimal research performance which incorporates *capabilities* in aspects such as attributes, emotions, traits, behaviours. In addition, individual *personal circumstances* and the opportunity to c*ollaborate*, *learn from others*, showcase their research and find research opportunities are needed. A significant outlier in this respect was an Academic who indicated research is a private venture and denied the benefits of collaborating. This outlier demonstrates the importance of the researcher's profile matching with the job profile, expectations of the role and his/her subsequent level of job satisfaction as potentially different for different personalities, for example confirming in general that personal context has an impact on the individuals' behaviour.

This study further found that Academics valued like complex problem solving, research writing, in-depth research knowledge and research experience for research performance. From the qualitative analysis, both Academic Departments also reported that research domain knowledge is of importance, without any indication that they lack knowledge or skills for research, indicated by the high ranking ascribed to *Individual Profile* (A1). There was mention of interpersonal relations (for example inclination to and the capability to forge interpersonal relations as a skill) by DOH Academics such as R9 who shared "building up relationships, and that takes time as well, really solves a lot of the problems". In the DOS, Academics concentrated more on technical skills, for example, R19 mentioned that "in DOS we …working on lots of multiple problems [skill to solve complexity]". However, all the cohorts indicated that there was little opportunity to interact with significant others to enhance *capabilities* as reported by R23 "it is such an isolated location". This lack of engagement was due to discipline and geographical isolation that left them with frustration and feeling lonely. The lack of time could be ascribed to competing demands and will, together with funding, be addressed further under the *Work Context* (B) theme. Facilitating traits such as being committed, creative (e.g. to craft jobs), curious, determined,

inquisitive, judgement to control demands, resilience, and organised emerged and/or can be inferred from the data. The lack of opportunities to enact these traits should be viewed as the source of expressed emotions such as frustration and loneliness.

The RLC provided indications that not all academics at ANRU possess the necessary research *capabilities* to be research competitive. As explained by R29 "'this is why you are not getting grants because you are not competitive'" and "some of them want to [improve their research capability and experience]. I do find that they just cannot for family reasons and in some instance were even unaware that their *capabilities* were not matching the level that is needed to be competitive in the industry".

The reported research *capabilities* gap can potentially be improved by teamwork; this Research supports a meta-analysis by DeChurch and Mesmer-Magnus (2010), which highlighted the importance of team functioning in performance. For example, as shared by R4 "the secret to maintaining research output is to work in a team or teams" The teamwork not only supported an equal workload, critical friends to test thoughts against, pulling together expertise from various domains and or personal *capabilities*, but also supported the emotional wellbeing of others. This finding supports the notion that social support is seen as a job resource and provides emotional support which significantly counteracts stress, burnout and facilitates performance needed for research output (Bakker et al., 2010; Bakker & Demerouti, 2017; Bernabé & Botia, 2015). This finding is further elaborated in the work context supports and assertion 8.11 in section 8.2.2.3.

Assertion 8.4

Academics were frustrated and felt lonely due to the lack of interaction which minimised opportunities for skills-building and promotion of their research.

The DOH Academics provided more emotional laden comments about the context that impacted on the individual such as R6 with "a lot of them are physically sick, but a lot of them are emotionally just tired and drained" to describe their experiences of research. These emotions were not only displayed within the

narrative but were also evident in several participants' voice tones and/or body language. The emotions were related to frustrations, stress and burnout that impacted their wellbeing. R13 shared the opposite of wellbeing, for example, as depression with "I fell into a black hole because I just felt – no inclination to do anything".

On the other hand, motivational aspects were mentioned, amongst others: 'enjoyment', 'fun', 'passion' and 'love'. Researchers, research leaders and research recruiters must know more about the type of profile that constitutes a high performing researcher that can adjust and add to their jobs, for example, job crafting to align with their competencies and need satisfaction as argued by Bakker et al. (2012) and Tims and Parker (2020). Besides, engaged researchers love their work and find joy in research which further supports Deci and Ryan (1985b) and Ryan and Deci (2017) findings that people need to be motivated to perform well. Being motivated also points to findings by Brew et al. (2018a), Parker et al. (2019), and (Masood et al., 2020) of how people position themselves in respect to meaningful work design for improved job satisfaction and motivation. Motivational components such as passion, joy and fun are confirmed as individual *characteristics* as expressed by R5 "on the one hand I love my work (teaching), I love the - the option to research". Under the right circumstances, these positive emotions can promote research performance. These findings add further support for the assertions of Deci and Ryan (2012) that social contexts can impact motivation and affect wellbeing. As indicated by previous research when researchers' motivational needs were addressed, for example being satisfied, it led them to do their best in their area of interest and maintain sound health (Deci et al., 2017; Manganelli et al., 2018; and Martela & Ryan, 2019).

Primarily this study's *Personal Context* (A) findings highlights the fact and supports findings that professionally accredited, as well as committed employees, may experience satisfaction with their roles but dissatisfaction with the demanding context of their jobs that interferes with their professional identity and commitment. It further highlighted the fact that some Academics at ANRU experienced not only a professional job role conflict but also conflict between sub-identities of teaching and research. Communication of clear role expectations is furthermore imperative as researchers appointed in professional capacities such as educating students for

accredited professional careers need to maintain their professional identity as well as that of a researcher as R5 shared “We are not quite sure sometimes whether we are researchers, administrators, teachers, and pastoral carers”. This search for identity or the conflicting identity experiences of some Academics could be a reaction to the perceived high teaching load of Academics teaching in professional accreditation programmes that keep them from doing research, exacerbated by their commitment to both teaching and research which lead to stress. As indicated by Dorenkamp and Weiß (2018) professional commitment impact positively on professional identity and job satisfaction if not hampered. It could also be a driver for putting in the extra work, and subsequently, time from family life in some instances, to engage in research identity work. Academics in the DOH portrayed a professional identity with teaching and research as sub-identities. The DOS, on the other hand, showed a closer alliance with an Academic role identity which included teaching and research as sub-identities. Albeit that most ANRU academics are appointed with the expectation to teach, research and render a service to the *community*, this multifaceted role is viewed by some Academics as the composite role of a scholar or academic’s occupation, it seems that some of those with an accredited professional identity found it difficult to prioritise and align with the full academic occupation. These notions indicating that mismatches to the occupation or profession can lead to psychological distress further support Norris (2016) and Cohen (2006), as well as Cohen and Veled-Hecht (2010) that a mismatch to the occupation led to stress. The researcher, however, especially with the lack of detail concerning their participant’s teaching versus research loads, does not support the general inference by Dorenkamp and Ruhle (2019) that an academic’s specific [adverse] working conditions have less impact on committed professionals. The results for the heterogeneous clusters in their sample differed and suggested that personal context does matter. Hence, different academic clusters with similar specific working conditions might differ in their job satisfaction as suggested by this study.

Further, Dorenkamp and Weis (2018) found that academics’ intentions are fully mediated by job satisfaction, thus even committed professionals may experience dissatisfaction due to the specific working conditions and differing contexts. It might instead be that committed employees’ intentions are fully

mediated by professional role satisfaction and thwarted by job dissatisfaction where there is nonalignment between the professional role and the job role expectations. Furthermore, professional identity leads to the expectation of personal preferences towards a job role to be present in that occupation, as revealed by participants in this Research. It appears to be a prerequisite for job satisfaction and well-being in well-designed jobs. This notion strongly supports research by Hackman (2003), Parker et al. (2019), Parker et al. (2017), and Warr and Inceoglu (2018).

These previously mentioned conflicting emotions, due to conflicts in professional identities and sub-identities, together with competing work demands from the *Work Context* (B) are explained by the subtle differences within the *Personal Context* (A) which emerged from the data. Within the DOH, individuals were more concerned about the influence of the work demands on their *personal circumstances* and more specific relationships with their partners. There were clear indications of a need for work-life balance (WLB), and minimising work-life interference (WLI), as discussed by Dorenkamp and Ruhle (2019). Indications were such as R6 “my [partner] did say to me, ‘If you are going to spend one more [weekend] working at ANRU, do not come home’". This concern manifested in high levels of stress communicated with emotion during the interviews.

This researcher's findings support Beigi et al.’s (2017) assertion that a supportive family, which relates to an acceptable or less family-work interference (FWI), and a lack of work-family interference (WFI) contributes to research performance. However, this researcher claims that broader family demographics and relationships (FWI) impact research output and thus, WFI and other relationships both contribute to a broad relationship component as advocated in Self Determination Theory (SDT). As such, it supports arguments of Vallerand (2000) in respect to the contextual nature of relatedness and the conflict of identity claims between the professional role and job role context of this study.

Assertion 8.5

The DOH Academics experienced a higher level of conflict between attending to teaching versus research as well as work-family interference (WFI). Whereas, the DOS Academics were more concerned about the lack of a work-life balance (WLB) as

well as interaction opportunities that could lead to improved research performance, which both contributed to them questioning their professional identities.

The FWI, WFI, and WLB claims points to a need of belonging (relatedness) to the family and support from family members which further confirms the applicability of a Self Determination Theory (SDT) lens in that it supports findings by Crick et al. (2019) who found that the SDT basic psychological need, relatedness, mediates between 'Personal and Family Support' and 'Global Satisfaction', as well as 'Teaching and Service Satisfaction'. Work-family interference depends on the expectations of the spouse, parental obligations, and *community* obligations such as research and industry partners, which is more than just two-way family relationships. Work-life balance, on the other hand, could be a researcher's personal decision of balancing the WFI. While the Beigi et al. (2017) research was conducted in a research-intensive university, ANRU is a young university with a strong teaching identity, which is clearly shown in the experience of teaching load and student expectations which further impacts on time that could have been devoted to family or *personal circumstances* and *community*. These additional social contextual demographics linked to the *community* has most likely a higher bearing on research performance at non-research-intensive universities. This researcher found that *personal circumstances* such as family demographics and broader relationships impact research output and thus work-family interference (WFI), family-work interference (FWI), and work-life balance (WLB) could either be a barrier or facilitator of research performance depending on the expectations of the spouse, parental obligations (*personal circumstances*) and *community* obligations as indicated by R22, "I have probably, allowed it [my research] to go perhaps outside of the boundaries [it was possible] because of my personal circumstances".

Consistent with Beigi et al. (2017) these responses suggest that where the partners are not in agreement with family time being utilised for research, the Academics experienced out of synch work-life balance experiences with their partners which was perceived as work-family interference. Alternatively, when they force themselves to have a work-life balance, they do experience inner conflict,

which causes stress consistent with the approach-approach work-to-life conflict research of Dorenkamp and Ruhle (2019). Thus, the Academics' context concerning personal life and family and career stages might be a barrier or a facilitator of research performance depending on their circumstances and life stages. The impact of *personal circumstances* supports the findings of Beigi et al. (2017) and Wayne et al. (2007).

Assertion 8.6

Frustration and stress from a perceived excessive workload, search for a work-life balance (WLB) from the DOS and the DOH; and negative work-family interference (WFI) at the DOH, are likely to lead to their wellbeing be at risk and lower than expected research performance.

8.2.1.2 Summary of the Personal Context (A)

Though there were some differences in how the cohorts experienced the *Personal Context* (A) theme, for ANRU, a composite network is conceivable. The DOH and the DOS Academics' experience of the *Personal Context* (A) factors (A1 and A2) impacting on research and their 'experienced themes' related closely to each other. How these themes interrelate, impact on each other, and form a composite *Personal Context* (A1) experienced theme are depicted as a network in Figure 8.5.

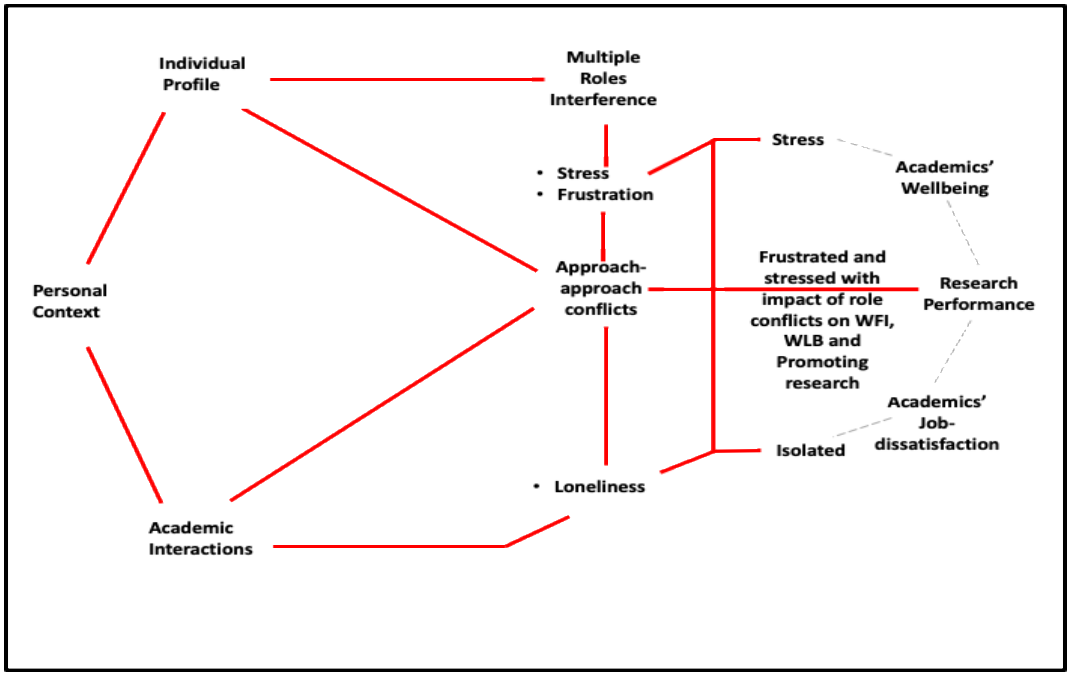

Figure 8.5: Research Performance Approach-Approach Conflict

The *Personal Context* (A) comprised the *Individual Profile* (A1), which was characterised by multiple role interferences which caused an approach-approach conflict and led to stress and frustration, which in turn impacted Academics' wellbeing. Concerning the second factor, *Academics' Interactions* (A2), Academics felt isolated, which caused loneliness and dissatisfaction for Academics. In concert, these two factors presented Academics who were frustrated and stressed with the impact of their role conflicts, WFI, WLB and the lack of opportunities to build their skills and promote their research.

The personal *characteristics*, discipline *isolation* and impact of competing demands in respect of personal life and work expectations and aspects such as wellbeing not only had a significant influence on the *Personal Context* (A) but also how Academics acted within and also experienced the impact and interaction of/and within the *external context* and *work context*. Both the *Individual Profile* (A1) and *Academics' Interactions* (A2) of the *Personal Context* (A) align with the Self Determination Theory (SDT) findings of Deci et al. (2017) in as far as the impact of the social environment on especially the basic psychological needs; competency and relatedness of motivation, affect and wellbeing. Psychological health and the impact on performance was highlighted by the interaction between the individual and the work environment when supported by job content and the environment which further supports findings by Deci et al. (2017) as discussed in the *Work Context* (B) theme. Job content aspects, such as competing demands and time, are discussed in more detail under the banner *Work Context* (B) theme.

8.2.2 Work Context (B) Theme

The *Work Context* (B) theme includes the three factors that hampered research performance the most. These three factors are *Financial Resources* (B1), *Work Content* (B2), and *Environmental Capability* (B3). The lived experiences of these three factors were reported in Chapter sections 4.4, 5.4 and 6.4. The data reveals that:

- Six factors individually and by augmenting each other created an internal environment that affected Academics' research performance and formed the *Work Context* (B) theme.

- The Academics' experience of the availability and utilisation of financial resources in the research domain and how it impacted on research performance describe the *Financial Resources* (B1) factor.
- The internal employment-related aspects, role and non-role specific aspects that impact on research activities and work/lifestyle describe the *Work Content* (B2) factor.
- Those aspects that pointed to the *capacity* and *capability* of ANRU and its Academics, which contributed to the University's *reputation*, describe the *Environmental Capability* (B3) factor.

8.2.2.1 Theoretical Lens(es)

Within a work context domain, it is crucial to keep in mind the interaction of subsystems on the whole system as explained by seminal work of Von Bertalanffy (1972) which includes the work design (Parker et al., 2017) aspects. Work design impacts the job demands-resources (Bakker & Demerouti, 2017; Hakanen et al., 2008) and control (Karasek Jr, 1979) aspects between the individual and the organisation. Work design further entails those high-performance working systems or practices that support performance (Combs et al., 2006; Rabl et al., 2014). The integrated contexts between the individual and the organisation are most notably observed in this study as the role expectations that impact wellbeing, motivation, and performance.

8.2.2.2 Review of the Work Context (B) *Theme*

The open codes, codes and categories/factors that contributed to the top three hampering factors that impacted research performance from a *Work Context* (B) perspective were provided in Figures 4.5, 4.6, 4.7, 4.8, 5.5, 5.6, 5.7, 5.8, 6.5, 6.6, 6.7 and 6.8. Figure 8.6 provides a consolidated picture of the three cohorts' inputs to the factors.

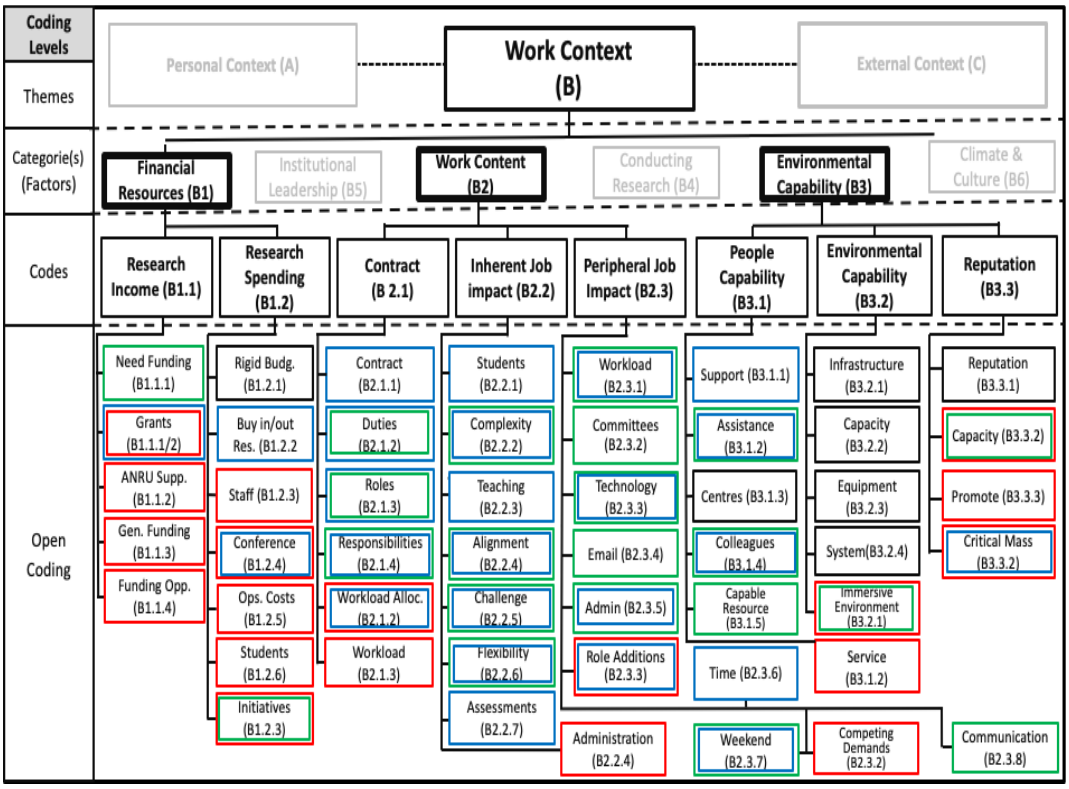

Figure 8.6: Consolidated Cohorts' Views: *Work Context* (B) Theme
Note: Black = agreement, blue = RLC, green = DOS and red = DOH

In Figure 8.6 the black box signifies agreement amongst cohorts. A cohort not offering an open code was signified by a coloured box (that is: blue = RLC, green = DOS and red = DOH). This colour coding indicates that unlike the *Personal Context* (A) theme, there was hardly any agreement amongst the cohorts within the *Work Context* (B) theme at the open coding level, except for the *Environmental Capability* (B3) factor.

This agreement stems from all cohorts that agreed on all the open codes for the *environmental capability.* The exception was for the open code immersive environment, which was only offered by the RLC. However, the DOH Academics referred to capacity to be inclusive of critical mass when they mentioned being the only ones teaching in a sub-discipline of humanities. The DOS Academics also did not offer capacity but did offer promote and critical mass, and neither did the RLC offer critical mass. The three cohorts also agreed on the reputation open code, but the DOH Academics did not offer any other open code under the *Reputation* (B3.3) code.

The *Financial Resources* (B1) factor reveals that the different cohorts viewed sources of *income* from their specific context. This contextual difference

supports Bronfenbrenner and Ceci (1993) and even link to the research maturity reported by Diezmann (2018), albeit per department and not ANRU specific. These differences let to the differentiation in labels for open codes, as discussed in subparagraph 8.2.2.2.2.

The *Work Content* (B2) factor showed no agreement from all three cohorts on a single open code which should be indicative of their most proximal experiences within the *Work Context* (B) theme and support the assertion that disciplines namely the DOH and DOS Academics differ in their perceptions of how contextual factors impact them. This assertion also supports the notion that those contextual influences most proximal to the individual will impact them the most. For the *Work Content* (B2.2) code, the DOH Academics did not offer administration, which they regarded as peripheral to the role rather than part of it.

Assertion 8.7

The *work context* theme comprised three factors; *financial resources*, *work content* and *environmental capability* that were ranked the three factors that most hampered research performance. The limited agreement between cohorts at the open coding level revealed the significance of the proximal and direct influence of variations in the immediate *work contexts* on Academics' experiences of the factors.

8.2.2.2.1 Ranking of the most Facilitating and Hampering Work Context (B) Factors

The *Work Context* (B) factors, *Financial Resources* (B1) *Work Content* (B2) and *Environmental Capability* (B3) were ranked as the three most hampering factors impacting on research performance. The finding of *Work Context* (B) theme as a high ranked hampering factor correlates and supports those identified by Wissing et al. (2002) claiming that work context rather than personal context was found to be the hindering factor to research performance. However, as depicted in Table 8.7, there were agreements and differences in not only the ranking from the hampering perspective but also between facilitating and hampering experiences amongst the three cohorts. Table 8.5 depicts the differences and agreements in the ranking by the different cohorts.

Table 8.5: Cohorts' Ranking: *Work Context* (B) Factors

Factor	Facilitating			Hampering		
	DOH	DOS	RCL	DOH	DOS	RCL
Work Content (B2)	1	9	8	1	1	1
Financial Resources (B1)	2	4	4	5	2	1
Environmental Capability (B3)	10	7	10	3	3	3

The DOH Academics was the only discipline cohort that ranked the *Work Context* (B) factors as having a positive impact on research performance with *Work Content* (B2) most and *Financial Resources* (B1) as second most facilitating factors. They also offered, together with the DOS Academics and RLC, as their most hampering factor the *Work Content* (B2). All three Cohorts ranked the *Environmental Capability* (B3) as their third most negative impact on research performance. While the RLC ranked *Financial Resources* (B1) at the same level as a most hampering *Work Content* (B2) factor, the DOS Academics placed *Financial Resources* (B1) as a second-most hampering factor.

There were also differences amongst the different academic levels in the perceived impact of the *Work Context* (B) factors as presented in Table 8.6.

Table 8.6: Academic Levels' Ranking: *Work Context* (B) Factors

Factors	Facilitating			Hampering		
	Level E (n = 8)	Level D & C (n = 8)	Level B (n = 8)	Level E (n = 8)	Level D & C (n = 8)	Level B (n = 8)
Work Content (B2)	-	-	-	1	1	1
Financial Resources (B1)	3	-	2	2	3	2
Environmental Capability (B3)	-	-	-	3	2	-

While Levels E and B were the only level cohorts that ranked a *Work Context* (B) factor as having a positive impact on research performance with

Financial Resources (B1) as third and second most facilitating factor respectively, they also viewed the factor as the second most negative impact on research performance together with Levels D and C who ranked the factor as the third most hampering factor. Levels E - B regarded *Work Content* (B2) as the factor with the most negative impact on research performance whilst Levels E and D and C ranked *Environmental Capability* (B3) as a third and second most negative impact on research performance respectively. The ranking of *Financial Resources* (B1) as a facilitating as well as hampering factor should be viewed considering the availability or lack of financial resources.

8.2.2.2.2 Comparison of DOH, DOS, and RLC Academics' Experiences of the Work Context

Academics' shared lived experience of the factor *Financial Resources* (B1) were provided in subparagraphs 4.6.2.1, 5.6.2.1, and 6.6.2.1.

All the participating cohorts agreed that the lack of *Financial Resources* (B1) hampered their research performance. However, the DOH Academics viewed the factor only as a facilitator to buy time for research. As such, they gained relief from teaching duties through funding, although it was insufficient. The DOS also saw the factor as a resource for further research. As such, the DOS was more concerned that the funding they generated through research was utilised to support their discipline's high operational costs instead of being available to improve their research performance. The RLC echoed the DOS Academics' concern about the allocation of funding which they regarded as a direct result of the ANRU financial operating model.

Assertion 8.8

The academic departments agreed that a lack of *financial resources* hampered their research performance but differed in their views regarding the acquiring and the utilisation of *funding*. The DOH expected ANRU to provide money to buy-out time for research whilst the DOS expected a funding model that take into consideration high operational costs and improved ways of dispersing funding that they acquired through research.

Apart from the different operating contexts of the DOS and the DOH Academics, which impacted their perception about funding, they also experienced that the lack of funding negatively impacted ECRs as a result of the increased internal competition for funding. This increased internal competition could explain Level Bs' negative ranking of *Financial Resources* (B1).

Academics' shared lived experience of the factor *Work Content* (B2) were provided in subparagraphs 4.6.2.2, 5.6.2.2, and 6.6.2.2.

The *Work Content* (B2), with its equally high expectation for teaching and research performance, had a unanimous ranking as the factor with the most negative impact on research performance mostly experienced as competing demands. From the expressed emotions, the impact of this factor from a contractual perspective on the *Personal Context* (A) theme emerged. This impact is presented mainly by the DOH Academics, due to a psychological contract role and responsibility perspective, but also from the DOS Academics; as insecurity, that is, only high research outputs guaranteed an ongoing contract. The perception of academic departments was that workload is controlled by internal and mostly departmental practices, which was not represented by the workload model percentages, and this impacted negatively on their research performance. Academics reported that there is espoused research support, but a lack of strategic direction and active support. This distinct split could highlight that some appointments in "so-called" *leadership* positions are not displaying unique *leadership* qualities and fulfil to some extent, rather managerial duties. This distinction also highlights the need for people *leadership* skills in managerial positions. Surprisingly the RLC, except for the two Departmental Heads who are the decision-makers for a department's way of working, agreed with the experiences of researchers from the two departments. Leaders could only suggest improved communication about available funding as a way of creating a more conducive work context. This espoused support without any action could be explained by the lack of autonomy by a large part of the RLC and express as "But that's tough because the [academic departments] have autonomy there is nothing centralised, [academic departments] make the decision on that" R28, which supports findings by Lund (2019) that mid-level leaders are caught between what their teams can do and what they are allowed to do.

Academics' shared lived experience of the factor *Environmental Capability* (B3) were offered in subparagraphs 4.6.2.3, 5.6.2.3 and 6.6.2.3.

While the DOH and the DOS Academics experienced a lack of reputable internal researchers to collaborate with, the RLC's view was that the academic departments were not informed enough about their colleagues' expertise. The RLC acknowledged the lack of proper eSystems, but they were seemingly unaware of the type of support the departments needed and hence no evidence of offering change-facilitation. As such, the resistance is consistent with Straatmann et al. (2016) finding that facilitated change reduces change-resistance (refer subparagraphs 6.6.1.1 and 8.2.22) and supports findings by Gagné et al. (2000) that facilitation of change towards supporting an autonomous perception will support acceptance of the change. The Departments' Academics, on the other hand, did not see the espoused research support enacted and emerging as an immersive environment. This immersive environment open code had an undertone of an ideal all-inclusive capability for research performance, which was most probably what the RLC aspires to rather than what the departments' Academics experienced. This assertion is made given the agreement of the DOH and the DOS Academics regarding the lack of research support and the agreement verbalised by an RLC member (R29) as "simply said they [ANRU Executive] don't want to invest in anything new". This experience supports findings by Crick et al. (2019) that *leadership*, management, and institutional support impacts on the satisfaction of 'Teaching and Service Satisfaction' and therefore most probably also research and overall job satisfaction of an academic.

The DOS Academics' frustration mostly aligns around their top three ranked hampering factors, namely *Work Content* (B2), *Financial Resources* (B1) and *Environmental Capability* (B3) whereas the DOH Academics' frustration was mostly located in their experience of the *Work Content* (B2), *Institutional Leadership* (B5) and *Environmental Capability* (B3) which indicated dissatisfaction with their work. This job dissatisfaction was evident from the frustrations which Academics presented within the *Work Context* (B) theme and more specifically, the *Work Content (*B2) factor. This dissatisfaction was mostly directed at competing demands and a lack of control by the DOH Academics who reported impacts on commitment and motivation which supports findings of de Lourdes Machado-Taylor

et al. (2016) that competing and lack of control factors are indicative of general dissatisfaction with professionals which could impact on performance. The conflict that Academics experienced between their approach towards teaching and research clarifies the notions made of sub-professional identities that conflict with the academic role identity constructed by the work context. The Academics' experiences of their work context are discussed below.

8.2.2.3 Discussion and Interpretation of the *Work Context* (B) Theme

All the academic levels agreed on the three factors that hampered research the most other than Level B, whose members did not rank the *Environmental Capability* (B3) as one of their three most hampering factors. Only Levels E and B viewed *Financial Resources* (B1) as a most facilitating and hampering factor, which indicates that where financial resources were available, it supported research performance and *vice versa*. It is suggested that Level B academics most probably have a more substantial teaching workload than higher-level academics. They thus would have focussed more on the *Work Content* (B2) as well as the surrounding *Research Climate and Culture* (B6), which they ranked as the first and third highest hampering factors, respectively.

The findings of the three overall hampering factors as ones that create dissatisfaction with Academics are consistent with the findings of Crick et al. (2019) who found that two of the three basic psychological needs, 'volitional autonomy' and 'relatedness', fully mediated the relationship between 'Teaching and Service Satisfaction' and 'Global Satisfaction'. They labelled these as environmental factors and indicators of 'Faculty Satisfaction'.

Assertion 8.9

The cohorts differed in their experiences and perceptions of *work content* which was the highest-ranked most hampering factor of all factors. These differences may point to the professional identity or views the different disciplines and academic levels have of their respective roles.

Differences were highlighted in what they regarded as the inherent and peripheral job content impacts and explained through open codes such as

workload, competing demands and administration. These differences may indicate views of professional identity the different disciplines' professionals have of the complete academic role, for example, teaching and research roles vs research as an add-on to the academic profession. These professional identity differences support several other findings about impact of identity on work output (Anikina et al., 2019; Boyd & Smith, 2016; Brew et al., 2018a; Brew et al., 2018b). This role perception relates to RQ2 in that it describes the impact of contextual factors on research performance as well as how it varies amongst respondents', from different disciplines, perceptions of how the contextual factors impact their research performance.

Assertion 8.10

Research leaders (Academic level Es), more distal to research on the operational level, are less aware of challenges researchers experience which lead to the perception that leadership are unsupportive of research performance.

Once again, the RLC showed, with open codes for both *Contract* (B2.1) and *Inherent Job Impact* (B2.2), that not all of them have broad experiences of the departments. This broad experience was explained by the lack of specific detail of how open codes such as workload, the physical and psychological details of the contract or specific administration barriers impact Academics. This lack of specific insight into the hampering experiences may reflect the RLC's lack of history, perhaps as newcomers. Newcomers could lack corporate knowledge, with ANRU and its departments or a lack of contact with the operational level. Nonetheless, this lack of specific insight might be why Academics experienced a lack of support.

The lack of support experienced by both the DOH and DOS Academics relates directly to their perspective of demands for research and teaching which overshadows the resources at their disposal (Bakker & Demerouti, 2017) inferred from the *Environmental Capability* (B3) factor as indicated by R3 "can't become … a Monash without all the things … you need support with that".

Both departments' Academics experienced increased teaching loads without improved staffing R17 "we have not been heavily staffed …, and our teaching load has increased dramatically over the years". Neither of the departments' Academics felt that their need for administrative support with work content was served. This need was confirmed from the RLC as asserted by R29 "she is [always] seeking admin assistance. It [administrative assistance cannot] be given to her from [a] Strategic Research Fund. She is always struggling because the [department] has no money and yet she has to do this admin type of work. They need admin assistance and research assistants. They need salaries for postdocs".

Support was also linked to *Financial Resources* (B1) which was ranked under the first three hampering factors by all three cohorts and in the case of the DOH Academics as their number two most influential facilitating factor. *Financial Resources* (B1) was replaced by *Institutional Leadership* (B5) in the overall top-three hampering factors. *Financial Resources* (B1) was strongly linked to *reputation*. R15 asserted "it's [acquiring funding] hard, and if you're competing …, the more competitive research funding gets, the harder it is." and R32 stated "[ANRU is] a young university with a minimum budget for research" supported by R23, "from a reputational perspective that's a challenge for everybody undertaking research in the University". These Academics indicated that competing for funding is strongly influenced by the lack of funding. *Reputation* was also linked to individual ability as shared by R2 who stated "an Australian Research Council grant, I am not going to do it by myself, I need someone with a track record in the field". The academic departments claimed that funds are limited as stated by R17 "… when it comes to getting marking relief, '*oh we can't afford to pay for the marking relief*'" and R25 "if our professors … cannot get the bigger dollars in, they are chasing [internal] dollars that some of us … might normally be after". Thus, a case has been made that to acquire *funding*, in addition to a track record, the *ability* is needed as well as *supported* by someone with a research *reputation* which indicates the unmistakable impact of the *Personal Context* (A) on the *Work Context* (B) theme. Amidst the need for funding, the RLC believed that there are funds available and from a strategic perspective they made decisions how to disperse the funds, best described by R30 as "the role of the [research leader] is…

working out the best ways of spending money to build research capacity and performance".

The RLC had the task of supporting their researchers on all levels with varied *abilities* and *reputations*. To this extent, the DOH Academics had put research teams together as shared by R4 "the secret to maintaining research output is to work in a team or teams" with varied abilities led by a researcher with *reputation*. Refer further to R4's comments and assertion 8.2 in 8.2.1.3 related to *capabilities* in the *personal context*.

Academics also valued the contribution of attending conferences to build capability. This format of capability building was supported by the RLC R29 with "front funded so that our researchers can develop those collaborative partnerships … that feeds into grants", but Departments, at large, were unaware of this opportunity as reported by R17 "… other universities where there is much more of an invest upfront approach" which pointed to a lack of communication, promotion and engagement from the RLC.

Apparent differences between the DOH and the DOS Academics in respect of *Financial Resources* (B1) *Research Income* (B1.1) and *Research Spending (*B1.2) arose from the different meanings ascribed to the open codes. The DOH Academics experienced the need for funds mainly as a means to obtain more time for research. This lack of time was essential due to mostly qualitative research which in itself was more time consuming and has strict and complex approval processes than the perceived mainly experimental quantitative research DOS Academics conduct with less need for approvals as suggested by R26 "[it is] more complex doing research in [our academic department] than a lot of the others". Whilst both academic departments' Academics confirmed there was no buy-out time to do research, for instance, R8 commented "it's very difficult to run research, particularly when you can't get buy-out for teaching or marking". The DOH Academics felt they did not have money to spend on research activities R6 stated "at least petrol money for me to drive to the [industry], They said, '*Oh no, we don't care about that'*.". The DOS Academics was more concerned about the high costs of the discipline as R15 commented "… a bit more for me in [department], because you need consumables and equipment, [these] are things that cost". The DOS Academics, further, not only saw *Research Income (*B1.1) as a relief but also

as a resource, which they can control to an extent through generating funding from research, to do more research offered by R11 “that consistent stream of funding coming … over and above what we generate in terms of teaching, that is allocated on the basis of research performance”. R15 illustrated the effect of the duality in the roles and accompanying satisfaction with the identified role but dissatisfaction of the competing demands by responding “research is fun, and it's nice … it's fairly indulgent” and also the fact that workload percentages do not reflect the actual time spent on teaching by indicating “the research was the elephant in the room because you know, 50% of teaching is not 50% teaching, not in a 38 hrs workweek”. The perceived culture of non-support, competing demands and lack of time should be addressed with a planned contextual organisational and systemic change to improve the working environment instead of perceptions of failure (Jones et al., 2019) and subsequent dissatisfaction which supports suggestions by (Davis et al., 2020).

Dissatisfaction is due to a lack of internal support and competing demands that impacts job satisfaction and further points to a lack of autonomy and relatedness to research which supports findings by Crick et al. (2019); and Winefield et al. (2008).

Assertion 8.11

Motivated Academics, in their professional capacity, can still be dissatisfied with their work environment where the work context is perceived as unsupportive, unfair and hampering their performance.

The DOH Academics agreed with the DOS Academics on *Rigid Budgets.* Most Academics viewed budgets in terms of funding that is rigidly controlled. The DOH Academics thus experienced more stress as they viewed research funds as out of their control which supports findings based on the demands control model of Karasek Jr (1979). This model postulates that high demands for performance with low decision autonomy cause mental strain, such as the stress experienced by Academics in this study. The difference in perceptions of control was that the DOS Academics mitigated the perception with potential and actual research *income* versus the DOH Academics who almost solely relied on ANRU for *income*, taking

into account the different stakeholders served and thus the opportunity to generate funding from theses stakeholders. The perception of a lack of control is potentially the reason for the higher stress assigned to the DOH Academics, but not absent with the DOS Academics, and supports findings by Barkhuizen et al. (2014); Kinman and Wray (2020); and Yusoff et al. (2013) regarding the phenomenon and its sources in higher education.

The intertwined factors of the *Work Context* (B) theme should be viewed as contributory to the three most highly ranked hampering factors. The interaction could be explained by the relationships between the *Peripheral Job Impact* (B2.3) on the Inherent *Job Impact* (B2.2) like workload and workload allocations impacted by additional roles. This relationship points to an apparent lack of role or job design captured in position descriptions and systems that create a supportive context for high work performance. The findings of apparent stress support Winefield et al. (2008), and frustration, the impact reported by McClenahan et al. (2007), the importance of systems thinking of Von Bertalanffy (1972) and, proper work design from Parker (2014); and Parker et al. (2017). Proper work design includes high performing work systems as per Rabl et al. (2014) and practices offered by Combs et al. (2006) for sustainable satisfaction of psychological needs ‘autonomy’ and ‘competency’ found by Ryan and Deci (2017) for motivated, healthy Academics performing in their research outputs. Evidence indicated that there was a large contingent of Academics who were motivated by the professional sub-identities they hold of their roles, but they experienced lesser health due to the dissatisfaction with the *Work Context* (B) theme in which they had to fulfil those roles. A further contributing factor to the dissatisfaction was the lack of *Capacity* which the DOH Academics experienced as subdiscipline *isolation* to a greater extent than the DOS Academics who experienced loneliness as per the *Personal Context* (A) and supports the interconnectivity of contexts found in general systems theory of Von Bertalanffy (1972), the bioecological theory of human development by Bronfenbrenner (1979) and why context matters as described by Friemel (2008) as it takes cognisance of the complex interconnectivity of the separate parts in a macro environment.

Furthermore, it is consistent with Vine (2019) in that context matters and impact on wellbeing through job dissatisfaction which supports the Self Determination Theory (SDT) theory of Ryan and Deci (2017).

Assertion 8.12

Where negatively experienced, the *work context* has a more substantial impact on Academics' dissatisfaction than their *personal context* which potentially impacted negatively on their research performance.

The experiences of Academics within the *Work Context* (B) theme and especially the stark contrast of how the *Work Content* (B2) factor was viewed differently from the three cohorts' perspectives, confirms the impact of context. This contrast further supports the finding that there are different perspectives within the DOS and DOH Academics about what the professional sub-identities of the academic as a teacher or researcher or both are. This difference suggests that most Academics were impacted by the expected role as a complete academic, which supports previous research (Billig & Tajfel, 1973) on the impact of the social context on professional identities. This conflict of identities experienced by the Academics and caused by the work context also supports findings by Anikina et al. (2019). The support is not only in terms of potential conflict amongst professional sub-identities, but it also illustrates how this theme impacts on the personal context. For instance, the funding for conferences on Academics' interaction and capability building as seen from R20's comment "conferences and all that is ideal, but it is really hard to get money for - funds for conferences" and vice versa.

Assertion 8.13

Academics with a strong discipline professional identity, created during their professional training, will have more difficulty to identify with the occupational identity academic and specifically the role-identity research in the absence of well-integrated and supportive systems which could impact their wellbeing.

The identity conflict further demonstrates how the personal context interacts with the work context. The identity conflict was brought about through

competing demands and, in some instances, created a perception of a lack of control, which further led to dissatisfaction and stress, burnout, and depression of the Academic as reported by R6 who indicated “a lot of them are physically sick, but a lot of them are emotionally just tired and drained ” and R13 who shared “I fell into a black hole because I just felt – no inclination to do anything”.

Assertion 8.14

The w*ork context* contributed negatively to the Academics’ *personal context* in that there are instances where the lack of support, the competing demands and a lack of integrated high performing work systems and practices in the environment caused tendencies towards ill mental health and these were reported more frequently from the DOH than the DOS Academics.

This impact of the work context on the personal context illustrates that people should be appointed into positions that best suit their personal profile which is supported by their immediate environment with proactive interventions to eliminate psychosocial stressors such as stress (Pignata et al., 2018) and proper High-Performance Working Systems and Practices (HPWS&P) which give rise to the following assertion.

Assertion 8.15

Personal preferences and characteristics that fit the professional sub identity academic, comprising teaching and researching roles, in concert within a high-performance working system and practices, and supportive psychosocial environment are a necessity for a healthy academic that can perform in research.

The work practice of a disjointed workload controlled by internal and mostly departmental practices was supported by findings of *leadership* and governance practices in need of research (Croucher et al., 2020). Together with the application of workload model percentages, it resulted in competing demands and impacted significantly negatively on their research performance. The work

practice was further exacerbated by the factor *Environmental Capability* (B3). The open code *Environmental Capability* (B3.2) was the only one within the *Work Context* (B) theme where all the cohorts agreed on most of the open codes. *Environmental Capability* (B3.2) highlighted aspects such as the lack of infrastructure in certain instances, the overall capacity to support, equipment, most notably the insufficient systems and best summarised by R8 who indicated “the [research entity] has a system and website, but there’s stuff [research support material] all over the place. … it’s like trying to put a jigsaw together”. R11 described systems as “It still needs a lot of improvement. We need a system that [is] all electronic and not paper based. … it needs to be integrated”. The open code *Immersive Environment* consolidated the lack of High-Performance Working Systems and Practices (HPWS&P) and support as reported by R29 as “simply said they [ANRU Executive] don't want to invest in anything new”. The RLC’s experience of resistance to change from academics should be viewed against the perceived lack of support experienced by Academics. Minimised resistance to enhance performance is possible with a culture of adequately planned and implemented change principles for any change which supports suggestions by Greer and Shuck (2020).

Assertion 8.16

For researchers to apply their personal and research *capabilities* to their potential, ANRU needs to design and implement properly planned change interventions for well-integrated High-Performance Work Systems and Practices (HPWS&P) that create a research *climate and culture* for a conducive *work context* for the discipline.

Interconnectivity of the themes is further illustrated by the Work Context (B) theme and *External Context* (C) theme relationship. This interconnectivity is amongst others shown by *Financial Resources* (B1), *Internal Capability* (B3) and *Community Impact* (C3) discussed in more detail in the *External Context* (C) theme.

8.2.2.4 Summary of the Work Context *(B)* Theme

The three factors *Financial Resources* (B1), *Work Content* (B2) and *Environmental Impact* (B3) were ranked the highest as factors that hampered research performance the most and were nested in the theme *Work Context* (B). As such, the *Work Context* (B) theme proved to be the context that has the most influence on research performance in that it comprised all the most hampering factors identified by Academics as displayed in Table 7.5.

The main conclusions from this context highlighted the high stress and frustration from the DOH Academics which could partially be due to their student to staff (53:1) ratio vs that of the DOS of (28:1), and due to the high standard of practitioner modelling for students set for themselves. The DOS, on the other hand, presented more PhD qualified staff and had been trained since undergraduate studies in experimental research, which made the role of teacher/researcher more familiar.

How these *Work Context* (B) factors interrelate, impact on each other and form a composite is depicted as a network in Figure 8.7.

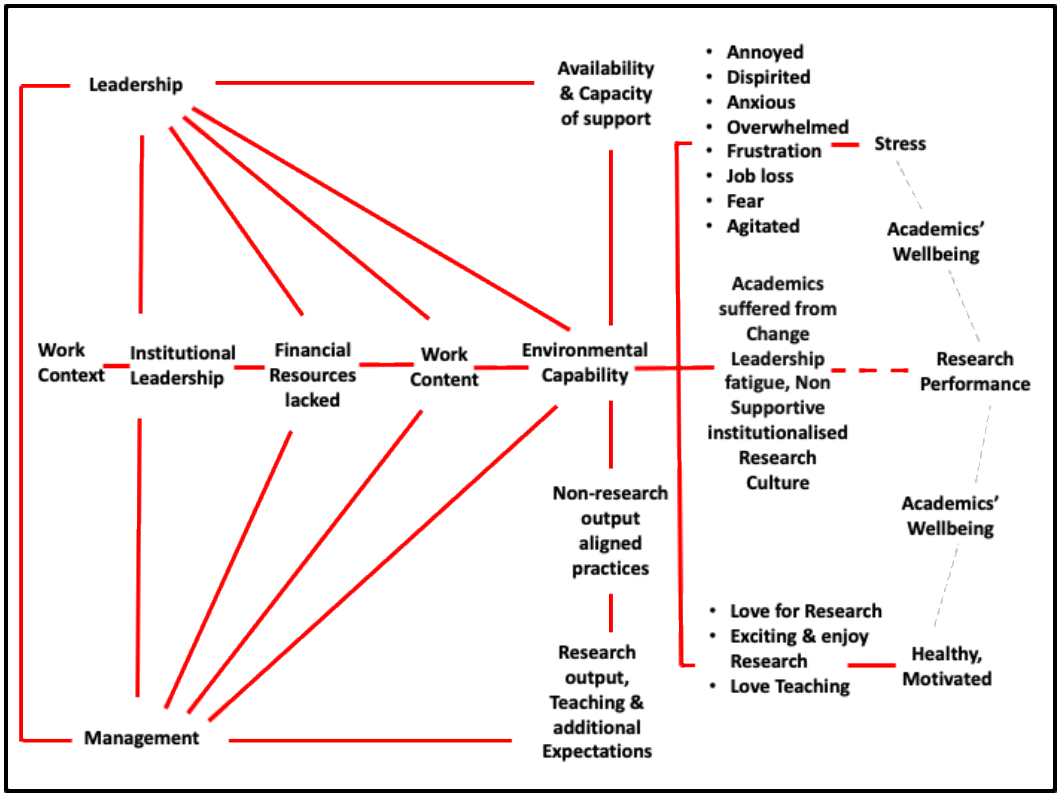

Figure 8.7: Non-Supportive Institutionalised Research Culture

The *Work Context* (B) theme is institutionalised by *leadership* and *institutionalised work structures* from management and as such impacted on the three most hampering a factors *Financial Resources* (B1), *Work Content* (B2) and *Environmental Capability* (B3) which in turn impacted on each other. The impact of these three factors resulted in perceived unavailability of capacity and support. This perception was accompanied by emotion such as annoyed, anxious, and overwhelmed. The perception was further aggravated by unrealistically perceived expectations for performance on all levels amidst significant constant changes in the environment with emotion such as love and joy for both sub-identities but thwarted by the stress and frustration that the perceived unrealistic expectation brought. These experiences led to a consolidated theme from all three Cohorts that emerged as Academics who suffered from a research culture which left them stressed and felt undervalued while they enjoyed research and valued their roles.

The vast similarity of the three cohorts in respect of the *Personal Context* (A1) factors contrast starkly with the significant variances in cohorts' experiences of the *Work Context* (B) factors. This variance provides a strong indication of how different the work contexts of the departments were and provided support to the research of Friemel (2008) that context matters. In this study, it shows that research leaders, active researchers from different disciplines and levels, for example, different contexts vary in their perception about factors that impact research performance and provide strong evidence to answer RQ2.

High-Performance Work Systems and Practices supports interconnectivity amongst factors such as *Financial Resources* (B1), *Internal Capability* (B3) and *Community Impact* (C3*)*. These factors, which are more specific to institutional positioning or *reputation*, further supports findings by Anikina et al. (2019). Interconnectivity of the themes is further illustrated by the *Work Context* (B) theme and *External Context* (C) theme relationship. Additionally, the experiences of Academics within the *Work Context* (B) not only show how this theme impacts on *Personal Context* (A) and *vice versa*, but also how the *External Context* (C) impacts on the *Work Context* (B) through *Financial Resources* (B1) and *Community Impact* (C3) discussed next in the *External Context* (C) theme.

8.2.3 External Context (C) Theme

Analysis of the data relating to the *External Context* (C) theme, reported in subparagraphs 4.5, 5.5, and 6.5, revealed that:

- the *External Context* (C) theme is sculpted by the factors *Community Impact* (C3) *National Impact* (C1), and *International Impact* (C2) and described how the external environment, influenced the internal environment in which Academics were expected to contribute to research performance;
- the views of the communities, external to ANRU, and the impact of that on Academics' and ANRU's *reputation* influenced assessors rating of grant applications and as such impacted-on research performance and comprised the *Community Impact* (C3) category;
- the influence of the Australian Government, together with the economic climate that prevailed, and the *isolation* from other researchers, formed the *National Impact* (C1) category; and,
- opportunities to collaborate with international researchers and the scope for access to funding through international partnerships had materialised as *international agenda*s that opened global partnership opportunities and comprised the *International Impact* (C2) category.

The *External Context* (C) played a lesser but vital role in Academics' quest for research performance. The ranking of the *Community Impact* (C3) factor, one of the factors that have the most facilitating impact on research performance, points to the importance of the *External Context* (C). While the *External Context* (C) seems distal for the work of ANRU Academics, it played a significant role in how some experienced Academics moved beyond the internal *Work Context* (B) in their experience of research.

8.2.3.1 Theoretical Lens(es)

To have insight into the external context phenomenon one can explore it through theoretical lenses such: as general systems theory of Von Bertalanffy (1972); and influential work in human development ecology from Bronfenbrenner (1981). Several researchers build on the human development ecology such as:

distal and proximity distances impact as referenced by King and Vaiman (2019), and Myer and Moore (2006), as well as in the research strategies and research development of Diezmann (2018). The external influences research by Harman (2005b) and the Self Determination Theory's (SDT) job satisfaction and motivation research of Gagné and Deci (2005) are also theoretical lenses utilised in data interpretation and discussion, see 8.2.3.3.

8.2.3.2 Review of External Context *(C)* Data

The open codes, codes and categories/factors that contributed to the *External Context* (C) theme and the factor *Community Impact* (C3) were provided in Figures 5.12, 5.13, 6.12 and 6.13. *Community Impact* (C3) was the only *External Context* (C) factor nominated as a high-ranking factor by Academics. Figure 8.8 provides a consolidated picture of the Cohorts' inputs to the last of the most facilitating factors.

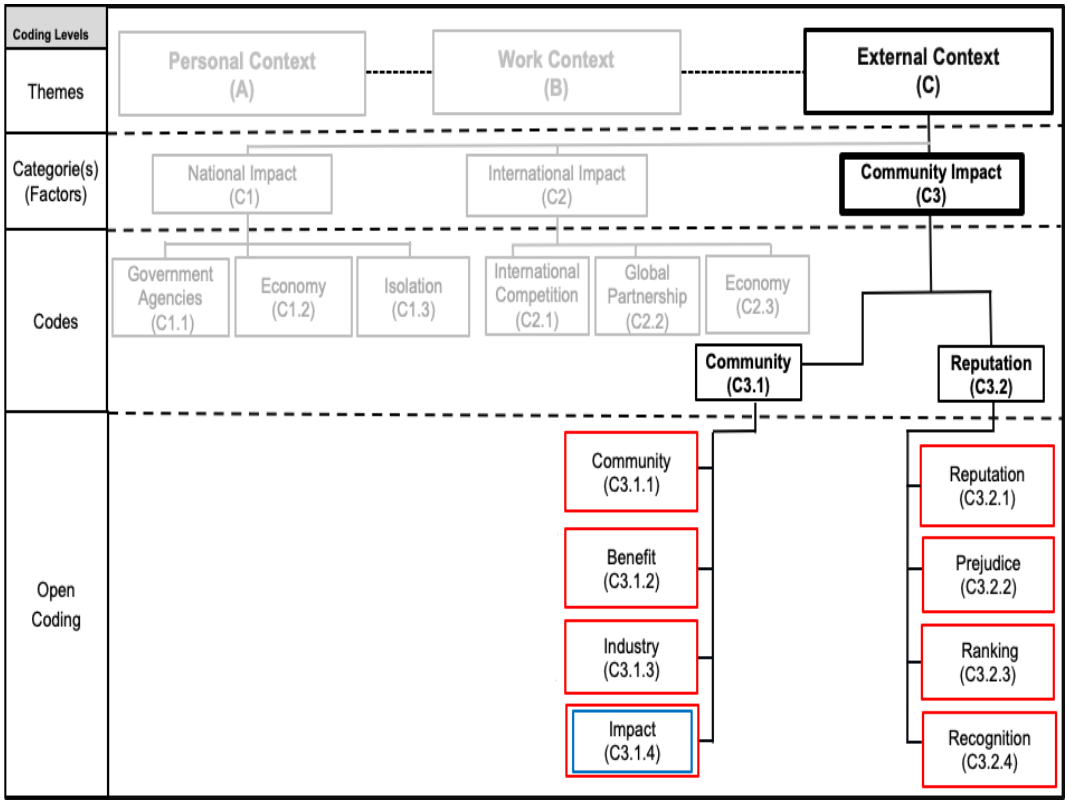

Figure 8.8: Consolidated Cohorts' Views: *External Context* (C) Theme
Note: Black = agreement, blue = RLC, green = DOS and red = DOH

The absence of the DOH Academics' shared experience of *community* is evident from the red box outlines. Other than that, and *impact* not offered by the

RLC, there are no differences in the open codes offered by the two cohorts. *Impact* offered by the DOS Academics is strongly related to their dissatisfaction of the lack of recognition for the impact their research has on the community. *Community, industry, and benefits* indicated the agreement between the DOS and RLC on the reciprocal relationship between research and communities. The potentially higher research maturity of researchers in the DOS and their greater engagement with researchers from other universities, and the RLC's direct and perhaps more frequent contact with communities, international researchers and Government bodies might have been the reasons for specifically offering *Community Impact* (C3) as a factor. This focus on *community* is further explained through the open code *impact* offered by the DOS explaining the impact of research on communities and their support towards research endeavours. Furthermore, were the DOS and RLC in agreement on the effect of a lack of *recognition* and *prejudice* towards ANRU's have on university *ranking* and thus its *reputation.*

8.2.3.2.1Ranking of the most Facilitating and Hampering External Context (C) *Theme Factors*

The *External Context* (C) theme factor, *Community Impact* (C3) was perceived as one of the three most facilitating factors. However, as depicted in Table 8.7, there were differences in ranking order amongst the three cohorts.

Table 8.7: Cohorts' Ranking: *External Context* (C) Factors

#	Factors	Facilitating			Hampering		
		DOH (n = 8)	DOS (n = 11)	RLC (n = 6)	DOH (n = 8)	DOS (n = 11)	RLC (n = 6)
1	Community Impact (C3)	3	1	2	-	-	-

None of the Cohorts viewed the factor as impacting negatively on research performance. However, the three cohorts differed concerning their importance for the impact on their research performance: the DOS most probably due to their deeper concerns of the adverse effect of *community impact* not being recognised for their research. The RLC, on the other hand, have more contact with

external communities due to their role expectations, whilst the DOH Academics had far more intense concerns about their internal environment, for example, the *Work Content* (B2).

A significant difference emerged from the various academic levels in the perceived impact of the *External Context* (C) factor, *Community Impact* (C3) as presented in Table 8.8.

Table 8.8: Academic Levels' Ranking: *External Context* (C) Factors

#	Factors	Facilitating			Hampering		
		Level E (n = 8)	Level D & C (n = 10)	Level B (n = 7)	DOH (n = 8)	DOS (n = 10)	RLC (n = 7)
1	Community Impact (C3)	-	1	1	-	-	-

Whilst Levels B and C and D were the only cohorts that ranked *Community Impact* (C3) as a significant factor impacting positively on their research performance. Level E did not rank *Community Impact (C3)* in the top three facilitating or hampering factors. Most probably due to the higher-level duties of Level Es that makes *community* interaction part of their daily routines, they may have ranked factors from within the *Personal* (A) and *Work* (B) rather than the External *Context*. Furthermore, in all probability, they do have established networks for research facilitation as can be inferred from their high regard of *Research Interactions* (A2) as a highly ranked facilitating factor.

Assertion 8.17

Academics further away from community interaction in their daily routine and/or with less established networks seemed to have a higher regard for *community* impact as a facilitating impact than for those even further distal *national* and *international* impacts.

8.2.3.2.2 Comparison of DOH, DOS and RLC Academics' Experiences of the External Context (C)

The key findings were provided in Chapters 4, 5 and 6; in the respective subparagraphs 4.3, 5.3, 6.3 and 4.7, 5.7, and 6.7. The rank-order comparisons were discussed in Chapter 7, subparagraph 7.6 and highlighted in subparagraph 8.2.1.3.1.

Community Impact (C3) was ranked 1st by the DOS, and 2nd by the RLC. Although the factor *Community Impact* (C3) did not emerge from the DOH Academics' qualitative analysis, they ranked *Community Impact* (C3*)* as the 3rd most influential facilitating factor. The *Community Impact* (C3) factor comprised the codes *Community* and *reputation*. Academics' shared lived experience of the factor *Community Impact* (C3) is reported in subparagraphs 4.6.1.1, 5.6.1.1, and 6.6.1.1.

Both the DOS and RLC cohorts, as well as Levels E - C, might be more experienced regarding the value and impact of *reputation* and because of this awareness, built *community* relations. Therefore, they were less concerned than Level Bs about the *Community Impact* (C3) factor. Level Bs indicated that they found the *Research Climate and Culture* (B6) as the third-highest hampering factor, which might explain their need for the importance of interaction with communities, which they might not have found internally. This need for interaction combined with, the earlier reported, dissatisfaction supports findings by Seipel and Larson (2018) concerning relatedness or the need for interaction that through outside factors, impacting on the individual and mediates the effect of satisfaction.

Community impact effects ANRU's *reputation*; however, the positive benefits flowing from ANRU research to communities were not recognised by authorities on a national level. This oversight inhibited grant allocations and HDR attraction for improved research performance and left Academics feeling powerless.

8.2.3.3 Discussion and Interpretation

Academics, as well as the RLC, indicated that the impact from the external environment was mostly from Government, which supports findings by Harman (2005b) that governments employ strategies to influence or coerce universities and researchers, and external influences that then impacted on their

work-life and research activities. The work-life impact from *community*, *national* and *international* factors on Academics' research performance further supports affirmations by Gagné and Deci (2005) to the effect of external factors on motivation and job satisfaction.

Both the codes *community* and *reputation* link to tacit and tangible recognition and support from external resources and thus support findings by Crick et al. (2019) that relatedness mediates the relation between external support and satisfaction. The finding highlights the importance of the basic psychological need of 'competency' This contribution is related to the positive or negative psychological impact on the receipt of *community* support or not, for research endeavours through the perception of *reputation* which is indicative of the acknowledgement of competency. The link between *reputation* and competency supports findings by Sroufe and Gopalakrishna-Remani (2019) that reputation is directly related to performance and findings of Brewer and Selden (2000) that organisational performance is partially a result of the competency of its people.

ANRU's perceived lack of *reputation* as a research performing institution, according to the Excellence in Research for Australia (ERA) performance indicators, is commensurate with ANRU Academics' internal focussed needs and perceived impact of the external environment. These needs and focus, support research findings by Diezmann (2018) into research performance strategies of institutions which is proportionate to what is more proximate than distal in conjunction with their research maturity.

The *External Context* (C) theme, comprising *Community Impact (C3)*, *National* (C1), and *International Impact* (C2)*,* was the only theme where the three cohorts did not offer the same factors when sharing their experiences. It thus seems that there were, as could be expected through a social constructivist lens, a more unified experience from specific cohorts on those factors in their proximity than those more distal which supports findings by Bronfenbrenner (1981) and Diezmann (2018). While *National* (C1) and *International* (C2) impact emerged as factors from all three Cohorts' qualitative data, the factor *Community Impact* (C3) was not a prominent theme from the DOH Academics' data. This exclusion by the DOH could most probably be ascribed to the high awareness of the perceived negative impact of their *Work Context* (B) and consequently, the lower than

expected research performance. The lower emphasis on the *External Context* (C) theme factors further supports the findings of Bronfenbrenner (2005) that those aspects further from the individual or group will have the least impact on their behaviour.

The DOS Academics understood universities' third mission to impact on communities and its influence on generating funds and university rankings which supports the findings of Laredo (2007), Montesinos et al. (2008) and Pinheiro et al. (2015). R16 expressed these views as "we make an effort to engage with the industry, with communities. That's what we're here for, the community" whereas R 29 linked the impact of *Community Impact (C3)* to ANRU's *reputation*, with the apparent spinoffs, when asserted "International guys come down that raises our profile within the community" It becomes apparent from these data that the factor *Community Impact (C3)* is a symbiotic relationship with reciprocal value.

Not only did Academics indicate in the *Personal Context* (A) the loneliness that discipline *isolation* brings, they also were frustrated with the geographical *isolation* as a hampering factor in building their *reputation* indicated by R17 with "we're so far away, we're - we miss opportunity". This finding supports findings of individuals' frustration and the effect on motivation by Ball and Crawford (2020) and Wu (2020). Prejudice against ANRU further aggrieves Academics as reported by R30 citing an ARC assessor saying "*'The investigator is very promising, and the only thing is that this person belongs at the University of [X] not at [ANRU]*'". This prejudice impacted on *reputation*, *funding* and *conducting research* frustrations that support wellbeing and performance findings reported earlier too by Baard et al. (2004); and Deci et al. (2001).

Assertion 8.18

The *internal capability* of ANRU and the *researcher capability* in specific subdisciplines did not inspire confidence in the external research *community*, exacerbated by isolation which led to a further lack of collaboration for ANRU Academics, which impacted on *reputation* and research *funding* allocations.

Although not ranked as the most facilitating or hampering factors, all three cohorts were united in their views that the factor *National Impact* (C1) does

influence their research performance through *government agencies* as evidenced by R1 “Government policy on what counts in terms of research … government policies on funding awards to universities, that clearly affects what we can do because of how the money is distributed” supports reports by Harman (2005b).

Whilst the factors *National Impact* (C1) and *International Impact* (C2) were not seen as influential factors; it indeed highlighted two aspects. First, the interwoven contexts through the external context impact on the other two contexts by providing world research agendas and funding, how that influences the departments’, work context and personal context in terms of the individual’s wellbeing and research performance. Second, it also confirms that the higher academic levels were more aware of the facilitating impact of the *International Impact* (C2) than Academic Level B due to their proximity to this factor. This confirmation further supports the proximity versus distal assertions by Bronfenbrenner (1981) and accordingly, the appropriate research strategies to improve ERA rankings as found by Diezmann (2018).

Assertion 8.19

International and *national* research *agendas* and *funding* impacted on the *work context* with perceived shortages of *financial resources*, challenging *work content* and *environmental capability*. The *work context* impacted on the *personal context* in the form of some Academics’ wellbeing that was destabilised by stress and burn-out with potential lower research performance.

Although the DOH experienced *isolation* and the lack of *collaboration* from external resources as per the overall *External Context* (C) theme; DOS Academics experienced individual discipline *isolation* exacerbated by geographical *isolation* and a lack of institutional or researcher *reputation* too. This *isolation* supported the proximity and distal arguments by Bronfenbrenner (2005) and Diezmann (2018) from an ecosystem perspective in that it denied *collaboration* with external sources and left DOS and DOH Academics without opportunities to improve their *skills*. R13 mentioned the impact of *isolation* on competency and belonging to a broader group of expertise as “that’s [isolation] what makes the international collaborations at

times harder" and supports the basic psychological needs competency and relations research by Murayama (2012) and relatedness findings of (Crick et al., 2019).

Assertion 8.20

The effect of the *external context* left many Academics disenchanted and most felt lonely in their endeavours towards improved research performance with a strong perception of *bias or prejudice* against ANRU.

The DOS and the RLC, apart from the *isolation* perceived the external environment as more of an opportunity to collaborate offered by R24 as "the collaboration, particularly at the international level, will benefit our research quality, and - and research outputs as well" to extend their *competency,* and thus *reputation*. This benefit is interpreted as successful researchers obtain *funding* as a result of their *competency* which supports Gagné and Deci (2005) findings of the link between competence and performance, which could potentially lead to improved *reputation* and more research *funding* in ANRU's case.

8.2.3.4 Summary of the External Context *(C) Theme*

The following network Figure 8.9 which shows how factors interrelate is drawn from the comparison, discussion and interpretations of the *External Context* (C) data.

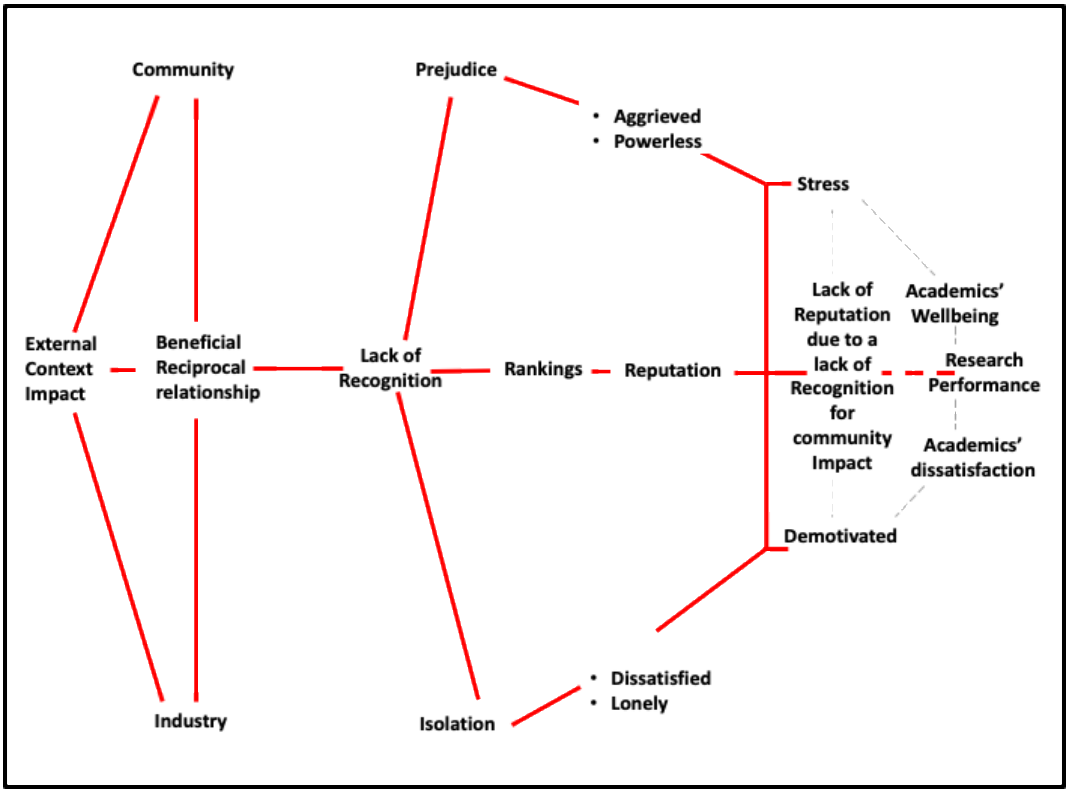

Figure 8.9: Lack of Recognition Impact on Reputation

Academics believed that there was a reciprocally beneficial relationship, in some areas, due to the positive impact of research on the *community* and industry. However, a lack of recognition of these impacts limited any reputational benefits. This lack of recognition impacted negatively on *reputation* and rankings which, in turn, impacts on the attraction of students and experts to the University. This lack of recognition and impact further left Academics aggrieved, powerless and stressed, while the *isolation* contributed to loneliness and dissatisfaction that contributed to lower motivation levels.

8.2.4 Overall ANRU Context Network

None of the three themes in isolation could provide sufficient evidence that they can explain the effect of context on research performance or drive research performance on their own.

An analysis of the factors drawn from the three contexts that have the most positive and negative influence on research performance at Another New Research University is illustrated below in Figure 8.10, employing a network.

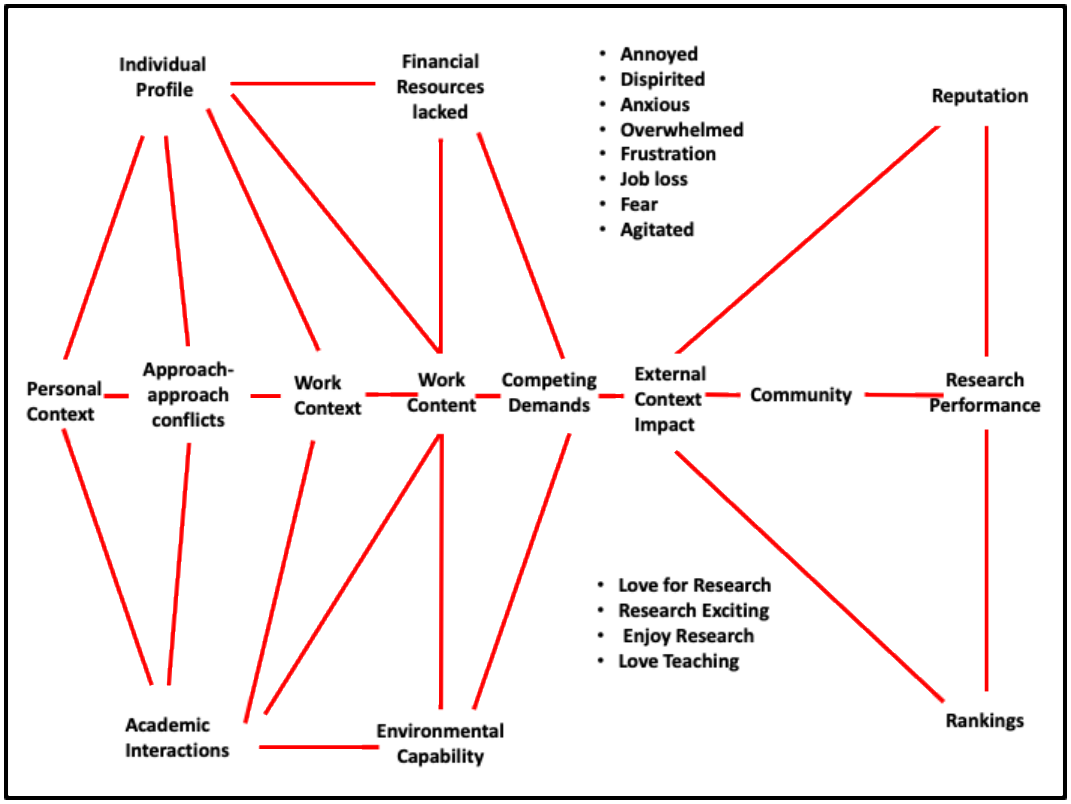

Figure 8.10: Research Performance: Contextual Factors Interconnectivity Impact at ANRU

From analysing the above network, the interaction that the factors have in this network can be observed and further interpreted as follows. The *Personal Context* (A) with its two factors *Individual Profile* (A1) and *Academics' Interactions* (A2) are impacted by the *Financial Resources* (B1) and the *Environmental Capability* (B3) from the *Work Context* (B) theme respectively. These impacts have the effect of approach-approach conflicts in the form of identity work which impacts on the *Work Context* (B). Within the *Work Context* (B) theme, the *Work Content* (B2) further created competing demands mainly between teaching and research which led to a host of conflicting emotions such as love and joy for and of teaching and research but being overwhelmed, anxious, and agitated. This *Personal Context* (A) and *Work Context* (B) factors impact on the *External Context* (C) with effects on the *community impact* and *reputation* that influences the overall rankings and in turn impact again on *reputation*.

The *external context* impact on the *work context* and *personal context* and vice versa in their contribution to research performance. These interactions of the factors with one another support findings by Uslu (2017) that direct and indirect connections amongst factors supporting research performance and that

relatedness mediates between factors that impact on Academics' overall satisfaction (Crick et al., 2019) and their performance. These findings further support the Self Determination Theory (SDT) claims of Crick et al. (2019) and Deci and Ryan (1985a) that psychological needs mediate between the environment and satisfaction and eventually wellbeing of the Academic.

The mini theories of SDT as explained in Deci and Ryan (1985b), Basic Psychological Needs (BPN), Cognitive Evaluation Theory (CET), and Organismic Integration Theory (OIT) respectively confirmed the motivational needs; competency, autonomy and relatedness which have been proven to indicate satisfaction. In turn, the link between job satisfaction and performance has been confirmed by Judge and Bono (2001a) too, which led this researcher to believe that findings from this study not only indicate that some Academics at ANRU who are dissatisfied may experience serious health issues and as a result cannot perform their best. Furthermore, the causes for dissatisfaction as reported here need to be addressed so that the right context can be created to reach the *expected research* performance.

Together with the general systems theory, SDT, bio-ecological systems theory, JDR/C theory, and Planned Change theory the basis of a bio-ecological-work performance theoretical model intertwined with an Adaptive High-Performance Research Implementation Framework is starting to emerge.

The 11 factors all impact academic staffs' satisfaction and more specifically, the six factors ranked as the most hampering and facilitating by the cohorts surveyed and thus performance. As such, the factors and Academics' satisfaction experience of the factors further supports the finding by Judge et al. (2001b) of the impact of job satisfaction on performance. While fully cognisant of the fact that the Crick et al. (2019) study looked at overall factors, derived from Structured Equation Modelling (SEM), that impacted the satisfaction of academic staff in general and most notably in the teaching sub-discipline. There are positive relationships and support for their study, especially concerning the dissatisfaction that Academics reported in this study. This study differs from the results found by Crick et al. (2019) in that it contributes by separating personal context, for example, their *Personal and Family Support* variable, factors from the work context factors and that it also found *external context* factors impacting on Academics' ability to

perform. This difference in labels between the studies is probably due to the COACHE survey results used by Crick et al. (2019), for example, a questionnaire following precisely labelled constructs and addressed through the lenses of job satisfaction and SDT for Teaching and Service satisfaction. Also, this study contributes to knowledge in that it added research performance and revealed the research professional sub identity of research in a young university.

8.3 Towards an Emergent Theoretical Model and Implementation Strategies

On face value, it might seem obvious to take all the correct process steps, e.g. strategic planning, recruit and appoint people according to the *capabilities* needed, orientate, induct, develop and reward them, and have all the High Performing Work Systems and Practices in place to ensure high performance in the organisation. However, the dynamic living creatures within those systems will only perform when and if all the contexts are in harmony and synchronised. Researchers are not stagnant either in how they act on a day to day basis, and neither does their environment stays constant. This dynamism within people, the environment and interactions amongst people and the environment led to 'outcome behaviours' which cannot be controlled but facilitated for improved performance. As mentioned in the literature review, the behaviour is a function of both personality and the situation or context posited as a formula (Bronfenbrenner, 1988; Lewin et al., 1936). The researcher builds onto this formula and suggests that in the context of this study research performance, as an 'outcome behaviour', can be formalised as OB=f(P x IC x EC). The formula is described as Outcome Behaviour (OB) or research performance which is a function (f) of the Personal profile (P), the Individual's Context (IC) - where IC is made up of Education, Work, and Life Experience and Exposure, and the Explicit Context (EC) the individual is exposed too. The influence of the multidirectional effect of personal context, work context and external context on each other has been confirmed with findings from this study and supports reasoning regarding the meaning of proximity which could be positive and negative by Merçon-Vargas et al., (2020).

To ensure the best possible 'outcome behaviours' OD specialists and research leaders would be better positioned in supporting an institution with a

model and an adaptive framework which they can apply with plug and play theories and processes for collaborative contextualised interventions to keep the contexts and the incumbents in harmony and synchronised. This harmony should lend itself to psychological and physically healthy, motivated academics and optimum research performance.

To the researcher's knowledge, current literature utilises the constructs systems and practices interchangeable in the High Performing Work Systems/Practices theory. This researcher's view is that practices embody the 'what and how' of actions executed 'within' a holistic interrelated network or system and should not be used as substitutes for each other.

8.3.1.1 An Adaptive Research Performance Model and Framework

A contextual research integrative systems model, nested in a shell framework that is adaptive, supportive, and agile to specific organisational contexts and initiatives could support the harmony between the staff and their contexts. Depicted in Figure 8.11 is an example of such an integrative contextual systems research performance model in an adaptive framework created from the data.

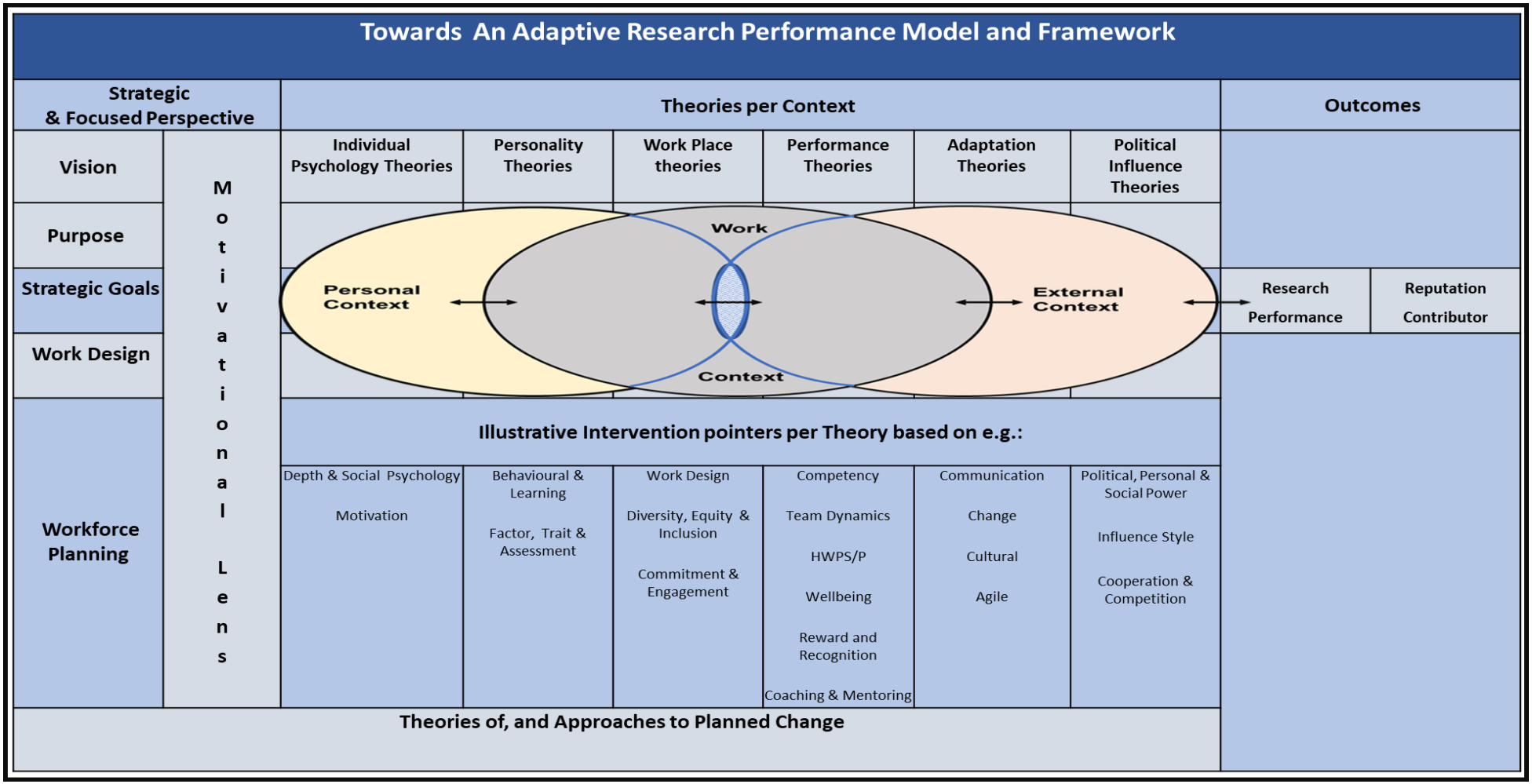

Figure 8.11: Illustrative Adaptive High Research Performance Implementation Model and Framework

The illustrative model and framework in Figure 8.11 consist of the themes that emerged from this study. The themes, represented by three amber and grey circles, form the integrative contextual systems research performance model. This model is nested in the framework which is demarcated by strategies, theories, intervention approaches and outcomes. The framework provides a theoretical based strategic approach where the aspired outcomes are improved *reputation* through research performance. The launch of the framework includes a planned changed approach and strategic goals that align with the vision, purpose, and values (VPV) of the institution and work design and workforce planning. Implementation and delivery initiatives or interventions are supported by applicable theory and planned change theory and approaches per context. These alignments are ideally done from a motivational perspective, as we were made aware in this study that motivated staff are more satisfied and report to perform better. The theories and interventions that support the overall perspective should be implemented holistically and with integrated systems and design mindset. These theories and approaches originate in workforce planning. They are first most nested in the personal context which includes psychological and personality theories with interventions from the depth and social psychologies, for example, factor and trait assessments to create and match the best suitable person in the personal context with matching staff profiles. Interventions such as mapping and ensuring that job profiles align with the organisational values, to create and sustain an ideal personal context can be achieved through recruitment, assessment, and selection (RAS) practices and behaviour and learning supported orientation and induction. In the work context, practitioners should be aware of work and performance theories that might include high-performance working systems and practices. These theories should include interventions such as aligned work design and employee value propositions (EVPs), commitment and engagement interventions and individual and team development mapped to the ideal competency/*capabilities* for the job environment. Within the *external context*, but not excluding the personal and or work context quick adaption with political power and influences theories need to be addressed. This adaption might need 360 degrees communication for transparency; creating an agile, creative, innovation culture where staff believe and practice the correct application of power influence

and cooperation. This influence and cooperation take place with an institutional team approach against the competition in line with an institution's VPV, which should lead to ethical research performance and a *reputation* backed by integrity.

8.4 Chapter Summary

This Chapter interpreted and synthesised findings about the impacts of context on research performance as experienced by Academics from two Academic Departments one from the Humanities and the other from the Natural Sciences, and a Research Leaders Cohort.

The Personal Context (A) factors Individual Profile (A1), Academics' Interactions (A2) and External Context (C) factor Community Impact (C3) represented the three most facilitating factors for ANRU Academics. All the cohorts and academic levels reported Work Context (B) factors as the top three factors hampering research performance, namely: Financial Resources (B1), Environmental Capability (B3), and Work Content (B2). The DOH was the only cohort that also ranked Financial Resources (B1) and Work Content (B2) as the most facilitating factors. This coincidence should be viewed as when these two factors are conducive and available, they have a positive impact, but when absent, they impact negatively on research performance. More differences appeared in the rankings of the Work Context (B) factors than the Personal Context (A) factors. The differences between cohorts and academic levels can be ascribed to differences in the work contexts of academic disciplines and how they are experienced.

DOH Academics experienced a higher level of conflict between attending to teaching versus research as well as work-family interference (WFI). Whereas, the DOS Academics were more concerned about the lack of a work-life balance (WLB) as well as interaction opportunities that could lead to improved research performance, which both contributed to them questioning their professional identities. The DOH's Academics wellbeing was more at risk than the DOS due to the more intense experience of competing demands and lack of control in the absence of ANRU's perceived support. Academics with a strong discipline professional identity, created during their professional training, will have more difficulty to identify with the occupational identity academic and specifically the role-

identity research in the absence of well-integrated and supportive systems which could impact their wellbeing.

The work context, also, contributed more negatively to the Academics' personal context in that there are instances where the lack of support, the competing demands and a lack of integrated high performing work systems and practices in the environment probably caused ill mental health experiences and these were reported more frequently from the DOH than the DOS Academics. Research leadership, more distal to research on the operational level, are less aware of challenges researchers experience that lead to the perception that leadership are unsupportive of research performance. Where negatively experienced, the work context has a more substantial impact on Academics' dissatisfaction which potentially impacted their research performance more than what their personal context had as reported in 8.2.1.3 and contributed to a hampering impact on the personal context. Motivated Academics, in their professional capacity, can still be dissatisfied with their work environment where the work context is perceived as unsupportive, unfair and hampering their performance.

The internal capability of ANRU and the researcher capability in specific subdisciplines did not inspire confidence within the external research community and that resulted, for ANRU Academics, in isolation which led to a further lack of collaboration which impacted on research funding allocations. The effect of the external context left a large contingency of Academics disenchanted and most felt lonely in their endeavours towards improved research performance with a strong perception of bias or prejudice against ANRU.

The researcher conceptualised a framework at the start of the study (see Figure 2.2 in chapter 2 or figure 8.1 in chapter 8) and adapted a model with findings from the study to present the theoretical model within an adaptive framework (Figure 8.11) which could assist a young university like ANRU to become more competitive in research performance.

Chapter 9 is the final chapter of this thesis, the experiences, key findings and assertions that have emerged from the three cases and discussed in this chapter will form the basis for the conclusions drawn from this study. These conclusions will provide answers to the research questions which guided the study.

Chapter 9: Conclusion

9.1 Introduction

The key purpose of this study was to explore the contextual factors that enable and/or constrain research performance at Another New Research University (ANRU) with an overarching research question of how do contextual factors impact research performance at Another New Research University?

Context does matter as indicated by Kurt Lewin with “every event depends on the totality of the contemporary situation” (Lewin et al., 1936). The significance of context is evident in the differences in the research performances amongst countries, between Australia's leading research-intensive universities (Go8) and other Australian Universities, as well as between two different young universities. The impact of context is further confirmed by the differences between the two ANRU departments and amongst several academic levels as revealed in this study. Thus, it would be wise to consider that the context could matter in all research situations for all researchers, and contextual factors should be taken into consideration when planning strategies for improved research performance.

The findings of this study and answers to the research questions are presented as conclusions below.

9.2 Conclusions

The key purpose of the study was to explore the contextual factors that impact research performance at Another New Research University (ANRU). As reported in Chapters 5-7, research performance at ANRU is impacted by three contextual domains, namely: the individual Academic’s *personal context*, the *work context* and the *external context* which formed the three domains of a theoretical framework for research performance at ANRU. These three contextual domains comprised 11 factors that impacted on the Academics’ research performance. The 11 factors with their descriptions are provided in Table 9.1.

Table 9.1: Research Performance Contextual Factors

Personal Context
Researcher's Individual Profile comprises those attributes, emotions, traits, behaviours and the individual's personal circumstances that impact on their research performance.
Academics' Interactions are those collaborations they view as opportunities to learn, showcase their research and finding research opportunities which impact on their research performance.
Work Context
Financial Resources describe what affect the availability and utilisation of various types of monetary aspects have in the research domain.
Work Content describes what internal job-related factors impact on their work/lifestyle activities and research performance.
Environmental Capability constitutes those aspects inherent to the environment that impact on their research performance.
Conducting Research constitutes those factors throughout the research process from the expectation to research through to the reception of the reward for publishing that impact the outcome of their research performance.
Institutional Leadership constitutes those directional and governance aspects introduced by the Institution and their leadership that impact on their research performance.
Research Climate and Culture are those conditions that constitute the way and atmosphere in which research academics operate.
External Context
Community Impact constitutes the impact and influence communities, and industry partners have on research performance.
The National Agenda describes National and State Government legislation, regulations and guidelines within which research is conducted and the impact thereof on research performance.
The International Agenda categorised those International agendas that provide global opportunities and influence community thoughts on research direction and ultimately, research performance.

The domains and their composite factors helped explain the research leaders and active researchers' experiences of research at ANRU and provide answers to the research questions.

Research Question 1: How did research leaders and active researchers perceive the impact of external and internal contextual factors on research performance at Another New Research University?

Research leaders were from two distinct contexts, namely from the Academic Departments' (ADLs) and Central Research Leadership Services

(CSRL). Apart from the expected difference concerning the ADLs' perception of the centralised support they received, these two sub-cohorts agreed and perceived the impact of the emerged factors similarly (See Assertion 8.3). The Research Leadership Cohort (RLC) expressed their concern that Academics misjudged their competency and competitive levels and are consequently not competitive in securing national competitive research grants. They were also concerned about resistance to changes that might improve research performance; however, leaders lacked total awareness of the challenges researchers experience (See Assertion 8.10). Academics from both the Academic Departments, the Department of Humanities (DOH) and the Department of Sciences (DOS), were frustrated and wellbeing suffered under competing demands, a lack of support such as funding, opportunities to interact with other researchers and build *collaboration* networks and skills (See Assertion 8.4, 8.18 and 8.19). The lack of networking and a strong perception of prejudice against ANRU left many Academics feeling lonely in their endeavours and disenchanted (See Assertion 8.20).

Research Question 2: How did research leaders and active researchers, from different appointment levels and disciplines, vary in their perceptions of contextual factors impacting on research performance at Another New Research University?

In response to Research Question 2 the negative perception of the factors hampering research performance (See Assertion 8.7) at ANRU, can be explained in terms of the three factors that most hamper research performance. The negative impact that contextual factors, especially from the work context, have on research performance was agreed upon by most research leaders and active researchers from different appointment levels and disciplines. Broadly within a similar overall context, different disciplines, and from different academic levels, the same contextual factors were perceived as impacting on research performance as well as the effect of the context themes on each other (See Assertion 8.1 and 8.18 – 8.20). Not only did different appointment levels (See Assertion 8.1) vary in their perception of the impact of contextual factors, but Academic Departments (See Assertions 8.3, and 8.5) also differed on the level of impact the factors have in their potential to perform in research. These differences were most notably with regards

to the different experiences of the immediate work context (See Assertion 8.2, 8.7 to 8.9 and 8.13 to 8.15). The DOH Academics experienced a higher level of competing demands stemming from teaching and research, which caused work-family interference (WFI) impacting on their wellbeing. The DOS Academics, on the other hand, were more concerned about Family Work Interference (FWI) and if a work-life balance (WLB) was exercised, it clashed with interaction opportunities that could lead to improved research performance (See Assertion 8.5 and 8.6). These concerns of a WLB clashing with interaction opportunities led to them to question their roles, primary and nested work identities (See Assertion 8.2, 8.13 and 8.15).

The most significant difference in the academic levels stems from which contextual factors the different academic levels deemed as facilitating and or hampering contextual factors (See Assertion 8.3, 8.10 and 8.17). Although there was a high level of accord on the factors that impact research performance academic levels differed in their rank ordering of hampering factors. The most significant differences in factors were the academics at level B, who have a higher exposure to teaching than research and found the work context less conducive (See Assertion 8.1, 8.7 and 8.16). The Academic Level Es, with more frequent interaction with external networks, did not seem to find this proximal impact a facilitating factor whilst the Academic levels B to C who experienced less opportunity for networking found this a facilitating aspect. Academic level B was the only academic level that offered *Conducting Research* in the top three as a facilitating factor (See Assertion 8.7 and 8.17) which is another direct work-related factor.

Research Question 3: Which of these contextual factors do research leaders and researchers perceive to have the most influence (positive or negative) on research performance at Another New Research University?

The three factors that had the highest overall impact on research performance at ANRU were all hampering factors from the *Work Context* (B) namely: *Financial Resources* (B1), *Work Content* (B2), and *Environmental Capability* (B3). See Assertions 8.2, 8.3, 8.5, 8.6 and 8.7 to 8.15.

The competing demands and workload, together with a lack of a supportive environment created a non-conducive research experience. The impact not only effected the personal context in general, but also created uncertainty amongst Academics concerning their professional, occupational, and nested role identities. This hampering impact affected wellbeing, in some instances, most notably stress and burnout.

The *work context* factors were not only impacted by the *external context* factors (See Assertion 8.18) but also the *personal context* factors (See Assertion 8.15).

Overall, research leaders and active researchers reported the factors that had the most facilitating impact on research performance at ANRU as: *Researcher's Individual Profile* (A1), *Academics' Interactions* (A2), *Communities* (C3), including industry partners, and *Financial Resources* (B1). Facilitating factors represented all three contextual domains. These factors could represent the high research performing Academics, indicative of *capable* researchers, who have the preferred *characteristics*, *interact* with the *community*, and have *funding* support. It also represents what Academics reported as what they might need to deliver the *expected research* performance. On a positive to negative continuum, the reverse of the negative impacts (See Assertions 8.12 to 8.15) would also represent these reported facilitating factors.

Overarching Research Question: How do contextual factors impact research performance at Another Research University?

The 11 contextual factors that emerged, and more specifically the six most hampering and facilitating factors, exposed the significant impact that context has on: the *personal circumstances* and consequently the professional, and sub identity conflict Academics experienced. These personal context aspects were aggravated by a perceived non-supportive work context which further impact on dissatisfaction and motivation of the Academic. The affective experience reportedly hampers their research performance and ANRU's *reputation*. The effect of the internal and external environment resulted in Academics being disenchanted with their research performance situation, which resulted in at-risk wellbeing.

It is clear from these hampering and facilitating factors that: The six ranked factors from the *Personal Context* (A), *Work Context* (B) - See Assertion 8.12 - and *External Context* (C) themes impacted individually and in concert on research performance and had a significant impact on the Academics' wellbeing (See Assertions 8.2, 8.5, 8.6 and 8.16). On the other hand, if Academics possess *characteristics* that can cope with the demands and are aligned with the role specifications, they could improve research performance (See Assertion 8.6).

The *external context* (See assertions 8.16 – 8.20), and more specifically the perceived *reputation* which impacted *funding*, affected not only the *work context* (See Assertions 8.7 – 8.15), but also the *personal context* (See Assertions 8.1 – 8.6) and especially the feelings of loneliness and disenchantment. The *work context* further impacted on the *personal context* with specific reference to competing demands, questioning of identities and frustration that lead to stress and burnout in some instances.

9.3 Contribution to Knowledge

Thus far, to the researcher's knowledge, few studies of research performance have considered the full range of *personal*, *work*, and *external contexts*. Most other studies have concentrated on viewing the phenomenon through the *work context* lens. This study not only revealed how the three contexts impacted on research performance but also highlighted the compounding impact of factors across the three domains.

The study further supports Diezmann's (2018) findings of 'Instilling' universities and highlights the fact that young universities, with comparable contexts to ANRU, are more likely to have lower research performance outputs due to, competing demands amongst teaching, research and service; financial constraints; and a lower research performance *reputation* (Khor & Yu, 2016; Miotto et al., 2020). ANRU's experienced research *reputation* suffers explicitly due to the personal context of Academics, namely lacking the opportunity to build skills and interact with other researchers, the impact on family-work interference, work-life balance, and work-family interference. These aspects impacted wellbeing as well. All these aspects hampered research performances and could affect the attraction of the best HDR students and reputable researchers.

Further to the research questions a model was developed. This model is in response to the problem statement for this study provided in paragraph 1.2, namely: “Contextual factors that enable and/or constrain research performance, in mainly young universities, are not fully understood nor integrated into a framework”.

This model, together with the ‘outcome behaviour’ formula, which reads OB=f(P x IC x EC), represents a significant contribution from this study in that it exemplifies the theoretical context model of which impacting factors will differ from context to context. This theoretical context model is nested in a high performance OD framework as an adaptive high-performance research model and framework, Figure 8.11 in chapter 8.3.11, represented as Figure 9.1 in this chapter.

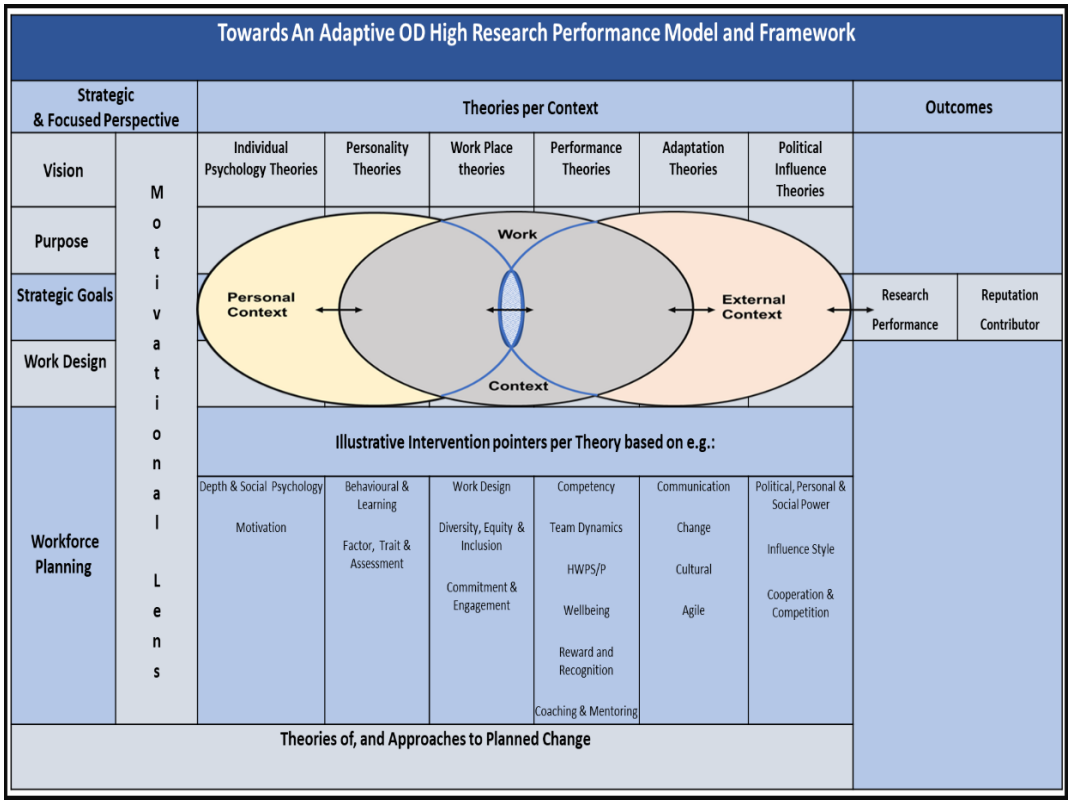

Figure 9.1: Illustrative Adaptive High Research Performance Implementation Model and Framework

The model is based on the data stemming from the exploration presented as factors which impact research performance. It synthesised the contextual factors and integrated them into a framework that comprises *personal*, *work*, and *external context* themes. This synthesis further contributed to the quest for integration stated in the second part of the problem statement. The model further highlights the integration of these contexts with typical theories and interventions

aligned with organisation strategies. OD practitioners and relevant stakeholders, such as research leaders, could use the model to improve research performance by promoting and implementing comprehensive, holistic, and integrated strategies for improved research performance.

9.4 Limitations

The scope of the study was to explore contextual factors impacting on research performance in two Academic Departments within a Young University. Given the variations in experiences of research in different contexts across disciplines, academic levels, researcher and leader roles, the findings are clearly bound to the context. Therefore, the generalisation of the findings needs to be undertaken with caution.

Due to the restrained focus of the study, reporting the *personal context* and more specifically, the *individual profile*, with reliable, in-depth psychometric assessment data, was not desirable and not undertaken. Likewise, more proximal *work context* factors probably prevented the DOH participants, with a time-poor perception, to provide thick experiences of the distal *community impact* to enrich the *External Context* (C) theme that emerged. However, the DOS and RLC provided ample detail to explore this factor.

Nevertheless, given that there are significant commonalities in how different levels from different departments view the impacting factors, there is sufficient direction provided by the findings to make recommendations about the strategies universities might employ for improved research performance.

9.5 Implications

This research showed that within a relatively similar overall context, different disciplines and to a large extent, different academic levels, will broadly perceive the same contextual factors, as revealed by this study, impacting on their research performance. They will, however, have different experiences of the level of impact the aspects have on their research performance. ANRU could provide academic departments with generic guidelines and advice to adapt and employ coherent research strategies fitting the context of the institution, the academic department, and its academic levels to improve ERA ratings.

None of the factors or contextual themes on their own drive or sustain research performance in isolation. The academics in these multiple contexts need the support of a holistic, systemic organisation view, which can influence the *external context* and adapt to its demands led by strategic *leadership* and supportive management and *institutionalised* management *work structures*. The outcomes of this study can add to, and elaborate those that characterise high-ranking Australian universities as reported by Uslu (2017) as 'Encouraging Leadership' and supportive 'Management Structures', selection norms for 'Financial and Human Resource Investment' and 'Intra/Interpersonal Motivators'. These contextual factors also show substantial alignment with the research strategies universities employ for improved research performance (Diezmann, 2018). Still, the specific context determines the hampering and facilitating factors which amplify the difference between a young university like ANRU and the top-ranked and research-intensive universities. The direct implication of the results indicates that:

- recruitment and selection practices need revisiting to ensure not only a job-fit but also organisational-fit, which includes aspects such as the psychological contract. Establishing this fit upfront is needed as academics are mostly satisfied with their professional roles. However, they are dissatisfied with the perceived contradiction between the psychological contract and support in their work environment to the extent that there are role identity conflicts and concerns for wellbeing;
- orientation, induction, individual and team development programmes need adjustments, and ANRU's Research Leader Cohort could support academic departments, primarily academic level B's and new entries with induction. Induction should be aimed towards the vision, values, strategies and academic role expectation, and research development skills especially in the Humanities; and
- the whole Institution, on all academic levels, can benefit from the implementation of High-Performance Work Practices and Systems with applicable organisation development principles and where absent change principles.

9.6 Recommendations

OD interventions at its core is premised on a shared, collective engagement of the issues with agents of change and the client system. This engagement means intimately collaborating on all levels from the initial conceptualisation of the symptomatic behaviour through to the shared diagnosis, interpretation and considered collective action in response to needed change (Burke, 2018). This collaboration and 'action research' philosophy has been central to the success of OD interventions compared to the failures of conventional change management recipes (Kaiser, 2018).

Several assertions (See Appendix 9.1) were derived from the analysis and interpretation of results which can inform a strategic program for the enhancement of research performance. However, in the systemic philosophy of OD and the suggested illustrative integrated research performance model and framework, a holistic and integrated program of interventions should be agreed upon by the client and the OD practitioner. These strategies below, implemented as a coherent program, are consistent with an overall OD approach which could be summarised as follows:

- Implement a research vision linked to the ANRU strategic goals and develop research strategies fitting the ANRU context adaptable to different departments and academic levels.
- Implement HPWS&P that will support research managers and researchers in their performance endeavours.
- Appoint according to person-job-institution-fit and provide customised development for improved research performance in respect to personal, interpersonal, technical research systems and practices and specific research skills to each academic level and research supervisors and leaders.
- Implement specific strategies to assist researcher and research leaders to interact with internal, national, and international researchers and research bodies to improve the existing perceptions of *reputation*.

The above program of implementation strategies amongst others implemented in a planned change approach, should improve research performance for a young university like ANRU. This strategic program can be

implemented with an ‘adapted for context’ model and framework as depicted as an illustration earlier in Figure 8.11 and expanded on in the model provided as Figure 9.1.

A logical next step, following this thesis, will be refining of the emerged factors for a quantitative survey. It is suggested that the refinement applies a Bifactor ESEM (Reise, 2012) to determine if any of the selected item responses for the 11 identified factors load onto any single general factor. Some personal *characteristics* and professional identity aspects specific to ANRU surfaced. Further research to determine the unique personality profile for a researcher, included nested identity drivers, is needed to assist in matching researchers to the specific role and context of the institution.

9.7 Concluding Comments

Performance and organisation effectiveness are complex constructs that are impacted by the context. The essential variable in this context is the human being, or in this case, researchers, collaborators, leaders/managers and support staff.

Research performance, as an ‘outcome behaviour’, can be formalised as OB=f(P x IC x EC), which with a holistic and integrated organisational development approach that facilitate specific behaviour outcomes could support researchers in their performance. This approach, which not only assists in internalising what should be achieved, also institutionalises the strategy through implementation and maintaining support mechanisms for the particular context of which the contextual factors are known. This process can be summarised as follows: employ capable, reputable leaders with the appropriate mindset who appoint researchers who fit the researcher profile. Also, develop and lead the researcher with an internalised view of being a researcher or balanced academic in an environment that is created with sound organisation development principles for capable motivated people, *institutionalised* systems, and practices. This approach should create the optimum *climate and culture* for research and recognise and reward the performance of the researcher accordingly and appropriately.

Chapter 9 provides an overall conclusion for the entire thesis. The researcher asserts that all institutional leaders and organisation development

specialists should institutionalise and integrate the internalisation of the vision and values of the institution for a high-performance culture. Creating this culture is possible by implementing high performing work systems and practices that support the institutionalisation of the institution's vision and values. Integrating appropriate development programs with institutionalisation could foster internalisation of the vision and values by the staff. This approach should be a holistic, integrated effort that creates the required performance culture, as depicted in Figure 9.1.

References

Abbott, M., & Doucouliagos, H. (2004). Research output of Australian universities. Education Economics, 12(3), 251-265.

Afshar, Z., Ebrahimzadeh, Y., Seddigh, S. H., Golmirzaei, J., Hamedi, Y., Mahboobi, H., Shahrzad, Esmaeil, M., & Khorgoei, T. (2011). Research mentorship program (rmp) to enhance the research productivity in a psychiatric hospital: First report. Electronic Physician, 3(4), 442-445.

Agasisti, T., & Haelermans, C. (2015). Comparing efficiency of public universities among European countries: Different incentives lead to different performances. Higher Education Quarterly .(Advance online publication). https://doi.org/10.1111/hequ.12066

Aiken-Wisniewski, S. A., Smith, J. S., & Troxel, W. G. (2010). Expanding research in academic advising: Methodological strategies to engage advisors in research. NACADA Journal, 30(1), 4-13.

Aiston, S. J., & Jung, J. (2015, ahead of print). Women academics and research productivity: An international comparison. Gender and Education(ahead-of-print), 1-16.

Åkerlind, G. S. (2008). An academic perspective on research and being a researcher: an integration of the literature. Studies in Higher Education, 33(1), 17-31.

ALDamoe, F. M. A., Sharif, M. Y., & Ab Hamid, K. (2013). The causal relationship between hrm practices, affective commitment, employee retention and organizational performance. International Business Management, 7(3), 191-197.

Andrews, T. (2012). What is social constructionism. Grounded Theory Review, 11(1), 39-46.

Anikina, Z., Goncharova, L., & Evseeva, A. (2019). Constructing academic identity in the changing Russian higher education context: preliminary perspectives. Higher Education Research & Development, 1-14. https://doi.org/10.1080/07294360.2019.1704690

Appelbaum, S. H. (1997). Socio-technical systems theory: An intervention strategy for organizational development. Management Decision, 35(6), 452-463.

Ashworth, P. (2004). Understanding as the transformation of what is already known. Teaching in higher education, 9(2), 147-158.

Ashworth, R. E., McDermott, A. M., & Currie, G. (2019). Theorizing from qualitative research in public administration: Plurality through a combination of rigor and richness. Journal of Public Administration Research and Theory, 29(2), 318-333.

Auranen, O., & Nieminen, M. (2010). University research funding and publication performance: An international comparison. Research Policy, 39(6), 822-834.

Australian Government DET. (2014a). Boosting the commercial returns from research. http://www.education.gov.au/news/discussion-paper-boosting-commercial-returns-research-released

Australian Government DET. (2014b). Higher Education Support Act 2003, C2013C00029. https://www.comlaw.gov.au/Details/C2013C00029

Australian Government, D. (2015a). Research block grants. http://www.education.gov.au/research-block-grants

Australian Government, D. (2015b). Review of research policy and funding arrangements [News]. http://education.gov.au/news/review-research-policy-and-funding-arrangements

Australian Government, D. o. E., Skills and Employment. (2017). Historical Research Block Grant Programs. Retrieved 23 April 2020 from https://www.education.gov.au/historical-research-block-grant-programs

Australian Psychological Society. (2013). APS Code of Ethics. APS. https://www.psychology.org.au/Assets/Files/APS-Code-of-Ethics.pdf

Australian Research Council. (2015). History of ARC and ERA. Australian Research Council. Retrieved 10 September from http://www.arc.gov.au/

Baard, P. P., Deci, E. L., & Ryan, R. M. (2004). Intrinsic Need Satisfaction: A Motivational Basis of Performance and Weil-Being in Two Work Settings1. Journal of Applied Social Psychology, 34(10), 2045-2068. https://doi.org/10.1111/j.1559-1816.2004.tb02690.x

Babbie, E. M., J. (2015). The practice of social research. Cengage Learning.

Bailey, J. G. (1999, 1999/10/01). Academics' Motivation and Self-efficacy for Teaching and Research. Higher Education Research & Development, 18(3), 343-359. https://doi.org/10.1080/0729436990180305

Bakker, A. B., & Demerouti, E. (2017). Job demands–resources theory: Taking stock and looking forward. Journal of Occupational Health Psychology, 22(3), 273.

Bakker, A. B., Boyd, C. M., Dollard, M., Gillespie, N., Winefield, A. H., & Stough, C. (2010). The role of personality in the job demands-resources model: A study of Australian academic staff. Career Development International, 15(7), 622-636.

Bakker, A. B., Tims, M., & Derks, D. (2012). Proactive personality and job performance: The role of job crafting and work engagement. Human Relations, 65(10), 1359-1378.

Baldock, C. (2013). University rankings and medical physics. Australasian Physical & Engineering Sciences in Medicine, 36, 375.
Ball, K., & Crawford, D. (2020). How to grow a successful–and happy–research team. International Journal of Behavioral Nutrition and Physical Activity, 17(1), 1-3.

Barkhuizen, N., Rothmann, S., & Van De Vijver, F. J. (2014). Burnout and work engagement of academics in higher education institutions: Effects of dispositional optimism. Stress and Health, 30(4), 322-332.

Beerkens, M. (2013, April 1, 2013). Competition and concentration in the academic research industry: An empirical analysis of the sector dynamics in Australia 1990–2008. Science and Public Policy, 40(2), 157-170. https://doi.org/10.1093/scipol/scs076

Beigi, M., Wang, J., & Arthur, M. B. (2017). Work–family interface in the context of career success: A qualitative inquiry. Human Relations, 70(9), 1091-1114.

Bellas, M. L., & Toutkoushian, R. K. (1999). Faculty time allocations and research productivity: Gender, race and family effects. The Review of Higher Education, 22(4), 367-390.

Bernabé, M., & Botia, J. M. (2015, January 20, 2015). Resilience as a mediator in emotional social support's relationship with occupational psychology health in firefighters. Journal of Health Psychology. https://doi.org/10.1177/1359105314566258

Bianchi, R., & Brisson, R. (2019). Burnout and depression: Causal attributions and construct overlap. Journal of Health Psychology, 24(11), 1574-1580. https://doi.org/10.1177/1359105317740415

Billig, M., & Tajfel, H. (1973). Social categorization and similarity in intergroup behaviour. European Journal of Social Psychology, 3(1), 27-52.

Billot, J. (2010). The imagined and the real: Identifying the tensions for academic identity. Higher Education Research & Development, 29(6), 709-721.

Birmingham, S. (2016). Taking action to unlock the potential of Australian research https://ministers.dese.gov.au/birmingham/taking-action-unlock-potential-australian-research

Blaikie, N. (2007). Approaches to social enquiry: Advancing knowledge. Polity.

Bland, C. J., & Ruffin, M. T. (1992). Characteristics of a productive research environment: Literature review. Academic medicine, 67(6), 385-397.

Bland, C. J., Center, B. A., Finstad, D. A., Risbey, K. R., & Staples, J. G. (2005). A theoretical, practical, predictive model of faculty and department research productivity. Academic Medicine, 80(3), 225-237.

Bland, C. J., Center, B. A., Finstad, D. A., Risbey, K. R., & Staples, J. (2006). The impact of appointment type on the productivity and commitment of full-time faculty in research and doctoral institutions. The Journal of Higher Education, 77(1), 89-123.

Bland, C. J., Seaquist, E., Pacala, J. T., Center, B., & Finstad, D. (2002). One school's strategy to assess and improve the vitality of its faculty. Academic Medicine, 77(5), 368-376.

Boulton, G., & Lucas, C. (2011, 2011/08/01). What are universities for? Chinese Science Bulletin, 56(23), 2506-2517. https://doi.org/10.1007/s11434-011-4608-7

Boyd, P., & Smith, C. (2016, 2016/04/02). The contemporary academic: orientation towards research work and researcher identity of higher education lecturers in the health professions. Studies in Higher Education, 41(4), 678-695. https://doi.org/10.1080/03075079.2014.943657

Bradley, E. H., Curry, L. A., & Devers, K. J. (2007). Qualitative data analysis for health services research: Developing taxonomy, themes, and theory. Health Services Research, 42(4), 1758-1772. https://doi.org/10.1111/j.1475-6773.2006.00684.x

Brew, A., Boud, D., Crawford, K., & Lucas, L. (2018a). Navigating the demands of academic work to shape an academic job. Studies in Higher Education, 43(12), 2294-2304.

Brew, A., Boud, D., Lucas, L., & Crawford, K. (2018b). Academic artisans in the research university. Higher Education, 76(1), 115-127.

Brew, A., Boud, D., Namgung, S. U., Lucas, L., & Crawford, K. (2015). Research productivity and academics' conceptions of research. Higher Education, 1-17.

Brewer, G. A., & Selden, S. C. (2000). Why elephants gallop: Assessing and predicting organizational performance in federal agencies. Journal of Public Administration Research and Theory, 10(4), 685-712.

Brocato, J. J., & Mavis, B. (2005). The research productivity of faculty in family medicine departments at US medical schools: A national study. Academic Medicine, 80(3), 244-252.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. American psychologist, 32(7), 513. https://doi.org/10.1037/0003-066X.32.7.513

Bronfenbrenner, U. (1979). Ecology of human development: Experiments by nature and design.

Bronfenbrenner, U. (1988). Interacting systems in human development. Research paradigms: Present and future. In A. C. N. Bolger, G. Downey, & M. Moorehouse (Ed.), Human development in cultural and historical contexts. Persons in context: Developmental processes (Vol. 2, pp. 25 citation_lastpage= 49). Cambridge University Press.

Bronfenbrenner, U. (2005). Making human beings human: Bioecological perspectives on human development. Sage.

Bronfenbrenner, U., & Ceci, S. J. (1993). Heredity, environment, and the question" How?": A first approximation.

Bryman, A. (2016). Social research methods. Oxford university press.

Burke, W. W. (2018). The rise and fall of the growth of organization development: What now? Consulting Psychology Journal: Practice and Research, 70(3), 186-206. https://doi.org/10.1037/cpb0000116

Burrell, G., & Morgan, G. (2017). Sociological paradigms and organisational analysis: Elements of the sociology of corporate life. Routledge.

Cattaneo, M., Meoli, M., & Signori, A. (2014). Performance-based funding and university research productivity: The moderating effect of university legitimacy. The Journal of Technology Transfer (Advance online publication), 1-20.

Caza, B. B., Moss, S., & Vough, H. (2017, 2018/12/01). From Synchronizing to Harmonizing: The Process of Authenticating Multiple Work Identities. Administrative Science Quarterly, 63(4), 703-745. https://doi.org/10.1177/0001839217733972

Charmaz, K. (1990). 'Discovering' chronic illness: Using grounded theory. Social science & medicine, 30(11), 1161-1172.

Charmaz, K. (2014). Constructing grounded theory. Sage.

Church, A. H., & Pasmore, W. (2020). Celebrating the Career of W. Warner Burke: The Very Model of an OD Scientist-Practitioner. The Journal of Applied Behavioral Science, 0021886320960750.

Clegg, S. (2008). Academic identities under threat? British Educational research journal, 34(3), 329-345.

Cohen, A. (2006). The relationship between multiple commitments and organizational citizenship behavior in Arab and Jewish culture. Journal of Vocational behavior, 69(1), 105-118.

Cohen, A., & Veled-Hecht, A. (2010). The relationship between organizational socialization and commitment in the workplace among employees in long-term nursing care facilities. Personnel Review, 39(5), 537-556.

Colbeck, C. L. (2008). Professional identity development theory and doctoral education. New Directions for Teaching and Learning, 2008(113), 9-16.

Combs, J., Liu, Y., Hall, A., & Ketchen, D. (2006). How much do high-performance work practices matter? A meta-analysis of their effects on organizational performance. Personnel Psychology, 59(3), 501-528.

Commonwealth of Australia. (2012). National report: Excellence in research for Australia 2012. http://www.arc.gov.au/pdf/era12/report_2012/ARC_ERA12_Introduction.pdf

Cooke, M. (2014). The challenges of grounded theory. Nurse Researcher, 21(5), 6-7. https://doi.org/10.7748/nr.21.5.6.s2

Corbin, J., & Strauss, A. (2014). Basics of qualitative research: Techniques and procedures for developing grounded theory. Sage publications.

Corder, G. W., & Foreman, D. I. (2014). Nonparametric statistics : a step-by-step approach (Second edition. ed.). John Wiley & Sons. http://public.eblib.com/choice/publicfullrecord.aspx?p=1676115

Coulthard, D., & Keller, S. (2016). Publication anxiety, quality, and journal rankings: Researcher views. Australasian Journal of Information Systems, 20.

Creswell, J. (2003). Research design. Qualitative, quantitative and mixed method approaches" 2 ª edición. Sage Publications.

Creswell, J. W. (1985). Faculty research performance: Lessons from the sciences and the social sciences. ASHE-ERIC Higher Education Report No. 4, 1985 (0913317233).

Creswell, J. W., & Creswell, J. D. (2017). Research design: Qualitative, quantitative, and mixed methods approaches. Sage publications.

Creswell, J. W., & Poth, C. N. (2016). Qualitative inquiry and research design: Choosing among five approaches. Sage publications.

Crick, K. A., Larson, L. M., & Seipel, M. T. (2019). Non-Tenure Track Faculty Satisfaction: A Self-Determination Model. Journal of Career Assessment, 0(0), 1069072719870681. https://doi.org/10.1177/1069072719870681

Crossley, M. (2010). Context matters in educational research and international development: Learning from the small states experience. Prospects, 40(4), 421-429.

Croucher, G., Wen, W., Coates, H., & Goedegebuure, L. (2020). Framing research into university governance and leadership: Formative insights from a case study of Australian higher education. Educational Management Administration & Leadership, 48(2), 248-269. https://doi.org/10.1177/1741143219893101

Cummings, T., & Worley, C. (2014). Organization development and change. South-Western Cengage Learning.

Dadarlat, M. C., O'Doherty, J. E., & Sabes, P. N. (2015, 11/24). A learning–based approach to artificial sensory feedback leads to optimal integration. Nature neuroscience, 18(1), 138-144. https://doi.org/10.1038/nn.3883

Daft, R. L. (1992). Organization theory and design (4th ed.). West Publishing Company.

Daher, M., Olivares, H., Carré, D., Jaramillo, A., & Tomicic, A. (2017). Experience and meaning in qualitative research: A conceptual review and a methodological device proposal. Forum Qualitative Sozialforschung/Forum: Qualitative Social Research,

Davis, T. J., Greer, T. W., Sisco, S., & Collins, J. C. (2020). "Reclaiming My Time" Amid Organizational Change: A Dialectical Approach to Support the Thriving and Career

Development for Faculty at the Margins. Advances in Developing Human Resources, 22(1), 23-40. https://doi.org/10.1177/1523422319885115

de Lourdes Machado-Taylor, M., Meira Soares, V., Brites, R., Brites Ferreira, J., Farhangmehr, M., Gouveia, O. M. R., & Peterson, M. (2016). Academic job satisfaction and motivation: findings from a nationwide study in Portuguese higher education. Studies in Higher Education, 41(3), 541-559.

Debowski, S. (2007). Bridging the rhetoric–reality chasm: The contribution of Higher Education organisational development to university evolution and renewal. AUQA Occasional Publications Evolution and Renewal in Quality Assurance, Hobart, Australia.

Debowski, S. (2012). The New Academic: A Strategic Handbook: A Strategic Handbook. McGraw-Hill Education (UK).

DeChurch, L. A., & Mesmer-Magnus, J. R. (2010). The cognitive underpinnings of effective teamwork: a meta-analysis. Journal of Applied Psychology, 95(1), 32.

Deci, E. L., & Ryan, R. M. (1985a). The general causality orientations scale: Self-determination in personality. Journal of Research in Personality, 19, 109-134

Deci, E. L., & Ryan, R. M. (1985b). Intrinsic motivation and self-determination in human behavior: Self-determination in human behavior. Plenum P.

Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. Psychological Inquiry, 11(4), 227-268. https://doi.org/10.1207/S15327965PLI1104_01

Deci, E. L., & Ryan, R. M. (2008). Self-Determination Theory: A Macro theory of Human Motivation, Development, and Health. Canadian Psychology, 49(3), 182-185. http://www.selfdeterminationtheory.org/

Deci, E. L., & Ryan, R. M. (2012). Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. The Oxford handbook of human motivation, 85-107.

Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. Annual Review of Organizational Psychology and Organizational Behavior, 4, 19-43.

Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need Satisfaction, Motivation, and Well-Being in the Work Organizations of a Former Eastern Bloc Country: A Cross-Cultural Study of Self-Determination. Personality and Social Psychology Bulletin, 27(8), 930-942. https://doi.org/10.1177/0146167201278002

Denzin, N. K., & Lincoln, Y. S. (2009). Qualitative research. Yogyakarta: Pustaka Pelajar.

Denzin, N. K., & Lincoln, Y. S. (2011). The Sage handbook of qualitative research. sage.

Department of the Prime Minister and Cabinet. (2014). Industry innovation and competitiveness agenda report: An action plan for a stronger Australia. http://www.dpmc.gov.au/pmc/publication/industry-innovation-and-competitiveness-agenda-report-action-plan-stronger-australia

Dever, M., & Morrison, Z. (2009). Women, research performance and work context. Tertiary Education and Management, 15(1), 49-62.

Diezmann, C. M. (2018). Understanding research strategies to improve ERA performance in Australian universities: circumventing secrecy to achieve success. Journal of Higher Education Policy and Management, 40(2), 154-174.

Disterheft, A., Azeiteiro, U. M., Leal Filho, W., Caeiro, S. S., Leal Filho, W., & Sima, M. (2015). Participatory processes in sustainable universities–what to assess? International Journal of Sustainability in Higher Education, 16(5), 748-771. http://dx.doi.org/10.1108/IJSHE-05-2014-0079

Dixon, N. (2017). Learning together and working apart: routines for organizational learning in virtual teams. The Learning Organization, 24(3), 138-149.

Dorenkamp, I., & Ruhle, S. (2019). Work–Life Conflict, Professional Commitment, and Job Satisfaction Among Academics. The Journal of Higher Education, 90(1), 56-84.

Dorenkamp, I., & Weiß, E.-E. (2018). What makes them leave? A path model of postdocs' intentions to leave academia. Higher Education, 75(5), 747-767.

Douglass, J. A. (2014). Profiling the flagship university model: An exploratory proposal for changing the paradigm from ranking to relevancy. Research & Occasional Paper Series: CSHE. 5.14. http://www.cshe.berkeley.edu/sites/default/files/shared/publications/docs/ROPS.CSHE_.5.14.Douglass.FlagshipUniversities.4.24.2014.pdf

Dowling, M. (2004). Hermeneutics: An exploration. Nurse Researcher, 11(4), 30-39. https://doi.org/10.7748/nr2004.07.11.4.30.c6213

Driver, M. (2018). Drawing on the discursive resources from psychological contracts to construct imaginary selves: A psychoanalytic perspective on how identity work drives psychological contracts. Human Relations, 71(5), 617-639. https://doi.org/10.1177/0018726717733312

Dundar, H., & Lewis, D. R. (1998). Determinants of research productivity in higher education. Research in Higher Education, 39(6), 607-631. https://doi.org/10.1023/A:1018705823763

Dyer, L., & Parker, D. F. (1975). Classifying outcomes in work motivation research: An examination of the intrinsic-extrinsic dichotomy. Journal of Applied psychology, 60(4), 455.

Edgar, F., & Geare, A. (2013). Factors influencing university research performance. Studies in Higher Education, 38(5), 774-792.

Edwards, V., & Steins, N. (1999). A framework for analysing contextual factors in common pool resource research. Journal of Environmental Policy & Planning, 1(3), 205-221.

Ellemers, N., De Gilder, D., & Haslam, S. A. (2004). Motivating individuals and groups at work: A social identity perspective on leadership and group performance. The Academy of Management Review, 29(3), 459-478. https://doi.org/10.2307/20159054

Elliott, R., Fischer, C. T., & Rennie, D. L. (1999). Evolving guidelines for publication of qualitative research studies in psychology and related fields. British journal of clinical psychology, 38(3), 215-229.

Elliott, V. (2018). Thinking about the Coding Process in Qualitative Data Analysis. The qualitative report, 23(11), 2850-2861.

Elsahn, Z., Callagher, L., Husted, K., Korber, S., & Siedlok, F. (2020). Are rigor and transparency enough? Review and future directions for case studies in technology and innovation Management. R&D Management.

Etzkowitz, H., & Stevens, A. J. (1998). Inching toward industrial policy: The university's role in government initiatives to assist small, innovative companies in the United States (H. Etzkowitz & A. J. Stevens, Eds.). State University of New York Press. https://books.google.com.au/books

Evans, L. (2012). Leadership for researcher development: What research leaders need to know and understand. Educational Management Administration & Leadership, 40(4), 423-435 https://doi.org/doi: 1741143212438218

Federkeil, G. (2009). Reputation indicators in rankings of higher education institutions. In B. M. Kehm, Stensaker, B. (Ed.), University rankings, diversity, and the new landscape of higher education (pp. 17-33). Sense Publishers. https://www.sensepublishers.com/media/1241-university-rankings-diversity-and-the-new-landscape-of-higher-education.pdf#page=40

Finkelstein, M. J. (1984). The American academic profession: A synthesis of social scientific inquiry since World War II. Abstract retrieved from ERIC database. (ED248742)

Finkelstein, M. J. (2006). The study of academic careers: Looking back, looking forward. In HIGHER EDUCATION: (pp. 159-212). Springer. https://doi.org/10.1007/1-4020-4512-3_4

Friedlander, F. B., L.D. (1977). Organization development. In K. O. Magnusen (Ed.), Organizational design, development and behavior a situational view (pp. 312 - 313). Scott, Foresman.

Friemel, T. N. (2008). Why context matters. In Why Context Matters (pp. 9-13). Springer.

Gaffikin, F., & Perry, D. C. (2009). Discourses and strategic visions: The US research university as an institutional manifestation of neoliberalism in a global era. American Educational Research Journal, 46(1), 115-144.

Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. Journal of Organizational behavior, 26(4), 331-362.

Gagné, M., Koestner, R., & Zuckerman, M. (2000). Facilitating Acceptance of Organizational Change: The Importance of Self-Determination1. Journal of Applied Social Psychology, 30(9), 1843-1852. https://doi.org/10.1111/j.1559-1816.2000.tb02471.x

Gavriş, A. (2020). The (RE) Production of Meritocracy: Challenges from the Romanian Higher Education System Under Neoliberalism. Studia Universitatis Babes-Bolyai Sociologia, 65(1), 69-89.

Gehlbach, H., & Vriesema, C. C. (2019). Meta-bias: A practical theory of motivated thinking. Educational Psychology Review, 31(1), 65-85.

Ghazanfari, M., Ramezan, M., & Vanda, M. (2018). The impact of motivation on commitment through private bank branches employees with mediating role of identity style. Human Resource Management, 5(1), 84-94.

Gill, M. J. (2020). How can I study who you are? Comparing grounded theory and phenomenology as methodological approaches to identity work research. In A. Brown (Ed.), The Oxford Handbook on Identities in Organizations (pp. pp. 295 – 310). Oxford University Press.

Gläser, J., & Laudel, G. (2013). Life with and without coding: two methods for early-stage data analysis in qualitative research aiming at causal explanations. Forum Qualitative Sozialforschung/Forum: Qualitative Social Research,

Greer, T. W., & Shuck, B. (2020). Mounting the New Guard: The Golden Rule as a Basis for Organizational Culture Change in Response to Challenges in Academia. Advances in Developing Human Resources, 22(1), 102-112. https://doi.org/10.1177/1523422319886298

Grix, J. (2002). Introducing students to the generic terminology of social research. Politics, 22(3), 175-186.

Guba, E. G., & Lincoln, Y. S. (1994). Competing paradigms in qualitative research. Handbook of qualitative research, 2(163-194), 105.

Guerin, C. (2013). Rhizomatic research cultures, writing groups and academic researcher identities. International Journal of Doctoral Studies, 8, 137-150.

Hackman, J. R. (2003). Learning more by crossing levels: Evidence from airplanes, hospitals, and orchestras. Journal of organizational behavior, 24(8), 905-922.

Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. Organizational behavior and human performance, 16(2), 250-279.

Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. Work & Stress, 22(3), 224-241.

Hanover Research. (2015). Analysis of international university ranking systems: Prepared for Edith Cowan University.

Hardré, P., & Cox, M. (2009). Evaluating faculty work: Expectations and standards of faculty performance in research universities. Research Papers in Education, 24(4), 383-419.

Harman, G. (2005a). Australian social scientists and transition to a more commercial university environment. Higher Education Research & Development, 24(1), 79-94.

Harman, G. (2005b). "Political instruments employed by governments to enhance university research and knowledge transfer capacity". Higher Education Management and Policy, 17(2), 75-89. https://doi.org/10.1787/hemp-v17-art12-en

Hedjazi, Y., & Behravan, J. (2011). Study of factors influencing research productivity of agriculture faculty members in Iran. Higher Education, 62(5), 635-647.

Heery, E., & Noon, M. (2008). A dictionary of human resource management. OUP Oxford.
Heidegger, M. (1971). The origin of the work of art. (R.Berkowitz & P Nonet, Trans.). https://www.academia.edu/2083177/.

Hoffmann, K., Berg, S. A., & Koufogiannakis, D. (2015). Examining success: Identifying factors that contribute to research productivity across librarianship and other disciplines. Library and Information Research, 38(119), 13-28.

Horodnic, I. A., & Zait, A. (2015, Jul). Motivation and research productivity in a university system undergoing transition. Research evaluation, 24(3), 282-292. https://doi.org/10.1093/reseval/rvv010

Houston, D., Meyer, L. H., & Paewai, S. (2006). Academic staff workloads and job satisfaction: Expectations and values in academe. Journal of Higher Education Policy and Management, 28(1), 17-30.

Huttunen, R., & Kakkori, L. (2020). Heidegger's Theory of Truth and its Importance for Quality of Qualitative Research. Journal of Philosophy of Education.

Ibrahim, D., Sabariah, K. Y., Yussof, K. M., Sarjono, F., & Tibok, R. P. (2016). An Exploratory Analysis of the Life-Cycle Influence on Lecturers' Management of Work and Life. International Business Management, 10(15), 3290-3294.

Ibrahim, D., Yussof, K. Y. S. K. M., & Tibok, R. P. (2016). Between Work Responsibilities and Family Obligations: A Study on the Management of VVork-Life Integration among Academics. International Business Management, 10(18), 4336-4341.

Isfandyari-Moghaddam, A., Hasanzadeh, M., & Ghayoori, Z. (2012). A study of factors affecting research productivity of Iranian women in ISI. Scientometrics, 91(1), 159-172.

Jackson, K. (2003). Higher Education Funding Policy. http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/Publications_Archive/archive/hefunding

Janger, J., Campbell, D. F. J., & Strauss, A. (2019). Attractiveness of jobs in academia: a cross-country perspective. (Article). Higher Education, 78(6), 991(920).

Jashapara, A. (2003). Cognition, culture and competition: An empirical test of the learning organization. The Learning Organization, 10(1), 31-50.

Jiang, H., Wang, Y., Chui, E., & Xu, Y. (2019). Professional identity and turnover intentions of social workers in Beijing, China: The roles of job satisfaction and agency type. International Social Work, 62(1), 146-160. https://doi.org/10.1177/0020872817712564

Johns, G. (2006). The essential impact of context on organizational behavior. The Academy of Management Review, 31(2), 386-408. https://doi.org/10.2307/20159208

Jones, J., Firth, J., Hannibal, C., & Ogunseyin, M. (2019). Factors contributing to organizational change success or failure: a qualitative meta-analysis of 200 reflective case studies. In Evidence-Based Initiatives for Organizational Change and Development (pp. 155-178). IGI Global.

Judge, T. A., & Bono, J. E. (2001a). Relationship of core self-evaluations traits—self-esteem, generalized self-efficacy, locus of control, and emotional stability—with job satisfaction and job performance: A meta-analysis. Journal of applied Psychology, 86(1), 80.

Judge, T. A., & Hogan, R. (2015). Fitness, adaptation, and survival: The role of socio-anthropic characteristics, personality, and intelligence in work behavior. In S. M. Colarelli, Arvey, R. D. (Ed.), The Biological Foundations of Organizational Behavior (pp. 368). University of Chicago Press. https://books.google.com.au/books

Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001b). The job satisfaction–job performance relationship: A qualitative and quantitative review. Psychological bulletin, 127(3), 376.

Kaiser, R. B. (2018). The wisdom of Warner Burke: An introduction to the rise and fall and future of organization development. Consulting Psychology Journal: Practice and Research, 70(3), 183-185. https://doi.org/10.1037/cpb0000119

Kaminski, J. (2011). Theory applied to informatics - Lewin's Change Theory [Editorial]. Canadian Journal of Nursing Informatics, 6(1).

Kane, J. B. (2013, Feb 2013). A Closer Look at the Second Demographic Transition in the US: Evidence of Bidirectionality from a Cohort Perspective (1982-2006). Population Research and Policy Review, 32(1), 47-80. https://doi.org/http://dx.doi.org/10.1007/s11113-012-9257-2

Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. Administrative science quarterly, 285-308.

Kemp, D. (1999). Knowledge and Innovation: A policy statement on research and research training.

Khor, K. A., & Yu, L.-G. (2016). Influence of international co-authorship on the research citation impact of young universities. Scientometrics, 107(3), 1095-1110.

King, K. A., & Vaiman, V. (2019). Enabling effective talent management through a macro-contingent approach: A framework for research and practice. BRQ Business Research Quarterly.

Kinman, G., & Wray, S. (2020). Handbook of Research on Stress and Well-being in the Public Sector. Edward Elgar Publishing Ltd.

Kivunja, C., & Kuyini, A. B. (2017). Understanding and Applying Research Paradigms in Educational Contexts. International Journal of Higher Education, 6(5), 26-41.

Komotar, M. H. (2019). Global university rankings and their impact on the internationalisation of higher education. European Journal of Education, 54(2), 299-310.

Korth, S. J. (2000). Single and double-loop learning: Exploring potential influence of cognitive style. Organization Development Journal, 18(3), 87.

Kronsbein, D., Meiser, D., & Leyer, M. (2014). Conceptualisation of contextual factors for business process performance. Proceedings of the International MultiConference of Engineers and Computer Scientists, Hong Kong.

Kumar, K. L. (2020). Understanding and expressing academic identity through systematic autoethnography. Higher Education Research & Development, 1-15.

Kwiek, M. (2015a). The internationalization of research in Europe. A quantitative study of 11 national systems from a micro-level perspective. Journal of Studies in International Education, 19(4), 341-359. https://doi.org/10.1177/1028315315572898

Kwiek, M. (2020a, 2020/06/13). The prestige economy of higher education journals: a quantitative approach. Higher Education. https://doi.org/10.1007/s10734-020-00553-y

Kwiek, M. (2020b). What large-scale publication and citation data tell us about international research collaboration in Europe: changing national patterns in global contexts. Studies in Higher Education, 1-21.

Landabaso, M. (2014). Guest editorial on research and innovation strategies for smart specialisation in Europe. European Journal of Innovation Management, 17(4), 378-389. https://doi.org/doi:10.1108/EJIM-08-2014-0093

Laredo, P. (2007). Revisiting the third mission of universities: toward a renewed categorization of university activities? Higher education policy, 20(4), 441-456.

Le Deist, F. D., & Winterton, J. (2005). What is competence? Human resource development international, 8(1), 27-46.

Leech, N. L., & Onwuegbuzie, A. J. (2011). Beyond constant comparison qualitative data analysis: Using NVivo. School Psychology Quarterly, 26(1), 70. https://doi.org/10.1037/a0022711

Lester, S. (1999). An introduction to phenomenological research. In. Taunton UK: Stan Lester Developments.

Lewin, K. (1947). Frontiers in group dynamics II: Channels of group life; social planning and action research. Human Relations, 1(2), 143-153.

Lewin, K., Adams, D. K., & Zener, K. E. (2011). A dynamic theory of personality : selected papers (1st ed. ed.). McGraw-Hill.

Lewin, K., Heider, F. (Trans) & Heider, G.M. (Trans). The present state of psychology. In K. Lewin, F. Heider, Fritz (Trans) & G.M. Heider (Trans), Principles of topological psychology. New York: McGraw-Hill, 1936, pp. 3–7.

Lewis, J. A. (2009). Redefining qualitative methods: Believability in the fifth moment. International Journal of Qualitative Methods, 8(2), 1-14. http://ejournals.library.ualberta.ca/index.php/ijqm/article/download/4408/5403

Liamputtong, P. (2013). Qualitative research methods (4th ed.). Oxford University Press.

Litwin, G. H., & Stringer, R. A., Jr. (1968). Motivation and organizational climate. Harvard University., Graduate School of Business.

Lund, A. K. (2019). Constrained leader autonomy: You are the stoker in hell—No matter what you do, you are wrong! Leadership, 0(0), 1742715019890381. https://doi.org/10.1177/1742715019890381

Lynham, S. A., Chermack, T. J., & Noggle, M. A. (2004). Selecting organization development theory from an HRD perspective. Human Resource Development Review, 3(2), 151-172.

Malterud, K. (2012). Systematic text condensation: a strategy for qualitative analysis. Scandinavian journal of public health, 40(8), 795-805.

Manganelli, L., Thibault-Landry, A., Forest, J., & Carpentier, J. (2018). Self-Determination Theory Can Help You Generate Performance and Well-Being in the Workplace: A Review of the Literature. Advances in Developing Human Resources, 20(2), 227-240. https://doi.org/10.1177/1523422318757210

Marginson, S. (2006). Dynamics of national and global competition in higher education. Higher Education, 52(1), 1-39.

Marginson, S. (2007). Global university rankings: Implications in general and for Australia. Journal of Higher Education Policy and Management, 29(2), 131-142.

Markos, S., & Sridevi, M. S. (2010). Employee engagement: The key to improving performance. International Journal of Business & Management, 5(12), 89-96. https://doi.org/10.5539/ijbm.v5n12p89

Martela, F., & Ryan, R. M. (2019). Distinguishing between basic psychological needs and basic wellness enhancers: the case of beneficence as a candidate psychological need. Motivation and Emotion, 1-18.

Martela, F., Ryan, R. M., & Steger, M. F. (2018). Meaningfulness as satisfaction of autonomy, competence, relatedness, and beneficence: Comparing the four satisfactions and positive affect as predictors of meaning in life. Journal of Happiness Studies, 19(5), 1261-1282.

Martins, N., & Coetzee, M. (2009). Applying the Burke-Litwin model as a diagnostic framework for assessing organisational effectiveness: Original research. SA Journal of Human Resource Management, 7(1), 1-13.

Martin-Sardesai, A., & Guthrie, J. (2018). Human capital loss in an academic performance measurement system. Journal of Intellectual Capital, 19(1), 53-70.

Masood, H., Karajovic, S., & Budworth, M.-H. E. (2020). Extending the Job Crafting Theory: A Mixed Methods Investigation. Academy of Management Proceedings,

McCarron, K. (2020). COVID-19 and the future of research. Advocate: Journal of the National Tertiary Education Union, 27(2), 28.

McClenahan, C. A., Giles, M. L., & Mallett, J. (2007). The importance of context specificity in work stress research: A test of the Demand-Control-Support model in academics. Work & stress, 21(1), 85-95.

Merçon-Vargas, E. A., Lima, R. F. F., Rosa, E. M., & Tudge, J. (2020). Processing Proximal Processes: What Bronfenbrenner Meant, What He Didn't Mean, and What He Should Have Meant. Journal of Family Theory & Review.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). Qualitative data analysis : a methods sourcebook (3tr ed. ed.). Sage Publications.

Mintzberg, H. (1983). Structure in fives: designing effective organizations. Prentice-Hall Englewood Cliffs.

Miotto, G., Del-Castillo-Feito, C., & Blanco-González, A. (2020). Reputation and legitimacy: Key factors for Higher Education Institutions' sustained competitive advantage. Journal of Business Research, 112, 342-353.

Mitchell, C., & Sackney, L. (2015, July 24, 2015). School improvement in high-capacity schools: Educational leadership and living-systems ontology. Educational Management Administration & Leadership. Advance online publication. https://doi.org/10.1177/1741143214564772

Mohrman, S. A., Tenkasi, R. V., & Mohrman, A. M. (2003). The role of networks in fundamental organizational change a grounded analysis. The Journal of Applied Behavioral Science, 39(3), 301-323. https://doi.org/10.1177/0021886303258072

Molineux, M. (2017). A Dictionary of Occupational Science and Occupational Therapy. Oxford University Press.

Montesinos, P., Carot, J. M., Martinez, J. M., & Mora, F. (2008). Third mission ranking for world class universities: Beyond teaching and research. Higher education in Europe, 33(2-3), 259-271.

Montgomery, P., & Bailey, P. H. (2007). Field Notes and Theoretical Memos in Grounded Theory. Western Journal of Nursing Research, 29(1), 65-79. https://doi.org/10.1177/0193945906292557

Morehouse, R. E., & Maykut, P. (2002). Beginning qualitative research: A philosophical and practical guide. Routledge.

Morgan, D. L. (2007). Paradigms lost and pragmatism regained: Methodological implications of combining qualitative and quantitative methods. Journal of mixed methods research, 1(1), 48-76.

Munisamy, S., Mohd Jaafar, N. I., & Nagaraj, S. (2014). Does reputation matter? Case study of undergraduate choice at a premier university. Asia-Pacific Education Researcher, 23(3), 451-462. https://doi.org/10.1007/s40299-013-0120-y

Muñoz-Suárez, M., Guadalajara, N., & Osca, J. M. (2020). A Comparative Analysis between Global University Rankings and Environmental Sustainability of Universities. Sustainability, 12(14), 5759.

Murayama, K., Elliot, A. J., and Friedman, R. (2012). Achievement goals. OUP USA.

Murray, P., & Donegan, K. (2003). Empirical linkages between firm competencies and organisational learning. The Learning Organization, 10(1), 51-62.

Myer, R. A., & Moore, H. B. (2006). Crisis in Context Theory: An Ecological Model. Journal of Counseling and Development: JCD, 84(2), 139-147. https://doi.org/10.1002/j.1556-6678.2006.tb00389.x

NHMRC. (2007 (Updated 2018)). National Statement on Ethical Conduct in Human Research 2007. N. H. a. M. R. Council. www.nhmrc.gov.au/guidelines/publications/e72

Nicholls, D. (2009a). Qualitative research: Part one–philosophies. International Journal of Therapy and Rehabilitation, 16(10), 526-533. https://doi.org/10.12968/ijtr.2009.16.10.44562

Nicholls, D. (2009b). Qualitative research: Part two-methodologies. International Journal of Therapy and Rehabilitation, 16(11), 586. https://doi.org/10.12968/ijtr.2009.16.11.44939

Noonan, P. (2015). Building a sustainable funding model for higher education in Australia–a way forward. V. University. http://www.mitchellinstitute.org.au/wp-content/uploads/2015/02/Building-a-sustainable-funding-model-for-higher-education-in-Australia1.pdf

Norris, D. R. (2016). Job loss, identity, and mental health. Rutgers University Press.

North, D., Zewotir, T., & Murray, M. (2011). Demographic and academic factors affecting research productivity at the University of KwaZulu-Natal. South African Journal of Higher Education, 25(7), 1416-1428.

O'Reilly, K., Paper, D., & Marx, S. (2012). Demystifying grounded theory for business research. Organizational Research Methods, 15(2), 247-262.

Ollerenshaw, J. A., & Creswell, J. W. (2002). Narrative research: A comparison of two restorying data analysis approaches. Qualitative Inquiry, 8(3), 329-347.

O'Neil, J. (1995). In on schools as learning organizations: A conversation with Peter Senge. Educational Leadership, 52(7), 20-23.

Onwuegbuzie, A. J., & Leech, N. L. (2007). Sampling designs in qualitative research: Making the sampling process more public. The qualitative report, 12(2), 238-254.

Ormston, R., Spencer, L., Barnard, M., & Snape, D. (2014). The foundations of qualitative research. Qualitative research practice: A guide for social science students and researchers, 2, 52-55.

Panat, R. (2014). On the data and analysis of the research output of India and China: India has significantly fallen behind China. Scientometrics, 100(2), 471-481.

Parker, S. K. (2014). Beyond Motivation: Job and Work Design for Development, Health, Ambidexterity, and More. Annual review of psychology, 65, 661-691.

Parker, S. K., Van den Broeck, A., & Holman, D. (2017). Work Design Influences: A Synthesis of Multi-Level Factors that Affect The Design of Work. Academy of Management Annals.

Parker, S., Andrei, D., & Van den Broeck, A. (2019). Poor work design begets poor work design: Capacity and willingness antecedents of individual work design behavior. The Journal of applied psychology.

Parkitny, L., & McAuley, J. (2010). The Depression Anxiety Stress Scale (DASS). Journal of Physiotherapy, 56(3), 204.

Patterson, C. (2017). Accessing narrative oral history and phenomenological lifeworld experience through interviews : professional learning experience of expert teachers. Sage Publications Ltd. https://dx.doi.org/10.4135/9781526401120

Penfield, T., Baker, M. J., Scoble, R., & Wykes, M. C. (2014). Assessment, evaluations, and definitions of research impact: A review. Research evaluation, 23(1), 21-32.

Peschl, M. F. (2007). Triple-loop learning as foundation for profound change, individual cultivation, and radical innovation. Construction processes beyond scientific and rational knowledge. Constructivist Foundations, 2(2-3), 136-145.

Pettigrew, A. M., Woodman, R. W., & Cameron, K. S. (2001). Studying organizational change and development: Challenges for future research. Academy of Management Journal, 44(4), 697-713.

Pifer, M. J., Reisboard, D., Staulters, M., Li, X., Gozza-Cohen, M., McHenry, N., Schaming, S., & Gilio, B. (2014, Jan 2014). Finding the motivation: The evolution of a faculty scholarship symposium. The Journal of Faculty Development, 28(1), 9-17. https://doi.org/10.10Q2/Ü.20048

Pignata, S., Winefield, A. H., Boyd, C. M., & Provis, C. (2018). A qualitative study of HR/OHS stress interventions in Australian universities. International journal of environmental research and public health, 15(1), 103.

Pinheiro, R., Geschwind, L., Foss Hansen, H., & Pulkkinen, K. (2019). Reforms, organizational change and performance in higher education: A comparative account from the Nordic countries. Springer Nature.

Pinheiro, R., Langa, P. V., & Pausits, A. (2015). One and two equals three? The third mission of higher education institutions. European Journal of Higher Education, 5(3), 233-249.

Podsakoff, P. M., MacKenzie, S. B., & Podsakoff, N. P. (2016, April 1, 2016). Recommendations for Creating Better Concept Definitions in the Organizational, Behavioral, and Social Sciences. Organizational Research Methods, 19(2), 159-203. https://doi.org/10.1177/1094428115624965

Ponterotto, J. G. (2005). Qualitative research in counseling psychology: A primer on research paradigms and philosophy of science. Journal of counseling psychology, 52(2), 126.

Pratt, M. G., Rockmann, K. W., & Kaufmann, J. B. (2006). Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. Academy of management journal, 49(2), 235-262.

Prinsloo, P. (2014). Mene, mene, tekel, upharsin: Researcher identity and performance. http://uir.unisa.ac.za/handle/10500/14415

Proffitt, M. (2016). Oxford English Dictionary, "performance, n.". In Oxford English Dictionary. http://www.oed.com/view/Entry/140783?redirectedFrom=performance&

Pyne, C. (2015, 07 July). Review of research funding and policy [Media release]. https://www.pyneonline.com.au/media-centre/media-releases/review-of-research-funding-and-policy

Quimbo, M. A. T., & Sulabo, E. C. (2014). Research productivity and its policy implications in higher education institutions. Studies in Higher Education, 39(10), 1955-1971.

Rabl, T., Jayasinghe, M., Gerhart, B., & Kühlmann, T. M. (2014). A meta-analysis of country differences in the high-performance work system–business performance relationship: The roles of national culture and managerial discretion. Journal of Applied Psychology, 99(6), 1011.

Ramirez, F. O. (2010). Accounting for excellence: Transforming universities into organizational actors. In V. D. Rust, L. Portnoi, & S. S. Bagley (Eds.), Higher education, policy, and the global competition phenomenon (pp. 43-58). Palgrave Macmillan.

Rapley, T. (2011). Some pragmatics of qualitative data analysis (3rd ed. ed.). Sage.

Reid, K., Flowers, P., & Larkin, M. (2005). Exploring lived experience. Psychologist, 18(1), 20.

Reise, S. P. (2012). Invited Paper: The Rediscovery of Bifactor Measurement Models. Multivariate behavioral research, 47(5), 667-696. https://doi.org/10.1080/00273171.2012.715555

Richards, K. (2003). Qualitative inquiry in TESOL. Springer.

Rico, R., Hinsz, V. B., Burke, S., & Salas, E. (2016, September 27, 2016). A multilevel model of multiteam motivation and performance. Organizational Psychology Review. https://doi.org/10.1177/2041386616665456

Ridder, H.-G. (2017). The theory contribution of case study research designs. Business Research, 10(2), 281-305.

Rietzschel, E. F., Slijkhuis, M., & Van Yperen, N. W. (2014). Close monitoring as a contextual stimulator: How need for structure affects the relation between close monitoring and work outcomes. European Journal of Work and Organizational Psychology, 23(3), 394-404.

Roberts, P. (2019). Higher education, impact, and the Internet: Publishing, politics, and performativity. First Monday. https://doi.org/ http://dx.doi.org/10.5210/fm.v24i5.9474

Rodriguez, W. C., Bravo, M., & Moreno, M. A. (1999). Psychological research in Puerto Rico. Applied Psychology, 48(4), 497-509.

Roodt, G., Van Tonder, C.L. (2008). Central Features: Change, process values and systemic health. In C. L. Van Tonder, Roodt, G. (Ed.), Organisation Development Theory and Practice (pp. 39 - 60). Van Schaik.

Rørstad, K., & Aksnes, D. W. (2015). Publication rate expressed by age, gender and academic position: A large-scale analysis of Norwegian academic staff. Journal of Informetrics, 9(2), 317-333. https://doi.org/10.1016/j.joi.2015.02.003

Rust, V. D., & Kim, S. (2012). The global competition in higher education. World Studies in Education, 13(1), 5-20.

Rusu, G., & Avasilcai, S. (2014, MAY 2014). Human resources performance in relation to organisational context. A balanced scorecard approach. Annals of the Oradea University,

Fascicle of Management and Technological Engineering(1), 213-216. http://www.imtuoradea.ro/auo.fmte/

Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. Journal of Personality and Social Psychology, 57(5), 749-761. https://doi.org/10.1037/0022-3514.57.5.749

Ryan, R. M., & Deci, E. L. (2000a). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. American Psychologist, 55(1), 68-78. https://doi.org/10.1037/0003-066X.55.1.68 (Positive Psychology)

Ryan, R. M., & Deci, E. L. (2000b). Intrinsic and extrinsic motivations: Classic definitions and new directions. Contemporary educational psychology, 25(1), 54-67.

Ryan, R. M., & Deci, E. L. (2017). Self-determination theory: Basic psychological needs in motivation, development, and wellness. Guilford Publications.

Saldaña, J. (2015). The coding manual for qualitative researchers. Sage.

Savin-Baden, M., & Major, C. H. (2010). New approaches to qualitative research: Wisdom and uncertainty. Routledge.

Schein, E. H. (2005). Organisation Development: A Wedding of Anthropology and Organizational Theraphy. In D. L. Bradford, & Burke, Warner W. (Ed.), Reinventing Organization Development (pp. 230-141). Pheiffer.

Scherer, J. J., Alban, Billie T. (2010). On the shoulders of giants the origins of OD. In W. Rothwell (Ed.), Practicing Organization Development: A Guide for Leading Change (3rd ed.). NJ, USA: Pfeiffer.

Seipel, M. T., & Larson, L. M. (2018). Supporting non-tenure-track faculty well-being. Journal of Career Assessment, 26(1), 154-171.

Senge, P. M., Kleiner, A., Robberts, C., Ross, R., Smith, B.J. (1994). The fifth discipline fieldbook: Strategies and tools for building a learning organisation. Nicholas Brealey.

Shams, L., & Seitz, A. R. (2008). Benefits of multisensory learning. Trends in cognitive sciences, 12(11), 411-417.

Simonin, B. L. (2017). N-loop learning: part I–of hedgehog, fox, dodo bird and sphinx. The Learning Organization.

Sinclair, J., Barnacle, R., & Cuthbert, D. (2014). How the doctorate contributes to the formation of active researchers: What the research tells us. Studies in Higher Education, 39(10), 1972-1986. https://doi.org/10.1080/03075079.2013.806460

Singh, M. (2011, December 1, 2011). Equity and Quality in the Revitalisation of African Higher Education: Trends and Challenges. Research in Comparative and International Education, 6(4), 348-365. https://doi.org/10.2304/rcie.2011.6.4.348

Skinner, B., Leavey, G., & Rothi, D. (2018). Managerialism and teacher professional identity: impact on well-being among teachers in the UK. Educational Review, 1-16.

Smerek, R. E., & Peterson, M. (2007). Examining Herzberg's theory: Improving job satisfaction among non-academic employees at a university. Research in Higher Education, 48(2), 229-250.

Smith, J. A., & Shinebourne, P. (2012). Interpretative phenomenological analysis. American Psychological Association.

Smith, J. A., Jarman, M., & Osborn, M. (1999). Doing interpretative phenomenological analysis. In Murray and K Chamberlain (Eds.) Qualitative health psychology: Theories and methods, 218-240.

Smith, J. A., Larkin, M., & Flowers, P. (2008). Interpretative phenomenological analysis : a practical guide to method and application. SAGE.

Smith, P. B. (2003). Meeting the challenge of cultural difference. . In D. TJOSVOLD & K. Leung (Eds.), Cross-cultural management: Foundations and future (pp. 1-10). Taylor and Francis.

Smith, S. (2015, June 1, 2015). Multiple temporalities of knowing in academic research. Social Science Information, 54(2), 149-176. https://doi.org/10.1177/0539018414566421

Snap, D., & Spencer, L. (2003). The Foundation of Qualitative Research In: Ritchie, J. and Lewis, J. eds. Research Practice: A Social Guide for Social Science Students and Researchers.

Snyder, E. E., & Spreitzer, E. (1984). Identity and commitment to the teacher role. Teaching Sociology, 151-166.

Soutar, G. N., Wilkinson, I., & Young, L. (2015). Research performance of marketing academics and departments: An international comparison. Australasian Marketing Journal (AMJ)(0). https://doi.org/http://dx.doi.org/10.1016/j.ausmj.2015.04.001

Sroufe, R., & Gopalakrishna-Remani, V. (2019). Management, Social Sustainability, Reputation, and Financial Performance Relationships: An Empirical Examination of U.S. Firms. Organization & Environment, 32(3), 331-362. https://doi.org/10.1177/1086026618756611

Stark, P. B. (2016). Expert Report on Student Evaluations of Teaching (Faculty Course Surveys) Prepared for The Ryerson Faculty Association and The Ontario Confederation of University Faculty

Steinbauer, R., Rhew, N. D., & Chen, H. S. (2015). From Stories to Schemas A Dual Systems Model of Leaders' Organizational Sensemaking. Journal of Leadership & Organizational Studies, 1548051815598007.

Straatmann, T., Kohnke, O., Hattrup, K., & Mueller, K. (2016). Assessing Employees' Reactions to Organizational Change An Integrative Framework of Change-Specific and Psychological Factors. The Journal of Applied Behavioral Science, 0021886316655871.

Stratilatis, C. (2014). University rankings and the scientification of social sciences and humanities. Ethics in Science and Environmental Politics, 13, 77-92.

Sturman, M. C. (2003). Searching for the inverted U-shaped relationship between time and performance: Meta-analyses of the experience/performance, tenure/performance, and age/performance relationships. Journal of management, 29(5), 609-640.

Suson, R., Capuno, R., Manalastas, R., Malabago, N., Aranas, A., & Ermac, E. (2020). Educational research productivity road map: Conclusions from the identified research barriers and variables. Cypriot Journal of Educational Sciences, 15(5), 1160-1175.

Tajfel, H. (1970). Experiments in intergroup discrimination. Scientific American, 223(5), 96-103.

Tajfel, H., & Turner, J. C. (1979). An integrative theory of intergroup conflict. The social psychology of intergroup relations, 33, 47.

Teddlie, C., & Yu, F. (2007). Mixed methods sampling: A typology with examples. Journal of mixed methods research, 1(1), 77-100.

Tekneci, P., Deniz. (2014). Evaluating research performance of Turkish universities [Doctoral dissertation, http://etd.lib.metu.edu.tr/upload/12618054/index.pdf

Teodorescu, D. (2000). Correlates of faculty publication productivity: A cross-national analysis. Higher Education, 39(2), 201-222. https://doi.org/ 10.1023/A:1003901018634

The SAGE Dictionary of Social Research Methods. (2006, 2020/08/08). https://doi.org/10.4135/9780857020116

The SAGE Dictionary of Social Research Methods. (2006, 2020/08/08). https://doi.org/10.4135/9780857020116.

Thibault Landry, A., & Whillans, A. (2019). The Power of Workplace Rewards: Using Self-Determination Theory to Understand Why Reward Satisfaction Matters for Workers Around the World. Compensation & Benefits Review, 0886368719840515. https://doi.org/10.1177/0886368719840515

Tims, M., & Parker, S. K. (2020). How coworkers attribute, react to, and shape job crafting. Organizational Psychology Review, 10(1), 29-54. https://doi.org/10.1177/2041386619896087

Todd, Z. (2004). Mixing methods in psychology: the integration of qualitative and quantitative methods in theory and practice. Psychology Press. http://public.eblib.com/choice/publicfullrecord.aspx?p=199956

Trist, E. L. (1981). The evolution of socio-technical systems: A conceptual framework and action research program. (Occasional Paper No. 2). 1-67. http://sistemas-humano-computacionais.wdfiles.com/local--files/capitulo%3Aredes-socio-tecnicas/Evolution_of_socio_technical_systems.pdf

Ungureanu, P., Bertolotti, F., Mattarelli, E., & Bellesia, F. (2019). Collaboration and identity formation in strategic interorganizational partnerships: An exploration of swift identity processes. Strategic Organization, 1476127019840148. https://doi.org/10.1177/1476127019840148

Urdan, T. (2001). Contextual influences on motivation and performance: An examination of achievement goal structures. In Student Motivation (pp. 171-201). Springer.

Uslu, B. (2017, 2017/09/03). The influence of organisational features in high-ranked universities: the case of Australia. Journal of Higher Education Policy and Management, 39(5), 471-486. https://doi.org/10.1080/1360080X.2017.1354755

Uzoka, F.-M. E. (2008). A fuzzy-enhanced multicriteria decision analysis model for evaluating university Academics' research output. Information, Knowledge, Systems Management, 7(3), 273-299.

Vallerand, R. J. (2000). Deci and Ryan's self-determination theory: A view from the hierarchical model of intrinsic and extrinsic motivation. Psychological Inquiry, 312-318.

Vallerand, R. J., Pelletier, L. G., & Koestner, R. (2008). Reflections on self-determination theory. Canadian Psychology/Psychologie Canadienne, 49(3), 257.

Van Knippenberg, D. (2000). Work motivation and performance: A social identity perspective. Applied psychology, 49(3), 357-371.

van Lankveld, T., Schoonenboom, J., Volman, M., Croiset, G., & Beishuizen, J. (2017, 2017/02/23). Developing a teacher identity in the university context: a systematic review of the literature. Higher Education Research & Development, 36(2), 325-342. https://doi.org/10.1080/07294360.2016.1208154

Van Manen, M. (2016). Phenomenology of practice: Meaning-giving methods in phenomenological research and writing. Routledge.

Van Nistelrooij, A., & Sminia, H. (2010). Organization development: What's actually happening? Journal of Change Management, 10(4), 407-420.

Van Tonder, C. L. (2008). Central focus: The OD process. . In C. L. Van Tonder, Roodt, G. (Ed.), Organisation Development Theory and Practice (pp. 84 - 88). Van Schaik Publishers.

Van Tonder, C. L. (2011). Discerning the unique in the universal: The notion of organisation identity. European Business Review, 23(6), 632-654. https://doi.org/10.1108/09555341111175444

Vekeman, E., Devos, G., Valcke, M., & Rosseel, Y. (2018). Principals' configuration of a bundle of human resource practices. Does it make a difference for the relationship between teachers' fit, job satisfaction and intention to move to another school? Educational Management Administration & Leadership, 46(5), 820-840.

Vine, B. (2019). Context Matters: Exploring the Influence of Norms, Values, and Context on a Māori Male Manager. Journal of Cross-Cultural Psychology, 50(10), 1182-1197. https://doi.org/10.1177/0022022119827651

Von Bertalanffy, L. (1972). The history and status of general systems theory. Academy of Management Journal, 15(4), 407-426.

Vygotsky, L. S. (1980). Mind in society: The development of higher psychological processes. Harvard university press.

Wainwright, M., & Russell, A. (2010). Using NVivo audio-coding: Practical, sensorial and epistemological considerations. Social Research Update(60), 1.

Wallis, S. E. (2010). Toward a science of metatheory. Integral Review: A Transdiciplinary and Transcultural Journal for New Thought, Research, and Praxis, 6(3).

Wang, C. L., & Ahmed, P. K. (2003). Organisational learning: A critical review. The Learning Organization, 10(1), 8-17.

Warr, P., & Inceoglu, I. (2018). Work orientations, well-being and job content of self-employed and employed professionals. Work, employment and society, 32(2), 292-311.

Wayne, J. H., Grzywacz, J. G., Carlson, D. S., & Kacmar, K. M. (2007). Work–family facilitation: A theoretical explanation and model of primary antecedents and consequences. Human resource management review, 17(1), 63-76.

White, J. (2012). Scholarly Identity in Hard labour? : academic work and the changing landscape of higher education (T. Fitzgerald, J. White, & H. Gunter, Eds.). Emerald. https://doi-org.ezproxy.ecu.edu.au/10.1108/S1479-3628(2012)0000007004

Whiteley, P. (2005). Citizenship education longitudinal study: Second literature review. Citizenship Education: the political science perspective. London: DfES/NFER.

Willetts, G., & Clarke, D. (2014). Constructing nurses' professional identity through social identity theory. International Journal of Nursing Practice, 20(2), 164-169.

Wilmot, A. (2005). Designing sampling strategies for qualitative social research: With particular reference to the Office for National Statistics' Qualitative Respondent Register. Survey Methodology Bulletin-Office for National Statistics, 56, 53. http://wwwn.cdc.gov/qbank/QUest/2005/Paper23.pdf

Wilsdon, J., Allen, L., Belfiore, E., Campbell, P. (2015). The metric tide: Report of the independent review of the role of metrics in research assessment and management. http://www.hefce.ac.uk/pubs/rereports/Year/2015/metrictide/Title,104463,en.html

Wilton, S., & Ross, L. (2017, 2017/01/02). Flexibility, Sacrifice and Insecurity: A Canadian Study Assessing the Challenges of Balancing Work and Family in Academia. Journal of Feminist Family Therapy, 29(1-2), 66-87. https://doi.org/10.1080/08952833.2016.1272663

Winefield, T., Boyd, C., Saebel, J., & Pignata, S. (2008). Update on national university stress study. Australian Universities' Review, The, 50(1), 20.

Wissing, M., Du Toit, M., & Rothmann, S. (2002). Faktore wat die navorsings produktiwiteit van universiteits personeel beïnvloed. SA Journal of Industrial Psychology, 28(3), 92-98.

Wu, Y. (2020). Assessment of Scientists' Research Capacity. In America's Leaning Ivory Tower (pp. 43-56). Springer.

Yeo, R. (2003). Linking organisational learning to organisational performance and success: Singapore case studies. Leadership & Organization Development Journal, 24(2), 70-83.

Yin, R. K. (2013, July 1, 2013). Validity and generalization in future case study evaluations. Evaluation, 19(3), 321-332. https://doi.org/10.1177/1356389013497081

Young, R. A., & Collin, A. (2004). Introduction: Constructivism and social constructionism in the career field. Journal of Vocational Behavior, 64(3), 373-388. https://doi.org/10.1016/j.jvb.2003.12.005

Yusoff, R. B. M., Khan, A., & Azam, K. (2013). Job Stress, Performance and Emotional Intelligence in Academia. Journal of Basic and Applied Scientific Research, 3(6)1-8.

Zuber-Skerritt, O. (2002). A model for designing action learning and action research programs. The Learning Organization, 9(4), 143-149.

Appendices

Appendix 3.1: Information Memorandum

Factors that facilitate and/or hamper research performance.

Dear [*Name*],

I am Johann P Groenewald, a PhD Candidate at Edith Cowan University in the School of Education. My supervisors are Associate Professor Glenda Campbell-Evans and Emeritus Professor Mark Hackling. I am conducting research into the contextual factors that facilitate and/or hamper research performance. This research project is being undertaken as part of the requirements of a PhD at Edith Cowan University and has been approved by the ECU Human Research Ethics Committee (Project no 13353).

The findings of the PhD research will provide significant insight for researchers, research leaders and management about these enabling and/or hampering factors and their influence on research performance. This should assist [ANRU] to implement research informed strategies that better support research activity.

Participation: Research leaders and researchers from two schools have been selected as a suitable environment for this research. Depending on your academic profile (research leader or research activity) you had been drawn into the sample and now asked to participate in an initial interview of approximately one hour. You might also be asked to clarify aspects emerging from the first round of interviews. The interviews will be audio recorded to help with note taking and will be conducted at a time and place convenient to you. Upon agreement to participate, you will receive a calendar invite. You will also receive a request to assist in rating the contextual factors obtained from the interviews; this will take a maximum of 10 minutes of your time. Your participation is voluntary, and you can withdraw from the study at any time without any consequence. Kindly let me know if you are not interested in participating in any of the suggested research phases by copying and pasting the words “Not interested” into the subject line of an email to [redacted]

Use of Research data: All recorded information and transcripts will be allocated a number and a pseudonym. All the information you provide will be coded, kept confidential and accessed only by the researcher, his supervisors and professional transcribers who are bound by a confidentiality agreement. The information gathered will be aggregated with the responses from other participants and all data being reported anonymously to limit the possibility of a person being identified in any reports of the research. The interviews will be tape-recorded to assist in the accurate documentation of your views. Some extracts from the interview transcripts will be included in reports. Any such extracts quoted in reports of the research will be presented anonymously so they cannot be attributed to any one person. There is a possibility of some participants, because of their position, being potentially identifiable from their quotes. In these cases, any references to your work discipline, in the reported data, will be omitted. Where necessary, the quotes will be checked with the participants before being included in reports of the research. All

data will be used for research purposes only. The recordings and transcripts will be retained for a period of seven years under lock and key and will then be destroyed.

In the unlikely event that you experience any uneasiness, due to the study, you can either contact the researcher, be referred for assistance or exercise your right to withdraw from the study. Your participation is voluntary, and you can withdraw at any time without any prejudice. You will appreciate that once information has been recorded and transcribed there will not be a link to you and as such, the information cannot be identified and deleted.

Kind regards

Johann P Groenewald
PhD Candidate
Edith Cowan University Office 34.534 | Joondalup Campus
Telephone: (+61 8) 6304 2542 | Mobile: (+[redacted]

The contact details for my supervisors are as follows:

Principal Supervisor	**Associate Supervisor**
Glenda Campbell-Evans	Mark Hackling
Associate Professor	Emeritus Professor
Director Research and Higher Degrees	
School of Education	School of Education
ECU Office JO8.336	
Telephone: (+61 8) 6304 2500	Telephone: [redacted]
Email: g.campbell_evans@ecu.edu.au	Email: m.hackling@ecu.edu.au

If you would like to contact an independent person about this study then please contact Kim Gifkins: Research Ethics Officer Phone 6304 2170 or Email: Research.ethics@ecu.edu.au
Edith Cowan University, 270 Joondalup Drive, JOONDALUP 6027

JOONDALUP CAMPUS
270 Joondalup Drive
Joondalup
Western Australia 6027
Telephone 63042542
Facsimile: (08) 93001257

Factors that facilitate and/or hamper research performance.

- I have been provided with a letter explaining the research, and I understand the letter.
- I understand how the research population was determined.
- I have been given the opportunity to ask questions and all my questions have been answered satisfactorily.
- I am aware that I can contact (Associate Professor Glenda Campbell- Evans) or the Research Ethics Officer if I have any further queries, or if I have concerns or complaints. I have been given their contact details in the Information Letter.
- I understand that participating in this research will involve:
    - an interview,
    - my voice being recorded,
    - examples, of de-identified, narratives being published; and or
    - rating contextual factors by means of a questionnaire.
- I consent to having my voice recorded during this research.
- I understand that the researcher will be able to identify me in the case of interviews, but that all the information will be coded, kept confidential and will be accessed only by the researcher, his supervisors and, where applicable, professional transcribers who are bound by a confidentiality agreement.
- I understand that all the data that is reported will be reported anonymously.
- I am aware that the information collected during this research will be used in publications and stored in a locked cabinet at ECU for seven years after the completion of the research.
- I understand that I can withdraw from the research at any time without prejudice.

- I freely agree to participate in this research:

I_____

(the participant)

(Please print full name)

I have read the accompanying information sheet and information memorandum concerning the study and any questions I have asked, have been answered to my satisfaction. I understand the nature and intent of the study and agree to participate in this activity realising that my participation is voluntary and that I can withdraw without prejudice.

Signed _____ Date _____

If you would like to contact an independent person about this study, then please contact Kim Gifkins:
Research Ethics Officer
Phone 6304 2170
Email: Research.ethics@ecu.edu.au
Edith Cowan University,
270 Joondalup Drive,
JOONDALUP
6027

Appendix 3.3: Transcriber Confidentiality Statement

JOONDALUP CAMPUS
270 Joondalup Drive
Joondalup
Western Australia 6027
Telephone [redacted]

Research Transcription: Factors that facilitate and/or hamper research performance.

- I have been contracted to provide a professional transcribing service.
- I am aware that participants provided their consent to having their voice recorded and transcribed during this research; and that
- they are promised that all the information they give will be coded, kept confidential and will be accessed only by the researcher, his supervisors and transcribers that signed an Ethics Declaration.
- I hereby declare that I will:
  - Transcribe and handle the data with the intent provided and as understood by the participants;
  - Provide an accurate transcription of the digital recording;
  - Not discuss the content of the digital recording and/or transcription with anyone;
  - Not keeping any digital, ecopy and/or other soft or hard copies of the information provided to me for transcription; and
  - Provide all forms of information pertaining to the assigned transcription to the researcher on or before the agreed date of transcription.

I_____
(the transcriber) (Please print full name)

have read the accompanying information sheet concerning the study and my ethical duties I understand the nature and intent of the study and agree to transcribing the information as good as the digital recording allows me.

Signed _____Date _____

If you would like to contact an independent person about this study, then please contact Kim Gifkins:
Research Ethics Officer Phone 6304 2170 or Email: Research.ethics@ecu.edu.au
Edith Cowan University, 270 Joondalup Drive, JOONDALUP 6027

Lead Question, Set Questions and Potential Follow-up Questions

1 Interview Schedule Introduction to Interviewee

Thank you for being willing to assist in this important research.
I would like to explain the format of the interview to you. I would like to know your experience of how contextual factors have impacted on research leadership and research at [ANRU] for the three years ending December 2015. Towards the end, I will provide a brief summary of what I heard and ask you if you would like to add anything else.

Researchers

1 Lead Question for researchers *(reiterate three last three years, for example end 2015).* Keeping in mind the purpose of the study, which is to explore those contextual factors that assist and/or hamper your research performance at [ANRU], I'm interested to hear your story of how you experience research at [ANRU]?

1.2 What will affect your research productivity moving forward? *(Listening for additional contextual factors and their impact)*

1.3 How does (*the mentioned factor*) impact on your research performance? *(If the impact was not clear from the above)*

1.4 Closing the Interview

1.4.1 *Provide a brief summary of the interview and ask if the interviewee has anything to add.*

1.4.2 *Thank the interviewee for his /her time and cooperation to participate in this important endeavour.*

Research leaders

Provide the same preamble as used for researchers

1 Lead Questions for research leaders *(three years up to December 2015)*

1.1 Keeping in mind the purpose of the study, which is to explore those contextual factors that assist and/or hamper research performance at [ANRU], I'm interested to hear your story of how you experienced leading and facilitating research at [ANRU]?

Note: Follow-up with more specific questions from leads provided in answering one where needed.

1.2 What contextual factors in your experience impacted on researchers' performance at [ANRU]?

1.3 What contextual factors did you take into consideration for your research development strategy, systems, policy and procedures at [ANRU]?

1.4 In which way did [ANRU] research strategies, systems, policies and/or procedures support or hamper research performance?

1.5 How did (the mentioned factor) impact on the research performance of [ANRU]? *(If the impact was not clear from the above).*

2 **Further Follow-up Questions** These will cover aspects on proximal and distal dimensions. If any; how did internal [ANRU] (institutional) and external factors have a presence in your experience as a researcher/research leader?

Closing the interview phase

3 You mentioned several aspects impacting on your research activities. Are there any other? If any is offered follow-up with:

3.1 How do these impacts on your research performance? if not clear

3.2 How do they specifically hinder or facilitate your research performance?

4 *Provide a brief summary of the interview and ask if the interviewee has anything to add.*

5 I also would like to check your views on some of the aspects that emerged from data obtained from the schools. *E.g. Check with Department and Research Institution/Centres Heads Department specific aspects, Research Centres Supervisor training and Ethics approval processes*

6 The following 11 factors emerged from data collected from participants in the selected schools. Are there any others you would like to add? Ask for a ranking of the three factors that facilitated research the most and a ranking of the three factors that hampered research the most during 2013 - 2015

7 *Thank the interviewee for his /her time and cooperation to participate in this important endeavour.*

Appendix 3.5: A 15-step data analysis approach

The Department of Humanities

During the first pass notes and theoretical memoing of the three most salient impressions from the interview and how they related to each other were made directly after the interview.

Secondly, the researcher listened to the recordings for an overall perspective of the respondent's record of experiences before transcribing the interview. Notes were made of critical phrases and or keywords during this pass. Therefore, coding at the most elementary level was keywords in context (KWIC) that had meaning indicative to the experience of the researcher doing and experiencing research at ANRU.

During the third pass, the accuracy of each transcription was validated. The researcher listened to the recordings while simultaneously reading the transcriptions to validate transcriptions. In particular, where the recordings were transcribed by a professional service, validating the transcriptions was needed. Simultaneous reading and listening provided in-depth focussed attention on the content of the transcripts. According to Wainwright and Russell (2010) synchronised reading and listening could be analytically superior to work from either audio or transcript. Dadarlat et al. (2015) found that monkeys improved their task performances when subjected to two simultaneous sensory signals in contrast to one. Furthermore, in presenting different results from studies on multisensory learning Shams and Seitz (2008) concluded that multisensory learning is more effective than uni-sensory learning. Simultaneous reading and listening were used in this phenomenological analysis to obtain a good understanding of the meaning these participants of Academics attached to their experience.

The initial analytical memos highlighted a heightened emotional state from some participants. As this was a phenomenological study, particular attention was then given to the salient psychological aspects during the fourth pass. Charmaz (2014) views word-by-word coding as a complementary coding strategy for phenomenological studies. Specific notes of any affective/emotional words as initial open codes were made. These affective words provided insights into the psychological state of participants talking about their lived experience of research.

These words also provided insights into aspects or factors, impacting their research, of significance for the respondent.

During consecutive readings and listening of the transcribed data, recurring phrases and words began to stand out. In this fifth pass, the researcher read the text and added any phrases, additional KWIC and added memos to the dataset. These phrases and words were noted and labelled with a descriptive label or open code. The dataset was then transferred to the aggregate datasheet indicating the corresponding recorded time of a specific word or phrase of note. The researcher revisited the data on the aggregate sheet and added to the note memos of any immediate ideas that surfaced.

In this sixth pass of the analysis, the transcribed texts on a line-by-line, sentence-by-sentence or paragraph basis were revisited for further meaningful keywords in context. Additional findings were extracted from and added to the applicable open coding cluster or new ones created. The researcher then listened to the recording, and again read the transcript simultaneously, while making notes of critical phrases and or KWIC from the transcribed text. These notes were added to the line-by-line, or sentence by sentence or paragraph base notes. In addition, for improved analytical insight, the keywords in context provided: a) the “lived experience” b) drivers for research performance, and c) information about how participants thought, felt, perceived and acted during their experience of doing research. Further notes and open coding were done, and the creation of a codebook introduced. In addition, for improved analytical insight, the keywords in context provided: a) the “lived experience” (Lester, 1999), b) drivers for research performance, and c) information about how participants thought, felt, perceived and acted during their experience of doing research (Charmaz, 1990). Further notes and open coding were done, and the creation of a codebook introduced.

During the seventh pass, a manual numerical coding instead of colour coding was used for the open codes and raw indexing data. (Gläser & Laudel, 2013), whereas the researcher found numerical coding to be excellent in sorting indexed data for analysis. This technique could be used in a manual or a computer program to group and index, for instance, the experiences of participants (Ollerenshaw & Creswell, 2002). Coded key phrases and KWIC were selected for meaning and memos added to the dataset. The researcher notated added factors and examples,

onto the template containing the dataset. The numbering index was introduced, and these values attached to open codes for ease of sorting and clustering open codes.

In the eighth pass, the researcher interpreted all the open codes for sense-making of the participants' experience. This further sense-making was obtained through reading all the quotations containing the specific open code as per numerical indexing. The numbering index was expanded to a three-digit numeric system for refining the codes.

During the ninth pass, the researcher interpreted and clustered codes into categories/factors. Where axial coding is not necessary for IPA, it was needed in this study to indicate the hampering or facilitating factors. In this pass, descriptors from the interpretations were derived from the clusters for the categories/factors, which represented the contextual factors, that hampered and or facilitated research performance.

The tenth pass consisted of a re-reading of the transcript within the dataset and expanding the numbering system. The first numbering coding system was adjusted in this round to an alphanumeric numbering system to show the categorical logical flow in the network of the theme to come and referencing, at a data display phase of analysed data as results.

In the eleventh pass, from the integration and refinement of codes and categories/factors, specific themes were formed and labelled. Descriptors for the theme were derived from the categories constituting a theme. The themes simultaneously represent the three main domains impacting on research performance. Sense-making of the data through the phrases and KWIC assisted in extracting and interpreting the themes underlying the Academics' lived experience of research at ANRU. Selective coding, to explain the labelling of a theme with a label that explained the experience, started in this and took place in the next pass.

The Department of Sciences and Research Leader Cohort

Analysis of data commenced by establishing emerging constructs from the datasets with the same steps, one to four, used for the DOH.

Then in the 12th pass, sorting of emerged constructs into the themes that emerged from the very detailed bottom-up analysis in the DOH took place.

Next the data were analysed from bottom-up (open coding to categories second) in the 13th pass; and

In the 14th pass the data were analysed from bottom-up and top down iteratively between levels in the detailed analysis phase.

All three Cohorts

The meaning of the lived experience or ‘experienced themes’ were finally captured in a 15th pass when the researcher read the quotations of Academics, the results chapter per cohort and wrote the consolidation of the results for each.

Information memorandum: Qualtrics Rank order Questionnaire

Dear Respondent, I am Johann P Groenewald, a PhD Candidate at Edith Cowan University in the School of Education. My supervisors are Associate Professor Glenda Campbell-Evans and Emeritus Professor Mark Hackling.

Participation: I am grateful for the time you allowed for an interview and the valuable experiences you shared. As indicated in the original information letter, a short questionnaire will be distributed to assist in ranking the contextual factors obtained from the interviews. Completing this rank order scale will take a maximum of 10 minutes of your time. Your participation is voluntary, and you can withdraw from the study at any time without any consequence.

Context: For your convenience, I confirm the background of this request. I am researching the contextual factors that facilitate and/or hamper research performance. This research project is being undertaken as part of the requirements of a PhD at Edith Cowan University and has been approved by the ECU and ANRU Human Research Ethics Committees.

The findings of the PhD research will provide significant insight for researchers, research leaders and management about these enabling and/or hampering factors and their influence on research performance. This should assist ANRU to implement research-informed strategies that support research activity better.

Use of Research data: All recorded information and transcripts will be allocated a number and a pseudonym to ensure confidentiality. All the information you provide will be coded and kept confidential**.** The information gathered will be **aggregated** with the responses from other participants, and all data will be **reported anonymously** to limit the possibility of a person being identified in any reports of the research. The recordings and transcripts will be retained for seven years under lock and key and will then be destroyed. In the unlikely event that you experience any uneasiness, due to the study, you can either contact the researcher, be referred for assistance or exercise your right to withdraw from the study. Your participation is voluntary, and you can withdraw at any time without any prejudice.

Kind regards

Johann P Groenewald
PhD Candidate
Edith Cowan University Office 34.534 | Joondalup Campus
270 Joondalup Drive | Joondalup, Perth, WA, 6027
Telephone: (+61 8) 6304 2542 | Mobile: (+ 61)[redacted]
Email:[redacted]

The contact details for my supervisors are as follows:

Principal Supervisor
Glenda Campbell-Evans
Associate Professor
Director Research and Higher Degrees
School of Education
ECU Office JO8.336
Telephone: (+61 8) 6304 2500
Email: g.campbell_evans@ecu.edu.au

Associate Supervisor
Mark Hackling
Emeritus Professor
School of Education
Telephone:[redacted]
Email: m.hackling@ecu.edu.au

If you would like to contact an independent person about this study, then please contact Kim Gifkins:
Research Ethics Officer
Phone 6304 2170 or Email: Research.ethics@ecu.edu.au

Rank order Questionnaire: Research Performance Factors Informed Consent:

○ I have read the information memorandum concerning the study and acknowledged that I was offered an opportunity to ask questions before participating in the study. I understand the nature and intent of the study and agree to participate in this activity realising that my participation is voluntary and that I can withdraw without prejudice. I freely agree to participate in this research. Refer to the signed consent form handed in during the initial interview.

In the following sections, you will find a list of research performance factors which emerged from the interview data gathered from a sample of research-active researchers at ANRU. The aim, from your rankings, is to determine the factors that impacted the most and least on your research performance during the period 2013 - 2105.

In order to determine which of these factors contribute the most or the least to research performance, we would like you to rank the **three highest contributing factors** facilitating your research performance during the indicated period from 1 (highest facilitator) to 3 (third highest facilitator). Then, on the same 11 factors rank the **three factors that hampered your research performance** the most during the indicated period from **1 to 3** (where 1 is the most hampering).

NB: The definition of research used by Excellence in Research Australia (ERA), and accepted as such by ANRU, states "Research is defined as the creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings" (Commonwealth of Australia, 2012, p. 3). Key indicators of research performance at ANRU include *research income* (various types), publication and research training completions.

Q1: Request 1: Please find below a set of 10 factors. **Rank the three highest *contributing* factors *facilitating* your research performance** during the indicated period from **1 (highest** facilitator) to **3 (third** highest facilitator), in the far-left column in case of a paper survey.

Request 1 Contributing Rank order 1 – 3 1 = Highest	**Factor and Description**	**Request 2 Hampering** Rank order 1 – 3 1 = Most
	Research Climate and Culture are those conditions that constitute the way and atmosphere in which research academics operate.	
	Community Impact (including your industry partners') constitutes the impact and influence these cohorts have on your research performance	
	Environmental Capability constitutes those aspects inherent to the environment that impact on your research performance.	
	Financial resources describes what affect the availability and utilisation of various types of monetary aspects have in the research domain.	
	Researcher's Individual Profile	

	comprise those attributes, emotions, traits, behaviours and the individual's personal circumstances that impact on your research performance.	
	Institutional Leadership constitutes those directional and governance aspects introduced by the Institution and your leadership that impact on your research performance.	
	Researcher's interaction is those collaborations you view as opportunities to learn, showcase your research and finding research opportunities which impact on your research performance.	
	The International Agenda categorised those International agendas that provide global opportunities and influence local thoughts on research direction and ultimately, your research performance.	
	The National Agenda describes National and State Government legislation, regulations and guidelines within which research is conducted and the impact thereof on your research performance.	
	Conducting Research constitutes those factors throughout the research process from the expectation to do research through to the reception of the reward for publishing that impact the outcome of your research performance.	
	Work Content describes what internal job-related factors impact on your work/lifestyle activities and research performance.	

Request 2: On the same set of data (above) **rank the three factors that *hampered* your research performance the most** during the indicated period from **1** to **3 (1 the most** hampering), in the far-right column in case of a paper survey.

Q1.b: Kindly add any comments you would like to make about your rankings. Clearly referring to which ***contributing or hampering*** factor(s) it pertain(s), ***e.g.*** *Factor x is especially difficult during semester breaks.*

Comment(s):

_____

_____

_____

_____

Thank you for your support

Appendix 8.1: Academics Experienced Emotions Consolidated

Negative	Positive
Adamant	Acceptance
Agitated	Achieve
Anger	Agency
Annoyed	Appealing
Anxious	Appreciate
Burnout	Autonomous
Compelled	Belief
Concerned	Calm
Demotivated	Care
Desire (No)	Comfort
Difficulty	Comfortable
Discouraged	Committed
Disgusted	Desire
Dissatisfaction	Encouraging
Doesn't Excite	Engaged
Doubtful	Enjoy
Exhausted	Enthusiastic
Fear	Exciting
Feel Isolated	Feel Refreshed
Frightening	Fun
Frustration	Happy
Grumpy	Honoured/Privileged
Guilt	Hope
Hard/Difficult	Inspiring
Hate	Love
Mentally Tired	Motivated
Mistrust	Passion
Negative	Positive
Not Enjoying	Proud
Not Interested	Recognised
Obligation	Satisfaction
Pain	Self-Worth
Paranoid	Want
Physically Emotionally Sick	
Prejudice	
Rubbish	
Stressed	
Stuck	
Told Off	
Uncertainty	
Unfair	
Upset	
Very Tough	
Worry	

Assertion 8.2 : Overall, the two factors individual profile and academics' interactions from the personal context were ranked within the top three factors for facilitation research; however, neither was highly ranked by level B Academics as they perceived work context factors to be more important.

Assertion 8.2 : The DOH Academics experienced an approach-approach conflict between their commitment to teaching and research, resulting in a work role identity conflict. There was also a conflict between their work, and their family lives with an added impact on their wellbeing and potentially, research performance. On the other hand, the DOS Academics experienced a robust role identity as balanced teaching and research academic; however, especially women and single mothers also experienced an approach-approach conflict between work and personal lives.

Assertion 8.3 : Within a similar overall context, different disciplines and to a large extent different academic levels, broadly perceive the same contextual factors impacting on their research performance but differ on the level of impact the factors have on their research performance.

Assertion 8.4 : Academics were frustrated and felt lonely due to the lack of interaction which minimised opportunities for skills-building and promotion of their research.

Assertion 8.5 : The DOH Academics experienced a higher level of conflict between attending to teaching versus research as well as work-family interference (WFI). Whereas, the DOS Academics were more concerned about the lack of a work-life balance (WLB) as well as interaction opportunities that could lead to improved research performance, which both contributed to them questioning their professional identities.

Assertion 8.6 : Frustration and stress from a perceived excessive workload, search for a work-life balance (WLB) from the DOS and the DOH; and negative work-family interference (WFI) at the DOH, are likely to lead to their wellbeing be at risk and lower than expected research performance.

Assertion 8.7 : The *work context* theme comprised three factors; *financial resources*, *work content* and *environmental capability* that were ranked the three factors that most hampered research performance. The limited agreement between cohorts at the open coding level revealed the significance of the proximal and direct influence of variations in the immediate *work contexts* on Academics' experiences of the factors.

Assertion 8.8 : The academic departments agreed that a lack of *financial resources* hampered their research performance but differed in their views regarding the acquiring and the utilisation of *funding*. The DOH expected ANRU to provide money to buy-out time for research whilst the DOS expected a funding model that take into consideration high operational costs and improved ways of dispersing funding that they acquired through research.

Assertion 8.9 : The cohorts differed in their experiences and perceptions of *work content* which was the highest-ranked most hampering factor of all factors. These differences may point to the professional identity or views the different disciplines and academic levels have of their respective roles.

Assertion 8.10: Research leaders (Academic level Es), more distal to research on the operational level, are less aware of challenges researchers experience which lead to the perception that leadership are unsupportive of research performance.

Assertion 8.11: Motivated Academics, in their professional capacity, can still be dissatisfied with their work environment where the work context is perceived as unsupportive, unfair and hampering their performance.

Assertion 8.12: Where negatively experienced, the *work context* has a more substantial impact on Academics' dissatisfaction than their *personal*

context which potentially impacted negatively on their research performance.

Assertion 8.13: Academics with a strong discipline professional identity, created during their professional training, will have more difficulty to identify with the occupational identity academic and specifically the role-identity research in the absence of well-integrated and supportive systems which could impact their wellbeing.

Assertion 8.14: The w*ork context* contributed negatively to the Academics' *personal context* in that there are instances where the lack of support, the competing demands and a lack of integrated high performing work systems and practices in the environment caused tendencies towards ill mental health and these were reported more frequently from the DOH than the DOS Academics.

Assertion 8.15: Personal preferences and characteristics that fit the professional sub identity academic, comprising teaching and researching roles, in concert within a high-performance working system and practices, and supportive psychosocial environment are a necessity for a healthy academic that can perform in research.

Assertion 8.16: For researchers to apply their personal and research *capabilities* to their potential, ANRU needs to design and implement properly planned change interventions for well-integrated High-Performance Work Systems and Practices (HPWS&P) that create a research *climate and culture* for a conducive *work context* for the discipline.

Assertion 8.17: Academics further away from community interaction in their daily routine and/or with less established networks seemed to have a higher regard for *community* impact as a facilitating impact than for those even further distal *national* and *international* impacts.

Assertion 8.18: The *internal capability* of ANRU and the *researcher capability* in specific subdisciplines did not inspire confidence in the external research *community*, exacerbated by isolation which led to a further lack of collaboration for ANRU Academics, which impacted on *reputation* and research *funding* allocations.

Assertion 8.19: *International* and *National* research *agendas* and *funding* impacted on the *work context* with perceived shortages of *financial resources*, challenging *work content* and *environmental capability*. The *work context* impacted on the *personal context* in the form of some Academics' wellbeing that was destabilised by stress and burn-out with potential lower research performance.

Assertion 8.20: The effect of the *external context* left many Academics disenchanted and most felt lonely in their endeavours towards improved research performance with a strong perception of *bias or prejudice* against ANRU.